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Forest Inventory and Analysis Database

FIADB User Guides

Volume Database Description (version 9.2)

Nationwide Forest Inventory

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Preface

Preface Contents:

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Abstract
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Abstract

This document is based on previous documentation of the nationally standardized Forest Inventory and Analysis database (Hansen and others 1992; Woudenberg and Farrenkopf 1995; Miles and others 2001; Woudenberg and others 2010). Documentation of the structure of the Forest Inventory and Analysis database (FIADB) as well as codes and definitions is provided. This database provides a consistent framework for storing forest inventory data across all ownerships for the entire United States, including many territories. These data are available to the public.

Keywords:

Forest Inventory and Analysis, inventory database, user manual, user guide, monitoring

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The URLs in this document may become invalid over time. We apologize if this causes any inconveniences.

Authors (in alphabetical order)

Elizabeth A. Burrill is a Supervisory Biological Scientist with the Forest Inventory and Analysis Program, USDA Forest Service, Northern Research Station, Durham, New Hampshire.

Glenn A. Christensen is a Forester with the Forest Inventory and Analysis Program, USDA Forest Service, Pacific Northwest Research Station, Portland, Oregon.

Barbara L. Conkling is a Research Assistant Professor in the Department of Forestry and Environmental Resources, North Carolina State University, Raleigh, North Carolina.

Andrea M. DiTommaso is a Forester with the Forest Inventory and Analysis Program, USDA Forest Service, Rocky Mountain Research Station, Riverdale, Utah.

Lucie C. Lepine is a Natural Resource Specialist with the Forest Inventory and Analysis Program, USDA Forest Service, Northern Research Station, Durham, New Hampshire.

Carol J. Perry is a Forester with the Forest Inventory and Analysis Program, USDA Forest Service, Southern Research Station, Knoxville, Tennessee.

Scott A. Pugh is a Forester with the Forest Inventory and Analysis Program, USDA Forest Service, Northern Research Station, Houghton, Michigan.

Jeffery A. Turner is a Supervisory Biological Scientist with the Forest Inventory and Analysis Program, USDA Forest Service, Southern Research Station, Knoxville, Tennessee.

David M. Walker is an ORISE research participant with the Center for Integrated Forest Science, USDA Forest Service, Southern Research Station, Blacksburg, Virginia

Background

The Forest Inventory and Analysis (FIA) research program has been in existence since mandated by Congress in 1928. FIA reports on status and trends in forest area and location; in the species, size, and health of trees; in total tree growth, mortality, and removals by harvest; in wood production and utilization rates by various products; and in forest land ownership. Before 1999, all inventories were conducted on a periodic basis. The passage of the 1998 Farm Bill requires FIA to collect data annually on plots within each State. This kind of up-to-date information is essential to frame realistic forest policies and programs. USDA Forest Service regional research stations are responsible for conducting these inventories and publishing summary reports for individual States.

In addition to published reports, the Forest Service provides data collected in each inventory to those interested in further analysis. This report describes a standard format in which data can be obtained. This standard format, referred to as the Forest Inventory and Analysis Database (FIADB) structure, was developed to provide users with as much data as possible in a consistent manner among States. A number of inventories conducted prior to the implementation of the annual inventory are available in the FIADB. However, various data attributes may be empty or the items may have been collected or computed differently. Annual inventories use a common plot design and common data collection procedures nationwide, resulting in greater consistency among FIA work units than earlier inventories. Data field definitions note inconsistencies caused by different sampling designs and processing methods.

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Updates

Database users should be aware that changes are made for each version of FIADB. Sometimes the changes are minimal, such as simply rewriting explanatory text for clarification or adding new codes to a particular attribute. Database tables and/or attributes may be added or removed.

Users who desire to have a hard-copy version can easily print only the sections that are of interest. For each chapter and appendix, the header information located in the top margin of each page details when the chapter or appendix was last modified. In addition, the page numbering for each chapter and appendix, located in the bottom margin of each page, is independent from other chapters and appendices. Therefore, for future versions, if a particular chapter or appendix has not been modified, it will not need to be printed again.

Note: The section/subsection numbering used in this document is specific to this guide; within the FIADB, attributes should be referenced by their actual column name or the column number, which is the last part of the section/subsection number. For example, 2.1.1 indicates chapter 2, section or table 1, and attribute 1.

In release 9.2, tables A, B, C, D, and E summarize major modifications in FIADB 9.0.2.

Table A: Database tables with attribute additions in FIADB 9.2

Name of table affected	Column number	Name of column added
PLOT	2.5.73	GRND_LYR_SAMPLING_STATUS_CD
PLOT	2.5.74	GRND_LYR_SAMPLING_METHOD_CD
TREE	3.1.202	PREV_ACTUALHT_FLD
TREE	3.1.203	PREV_HT_FLD
PLOTSNAP	10.2.92	ADJ_EXPSOIL
REF_SPECIES	11.5.8	SCIENTIFIC_NAME

Table B: Database tables with attribute deletions in FIADB 9.2

Name of table affected	Column number	Name of column deleted
PLOT	2.4.59	COLOCATED_CD_RMRS
REF_POP_ATTRIBUTE	11.1.1	CN
REF_SPECIES	11.5.1	CN
REF_SPECIES	11.5.19	CORE
REF_SPECIES	11.5.20	EAST
REF_SPECIES	11.5.21	WEST
REF_SPECIES	11.5.22	CARIBBEAN
REF_SPECIES	11.5.23	PACIFIC
REF_SPECIES	11.5.24	EXISTS_IN_NCRS
REF_SPECIES	11.5.25	EXISTS_IN_NERS
REF_SPECIES	11.5.26	EXISTS_IN_PNWRS
REF_SPECIES	11.5.27	EXISTS_IN_RMRS
REF_SPECIES	11.5.28	EXISTS_IN_SRS
REF_SPECIES	11.5.30	ST_EXISTS_IN_NCRS
REF_SPECIES	11.5.31	ST_EXISTS_IN_NERS
REF_SPECIES	11.5.32	ST_EXISTS_IN_PNWRS
REF_SPECIES	11.5.33	ST_EXISTS_IN_RMRS
REF_SPECIES	11.5.34	ST_EXISTS_IN_SRS
REF_SEPCIES	11.5.36	JENKINS_TOTAL_B1
REF_SPECIES	11.5.37	JENKINS_TOTAL_B2
REF_SPECIES	11.5.38	JENKINS_STEM_WOOD_RATIO_B1
REF_SPECIES	11.5.39	JENKINS_STEM_WOOD_RATIO_B2
REF_SPECIES	11.5.40	JENKINS_STEM_BARK_RATIO_B1
REF_SPECIES	11.5.41	JENKINS_STEM_BARK_RATIO_B2
REF_SPECIES	11.5.42	JENKINS_FOLIAGE_RATIO_B1
REF_SPECIES	11.5.43	JENKINS_FOLIAGE_RATIO_B2
REF_SPECIES	11.5.44	JENKINS_ROOT_RATIO_B1
REF_SPECIES	11.5.45	JENKINS_ROOT_RATIO_B2
REF_SPECIES	11.5.56	WOOD_SPGR_MC12VOL_DRYWT
REF_SPECIES	11.5.57	WOOD_SPGR_MC12VOL_DRYWT_CIT
REF_SPECIES	11.5.60	RAILE_STUMP_DOB_B1
REF_SPECIES	11.5.61	RAILE_STUMP_DIB_B1
REF_SPECIES	11.5.62	RAILE_STUMP_DIB_B2
REF_SPECIES	11.5.69	STANDING_DEAD_DECAY_RATIO1
REF_SPECIES	11.5.60	STANDING_DEAD_DECAY_RATIO2
REF_SPECIES	11.5.71	STANDING_DEAD_DECAY_RATIO3

Name of table affected	Column number	Name of column deleted
REF_SPECIES	11.5.72	STANDING_DEAD_DECAY_RATIO4
REF_SPECIES	11.5.73	STANDING_DEAD_DECAY_RATIO5
REF_SPECIES	11.5.75	MANUAL_START
REF_SPECIES	11.5.76	MANUAL_END
REF_SPECIES	11.5.77	CREATED_BY
REF_SPECIES	11.5.79	CREATED_IN_INSTANCE
REF_SPECIES	11.5.80	MODIFIED_BY
REF_SPECIES	11.5.82	MODIFIED_IN_INSTANCE
REF_SPECIES_GROUP	11.7.1	CN
REF_SPECIES_GROUP	11.7.6	CREATED_BY
REF_SPECIES_GROUP	11.7.8	CREATED_IN_INSTANCE
REF_SPECIES_GROUP	11.7.9	MODIFIED_BY
REF_SPECIES_GROUP	11.7.11	MODIFIED_IN_INSTANCE

Table C: Database table attributes with updates to the descriptive name in FIADB 9.2

Name of table affected	Column number	Name of attribute affected
REF_TREE_CARBON_RATIO_DEAD	11.35.4	CARBON_RATIO

Table D: Database table attributes with updates to the Oracle data type in FIADB 9.2

Name of table affected	Column number	Name of attribute affected
REF_POP_ATTRIBUTE	11.1.1	ATTRIBUTE_NBR
REF_SPECIES	11.5.1	SPCD
REF_SPECIES	11.5.4	GENUS
REF_SPECIES	11.5.5	SPECIES
REF_SPECIES	11.5.6	VARIETY
REF_SPECIES	11.5.7	SUBSPECIES
REF_SPECIES	11.5.9	SPECIES_SYMBOL
REF_SPECIES	11.5.10	E_SPGRPCD
REF_SPECIES	11.5.11	W_SPGRPCD
REF_SPECIES	11.5.12	C_SPGRPCD
REF_SPECIES	11.5.13	P_SPGRPCD
REF_SPECIES	11.5.14	MAJOR_SPGRPCD
REF_SPECIES	11.5.15	STOCKING_SPGRPCD
REF_SPECIES	11.5.16	FOREST_TYPE_SPGRPCD
REF_SPECIES	11.5.17	JENKINS_SPGRPCD

Name of table affected	Column number	Name of attribute affected
REF_SPECIES	11.5.18	JENKINS_SAPLING_ADJUSTMENT
REF_SPECIES	11.5.22	WOOD_SPGR_GREENVOL_DRYWT
REF_SPECIES	11.5.23	WOOD_SPGR_GREENVOL_DRYWT_CIT
REF_SPECIES	11.5.24	BARK_SPGR_GREENVOL_DRYWT
REF_SPECIES	11.5.25	BARK_SPGR_GREENVOL_DRYWT_CIT
REF_SPECIES	11.5.26	MC_PCT_GREEN_WOOD
REF_SPECIES	11.5.27	MC_PCT_GREEN_WOOD_CIT
REF_SPECIES	11.5.28	MC_PCT_GREEN_BARK
REF_SPECIES	11.5.29	MC_PCT_GREEN_BARK_CIT
REF_SPECIES	11.5.30	BARK_VOL_PCT
REF_SPECIES	11.5.31	BARK_VOL_PCT_CIT
REF_SPECIES	11.5.32	CWD_DECAY_RATIO1
REF_SPECIES	11.5.33	CWD_DECAY_RATIO2
REF_SPECIES	11.5.34	CWD_DECAY_RATIO3
REF_SPECIES	11.5.35	CWD_DECAY_RATIO4
REF_SPECIES	11.5.36	CWD_DECAY_RATIO5
REF_SPECIES	11.5.37	DWM_CARBON_RATIO
REF_SPECIES	11.5.39	CARBON_RATIO_LIVE
REF_SPECIES_GROUP	11.7.1	SPGRPCD
REF_SPECIES_GROUP	11.7.3	REGION
REF_SPECIES_GROUP	11.7.4	CLASS
REF_TREE_CARBON_RATIO_DEAD	11.35.1	CN
REF_TREE_DECAY_PROP	11.36.1	CN
REF_TREE_STND_DEAD_CR_PROFILE	11.37.1	CN
REF_GRND_LYR	11.38.1	CN

Table E: Database table attributes with updates to the attribute description text in FIADB 9.2

Name of table affected	Column Number	Name of column with updated text
PLOT	2.4.27	ECOSUBCD
PLOT	2.4.28	CONGCD
PLOT	2.4.40	EMAP_HEX
TREE	3.1.20	HT
TREE	3.1.82	RECONCILECD
TREE	3.1.199	DRYBIO_BRANCH

Name of table affected	Column Number	Name of column with updated text
P2WEB_SUBPLOT_SPP	4.2.13	GROWTH_HABIT_CD
P2VEG_SUBP_STRUCTURE	4.3.10	GROWTH_HABIT_CD
PLOTGEOM	10.1.9	CONGCD
PLOTGEOM	10.1.10	ECOSUBCD
PLOTGEOM	10.1.11	HUC
PLOTGEOM	10.1.12	EMAP_HEX
PLOTGEOM	10.1.14	ROADLESSCD

Other major changes in version 9.2 of the user guide are listed below.

- Replaced "Phase 2 (P2)" with "the Nationwide Forest Inventory (NFI)" in the document title.
- Added a new line "Section revision:" at the beginning of each chapter. This is to allow screen readers to read the revision date. The revision date that is in the header is not read by screen readers.
- Updated the outside links throughout the document.
- POP_EVAL_ATTRIBUTE - Deleted the foreign key PEA_PAE_FK.
- PLOTSNAP - Deleted the primary key (PLOTSNP_PK) and the two foreign keys (PLOTSNP_PEG_FK_I and PLOTSNP__PEG_FK_I2). Added a unique key PLOTSNP_UK.
- REF_POP_ATTRIBUTE - The attribute columns were rearranged, It is important for database users to confirm the column order of tables they use.
- REF_POP_ATTRIBUTE - Deleted the primary key (PAE_PK).
- The REF_SPECIES table contains reordered columns based on added and deleted attributes. It is important for database users to confirm the column order of tables they use.
- REF_SPECIES - Deleted the primary key (RS_PK), one unique key (RS_UK1), and the four foreign keys (RS_ESPGRP_FK; RS_WSPGRP_FK; RS_PSPGRP_FK).
- REF_SPECIES_GROUP - Deleted the primary key (RSG_PK).
- Updated the suggested document citation.
- Preface: Updated the list of Authors.
- Chapter 1 Overview. 1.1.1 Purpose of this guide. The first paragraph was revised to explain the new use of the term Nationwide Forest Inventory (NFI) and how this new title related to the historical use of Phase 1 (P1), Phase 2 (P2), and Phase 3 (P3).
- Chapter 1 Overview. 1.3.2 Keys Presented with the Tables. A note was added to the text following the last paragraph under "Primary Keys."
- Appendix F. Changed the text to reflect changes in the Master Species list (MSL) organization the users will see if they use the MSL file.
- Appendix H. Changed the name of the appendix from "Damage Codes and Thresholds" to "Damage Agent Codes and Thresholds".

Hard-copy printing:

To print sections from this PDF document, it will be necessary to specify the continuous page number range for the desired section to be printed. Table E outlines the start page and end page for each document section. This guide is intended to be printed on both sides of the paper.

Table F: Page range for individual document sections (for hard-copy printing).

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Section revision: 04.2024

Chapter 1: Overview

Chapter Contents:

Section	Heading
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1.2	<p>FIA Sampling and Estimation Procedures:</p> <ul style="list-style-type: none">• Sampling and Stratification Methodology• Plot Location• Plot Design, Condition Delineation, and Types of Data Attributes• Types of Attributes• Expansion Factors• Accuracy Standards
1.3	<p>Database Structure:</p> <ul style="list-style-type: none">• Table Descriptions• Keys Presented with the Tables• Oracle Data Types

1.1 Introduction

1.1.1 Purpose of This Guide

This guide describes the database tables and attributes (columns) contained within the Forest Inventory and Analysis database (FIADB). The data within the FIADB are for the "Nationwide Forest Inventory (NFI)" conducted by the Forest Inventory and Analysis (FIA) Program. The term "NFI" refers to what was historically called "Phase 2" (P2) under FIA's three-phase sampling scheme (see "[FIA Sampling and Estimation Procedures](#)" for details). NFI is a network of permanent plots, located in non-urban areas that are forested (or capable of being forested). NFI plots are measured every 5-10 years depending on location. Information on the site, land use, and trees is collected on all plots. Additionally, information about down woody material, soils, and understory vegetation is collected on a subset of plots. **Note:** The title for this user guide was revised to remove the "Phase 2" term. However, within this document, the use and meanings for FIA's three-phase sampling scheme terms "Phase 1" (P1), "Phase 2" (P2), and "Phase 3" (P3) remain the same. Although this user guide is used widely within the FIA program, a substantial part, if not the majority, of the intended audience includes those outside FIA who are interested in using FIA data for their own analyses. Awareness of the potential uses of FIA data by users outside the FIA community is growing, and the data become increasingly useful as additional attributes are collected. However, as is the case with any data source, it is incumbent upon the user to understand not only the data definitions and acquisition methods, but also the context in which the data were collected. This guide is intended to help current and potential users understand the necessary details of the FIADB.

This guide has eleven chapters. The remainder of chapter 1 includes general introductions to the FIA program and the FIA database, including brief histories of both. It provides a convenient overview for those who have an interest in using FIA data, but have not yet become familiar with the FIA program. Chapter 1 also provides descriptions of FIA sampling methods, including plot location and design, data measurement and computation, and general estimation procedures. Chapters 2 through 11 describe the tables that comprise the database, the attributes stored in each table, and the linkages between tables. Descriptions of the attributes, their data format, valid values, and other important details are given, but the appropriate field guides should be consulted for exact specifications regarding data collection methods. Users with a good understanding of the database tables (chapters 2 through 11) and fundamental database management skills should be able to conduct a wide range of analyses. The supplemental document [Forest Inventory and Analysis Database: Population Estimation User Guide](#) explains the standard methods used to compile population-level estimates from FIADB, and applies the estimation procedures documented by Bechtold and Patterson (2005). These procedures are based on adoption of the annual inventory system and the mapped plot design, and constitute a major change when compared to previous compilation procedures. However, the compilation procedures should allow more flexible analyses, especially as additional panels are completed under the annual inventory system.

There are several conventions used in this guide. The names of attributes (i.e., columns within tables) and table names appear in capital letters (e.g., PLOT table). Some attribute names appear in two or more tables. In most cases, such as the State code (STATECD), the attribute has the same definition in all tables. However, there are situations where attributes with the same name are defined differently in each table. One such example is the VALUE attribute in the REF_FOREST_TYPE table, which is used to identify the forest

type and refers to appendix D. However, the VALUE attribute in the REF_UNIT table is used to indicate the FIA survey unit identification number from appendix B. In most cases, such as in the table descriptions in chapters 2 through 11, the attribute name will be used alone and the affiliation with a particular table is implied by the context. In cases where an attribute name has a different meaning in two or more tables, a compound naming convention, using the table name followed by the attribute name, will be used. In the VALUE attribute example, the name REF_FOREST_TYPE.VALUE refers to the VALUE attribute in the REF_FOREST_TYPE table, while REF_UNIT.VALUE refers to the VALUE attribute in the REF_UNIT table.

1.1.2 The FIA Program

The mission of FIA is to determine the extent, condition, volume, growth, and use of trees on the Nation's forest land. FIA is the only program that collects, publishes, and analyzes data from all ownerships of forest land in the United States (Smith 2002). Throughout the long history of the program, inventories have been conducted by a number of geographically dispersed FIA work units. Currently, the national FIA program is implemented by four regionally distributed work units that are coordinated by a National Office in Washington, DC (see [figure 1-1](#)). The four FIA work units are named by the research station in which they reside. Station abbreviations are used within this document and they are defined as Pacific Northwest Research Station (PNWRS), Northern Research Station (NRS), Rocky Mountain Research Station (RMRS), and Southern Research Station (SRS). NRS was formed from the merger of North Central Research Station (NCRS) and Northeastern Research Station (NERS). Some data items still retain these designations.



Figure 1-1: Boundaries of the four regionally distributed FIA work units and locations of program offices.

Starting in 1929, FIA accomplished its mission by conducting periodic forest inventories on a State-by-State basis. With the completion of Arizona, New Mexico, and Nevada in 1962, all 48 coterminous States had at least one periodic inventory (Van Hooser and others 1993). Repeat intervals for inventorying individual States have varied widely. By the late 1990s, most States had been inventoried more than once under the periodic inventory system; however, not all periodic data are available in electronic form ([appendix J](#) lists all periodic data available in the FIADB and the year in which annual inventory began).

With the passage of the 1998 Farm Bill, the FIA program was required to move from a periodic inventory to an annualized system, with a portion of all plots within a State measured each year (Gillespie 1999). Starting in 1999, States were phased into the annual inventory system ([appendix J](#)). As an exception, Hawaii uses a 10-year remeasurement cycle, but the entire State is inventoried over a shorter time frame (e.g., 3-5 years) before it is inventoried again. Although the 1998 Farm Bill specified that 20 percent of the plots within each State would be visited annually, funding limitations have resulted in the actual portion of plots measured annually ranging between 10 and 20 percent, depending on the State.

Periodic and annual data are analyzed to produce reports at State, regional, and national levels. In addition to published reports, data are made available to the public for those who are interested in conducting their own analyses. Downloadable data, available online at [FIA Data and Tools](#) (<https://www.fs.usda.gov/research/products/dataandtools/tools/fia-datamart>), follow the

format described in this document. Also available at this site are tools to make population estimates. The web-based EVALIDator tool and the DATIM tool (Design and Analysis Toolkit for Inventory and Monitoring) provide interactive access to the FIADB.

1.1.3 The FIA Database

The Forest Inventory and Analysis Database (FIADB) was developed to provide users with data in a consistent format, spanning all States and inventories. The first version of FIADB replaced two FIA regional databases; the Eastern States (Eastwide database) documented by Hansen and others (1992), and Western States (Westwide database) documented by Woudenberg and Farrenkopf (1995). A new national plot design (see section 1.2) provided the impetus for replacing these two databases, and FIA work units adopted the new design in all State inventories initiated after 1998. The FIADB table structure is currently derived from the National Information Management System (NIMS), which was designed to process and store annual inventory data. A number of changes in the FIADB structure have been made to accommodate the data processing and storage requirements of NIMS. As a result, data from periodic inventories are stored in a format consistent with annual inventory data.

FIADB files are available for periodic inventory data collected as early as 1968 (see [appendix J](#)). A wide variety of plot designs and regionally defined attributes were used in periodic inventories, often differing by State. Because of this, some data attributes may not be populated or certain data may have been collected or computed differently. During some periodic inventories, ground plot data were collected on timberland only. FIA defines timberland as nonreserved forest land capable of producing at least 20 cubic feet of wood volume per acre per year (the definition of forest land is in the [COND_STATUS_CD](#) description in the COND table.) Thus, low productivity forest land, reserved (areas reserved from timber harvesting), and nonforested areas usually were not ground sampled. To account for the total area of a State, "place holder" plots were created to represent these nonsampled areas, which are identified by plot design code 999 in FIADB (PLOT.DESIGNCD = 999). For these plots, many attributes that are normally populated for forested plots will be blank (null). Users should be aware that while place holder plots account for the area of nonsampled forest land, they do not account for the corresponding forest attributes (such as volume, growth, or mortality) that may exist in those areas.

Annual inventories, initiated sometime after 1999 depending on the State, use a nationally standardized plot design and common data collection procedures resulting in greater consistency among FIA work units than earlier inventories. However, as part of a continuing effort to improve the inventory, some changes in methodology and attribute definitions have been implemented after the new design was put into practice. Beginning in 1998, FIA started using a National Field Guide referenced as Field Guide 1.0. The database contains an attribute labeled MANUAL that stores the version number of the field guide under which the data were collected. When both the plot design is coded as being the national design (PLOT.DESIGNCD = 1) and the field guide is coded with a number greater than or equal to 1, certain attributes are defined as being *core* while others are allowed to be *core optional*. *Core* attributes must be collected by every FIA work unit, using the same definition and set of codes. In contrast, collection of *core optional* attributes are decided upon by individual FIA work units, using the same national protocol, predefined definition, and set of codes. Many attributes, regardless of whether or not they are *core* or *core optional*, are only populated for forested conditions, and are blank (null) for other conditions (such as nonforest or water). Attributes described in chapters 2 through 9 are noted if they are *core optional*.

Users who wish to analyze data using aggregations of multiple State inventories or multiple inventories within States should become familiar with changes in methodology and attribute definitions (see sections [1.2](#) and [1.3](#)). For each attribute in the current version of FIADB, an effort has been made to provide the current definition of the attribute, as well as any variations in definition that may have been used among various FIA work units. In other words, although inventory data have been made available in a common data format, users should be aware of differences that might affect their analyses.

1.2 FIA Sampling and Estimation Procedures

To use the FIADB effectively, users should acquire a basic understanding of FIA sampling and estimation procedures. Generally described, FIA uses what may be characterized as a three-phase sampling scheme. Phase 1 (P1) is used for stratification, while Phase 2 (P2) consists of plots that are visited or photo-interpreted. A subset of Phase 2 plots were designated as Phase 3 (P3) plots (formerly known as Forest Health Monitoring [FHM] plots) where additional health indicator attributes were collected. Phase 3 was no longer being completed as a separate inventory as of 2012. The FIA program collects some forest health indicators (e.g., DWM, vegetation profile, invasives, soils, lichens) on a portion of the P2 plots. Damages and crown attributes are now collected on all P2 plots. Ozone damage is no longer collected.

1.2.1 Sampling and Stratification Methodology

Remote Sensing (P1)

The basic level of inventory in the FIA program is the State, which begins with the interpretation of a remotely sensed sample, referred to as Phase 1 (P1). The intent of P1 is to classify the land into various classes for the purpose of developing meaningful strata. A stratum is a group of plots that have the same or similar classifications based on remote-sensing imagery. Stratification is a statistical technique used by FIA to aggregate Phase 2 ground samples into groups to reduce variance when stratified estimation methods are used. The total area of the estimation unit is assumed to be known.

Each Phase 2 ground plot is assigned to a stratum and the weight of the stratum is based on the proportion of the stratum within the estimation unit. Estimates of population totals are then based on the sum of the product of the known total area, the stratum weight, and the mean of the plot-level attribute of interest for each stratum. The expansion factor for each stratum within the estimation unit is the product of the known total area and the stratum weight divided by the number of Phase 2 plots in the stratum.

Selection criteria for remote sensing classes and computation of area expansion factors differ from State to State. Users interested in the details of how these expansion factors are assigned to ground plots for a particular State should contact the appropriate FIA work unit ([table 1-1](#)).

Ground Sampling (P2)

FIA ground plots, or Phase 2 plots, are designed to cover a 1-acre sample area; however, not all trees on the acre are measured. Ground plots may be new plots that have never been measured, or re-measurement plots that were measured during one or more previous inventories. Recent inventories use a nationally standard, fixed-radius plot layout

for sample tree selection (see [figure 1-2](#)). Various arrangements of fixed-radius and variable-radius (prism) subplots were used to select sample trees in older inventories.

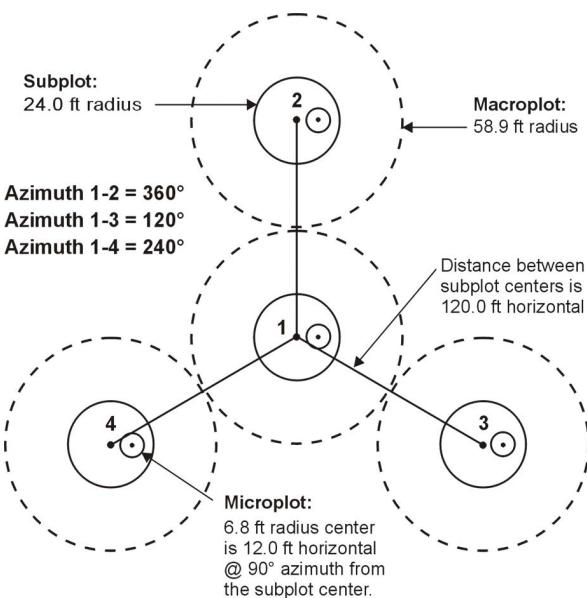


Figure 1-2: The FIA mapped plot design. Subplot 1 is the center of the cluster with subplots 2, 3, and 4 located 120 feet away at azimuths of 360°, 120°, and 240°, respectively.

1.2.2 Plot Location

The FIADB includes coordinates for every plot location in the database, whether it is forested or not, but these are not the precise locations of the plot centers. In an amendment to the Food Security Act of 1985 (reference 7 USC 2276 § 1770), Congress directed FIA to ensure the privacy of private landowners. Exact plot coordinates could be used in conjunction with other publicly available data to link plot data to specific landowners, in violation of requirements set by Congress. In addition to the issue of private landowner privacy, the FIA program had concerns about plot integrity and vandalism of plot locations on public lands. A revised policy has been implemented and methods for making approximate coordinates available for all plots have been developed. These methods are collectively known as "fuzzing and swapping" (Lister and others 2005).

In the past, FIA provided approximate coordinates for its periodic data in the FIADB. These coordinates were within 1.0 mile of the exact plot location (this is called fuzzing). However, because some private individuals own extensive amounts of land in certain counties, the data could still be linked to these owners. In order to maintain the privacy requirements specified in the amendments to the Food Security Act of 1985, up to 20 percent of the private plot coordinates are swapped with another similar private plot within the same county (this is called swapping). This method creates sufficient uncertainty at the scale of the individual landowner such that privacy requirements are met. It also ensures that county summaries and any breakdowns by categories, such as ownership class, will be the same as when using the true plot locations. This is because only the coordinates of the plot are swapped - all the other plot characteristics remain the

same. The only difference will occur when users want to subdivide a county using a polygon. Even then, results will be similar because swapped plots are chosen to be similar based on attributes such as forest type, stand-size class, latitude, and longitude (each FIA work unit has chosen its own attributes for defining similarity).

For plot data collected under the current plot design, plot numbers are reassigned to sever the link to other coordinates stored in the FIADB prior to the change in the law. Private plots are also swapped using the method described above; remeasured plots are swapped independent of the periodic data. All plot coordinates are fuzzed, but less than before - within 0.5 mile for most plots and up to 1.0 mile on a small subset of them. This was done to make it difficult to locate the plot on the ground, while maintaining a good correlation between the plot data and map-based characteristics.

For most user applications, such as woodbasket analyses and estimates of other large areas, fuzzed and swapped coordinates provide a sufficient level of accuracy. However, some FIA customers require more accurate of plot locations in order to perform analyses by user-defined polygons and for relating FIA plot data to other map-based information, such as soils maps and satellite imagery. In order to accommodate this need, FIA provides [Spatial Data Services](#) that allow most of the desired analyses while meeting privacy requirements. The possibilities and limitations for these types of analyses are case-specific, so interested users should contact their local FIA work unit for more information.

1.2.3 Plot Design, Condition Delineation, and Types of Data Attributes

Plot Designs

The current national standard FIA plot design was originally developed for the Forest Health Monitoring program (Scott and others 1993). It was adopted by FIA in the mid-1990s and used for the last few periodic inventories and all annual inventories. The standard plot consists of four 24.0-foot radius subplots (approximately 0.0415 or 1/24 acre) (see [figure 1-2](#)), on which trees \geq 5.0 inches d.b.h./d.r.c. are measured. Within each of these subplots is nested a 6.8-foot radius microplot (approximately 1/300th acre) on which trees < 5.0 inches d.b.h./d.r.c. are measured. A *core optional* variant of the standard design includes four "macroplots," each with a radius of 58.9 feet (approximately 1/4 acre) that originate at the centers of the 24.0-foot radius subplots. Breakpoint diameters between the 24-foot radius subplots and the macroplots vary and are specified in the macroplot breakpoint diameter attribute ([PLOT.MACRO_BREAKPOINT_DIA](#)).

Prior to adoption of the current plot design, a wide variety of plot designs were used. Periodic inventories might include a mixture of designs, based on forest type, ownership, or time of plot measurement. In addition, similar plot designs (e.g., 20 BAF variable-radius plots) might have been used with different minimum diameter specifications (e.g., 1-inch versus 5-inch). Details on these designs are included in [appendix G](#) (plot design codes).

Conditions

An important distinguishing feature between the current plot design and previous designs is that different conditions are "mapped" on the current design (see [figure 1-3](#)). In older plot designs, adjustments were made to the location of the plot center or the subplots were rearranged such that the entire plot sampled a single condition. In the new design, the plot location and orientation remains fixed, but boundaries between conditions are mapped and recorded. Conditions are defined by changes in land use or changes in

vegetation that occur along more-or-less distinct boundaries. Reserved status, owner group, forest type, stand-size class, regeneration status, and stand density are used to define forest conditions. For example, the subplots may cover forest and nonforest areas, or it may cover a single forested area that can be partitioned into two or more distinct stands. Although mapping is used to separate forest and nonforest conditions, different nonforest conditions occurring on a plot are not mapped during initial plot establishment. Each condition occurring on the plot is assigned a condition proportion, and all conditions on a plot add up to 1.0. For plot designs other than the mapped design, condition proportion is always equal to 1.0 in FIADB.

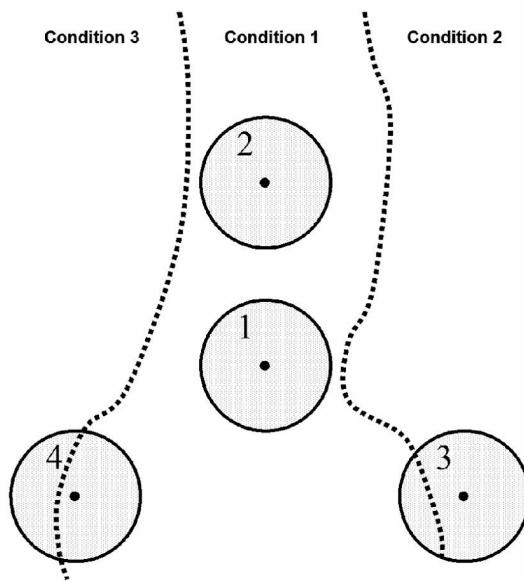


Figure 1-3: The FIA mapped plot design. Subplot 1 is the center of the cluster with subplots 2, 3, and 4 located 120 feet away at azimuths of 360°, 120°, and 240°, respectively. When a plot straddles two or more conditions, the plot area is divided by condition.

1.2.4 Types of Attributes

Measured, Assigned, and Computed Attributes

In addition to attributes that are collected in the field, FIADB includes attributes that are populated in the office. Examples of field attributes include tree diameter and height, and slope and aspect of the plot and subplot. Attributes that are populated in the office include assigned attributes, such as county and owner group codes, or computed attributes, such as tree and area expansion factors, and tree volumes.

For measured attributes, this document provides only basic information on the methodology used in the field. The authoritative source for methodology is the [Forest Inventory and Analysis National Core Field Guide](#) used during the inventory in which the data were collected. The MANUAL attribute in the PLOT table documents the version number where data collection protocols can be found.

Values of attributes that are assigned in the office are determined in several ways, depending on the attribute. For example, ownership may be determined using geographic

data or local government records. Other attributes, such as Congressional District and Ecological Subsection are assigned values based on data management needs.

Some computed attributes in the database are derived using other attributes in the database. Ordinarily, such attributes would not be included in a database table because they could be computed using the supplied attributes. However, some data compilation routines are complex or vary within or among FIA work units, so these computed attributes are populated for the convenience of database users.

One example of a computed attribute is site index, which is computed at the condition level. Site index is generally a function of height and age, although other attributes may be used in conjunction. In addition, several different site index equations may be available for a species within its range. Height and age data are included in the TREE table, but only certain trees (see [SITETREE table](#)) are included in the site index attribute that is reported for the condition. As a result, it would be time-consuming for users to replicate the process required to calculate site index at the condition level. For convenience, the condition (COND) table includes site index (SICOND), the species for which it is calculated (SISP), and the site index base age (SIBASE).

In most cases computed attributes should be sufficient for users' needs, because the equations and algorithms used to compute them have been determined by the FIA program to be the best available for the plot location. However, for most computed attributes the relevant tree- and plot-level attributes used to compute them are included in the database, so users may do their own calculations if desired.

Regional Attributes

A number of regionally specific attributes are available in FIADB. These regional attributes are identified by FIA work unit, both in the table structure description (e.g., the attribute is named with an extension such as NERS) and in the attribute description (e.g., the attribute description text contains the phrase "Only populated by ..."). For specific questions about the data from a particular FIA work unit, please contact the individuals listed in [table 1-1](#). More information on attribute types is included in chapters 2 through 9.

Table 1-1: Contacts at individual FIA work units.

FIA Work Unit	RSCD	States	Database Contact	Phone	Analyst Contact	Phone
Rocky Mountain (RMRS)	22	AZ, CO, ID, MT, NV, NM, UT, WY	Andrea DiTommaso	801-625-5397	Kristen Pelz	303-859-0892
North Central (NCRS)*	23	IL, IN, IA, KS, MI, MN, MO, NE, ND, SD, WI	Elizabeth Burrill	603-868-7675	Scott Pugh	906-482-6303 x1317
Northeastern (NERS)*	24	CT, DE, ME, MD, MA, NH, NJ, NY, OH, PA, RI, VT, WV	Elizabeth Burrill	603-868-7675	Randy Morin	215-233-6562

FIA Work Unit	RSCD	States	Database Contact	Phone	Analyst Contact	Phone
Pacific Northwest (PNWRS)	26,27	AK, CA, HI, OR, WA, AS, FM, GU, MH, MP, PW	Vicki Johnson	907-743-9410	Glenn Christensen	503-808-2064
Southern (SRS)	33	AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, PR, VI	Chad Keyser	865-862-2095	Kerry Dooley	865-862-2098

* The North Central Research Station (NCRS) and the Northeastern Research Station (NERS) have merged to become one research station, the Northern Research Station. The former regional designations are kept to accommodate the data.

1.2.5 Expansion Factors

Tree Expansion Factors

The expansion factor(s) used to scale each tree on a plot to a per-acre basis is dependent on the plot design. The examples here are for fixed-radius plots (see [appendix G](#) for all plot designs.) For fixed-plot designs, scaling is straightforward, with the number of trees per acre (TPA) represented by one tree equal to the inverse of the plot area in acres. The general formula is shown by equation [1]:

$$[1] \quad TPA = 1/(N \cdot A)$$

Where N is the number of subplots, and
A is the area of each subplot.

For example, the TPA expansion factor of each tree ≥ 5.0 inches d.b.h./d.r.c. occurring on the current plot design would be calculated using equation [2]:

TPA expansion factors for standard subplot, microplot and macroplot designs

$$[2] \quad \begin{aligned} & TPA \text{ per 24-foot fixed-radius subplot} \\ & \text{Radius of a subplot} = 24 \text{ feet} \\ & \text{Area of subplot} = \pi \cdot r^2 \\ & \text{Area of subplot} = 3.141592654 \cdot 24^2 \\ & \text{Area of subplot} = 1809.557368 \text{ square feet} \\ & \text{Acres in a subplot} = \text{area of subplot in square feet} / (43560 \text{ square feet / acre}) \\ & \text{Acres in a subplot} = 1809.557368 \text{ square feet} / (43560 \text{ square feet / acre}) \\ & \text{Acres in a subplot} = 0.04154172 \text{ acres per subplot} \\ & \text{Acres in a plot} = 4 \text{ subplots per plot} \\ & \text{Acres per plot} = 4 \cdot 0.04154172 \\ & \quad = 0.166166884 \text{ acres per plot} \\ & TPA = 1 / (0.166166884) = 6.018046 \end{aligned}$$

The TPA expansion factor of each sapling 1.0-4.9 inches d.b.h./d.r.c. occurring on the current microplot design would be calculated using equation [3]:

$$[3] \quad TPA \text{ per 6.8-foot fixed-radius microplot}$$

Radius of a microplot = 6.8 feet
Area of microplot = $\pi \times \text{radius}^2$
Area of microplot = 3.141592654×6.8^2
Area of microplot = 145.2672443 square feet

Acres in a microplot = area of microplot in square feet /
(43560 square feet /acre)
Acres in a microplot = 145.2672443 square feet / (43560 square feet /acre)
Acres in a microplot = 0.003334877 acres per subplot
Acres in a plot = 4 microplots per plot
Acres per plot = 4×0.003334877
= 0.013339508 acres per plot

TPA = 1 / (0.013339508) = 74.965282

The TPA expansion factor of each tree ≥ 5.0 inches d.b.h./d.r.c. occurring on the current macroplot design would be calculated using equation [4]:

- #### [4] TPA per 58.9-foot fixed-radius macroplot

Radius of a macroplot = 58.9 feet
Area of macroplot = $\pi \times \text{radius}^2$
Area of macroplot = $3.141592654 \times 58.9^2$
Area of macroplot = 10898.84465 square feet

Acres in a macroplot = area of macroplot in sq ft / 43560 square feet / acre
Acres in a macroplot = 10898.84465 square feet / 43560 square feet / acre
Acres in a macroplot = 0.250203045 acres per plot
Acres in a plot = 4 macroplots per plot
Acres per plot = 4×0.250203045
= 1.000812181 acres per plot

$$TPA = 1 / (1.000812181) = 0.999188$$

This expansion factor can be found in the TPA_UNADJ attribute in the [TREE table](#) (see chapter 3) for plots measured with the annual plot design.

In variable-radius plot designs, the per-acre expansion factor is determined by the diameter of the tree, the basal area factor (BAF), and the number of points used in the plot design. The general formula is shown by equation [5]:

- $$[5] \quad TPA = (BAF / 0.005454 * DIA^2) / N$$

Where BAF is the variable-radius basal area factor in square feet, DIA is diameter of the tally tree in inches, and N is the number of points in the plot design.

For example, if an 11.5-inch tree is tallied using a 10 BAF prism on a variable-radius design plot that uses five points, the calculation is:

$$[6] \quad TPA = (10 / 0.005454 * 11.5^2) / 5 = 2.773$$

A 5.2-inch tree will have a greater expansion factor:

$$[7] \quad TPA = (10 / 0.005454 * 5.2^2) / 5 = 13.562$$

Although it is not necessary to calculate expansion factors for different plot designs because they are stored in TPA_UNADJ, information on plot design can be found by using the code from the DESIGNCD attribute in the PLOT table to look up the plot design specifications in [appendix G](#).

Plot Area Expansion Factors

Some previous versions of FIADB have included area expansion factors in the PLOT table that were used to scale plot-level data to population-level estimates (see EXPCURR and related attributes in Miles and others 2001). In this version of FIADB, area expansion factors have been removed from the PLOT table. Instead, there is one area expansion factor (EXPNS) stored in the POP_STRATUM table. This change is needed because of the way annual inventory data are compiled. Under the annual inventory system, new plots are added each year. Adjustment factors that are used to compensate for denied access, inaccessible, and other reasons for not sampling may differ each time new data replaces older data. Both the number of acres each plot represents and the adjustments for the proportion of plots not sampled may change each year. In order to allow users to obtain population estimates for any grouping of data, an adjustment factor has been calculated and stored for each set of data being compiled. There is a separate adjustment factor for each fixed plot size: microplot, subplot, and macroplot. These attributes are also stored in the POP_STRATUM table. Each time the data are stratified differently, the adjustments and expansion factor may change. Therefore, FIA provides a different expansion factor every time the data are restratified.

FIA has chosen the term 'evaluation' to describe this process of storing different stratifications of data either for an individual set of data or for the changing sets of data through time. Each aggregation of data is given an evaluation identifier (EVALID). The user can select population estimates for the most current set of data or for previous sets of data. In addition to being able to calculate population estimates, users can now calculate sampling error information because FIA is storing all of the Phase 1 information used for the stratification. That information is stored for each estimation unit, which is usually a geographic subset of the State (see the [POP_ESTN_UNIT table](#)). For more information about evaluations and calculation of area expansion factors, see [The Forest Inventory and Analysis Database: Population Estimation User Guide](#).

1.2.6 Accuracy Standards

Forest inventory plans are designed to meet sampling error standards for area, volume, growth, and removals provided in the Forest Service directive (FSH 4809.11) known as the Forest Survey Handbook (U.S. Department of Agriculture 2008). These standards, along with other guidelines, are aimed at obtaining comprehensive and comparable information on timber resources for all parts of the country. FIA inventories are commonly designed to meet the specified sampling errors at the State level at the 67 percent confidence limit (one standard error). The Forest Survey Handbook mandates that the sampling error for area cannot exceed 3 percent error per 1 million acres of timberland. A 5 percent (Eastern United States) or 10 percent (Western United States) error per 1 billion cubic feet of growing-stock trees on timberland is applied to volume, removals, and net annual growth. Unlike the mandated sampling error for area, sampling errors for volume, removals, and growth are only targets.

FIA inventories are extensive inventories that provide reliable estimates for large areas. As data are subdivided into smaller and smaller areas, such as a geographic unit or a county, the sampling errors increase and the reliability of the estimates goes down.

- A State with 5 million acres of timberland would have a maximum allowable sampling error of 1.3 percent ($3\% \times (1,000,000)^{0.5} / (5,000,000)^{0.5}$).
- A geographic unit within that State with 1 million acres of timberland would have a 3.0 percent maximum allowable sampling error ($3\% \times (1,000,000)^{0.5} / (1,000,000)^{0.5}$).
- A county within that State with 100 thousand acres would have a 9.5 percent maximum allowable sampling error ($3\% \times (1,000,000)^{0.5} / (100,000)^{0.5}$) at the 67 percent confidence level.

The greater allowance for sampling error in smaller areas reflects the decrease in sample size as estimation area decreases.

Estimation procedures and the calculation of confidence intervals for typical FIA tables are discussed in [The Forest Inventory and Analysis Database: Population Estimation User Guide](#). Additional information on estimation and confidence intervals can be found in Bechtold and Patterson (2005).

1.3 Database Structure

This section provides information about the database tables, including detailed descriptions of all attributes within the tables. Each column or attribute in a table is listed with its unabbreviated name, followed by a description of the attribute. Attributes that are coded include a list of the codes and their meanings. The "[Index of Column Names](#)" contains an alphabetized list of all of the column names (attributes) in the database tables included within this user guide. Some overview information is presented below, followed by a section with complete information about all tables and attributes.

1.3.1 Table Descriptions

The list of the FIADB data and reference tables has been moved to a separate index section named [Index of Tables](#).

Figure 1-4 helps to illustrate how the Phase 1 and other population estimation tables relate to one another and to the PLOT table.

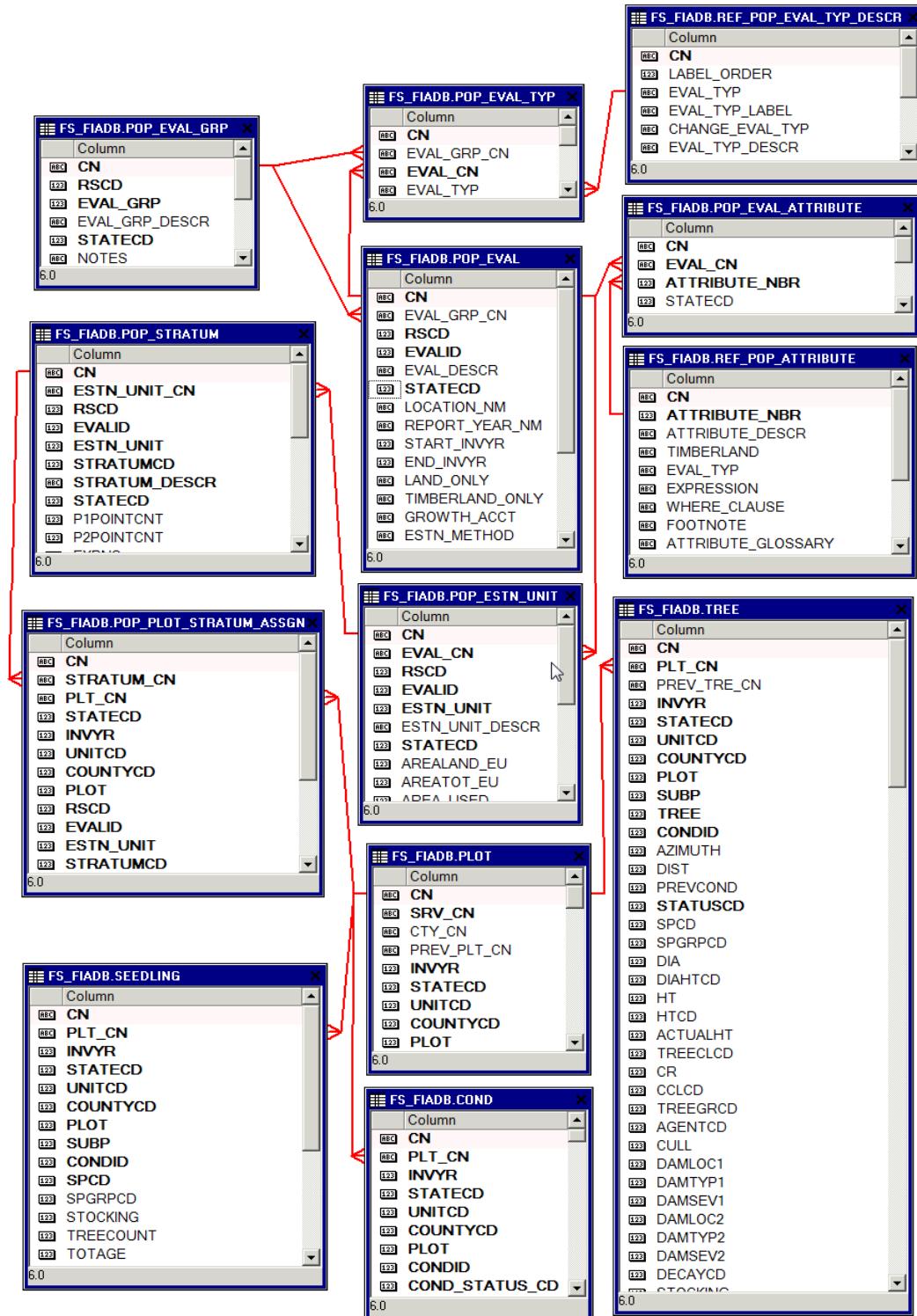


Figure 1-4: Relationships among Phase 1 and population estimation tables to the Phase 2 plot and other frequently used tables.

1.3.2 Keys Presented with the Tables

Each summarized table in chapters 2 through 9 has a list of keys just below the bottom of the table. These keys are used to join data from different tables. The following provides a general definition of each kind of key.

Primary key

A single column in a table whose values uniquely identify each row in an Oracle table. The primary key in each FIADB table is the CN column.

The name of the primary key for each table is listed in the table description. It follows the nomenclature of 'TABLEABBREVIATION'_PK. The table abbreviations are as follows:

Note: The following list of entities includes a combination of Oracle tables, views, and synonyms. However, for this user guide, all of these entities are simply referred to as database "tables."

Table name	Table abbreviation
SURVEY	SRV
PROJECT	PRJ
COUNTY	CTY
PLOT	PLT
COND	CND
SUBPLOT	SBP
SUBP_COND	SCD
SUBP_COND_CHNG_MTRX	CMX
TREE	TRE
TREE_WOODLAND_STEMS	WOODS
TREE_GRM_COMPONENT	TRE_GRM_CMP
TREE_GRM_THRESHOLD	TRE_GRM_THRSHLD
TREE_GRM_MIDPT	TRE_GRM_MIDPT
TREE_GRM_BEGIN	TRE_GRM_BGN
TREE_GRM_ESTN	TGE
BEGINEND	BE
SEEDLING	SDL
SITETREE	SIT
INVASIVE_SUBPLOT_SPP	ISS
P2VEG_SUBPLOT_SPP	P2VSSP
P2VEG_SUBP_STRUCTURE	P2VSS
DWM_VISIT	DVT
DWM_COARSE_WOODY_DEBRIS	DCW
DWM_DUFF_LITTER_FUEL	DDL
DWM_FINE_WOODY_DEBRIS	DFW

Table name	Table abbreviation
DWM_MICROPLOT_FUEL	DMF
DWM_RESIDUALPILE	DRP
DWM_TRANSECT_SEGMENT	DTS
COND_DWM_CALC	CDC
PLOT_REGEN	PLTREGEN
SUBPLOT_REGEN	SBPREGEN
SEEDLING_REGEN	SDLREGEN
GRND_CVR	GRND_CVR
GRND_LYR_FNCTL_GRP	FGLFGP
GRND_LYR_MICROQUAD	FGLMP
SUBP_SOIL_SAMPLE_LOC	SSSL
SUBP_SOIL_SAMPLE_LAYER	SSSLYR
POP_ESTN_UNIT	PEU
POP_EVAL	PEV
POP_EVAL_ATTRIBUTE	PEA
POP_EVAL_GRP	PEG
POP_EVAL_TYP	PET
POP_PLOT_STRATUM_ASSGN	PPSA
POP_STRATUM	PSM
PLOTGEOM	PLOTGEOM
PLOTSNAP	PLOTSNP
REF_POP_ATTRIBUTE	PAE
REF_POP_EVAL_TYP_DESCR	PED
REF_FOREST_TYPE	RFT
REF_FOREST_TYPE_GROUP	FTGP
REF_SPECIES	RS
REF_PLANT_DICTIONARY	RPD
REF_SPECIES_GROUP	RSG
REF_INVASIVE_SPECIES	RIS
REF_HABTYP_DESCRIPTION	RHN
REF_HABTYP_PUBLICATION	RPN
REF_CITATION	CIT
REF_FIADB_VERSION	RFN
REF_STATE_ELEV	RSE
REF_UNIT	UNT
REF_RESEARCH_STATION	RES
REF_NVCS_LEVEL_1_CODES	RNVCSHS1

Table name	Table abbreviation
REF_NVCS_LEVEL_2_CODES	RNVCSHS2
REF_NVCS_LEVEL_3_CODES	RNVCSHS3
REF_NVCS_LEVEL_4_CODES	RNVCSHS4
REF_NVCS_LEVEL_5_CODES	RNVCSHS5
REF_NVCS_LEVEL_6_CODES	RNVCSHS6
REF_NVCS_LEVEL_7_CODES	RNVCSHS7
REF_NVCS_LEVEL_8_CODES	RNVCSHS8
REF_DAMAGE_AGENT	DA
REF_DAMAGE_AGENT_GROUP	DAG
REF_FVS_VAR_NAME	RFVN
REF_FVS_LOC_NAME	RFLN
REF_OWNGRPCD	REF_OWNGRPCD
REF_DIFFERENCE_TEST_PER_ACRE	RDTPA
REF_DIFFERENCE_TEST_TOTALS	RDTT
REF_SIEQN	REF_SIEQN
REF_GRM_TYPE	RGT
REF_INTL_TO_DOYLE_FACTOR	RIDF
REF_TREE_CARBON_RATIO_DEAD	REFTCRD
REF_TREE_DECAY_PROP	REFTDP
REF_TREE_STND_DEAD_CR_PROP	REFTSDCP
REF_GRND_LYR	REFGLYR

Unique key

Multiple columns in a table whose values uniquely identify each row in an Oracle table. There can be one and only one row for each unique key value.

The unique key varies for each FIADB table. The unique key for the PLOT table is STATECD, INVYR, UNITCD, COUNTYCD, and PLOT. The unique key for the COND table is PLT_CN and CONDID.

The name of the unique key for each table is listed in the table description. It follows the nomenclature of 'TABLEABBREVIATION'_UK.

Natural key

A type of unique key made from existing attributes in the table. It is stored as an index in this database.

Not all FIADB tables have a natural key. For example, there is no natural key in the PLOT table, rather the natural key and the unique key are the same. The natural key for the COND table is STATECD, INVYR, UNITCD, COUNTYCD, PLOT, and CONDID.

The name of the natural key for each table is listed in the table description. It follows the nomenclature of 'TABLEABBREVIATION'_NAT_I.

Foreign key

A column in a table that is used as a link to a matching column in another Oracle table.

A foreign key connects a record in one table to one and only one record in another table. Foreign keys are used both to link records between data tables and as a check (or constraint) to prevent "unrepresented data." For example, if there are rows of data in the TREE table for a specific plot, there needs to be a corresponding data row for that same plot in the PLOT table. The foreign key in the TREE table is the attribute PLT_CN, which links specific rows in the TREE table to one record in the PLOT table using the plot attribute CN.

The foreign key for the COND table is PLT_CN. There is always a match of the PLT_CN value to the CN value in the PLOT table.

The name of the foreign key for each table is listed in the table description. It follows the nomenclature of 'SOURCETABLEABBREVIATION'_'MATCHINGTABLEABBREVIATION'_FK, where the source table is the table containing the foreign key and the matching table is the table the foreign key matches. The foreign key usually matches the CN column of the matching table. Most tables in FIADB have only one foreign key, but tables can have multiple foreign keys.

1.3.3 Oracle Data Types

Oracle data type	Definition
DATE	A data type that stores the date.
NUMBER	A data type that contains only numbers, positive or negative, with a floating-decimal point.
NUMBER(SIZE, D)	<p>A data type that contains only numbers up to a specified maximum size. The maximum size (<i>and optional fixed-decimal point</i>) is specified by the value(s) listed in the parentheses.</p> <p>For example, an attribute with a data type specified as "NUMBER(2)" indicates that the attribute may contain a maximum of 2 digits (<i>for example, "11" or "5"</i>), however, none of the digits are decimals. An attribute with a data type specified as "NUMBER(3,1)" may contain a maximum of 3 digits, however, the last digit is a fixed decimal (<i>for example, "4.0" or "12.7"</i>). Likewise, "NUMBER(6,4)" would indicate that an attribute may contain a maximum of 6 digits, however, the last 4 digits are part of a fixed decimal (<i>for example, "18.7200"</i>). Note: When needed, digits to the right of a fixed-decimal point are filled in with zero(s).</p>
VARCHAR2(SIZE)	<p>A data type that contains alphanumeric data (numbers and/or characters) up to a specified maximum size.</p> <p>For example, an attribute with a data type specified as "VARCHAR2(8)" indicates that the attribute may contain a maximum of eight alphanumeric characters.</p>

Section revision: 04.2024

Chapter 2: Database Tables - Location Level

Chapter Contents:

Section	Database table	Oracle table name
2.1	Survey Table	SURVEY
2.2	Project Table	PROJECT
2.3	County Table	COUNTY
2.4	Plot Table	PLOT
2.5	Condition Table	COND
2.6	Subplot Table	SUBPLOT
2.7	Subplot Condition Table	SUBP_COND
2.8	Boundary Table	BOUNDARY
2.9	Subplot Condition Change Matrix	SUBP_COND_CHNG_MTRX

Definitions for database tables:

For further detail and examples, refer to the Overview (chapter 1).

Keys Presented with the Tables

Key type	Definition
Primary	A single column in a table whose values uniquely identify each row in an Oracle table.
Unique	Multiple columns in a table whose values uniquely identify each row in an Oracle table. There can be one and only one row for each unique key value.
Natural	A type of unique key made from existing attributes in the table. It is stored as an index in this database.
Foreign	A column in a table that is used as a link to a matching column in another Oracle table.

Oracle Data Types

Oracle data type	Definition
DATE	A data type that stores the date.
NUMBER	A data type that contains only numbers, positive or negative, with a floating-decimal point.
NUMBER(SIZE, D)	A data type that contains only numbers up to a specified maximum size. The maximum size (<i>and optional fixed-decimal point</i>) is specified by the value(s) listed in the parentheses.
VARCHAR2(SIZE)	A data type that contains alphanumeric data (numbers and/or characters) up to a specified maximum size.

2.1 Survey Table

(Oracle table name: SURVEY)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
2.1.1	CN	Sequence number	VARCHAR2(34)
2.1.2	INVYR	Inventory year	NUMBER(4)
2.1.3	P3_OZONE_IND	Phase 3 ozone indicator	VARCHAR2(1)
2.1.4	STATECD	State code	NUMBER(4)
2.1.5	STATEAB	State abbreviation	VARCHAR2(2)
2.1.6	STATENM	State name	VARCHAR2(40)
2.1.7	RSCD	Region or station code	NUMBER(2)
2.1.8	ANN_INVENTORY	Annual inventory	VARCHAR2(1)
2.1.9	NOTES	Notes	VARCHAR2(2000)
2.1.10	CREATED_BY	Created by	VARCHAR2(30)
2.1.11	CREATED_DATE	Created date	DATE
2.1.12	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
2.1.13	MODIFIED_BY	Modified by	VARCHAR2(30)
2.1.14	MODIFIED_DATE	Modified date	DATE
2.1.15	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)
2.1.16	CYCLE	Inventory cycle number	NUMBER(2)
2.1.17	SUBCYCLE	Inventory subcycle number	NUMBER(2)
2.1.18	PRJ_CN	Project sequence number	VARCHAR2(34)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	SRV_PK
Unique	PRJ_CN, STATECD, INVYR, P3_OZONE_IND, CYCLE, SUBCYCLE	N/A	SRV_UK
Foreign	PRJ_CN	SURVEY to PROJECT	SRV_PRJ_FK

2.1.1 CN

Sequence number. A unique sequence number used to identify a survey record.

2.1.2 INVYR

Inventory year. The year that best represents when the inventory data were collected. Under the annual inventory system, a group of plots is selected each year for sampling. The selection is based on a panel system. INVYR is the year in which the majority of plots in that group were collected (plots in the group have the same panel and, if applicable, subpanel). Under periodic inventory, a reporting inventory year was selected, usually based on the year in which the majority of the plots were collected or the mid-point of the

years over which the inventory spanned. For either annual or periodic inventory, INVYR is not necessarily the same as MEASYEAR.

Exceptions:

INVYR = 9999. INVYR is set to 9999 to distinguish Phase 3 plots taken by the western FIA work units that are "off subpanel." This is due to differences in measurement intervals between Phase 3 (measurement interval = 5 years) and Phase 2 (measurement interval = 10 years) plots. Only users interested in performing certain Phase 3 data analyses should access plots with this anomalous value in INVYR.

2.1.3 P3_OZONE_IND

Phase 3 ozone indicator. A code indicating whether or not the survey is for a P3 ozone inventory.

Note: P3_OZONE_IND is part of the unique key because ozone data are stored as a separate inventory (survey); therefore, combinations of STATECD and INVYR may occur more than one time.

Codes: P3_OZONE_IND

Code	Description
Y	Yes, the survey is for a P3 ozone inventory.
N	No, the survey is not for a P3 ozone inventory.

2.1.4 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

2.1.5 STATEAB

State abbreviation. The 2-character State abbreviation. Refer to [appendix B](#).

2.1.6 STATEGNM

State name. Refer to [appendix B](#).

2.1.7 RSCD

Region or Station code. Identification number of the Forest Service National Forest System Region or Station (FIA work unit) that provided the inventory data (see [appendix B](#) for more information).

Codes: RSCD

Code	Description
22	Rocky Mountain Research Station (RMRS).
23	North Central Research Station (NCRS).
24	Northeastern Research Station (NERS).
26	Pacific Northwest Research Station (PNWRS).
27	Pacific Northwest Research Station (PNWRS-AK).
33	Southern Research Station (SRS).

2.1.8 ANN_INVENTORY

Annual inventory. A code indicating whether a particular inventory was collected as an annual inventory or as a periodic inventory.

Codes: ANN_INVENTORY

Code	Description
Y	Yes, the inventory is annual.
N	No, the inventory is not annual.

2.1.9 NOTES

Notes. An optional item where notes about the inventory may be stored.

2.1.10 CREATED_BY

Created by. The employee who created the record. This attribute is intentionally left blank (null) in download files.

2.1.11 CREATED_DATE

Created date. The date the record was created.

2.1.12 CREATED_IN_INSTANCE

Created in instance. The database instance in which the record was created. Each computer system has a unique database instance code and this attribute stores that information to determine on which computer the record was created.

2.1.13 MODIFIED_BY

Modified by. The employee who modified the record. This field will be blank (null) if the data have not been modified since initial creation. This attribute is intentionally left blank in download files.

2.1.14 MODIFIED_DATE

Modified date. The date the record was last modified. This field will be blank (null) if the data have not been modified since initial creation.

2.1.15 MODIFIED_IN_INSTANCE

Modified in instance. The database instance in which the record was modified. This field will be blank (null) if the data have not been modified since initial creation.

2.1.16 CYCLE

Inventory cycle number. A number assigned to a set of plots, measured over a particular period of time from which a State estimate using all possible plots is obtained. A cycle number >1 does not necessarily mean that information for previous cycles resides in the database. A cycle is relevant for periodic and annual inventories.

2.1.17 SUBCYCLE

Inventory subcycle number. For an annual inventory that takes n years to measure all plots, subcycle shows in which of the n years of the cycle the data were measured.

Subcycle is 0 for a periodic inventory. Subcycle 99 may be used for plots that are not included in the estimation process.

2.1.18 PRJ_CN

Project sequence number. Foreign key linking the survey record to the project record.

2.2 Project Table

(Oracle table name: PROJECT)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
2.2.1	CN	Sequence number	VARCHAR2(34)
2.2.2	RSCD	Region or Station code	NUMBER(2)
2.2.3	NAME	Project name	VARCHAR2(200)
2.2.4	CREATED_BY	Created by	VARCHAR2(30)
2.2.5	CREATED_DATE	Created date	DATE
2.2.6	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
2.2.7	MODIFIED_BY	Modified by	VARCHAR2(30)
2.2.8	MODIFIED_DATE	Modified date	DATE
2.2.9	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	PRJ_PK
Unique	RSCD, NAME	N/A	PRJ_UK

2.2.1 CN

Sequence number. A unique sequence number used to identify a project record.

2.2.2 RSCD

Region or Station code. See SURVEY.RSCD description for definition.

2.2.3 NAME

Project name. The name of the project.

2.2.4 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

2.2.5 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

2.2.6 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

2.2.7 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

2.2.8 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

2.2.9 **MODIFIED_IN_INSTANCE**

Modified in instance. See SURVEY.[MODIFIED_IN_INSTANCE](#) description for definition.

2.3 County Table

(Oracle table name: COUNTY)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
2.3.1	STATECD	State code	NUMBER(4)
2.3.2	UNITCD	Survey unit code	NUMBER(2)
2.3.3	COUNTYCD	County code	NUMBER(3)
2.3.4	COUNTYNM	County name	VARCHAR2(50)
2.3.5	CN	Sequence number	VARCHAR2(34)
2.3.6	CREATED_BY	Created by	VARCHAR2(30)
2.3.7	CREATED_DATE	Created date	DATE
2.3.8	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
2.3.9	MODIFIED_BY	Modified by	VARCHAR2(30)
2.3.10	MODIFIED_DATE	Modified date	DATE
2.3.11	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	CTY_PK
Unique	STATECD, UNITCD, COUNTYCD	N/A	CTY_UK

2.3.1 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

2.3.2 UNITCD

Survey unit code. Forest Inventory and Analysis survey unit identification number. Survey units are usually groups of counties within each State. For periodic inventories, survey units may be made up of lands of particular owners. Refer to [appendix B](#) for codes.

2.3.3 COUNTYCD

County code. The identification number for a county, parish, watershed, borough, or similar governmental unit in a State. FIPS codes from the Bureau of the Census are used. Refer to [appendix B](#) for codes.

Note: Summarizing data by county is not recommended for Alaska datasets. For assistance with analyses for Alaska, please consult the PNWRS analyst contact listed in [table 1-1](#).

2.3.4 COUNTYNM

County name. County name as recorded by the Bureau of the Census for individual counties, or the name given to a similar governmental unit by the FIA program. Only the first 50 characters of the name are used. Refer to [appendix B](#) for names.

2.3.5 CN

Sequence number. A unique sequence number used to identify a county record.

2.3.6 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

2.3.7 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

2.3.8 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

2.3.9 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

2.3.10 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

2.3.11 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

2.4 Plot Table

(Oracle table name: PLOT)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
2.4.1	CN	Sequence number	VARCHAR2(34)
2.4.2	SRV_CN	Survey sequence number	VARCHAR2(34)
2.4.3	CTY_CN	County sequence number	VARCHAR2(34)
2.4.4	PREV_PLT_CN	Previous plot sequence number	VARCHAR2(34)
2.4.5	INVYR	Inventory year	NUMBER(4)
2.4.6	STATECD	State code	NUMBER(4)
2.4.7	UNITCD	Survey unit code	NUMBER(2)
2.4.8	COUNTYCD	County code	NUMBER(3)
2.4.9	PLOT	Plot number	NUMBER(5)
2.4.10	PLOT_STATUS_CD	Plot status code	NUMBER(1)
2.4.11	PLOT_NONSAMPLE_REASN_CD	Plot nonsampled reason code	NUMBER(2)
2.4.12	MEASYEAR	Measurement year	NUMBER(4)
2.4.13	MEASMON	Measurement month	NUMBER(2)
2.4.14	MEASDAY	Measurement day	NUMBER(2)
2.4.15	REMPER	Remeasurement period	NUMBER(3,1)
2.4.16	KINDCD	Sample kind code	NUMBER(2)
2.4.17	DESIGNCD	Design code	NUMBER(4)
2.4.18	RDDISTCD	Horizontal distance to improved road code	NUMBER(2)
2.4.19	WATERCD	Water on plot code	NUMBER(2)
2.4.20	LAT	Latitude	NUMBER(8,6)
2.4.21	LON	Longitude	NUMBER(9,6)
2.4.22	ELEV	Elevation	NUMBER(5)
2.4.23	GROW_TYP_CD	Type of annual volume growth code	NUMBER(2)
2.4.24	MORT_TYP_CD	Type of annual mortality volume code	NUMBER(2)
2.4.25	P2PANEL	Phase 2 panel number	NUMBER(2)
2.4.26	P3PANEL	Phase 3 panel number	NUMBER(2)
2.4.27	ECOSUBCD	Ecological subsection code	VARCHAR2(7)
2.4.28	CONGCD	Congressional district code	NUMBER(4)
2.4.29	MANUAL	Manual (field guide) version number	NUMBER(3,1)
2.4.30	KINDCD_NC	Sample kind code, North Central	NUMBER(2)
2.4.31	QA_STATUS	Quality assurance status	NUMBER(1)
2.4.32	CREATED_BY	Created by	VARCHAR2(30)
2.4.33	CREATED_DATE	Created date	DATE

Subsection	Column name (attribute)	Descriptive name	Oracle data type
2.4.34	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
2.4.35	MODIFIED_BY	Modified by	VARCHAR2(30)
2.4.36	MODIFIED_DATE	Modified date	DATE
2.4.37	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)
2.4.38	MICROPLOT_LOC	Microplot location	VARCHAR2(12)
2.4.39	DECLINATION	Declination	NUMBER(4,1)
2.4.40	EMAP_HEX	EMAP hexagon	NUMBER(7)
2.4.41	SAMP_METHOD_CD	Sample method code	NUMBER(1)
2.4.42	SUBP_EXAMINE_CD	Subplots examined code	NUMBER(1)
2.4.43	MACRO_BREAKPOINT_DIA	Macroplot breakpoint diameter	NUMBER(2)
2.4.44	INTENSITY	Intensity	VARCHAR2(3)
2.4.45	CYCLE	Inventory cycle number	NUMBER(2)
2.4.46	SUBCYCLE	Inventory subcycle number	NUMBER(2)
2.4.47	ECO_UNIT_PNW	Ecological unit, Pacific Northwest Research Station	VARCHAR2(10)
2.4.48	TOPO_POSITION_PNW	Topographic position, Pacific Northwest Research Station	VARCHAR2(2)
2.4.49	NF_SAMPLING_STATUS_CD	Nonforest sampling status code	NUMBER(1)
2.4.50	NF_PLOT_STATUS_CD	Nonforest plot status code	NUMBER(1)
2.4.51	NF_PLOT_NONSAMPLE_REASN_CD	Nonforest plot nonsampled reason code	NUMBER(2)
2.4.52	P2VEG_SAMPLING_STATUS_CD	P2 vegetation sampling status code	NUMBER(1)
2.4.53	P2VEG_SAMPLING_LEVEL_DETAIL_CD	P2 vegetation sampling level detail code	NUMBER(1)
2.4.54	INVASIVE_SAMPLING_STATUS_CD	Invasive sampling status code	NUMBER(1)
2.4.55	INVASIVE_SPECIMEN_RULE_CD	Invasive specimen rule code	NUMBER(1)
2.4.56	DESIGNCD_P2A	Design code periodic to annual	NUMBER(4)
2.4.57	MANUAL_DB	Manual version of the data	NUMBER(3,1)
2.4.58	SUBPANEL	Subpanel	NUMBER(2)
2.4.59			
2.4.60	CONDCHNGCD_RMRS	Condition class change code, Rocky Mountain Research Station	NUMBER(1)
2.4.61	FUTFORCD_RMRS	Future forest potential code, Rocky Mountain Research Station	NUMBER(1)
2.4.62	MANUAL_NCRS	Manual (field guide) version number, North Central Research Station	NUMBER(4,2)
2.4.63	MANUAL_NERS	Manual (field guide) version number, Northeastern Research Station	NUMBER(4,2)
2.4.64	MANUAL_RMRS	Manual (field guide) version number, Rocky Mountain Research Station	NUMBER(4,2)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
2.4.65	PAC_ISLAND_PNWRS	Pacific Island name (Pacific Islands), Pacific Northwest Research Station	VARCHAR2(20)
2.4.66	PLOT_SEASON_NERS	Plot accessible season, Northeastern Research Station	NUMBER(1)
2.4.67	PRECIPITATION	Precipitation	NUMBER
2.4.68	PREV_MICROPLOT_LOC_RMRS	Previous microplot location, Rocky Mountain Research Station	VARCHAR2(12)
2.4.69	PREV_PLOT_STATUS_CD_RMRS	Previous plot status code, Rocky Mountain Research Station	NUMBER(1)
2.4.70	REUSECD1	Recreation use code 1 (Pacific Islands)	NUMBER(2)
2.4.71	REUSECD2	Recreation use code 2 (Pacific Islands)	NUMBER(2)
2.4.72	REUSECD3	Recreation use code 3 (Pacific Islands)	NUMBER(2)
2.4.73	GRND_LYR_SAMPLING_STATUS_CD	Ground layer sampling status code	NUMBER(1)
2.4.74	GRND_LYR_SAMPLING_METHOD_CD	Ground layer sampling method code	NUMBER(1)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	PLT_PK
Unique	STATECD, INVYR, UNITCD, COUNTYCD, PLOT	N/A	PLT_UK
Foreign	CTY_CN	PLOT to COUNTY	PLT_CTY_FK
Foreign	SRV_CN	PLOT to SURVEY	PLT_SRV_FK

Prior to October 2006, there were two separate research stations in the North, the Northeastern Research Station (NERS) and the North Central Research Station (NCRS).

The NERS region included the following States: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Ohio, Rhode Island, Vermont, and West Virginia.

The NCNS region included the following States: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, South Dakota, and Wisconsin.

In October 2006, these two research stations were combined into one, the Northern Research Station (NRS). Following the database structure created prior to the merger, regional data collected by the NRS are currently split into NCNS and NERS columns determined by the State of data collection.

Since the merger starting at MANUAL = 3.1, there has been only one regional field guide for all NRS States, the regional [NRS field guide](#). In the database, however, there are

attributes named MANUAL_NERS and MANUAL_NCRS. Only one of these attributes is populated; the other is blank (NULL), depending on the State of data collection.

2.4.1 CN

Sequence number. A unique sequence number used to identify a plot record.

2.4.2 SRV_CN

Survey sequence number. Foreign key linking the plot record to the survey record.

2.4.3 CTY_CN

County sequence number. Foreign key linking the plot record to the county record.

2.4.4 PREV_PLT_CN

Previous plot sequence number. Foreign key linking the plot record to the previous inventory's plot record for this location. Only populated on remeasurement plots.

Note: If the previous plot was classified as periodic, PREV_PLT_CN will not link to the periodic record.

2.4.5 INVYR

Inventory year. See SURVEY.[INVYR](#) description for definition.

2.4.6 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

2.4.7 UNITCD

Survey unit code. Forest Inventory and Analysis survey unit identification number. Survey units are usually groups of counties within each State. For periodic inventories, survey units may be made up of lands of particular owners. Refer to [appendix B](#) for codes.

2.4.8 COUNTYCD

County code. The identification number for a county, parish, watershed, borough, or similar governmental unit in a State. FIPS codes from the Bureau of the Census are used. Refer to [appendix B](#) for codes.

Note: Summarizing data by county is not recommended for Alaska datasets. For assistance with analyses for Alaska, please consult the PNWRS analyst contact listed in [table 1-1](#).

2.4.9 PLOT

Plot number. An identifier for a plot. Along with STATECD, INVYR, UNITCD, COUNTYCD and/or some other combinations of variables, PLOT may be used to uniquely identify a plot.

2.4.10 PLOT_STATUS_CD

Plot status code. A code that describes the sampling status of the plot. May not be populated for some FIA work units when MANUAL <1.0.

Codes: PLOT_STATUS_CD

Code	Description
1	Sampled - at least one accessible forest land condition present on plot.
2	Sampled - no accessible forest land condition present on plot.
3	Nonsampled.

2.4.11 PLOT_NONSAMPLE_REASON_CD

Plot nonsampled reason code. A code indicating the reason an entire plot was not sampled.

Codes: PLOT_NONSAMPLE_REASON_CD

Code	Description
01	Outside U.S. boundary - Entire plot is outside of the U.S. border.
02	Denied access area - Access to the entire plot is denied by the legal owner, or by the owner of the only reasonable route to the plot.
03	Hazardous - Entire plot cannot be accessed because of a hazard or danger, for example cliffs, quarries, strip mines, illegal substance plantations, high water, etc.
05	Lost data - Plot data file was discovered to be corrupt after a panel was completed and submitted for processing.
06	Lost plot - Entire plot cannot be found.
07	Wrong location - Previous plot can be found, but its placement is beyond the tolerance limits for plot location.
08	Skipped visit - Entire plot skipped. Used for plots that are not completed prior to the time a panel is finished and submitted for processing. This code is for office use only.
09	Dropped intensified plot - Intensified plot dropped due to a change in grid density. This code used only by units engaged in intensification. This code is for office use only.
10	Other - Entire plot not sampled due to a reason other than one of the specific reasons already listed.
11	Ocean - Plot falls in ocean water below mean high tide line.

2.4.12 MEASYEAR

Measurement year. The year in which the plot was completed. MEASYEAR may differ from INVYR. May be blank (null) for periodic inventory or when PLOT_STATUS_CD = 3.

2.4.13 MEASMON

Measurement month. The month in which the plot was completed. May be blank (null) for periodic inventory or when PLOT_STATUS_CD = 3.

Codes: MEASMON

Code	Description
1	January.
2	February.
3	March.
4	April.

Code	Description
5	May.
6	June.
7	July.
8	August.
9	September.
10	October.
11	November.
12	December.

2.4.14 MEASDAY

Measurement day. The day of the month in which the plot was completed. May be blank (null) for periodic inventory or when PLOT_STATUS_CD = 3.

2.4.15 REMPER

Remeasurement period. The number of years between measurements for remeasured plots to the nearest 0.1 year. This attribute is blank (null) for new plots or remeasured plots that are not used for growth, removals, or mortality estimates.

2.4.16 KINCD_CD

Sample kind code. A code indicating the type of plot installation. Database users may also want to examine DESIGNCD to obtain additional information about the kind of plot being selected. Revisited plots with KINCD_CD = 1, 3 are not used for remeasurement estimates.

Codes: KINCD_CD

Code	Description
0	Periodic inventory plot.
1	Initial installation of a national design plot or resampling of a national design plot that was coded as nonsampled (PLOT_STATUS_CD = 3) at the previous visit.
2	Remeasurement of previously installed national design plot.
3	Replacement of previously installed national design plot.
4	Modeled periodic inventory plot (Northeastern and North Central only).

2.4.17 DESIGNCD

Design code. A code indicating the type of plot design used to collect the data. Refer to [appendix G](#) for a list of codes and descriptions.

2.4.18 RDDISTCD

Horizontal distance to improved road code. The straight-line distance from plot center to the nearest improved road, which is a road of any width that is maintained as evidenced by pavement, gravel, grading, ditching, and/or other improvements. May not be populated for some FIA work units when MANUAL <1.0.

Codes: RDDISTCD

Code	Description
1	100 ft or less.
2	101 ft to 300 ft.
3	301 ft to 500 ft.
4	501 ft to 1000 ft.
5	1001 ft to 1/2 mile.
6	1/2 to 1 mile.
7	1 to 3 miles.
8	3 to 5 miles.
9	Greater than 5 miles.

2.4.19 WATERCD

Water on plot code. Water body <1 acre in size or a stream <30 feet wide that has the greatest impact on the area within the sampled portions of any of the four subplots. The coding hierarchy is listed in order from large permanent water to temporary water. May not be populated for some FIA work units.

Codes: WATERCD

Code	Description
0	None - no water sources within the sampled condition class(es).
1	Permanent streams or ponds too small to qualify as noncensus water.
2	Permanent water in the form of deep swamps, bogs, marshes without standing trees present and less than 1.0 acre in size, or with standing trees.
3	Ditch/canal - human-made channels used as a means of moving water, e.g., for irrigation or drainage, which are too small to qualify as noncensus water.
4	Temporary streams.
5	Flood zones - evidence of flooding when bodies of water exceed their natural banks.
9	Other temporary water.

2.4.20 LAT

Latitude. The approximate latitude of the plot in decimal degrees using NAD 83 datum (these [Pacific Islands](#) plots use WSG84 datum - SURVEY.RSCD = 26 and SURVEY.STATECD = 60, 64, 66, 68, 69, or 70). Actual plot coordinates cannot be released because of a Privacy provision enacted by Congress in the Food Security Act of 1985. Therefore, this attribute is approximately +/- 1 mile and, for annual inventory data, most plots are within +/- 1/2 mile. Annual data have additional uncertainty for private plots caused by swapping plot coordinates for up to 20 percent of the plots. In some cases, the county centroid is used when the actual coordinate is not available.

2.4.21 LON

Longitude. The approximate longitude of the plot in decimal degrees using NAD 83 datum (these [Pacific Islands](#) plots use WSG84 datum - SURVEY.RSCD = 26 and SURVEY.STATECD = 60, 64, 66, 68, 69, or 70). Actual plot coordinates cannot be released because of a

Privacy provision enacted by Congress in the Food Security Act of 1985. Therefore, this attribute is approximately +/- 1 mile and, for annual inventory data, most plots are within +/- ½ mile. Annual data have additional uncertainty for private plots caused by swapping plot coordinates for up to 20 percent of the plots. In some cases, the county centroid is used when the actual coordinate is not available.

2.4.22 ELEV

Elevation. The distance the plot is located above sea level. ELEV is based on approximate plot coordinates (see LAT and LON). For certain FIA work units (SURVEY.RSCD = 22, 23, 24, 33), the ELEV value is rounded to the nearest 10 feet. For other FIA work units (SURVEY.RSCD = 26, 27), the ELEV value is based on 200-foot groupings, and then a mid-point value is returned starting at 100 feet. Negative values indicate distance below sea level.

2.4.23 GROW_TYP_CD

Type of annual volume growth code. A code indicating how volume growth is estimated. Current annual growth is an estimate of the amount of volume that was added to a tree in the year before the tree was sampled, and is based on the measured diameter increment recorded when the tree was sampled or on a modeled diameter for the previous year. Periodic annual growth is an estimate of the average annual change in volume occurring between two measurements, usually the current inventory and the previous inventory, where the same plot is evaluated twice. Periodic annual growth is the increase in volume between inventories divided by the number of years between each inventory. This attribute is blank (null) if the plot does not contribute to the growth estimate.

Codes: GROW_TYP_CD

Code	Description
1	Current annual.
2	Periodic annual.

2.4.24 MORT_TYP_CD

Type of annual mortality volume code. A code indicating how mortality volume is estimated. Current annual mortality is an estimate of the volume of trees dying in the year before the plot was measured, and is based on the year of death or on a modeled estimate. Periodic annual mortality is an estimate of the average annual volume of trees dying between two measurements, usually the current inventory and previous inventory, where the same plot is evaluated twice. Periodic annual mortality is the loss of volume between inventories divided by the number of years between each inventory. Periodic average annual mortality is the most common type of annual mortality estimated. This attribute is blank (null) if the plot does not contribute to the mortality estimate.

Codes: MORT_TYP_CD

Code	Description
1	Current annual.
2	Periodic annual.

2.4.25 P2PANEL

Phase 2 panel number. The value for P2PANEL ranges from 1 to 5 for annual inventories and is blank (null) for periodic inventories. A panel is a sample in which the same elements are measured on two or more occasions. FIA divides the plots in each State into 5 panels that can be used to independently sample the population.

2.4.26 P3PANEL

Phase 3 panel number. A panel is a sample in which the same elements are measured on two or more occasions. FIA divides the plots in each State into 5 panels that can be used to independently sample the population. The value for P3PANEL ranges from 1 to 5 for those plots where Phase 3 data were collected. If the plot is not a Phase 3 plot, then this attribute is left blank (null).

2.4.27 ECOSUBCD

Ecological subsection code. An area of similar surficial geology, lithology, geomorphic process, soil groups, subregional climate, and potential natural communities. Subsection boundaries usually correspond with discrete changes in geomorphology. Subsection information is used for broad planning and assessment. Subsection codes for the coterminous United States were developed as part of the "[Ecological Subregions: Sections and Subsections for the Conterminous United States](#) (Cleland and others 2007) (<https://www.fs.usda.gov/research/treesearch/48672>).

For Alaska, the ecological section codes are equivalent to the ecoregions designated by Nowacki and others in Ecoregions of Alaska: 2001. U.S. Geological Survey Open-File Report 02-297.

A full description of Alaska ecoregions can be found in Spencer and others (2002) "[Home is where the habitat is: An ecosystem foundation for wildlife distribution and behavior](#)" (https://www.nsf.gov/pubs/2003/nsf03021/nsf03021_2.pdf). In: Arctic Research of the United States. 2002. Volume 16:6-17. This attribute is coded for the coterminous United States, southeast and south coastal Alaska, and is left blank (null) in all other instances. This assignment is derived using a spatial intersection of LAT and LON.

2.4.28 CONGCD

Congressional district code. A territorial division of a State from which a member of the U.S. House of Representatives is elected. The congressional district code assigned to a plot (regardless of when it was measured) is for the current Congress. CONGCD is a 4-digit code. The first 2 digits are the State FIPS code and the last 2 digits are the congressional district number. If a State has only one congressional district, the congressional district number is 00. If a plot's congressional district assignment falls in a State other than the plot's actual State due to using the approximate coordinates, the congressional district code will be for the nearest congressional district in the correct State. This attribute is coded for the coterminous States and Alaska, and is left blank (null) in all other instances. For more information about the coverage used to assign this attribute, see National Atlas of the United States (2007). This assignment is derived using a spatial intersection of LAT and LON.

2.4.29 MANUAL

Manual (field guide) version number. Version number of the Field Guide used to describe procedures for collecting data on the plot. The National FIA Field Guide began with version 1.0; therefore, data taken using the National Field procedures will have MANUAL

≥ 1.0 . Data taken according to field instructions prior to the use of the National Field Guide have MANUAL <1.0.

2.4.30 KINDCD_NC

Sample kind code, North Central. This attribute is populated through 2005 for the former North Central work unit (SURVEY.RSCD = 23) and is blank (null) for all other FIA work units.

Codes: KINDCD_NC

Code	Description
0	New/lost.
6	Remeasured.
8	Old location but not remeasured.
20	Skipped.
33	Replacement of lost plot.

2.4.31 QA_STATUS

Quality assurance status. A code indicating the type of plot data collected. Production plots have QA_STATUS = 1 or 7. May not be populated for some FIA work units when MANUAL <1.0.

Codes: QA_STATUS

Code	Description
1	Standard production plot.
2	Cold check.
3	Reference plot (off grid).
4	Training/practice plot (off grid).
5	Botched plot file (disregard during data processing).

2.4.32 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

2.4.33 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

2.4.34 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

2.4.35 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

2.4.36 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

2.4.37 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

2.4.38 MICROPLOT_LOC

Microplot location. A code indicating the location of the microplot center on the subplot. The offset microplot center is located 12 feet due east (90 degrees) of subplot center. The current standard is that the microplot is located in the 'OFFSET' location, but some earlier inventories, including some early panels of the annual inventory, may contain data where the microplot was located at the 'CENTER' location. May not be populated for some FIA work units when MANUAL <1.0.

Codes: MICROPLOT_LOC

Code	Description
OFFSET	The microplot center is offset from the subplot center.
CENTER	The microplot center is at the subplot center.

2.4.39 DECLINATION

Declination. (*core optional*) The azimuth correction used to adjust magnetic north to true north, and is defined as follows:

$$\text{DECLINATION} = (\text{TRUE NORTH} - \text{MAGNETIC NORTH})$$

This field is only used in cases where FIA work units are adjusting azimuths to correspond to true north. This field includes a decimal place because the USGS corrections are provided to the nearest half degree. DECLINATION is set to a value of 0.0 for plots that are sampled using magnetic azimuths. Only populated by certain FIA work units (SURVEY.RSCD = 26, 27).

2.4.40 EMAP_HEX

EMAP hexagon. The identifier for the approximately 160,000 acre Environmental Monitoring and Assessment Program (EMAP) hexagon in which the plot is located. [EMAP hexagons](#) are available to the public, cover the coterminous United States, and have been used in summarizing and aggregating data about numerous natural resources. This assignment is derived using a spatial intersection of LAT and LON.

2.4.41 SAMP_METHOD_CD

Sample method code. A code indicating if the plot was observed in the field or remotely sensed in the office.

Codes: SAMP_METHOD_CD

Code	Description
1	Field visited, meaning a field crew physically examined the plot and recorded information at least about subplot 1 center condition (see SUBP_EXAMINE_CD below).
2	Remotely sensed, meaning a determination was made using some type of imagery that a field visit was not necessary. When the plot is sampled remotely, the number of subplots examined (SUBP_EXAMINE_CD) usually equals 1.

2.4.42 SUBP_EXAMINE_CD

Subplots examined code. A code indicating the number of subplots examined. By default, PLOT_STATUS_CD = 1 plots have all 4 subplots examined.

Codes: SUBP_EXAMINE_CD

Code	Description
1	Only subplot 1 center condition examined and all other subplots assumed (inferred) to be the same.
4	All four subplots fully described (no assumptions/inferences).

2.4.43 MACRO_BREAKPOINT_DIA

Macroplot breakpoint diameter. (*core optional*) A macroplot breakpoint diameter is the diameter (either d.b.h. or d.r.c.) above which trees are measured on the plot extending from 0.01 to 58.9 feet horizontal distance from the center of each subplot. Examples of different breakpoint diameters used by western FIA work units are 24 inches or 30 inches (Pacific Northwest), or 21 inches (Rocky Mountain). Installation of macroplots is *core optional* and is used to have a larger plot size in order to more adequately sample large trees. If macroplots are not being installed, this item will be left blank (null).

2.4.44 INTENSITY

Intensity. A code used to identify FIA base grid annual inventory plots and plots that have been added to intensify a particular sample. Under the FIA base grid, one plot is collected in each theoretical hexagonal polygon, which is approximately 6,000 acres in size. INTENSITY values of 1-200 are tied to the FIA base grid. INTENSITY = 1 approximates 1 plot per 6,000 acres. INTENSITY values = 2-200 indicate further intensification tied to the FIA base grid in a specific repeatable geometric pattern. INTENSITY values greater than 1 may not have any relation to the amount of intensification applied (e.g., INTENSITY = 2 does NOT necessarily mean 2x spatial intensification). For certain FIA work units (SURVEY.RSCD = 26, 27), INTENSITY values greater than 201 are tied to the older Continuous Vegetation Survey (CVS) plot grid (used by FS Region 6, Oregon Department of Forestry, and BLM) or other special studies. Populated when MANUAL ≥1.0.

2.4.45 CYCLE

Inventory cycle number. See SURVEY.CYCLE description for definition.

2.4.46 SUBCYCLE

Inventory subcycle number. See SURVEY.SUBCYCLE description for definition.

2.4.47 ECO_UNIT_PNW

Ecological unit, Pacific Northwest Research Station. Plots taken by PNWRS FIA are assigned to the ecological unit in which they are located. Certain units have stocking adjustments made to the plots that occur on very low productivity lands, which thereby reduces the estimated potential productivity of the plot. More information can be found in MacLean (1973). Only populated by certain FIA work units (SURVEY.RSCD = 26, 27).

2.4.48 TOPO_POSITION_PNW

Topographic position, Pacific Northwest Research Station. The topographic position that describes the plot area. Illustrations available in Plot section of the PNWRS field guide located at the web page for [PNWRS FIA Field Manuals](#) (<https://fs.usda.gov/pnw/page/pnw-fia-field-manuals-0>). Adapted from information found in Wilson (1900). Only populated by certain FIA work units (SURVEY.RSCD = 26).

Codes: TOPO_POSITION_PNW

Code	Topographic Position	Common shape of slope
1	Ridge top or mountain peak over 130 feet.	Flat.
2	Narrow ridge top or mountain peak over 130 feet wide.	Convex.
3	Side hill - upper 1/3.	Convex.
4	Side hill - middle 1/3.	No rounding.
5	Side hill - lower 1/3.	Concave.
6	Canyon bottom less than 660 feet wide.	Concave.
7	Bench, terrace or dry flat.	Flat.
8	Broad alluvial flat over 660 feet wide.	Flat.
9	Swamp or wet flat.	Flat.

2.4.49 NF_SAMPLING_STATUS_CD

Nonforest sampling status code. A code indicating whether or not the plot is part of a nonforest inventory. If NF_SAMPLING_STATUS_CD = 1, then a subset of attributes that are measured on accessible forest lands were measured on accessible nonforest lands.

Codes: NF_SAMPLING_STATUS_CD

Code	Description
0	Nonforest plots / conditions are not inventoried.
1	Nonforest plots / conditions are inventoried.

2.4.50 NF_PLOT_STATUS_CD

Nonforest plot status code. A code describing the sampling status of the nonforest plot.

Codes: NF_PLOT_STATUS_CD

Code	Description
1	Sampled - at least one accessible nonforest land condition present on the plot.
2	Sampled - no nonforest land condition present on plot (i.e., plot is either census and/or noncensus water).
3	Nonsampled nonforest.

2.4.51 NF_PLOT_NONSAMPLE_REASON_CD

Nonforest plot nonsampled reason code. A code indicating the reason the nonforest plot was not sampled.

Codes: NF_PLOT_NONSAMPLE_REASN_CD

Code	Description
02	Denied access - Access to the entire plot is denied by the legal owner, or by the owner of the only reasonable route to the plot. Because a denied-access plot can become accessible in the future, it remains in the sample and is re-examined at the next occasion to determine if access is available.
03	Hazardous - Entire plot cannot be accessed because of a hazard or danger, for example cliffs, quarries, strip mines, illegal substance plantations, high water, etc. Although most hazards will not change over time, a hazardous plot remains in the sample and is re-examined at the next occasion to determine if the hazard is still present.
08	Skipped visit - Entire plot skipped. Used for plots that are not completed prior to the time a panel is finished and submitted for processing. This code is for office use only.
09	Dropped intensified plot - Intensified plot dropped due to a change in grid density. This code used only by units engaged in intensification. This code is for office use only.
10	Other - Entire plot not sampled due to a reason other than one of the specific reasons already listed.

2.4.52 P2VEG_SAMPLING_STATUS_CD

P2 vegetation sampling status code. A code indicating whether the plot is part of the P2 (Phase 2) vegetation sample included in the inventory.

Note: For certain FIA work units (SURVEY.RSCD = 22, 26, 27), to obtain a list of all plots in the sample, include codes 1 and 2 (to limit conditions to only accessible forest land, specify COND.COND_STATUS_CD = 1). Code 1 is used for plot locations that are only eligible for accessible forest land condition sampling. Code 2 is used for a subset of plot locations that are eligible for either forest or nonforest land condition sampling (e.g., National Forest System lands in specified regions).

Codes: P2VEG_SAMPLING_STATUS_CD

Code	Description
0	Plot is not part of the P2 vegetation sample.
1	P2 vegetation data are sampled only on accessible forest land conditions.
2	P2 vegetation data are sampled on all accessible land conditions.

2.4.53 P2VEG_SAMPLING_LEVEL_DETAIL_CD

P2 vegetation sampling level detail code. Level of detail (LOD). A code indicating whether data were collected for vegetation structure growth habits only, or for individual species (that qualify as most abundant) as well. If LOD = 3, then a tree species could be recorded twice, but it would have two different species growth habits.

Codes: P2VEG_SAMPLING_LEVEL_DETAIL_CD

Code	Description
1	Data collected for vegetation structure only; total aerial canopy cover and canopy cover by layer for tally tree species (all sizes), non-tally tree species (all sizes), shrubs/subshrubs/woody vines, forbs, and graminoids.
2	Vegetation structure data (LOD = 1) plus understory species composition data collected including up to four most abundant species per GROWTH_HABIT_CD per subplot of: seedlings and saplings of any tree species (tally or non-tally) <5 inches d.b.h. (d.r.c for woodland species), shrubs/subshrubs/woody vines, forbs, and graminoids.
3	Vegetation structure data, understory species composition data (LOD = 2), plus up to four most abundant tree species (tally or non-tally) ≥5 inches d.b.h. (d.r.c for woodland species) per GROWTH_HABIT_CD per subplot.

2.4.54 INVASIVE_SAMPLING_STATUS_CD

Invasive sampling status code. A code indicating whether the plot is part of the invasive plant sample included in the inventory.

Note: For certain FIA work units (SURVEY.RSCD = 22, 26, 27), to obtain a list of all plots in the sample, include codes 1 and 2 (to limit conditions to only accessible forest land, specify COND.COND_STATUS_CD = 1). Code 1 is used for plot locations that are only eligible for accessible forest land condition sampling. Code 2 is used for a subset of plot locations that are eligible for either forest or nonforest land condition sampling (e.g., National Forest System lands in specified regions).

Codes: INVASIVE_SAMPLING_STATUS_CDINVASIVE_SPECIMEN_RULE_CD

Code	Description
0	Plot is not part of invasive plant sample.
1	Invasive plant data are sampled only on accessible forest land conditions.
2	Invasive plant data are sampled on all accessible land conditions.

2.4.55 INVASIVE_SPECIMEN_RULE_CD

Invasive specimen rule code. A code indicating if specimen collection was required.

Codes: INVASIVE_SPECIMEN_RULE_CD

Code	Description
0	FIA work unit does not require specimen collection for invasive plants.
1	FIA work unit requires specimen collection for invasive plants.

2.4.56 DESIGNCD_P2A

Design code periodic to annual. The plot design for the periodic plots that were remeasured in the annual inventory (DESIGNCD = 1). Refer to [appendix G](#) for a list of codes and descriptions.

2.4.57 MANUAL_DB

Version of the database. A number identifying the version of the FIADB to which the data have been standardized. When older data are standardized, they are updated, where appropriate, to adhere to the standards set by the newer version. For example, if an

improved growth equation is developed, older data are re-processed and then re-loaded to the database.

2.4.58 SUBPANEL

Subpanel. Annual inventory subpanel assignment for the plot for FIA work units using subpaneling. FIA uses a 5-panel system (see P2PANEL), but may further subdivide the 5 panels into subpanels. The following FIA work units subdivide each P2PANEL into 2 subpanels (SUBPANEL = 1 or 2), for a total of 10 subpanels. For these FIA work units, 1 subpanel is usually scheduled for measurement each year: RMRS (SURVEY.RSCD = 22); PNWRS (SURVEY.RSCD = 26, 27); SRS (SURVEY.RSCD = 33, only for Oklahoma where UNITCD ≥ 3). Populated for all plots using the National Field Guide protocols (MANUAL ≥ 1.0).

Codes: SUBPANEL

Code	Description
0	Subpaneling not used.
1	Subpanel1.
2	Subpanel2.

2.4.59 CONDCHNGCD_RMRS

Condition class change code, Rocky Mountain Research Station. A code indicating if there has been any change in the condition class since the previous inventory. Only populated by certain FIA work units (SURVEY.RSCD = 22).

Codes: CONDCHNGCD_RMRS

Code	Description
0	There have been no condition class changes from the previous inventory. Copy condition class defining (mapping) variables from computer-generated printouts included in the plot packet.
1	True change has taken place since the last inventory. At least one condition class defining (mapping) variable has changed on any condition. Include changes in the condition status (COND_STATUS_CD) such as: previous COND_STATUS_CD was accessible forest land, now some portion or all of the condition is not accessible forest land (condition is now nonforest land, noncensus water, census water, denied access, area too hazardous to visit, area that is not in the sample, or not sampled/out of time), or vice versa.
2	There are no true condition changes. The previous crew mapped or failed to map a condition(s) in obvious error.
3	There are no true condition changes. Change is due to procedural or definition changes.

2.4.60 FUTFORCD_RMRS

Future forest potential code, Rocky Mountain Research Station. A code indicating if the location requires a prefield examination at the time of the next inventory (10-20 years). Only populated by certain FIA work units (SURVEY.RSCD = 22).

Codes: FUTFORCD_RMRS

Code	Description
0	No, there is no chance this plot will meet the forest definition at the next cycle. It meets one or more of the following criteria: <ul style="list-style-type: none"> • Located more than ½ mile from the nearest forest land, and there are no trees present on or near the location. No disturbance evident (e.g., large fires, clearcut, etc.). • Located in a large reservoir. • Located in a developed urban area (on a house, building, parking lot), but the plot does not fall in a park, undeveloped yard, etc. that may revert to natural forest. • Located on barren rock, sand dunes, etc.
1	Yes, there is some chance that this plot could become forested in the next cycle; there are trees present, or forest land is present within ½ mile.
2	There are no forest tree species (tree species codes) on the site, but other woody species not currently defined as forest species occupy the site (such as salt cedar, palo verde, ironwood, big sage).

2.4.61 MANUAL_NCRS

Manual (field guide) version number, North Central Research Station. The version number of the NCRS Field Guide used to describe procedures for collecting data on the plot. Only populated by certain FIA work units (SURVEY.RSCD = 23).

2.4.62 MANUAL_NERS

Manual (field guide) version number, Northeastern Research Station. The version number of the NERS Field Guide used to describe procedures for collecting data on the plot. Only populated by certain FIA work units (SURVEY.RSCD = 24).

2.4.63 MANUAL_RMRS

Manual (field guide) version, Rocky Mountain Research Station. The version number of the RMRS Field Guide used to describe procedures for collecting data on the plot. Only populated by certain FIA work units (SURVEY.RSCD = 22).

2.4.64 PAC_ISLAND_PNWRS

Pacific Island name ([Pacific Islands](#)), Pacific Northwest Research Station. The name of the Pacific Island where the plot is located. Only populated by certain FIA work units (SURVEY.RSCD = 26).

2.4.65 PLOT_SEASON_NERS

Plot accessible season, Northeastern Research Station. A code indicating the best time of year to access a plot. Populated for States in the NERS region (SURVEY.RSCD = 24) where MANUAL ≥ 4.0.

Codes: PLOT_SEASON_NERS

Code	Description
1	Winter.
2	Summer.
3	Anytime.

2.4.66 PRECIPITATION

Precipitation. The annual precipitation, in inches, for the location. This attribute may not be populated for all FIA units and/or regions.

2.4.67 PREV_MICROPLOT_LOC_RMRS

Previous microplot location, Rocky Mountain Research Station. A code indicating the sampling location of the microplot in the previous inventory. Only populated by certain FIA work units (SURVEY.RSCD = 22).

Codes: PREV_MICROPLOT_LOC_RMRS

Code	Description
CENTER	Microplot center located at subplot center.
OFFSET	Microplot center offset from subplot center. For example, microplot center located 12 feet horizontal at 90 degrees from subplot center.

2.4.68 PREV_PLOT_STATUS_CD_RMRS

Previous plot status code, Rocky Mountain Research Station. A code indicating the plot sampling status at the previous inventory visit. Blank (null) values may be present for periodic inventories. Only populated by certain FIA work units (SURVEY.RSCD = 22).

Codes: PREV_PLOT_STATUS_CD_RMRS

Code	Description
1	Sampled - at least one accessible forest land condition present on plot.
2	Sampled - no accessible forest land condition present on plot.
3	Nonsampled.

2.4.69 REUSECD1

Recreation use code 1 (Pacific Islands). A code indicating signs of recreation use encountered within the accessible forest land portion of any of the four subplots, based on evidence such as campfire rings, compacted areas (from tents), hiking trails, bullet or shotgun casings, tree stands. Up to three different recreation uses per plot can be recorded (REUSECD1, REUSECD2, and REUSECD3). Only populated by certain FIA work units (SURVEY.RSCD = 26), only in the [Pacific Islands](#).

Codes: REUSECD1

Code	Description
0	No evidence of recreation use.
1	Motor vehicle (four wheel drive, ATV, motorcycle).
2	Horse riding.
3	Camping.
4	Hiking.
5	Hunting/shooting.
6	Fishing.

Code	Description
7	Boating - physical evidence such as launch sites or docks.
9	Other - recreation use where evidence is present, such as human litter, but purpose is not clear or does not fit into above categories.

2.4.70 REUSECD2

Recreation use code 2 (Pacific Islands). The second recreation use code, if the plot has more than one recreation use. See [REUSECD1](#) for more information.

2.4.71 REUSECD3

Recreation use code 3 (Pacific Islands). The third recreation use code, if the plot has more than two recreation uses. See [REUSECD1](#) for more information.

2.4.72 GRND_LYR_SAMPLING_STATUS_CD

Ground layer sampling status code. A code indicating whether the plot is part of the ground layer sample included in the inventory. Only populated by certain FIA work units (SURVEY.RSCD = 27).

Codes: GRND_LYR_SAMPLING_STATUS_CD

Code	Description
0	Plot is not part of the ground layer sample.
1	Ground layer data are sampled only on accessible forest land conditions.
2	Ground layer data are sampled on all accessible land conditions.

2.4.73 GRND_LYR_SAMPLING_METHOD_CD

Ground layer sampling method code. A code indicating the method used for ground layer sampling. Only populated by certain FIA work units (SURVEY.RSCD = 27).

Codes: GRND_LYR_SAMPLING_METHOD_CD

Code	Description
1	Ground layer microquadrats sampled at 4 locations per transect.
2	Ground layer microquadrats sampled at 2 locations per transect.

2.5 Condition Table

(Oracle table name: COND)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
2.5.1	CN	Sequence number	VARCHAR2(34)
2.5.2	PLT_CN	Plot sequence number	VARCHAR2(34)
2.5.3	INVYR	Inventory year	NUMBER(4)
2.5.4	STATECD	State code	NUMBER(4)
2.5.5	UNITCD	Survey unit code	NUMBER(2)
2.5.6	COUNTYCD	County code	NUMBER(3)
2.5.7	PLOT	Plot number	NUMBER(5)
2.5.8	CONDID	Condition class number	NUMBER(1)
2.5.9	COND_STATUS_CD	Condition status code	NUMBER(1)
2.5.10	COND_NONSAMPLE_REASON_CD	Condition nonsampled reason code	NUMBER(2)
2.5.11	RESERVCD	Reserved status code	NUMBER(2)
2.5.12	OWNCD	Owner class code	NUMBER(2)
2.5.13	OWNGRPCD	Owner group code	NUMBER(2)
2.5.14	FORINCD	Private owner industrial status code	NUMBER(2)
2.5.15	ADFORCD	Administrative forest code	NUMBER(4)
2.5.16	FORTYPCD	Forest type code	NUMBER(3)
2.5.17	FLDTYPCD	Field forest type code	NUMBER(3)
2.5.18	MAPDEN	Mapping density	NUMBER(1)
2.5.19	STDAGE	Stand age	NUMBER(4)
2.5.20	STDSZCD	Stand-size class code	NUMBER(2)
2.5.21	FLDSZCD	Field stand-size class code	NUMBER(2)
2.5.22	SITECLCD	Site productivity class code	NUMBER(2)
2.5.23	SICOND	Site index for the condition	NUMBER(3)
2.5.24	SIBASE	Site index base age	NUMBER(3)
2.5.25	SISP	Site index species code	NUMBER(4)
2.5.26	STDORGCD	Stand origin code	NUMBER(2)
2.5.27	STDORGSP	Stand origin species code	NUMBER
2.5.28	PROP_BASIS	Proportion basis	VARCHAR2(12)
2.5.29	CONDPROP_UNADJ	Condition proportion unadjusted	NUMBER
2.5.30	MICRPROP_UNADJ	Microplot proportion unadjusted	NUMBER
2.5.31	SUBPPROP_UNADJ	Subplot proportion unadjusted	NUMBER
2.5.32	MACRPROP_UNADJ	Macroplot proportion unadjusted	NUMBER
2.5.33	SLOPE	Condition percent slope	NUMBER(3)
2.5.34	ASPECT	Condition aspect	NUMBER(3)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
2.5.35	PHYSCLCD	Physiographic class code	NUMBER(2)
2.5.36	GSSTKCD	Growing-stock stocking code	NUMBER(2)
2.5.37	ALSTKCD	All live stocking code	NUMBER(2)
2.5.38	DSTRBCD1	Disturbance code 1	NUMBER(2)
2.5.39	DSTRBYR1	Disturbance year 1	NUMBER(4)
2.5.40	DSTRBCD2	Disturbance code 2	NUMBER(2)
2.5.41	DSTRBYR2	Disturbance year 2	NUMBER(4)
2.5.42	DSTRBCD3	Disturbance code 3	NUMBER(2)
2.5.43	DSTRBYR3	Disturbance year 3	NUMBER(4)
2.5.44	TRTCD1	Treatment code 1	NUMBER(2)
2.5.45	TRTYR1	Treatment year 1	NUMBER(4)
2.5.46	TRTCD2	Treatment code 2	NUMBER(2)
2.5.47	TRTYR2	Treatment year 2	NUMBER(4)
2.5.48	TRTCD3	Treatment code 3	NUMBER(2)
2.5.49	TRTYR3	Treatment year 3	NUMBER(4)
2.5.50	PRESNFCD	Present nonforest code	NUMBER(2)
2.5.51	BALIVE	Basal area per acre of live trees	NUMBER(9,4)
2.5.52	FLDAGE	Field-recorded stand age	NUMBER(4)
2.5.53	ALSTK	All-live-tree stocking percent	NUMBER(7,4)
2.5.54	GSSTK	Growing-stock stocking percent	NUMBER(7,4)
2.5.55	FORTYPCDCALC	Forest type code calculated	NUMBER(3)
2.5.56	HABTPCD1	Habitat type code 1	VARCHAR2(10)
2.5.57	HABTPCD1_PUB_CD	Habitat type code 1 publication code	VARCHAR2(10)
2.5.58	HABTPCD1_DESCR_PUB_CD	Habitat type code 1 description publication code	VARCHAR2(10)
2.5.59	HABTPCD2	Habitat type code 2	VARCHAR2(10)
2.5.60	HABTPCD2_PUB_CD	Habitat type code 2 publication code	VARCHAR2(10)
2.5.61	HABTPCD2_DESCR_PUB_CD	Habitat type code 2 description publication code	VARCHAR2(10)
2.5.62	MIXEDCONFCD	Mixed conifer code	VARCHAR2(1)
2.5.63	VOL_LOC_GRP	Volume location group	VARCHAR2(200)
2.5.64	SITECLCDEST	Site productivity class code estimated	NUMBER(2)
2.5.65	SITETREE_TREE	Site tree tree number	NUMBER(4)
2.5.66	SITECL_METHOD	Site class method	NUMBER(2)
2.5.67	CARBON_DOWN_DEAD	Carbon in down dead	NUMBER(13,6)
2.5.68	CARBON_LITTER	Carbon in litter	NUMBER(13,6)
2.5.69	CARBON_SOIL_ORG	Carbon in soil organic material	NUMBER(13,6)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
2.5.70	CARBON_UNDERSTORY_AG	Carbon in understory aboveground	NUMBER(13,6)
2.5.71	CARBON_UNDERSTORY_BG	Carbon in understory belowground	NUMBER(13,6)
2.5.72	CREATED_BY	Created by	VARCHAR2(30)
2.5.73	CREATED_DATE	Created date	DATE
2.5.74	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
2.5.75	MODIFIED_BY	Modified by	VARCHAR2(30)
2.5.76	MODIFIED_DATE	Modified date	DATE
2.5.77	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)
2.5.78	CYCLE	Inventory cycle number	NUMBER(2)
2.5.79	SUBCYCLE	Inventory subcycle number	NUMBER(2)
2.5.80	SOIL_ROOTING_DEPTH_PNW	Soil rooting depth, Pacific Northwest Research Station	VARCHAR2(1)
2.5.81	GROUND_LAND_CLASS_PNW	Present ground land class, Pacific Northwest Research Station	VARCHAR2(3)
2.5.82	PLANT_STOCKABILITY_FACTOR_PNW	Plant stockability factor, Pacific Northwest Research Station	NUMBER
2.5.83	STND_COND_CD_PNWRS	Stand condition code, Pacific Northwest Research Station	NUMBER(1)
2.5.84	STND_STRUC_CD_PNWRS	Stand structure code, Pacific Northwest Research Station	NUMBER(1)
2.5.85	STUMP_CD_PNWRS	Stump code, Pacific Northwest Research Station	VARCHAR2(1)
2.5.86	FIRE_SRS	Fire, Southern Research Station	NUMBER(1)
2.5.87	GRAZING_SRS	Grazing, Southern Research Station	NUMBER(1)
2.5.88	HARVEST_TYPE1_SRS	Harvest type code 1, Southern Research Station	NUMBER(2)
2.5.89	HARVEST_TYPE2_SRS	Harvest type code 2, Southern Research Station	NUMBER(2)
2.5.90	HARVEST_TYPE3_SRS	Harvest type code 3, Southern Research Station	NUMBER(2)
2.5.91	LAND_USE_SRS	Land use, Southern Research Station	NUMBER(2)
2.5.92	OPERABILITY_SRS	Operability, Southern Research Station	NUMBER(2)
2.5.93	STAND_STRUCTURE_SRS	Stand structure, Southern Research Station	NUMBER(2)
2.5.94	NF_COND_STATUS_CD	Nonforest condition status code	NUMBER(1)
2.5.95	NF_COND_NONSAMPLE_REASON_CD	Nonforest condition nonsampled reason code	NUMBER(2)
2.5.96	CANOPY_CVR_SAMPLE_METHOD_CD	Canopy cover sample method code	NUMBER(2)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
2.5.97	LIVE_CANOPY_CVR_PCT	Live canopy cover percent	NUMBER(3)
2.5.98	LIVE_MISSING_CANOPY_CVR_PCT	Live plus missing canopy cover percent	NUMBER(3)
2.5.99	NBR_LIVE_STEMS	Number of live stems	NUMBER(5)
2.5.100	OWNSUBCD	Owner subclass code	NUMBER(1)
2.5.101	INDUSTRIALCD_FIADB	Industrial code in FIADB	NUMBER(1)
2.5.102	RESERVCD_5	Reserved status code field, versions 1.0-5.0	NUMBER(1)
2.5.103	ADMIN_WITHDRAWN_CD	Administratively withdrawn code	NUMBER(1)
2.5.104	CHAINING_CD	Chaining code	NUMBER(1)
2.5.105	LAND_COVER_CLASS_CD_RET	Land cover class, retired	NUMBER(2)
2.5.106	AFFORESTATION_CD	Current afforestation code	NUMBER(1)
2.5.107	PREV_AFFORESTATION_CD	Previous afforestation code	NUMBER(1)
2.5.108	DWM_FUELBED_TYP_CD	DWM condition fuelbed type code	VARCHAR2(3)
2.5.109	NVCS_PRIMARY_CLASS	Primary class of the National Vegetation Classification Standard (NVCS)	VARCHAR2(8)
2.5.110	NVCS_LEVEL_1_CD	Level 1 code of the NVCS	VARCHAR2(25)
2.5.111	NVCS_LEVEL_2_CD	Level 2 code of the NVCS	VARCHAR2(25)
2.5.112	NVCS_LEVEL_3_CD	Level 3 code of the NVCS	VARCHAR2(25)
2.5.113	NVCS_LEVEL_4_CD	Level 4 code of the NVCS	VARCHAR2(25)
2.5.114	NVCS_LEVEL_5_CD	Level 5 code of the NVCS	VARCHAR2(25)
2.5.115	NVCS_LEVEL_6_CD	Level 6 code of the NVCS	VARCHAR2(25)
2.5.116	NVCS_LEVEL_7_CD	Level 7 code of the NVCS	VARCHAR2(25)
2.5.117	NVCS_LEVEL_8_CD	Level 8 code of the NVCS	VARCHAR2(25)
2.5.118	AGE_BASIS_CD_PNWRS	Age basis code, Pacific Northwest Research Station	NUMBER(2)
2.5.119	COND_STATUS_CHNG_CD_RMRS	Condition class status change code, Rocky Mountain Research Station	NUMBER(1)
2.5.120	CRCOV_PCT_RMRS	Live crown cover percent, Rocky Mountain Research Station	NUMBER(3)
2.5.121	DOMINANT_SPECIES1_PNWRS	Dominant tree species 1 (Pacific Islands), Pacific Northwest Research Station	NUMBER(4)
2.5.122	DOMINANT_SPECIES2_PNWRS	Dominant tree species 2 (Pacific Islands), Pacific Northwest Research Station	NUMBER(4)
2.5.123	DOMINANT_SPECIES3_PNWRS	Dominant tree species 3 (Pacific Islands), Pacific Northwest Research Station	NUMBER(4)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
2.5.124	DSTRBCD1_P2A	Disturbance code 1, periodic to annual	NUMBER(2)
2.5.125	DSTRBCD2_P2A	Disturbance code 2, periodic to annual	NUMBER(2)
2.5.126	DSTRBCD3_P2A	Disturbance code 3, periodic to annual	NUMBER(2)
2.5.127	DSTRBYR1_P2A	Disturbance year 1, periodic to annual	NUMBER(4)
2.5.128	DSTRBYR2_P2A	Disturbance year 2, periodic to annual	NUMBER(4)
2.5.129	DSTRBYR3_P2A	Disturbance year 3, periodic to annual	NUMBER(4)
2.5.130	FLDTYPCD_30	Field forest type code, version 3.0	NUMBER(3)
2.5.131	FOREST_COMMUNITY_PNWRS	Forest type (Pacific Islands), Pacific Northwest Research Station	NUMBER(3)
2.5.132	LAND_USECD_RMRS	Land use code, Rocky Mountain Research Station	NUMBER(1)
2.5.133	MAICF	Mean annual increment cubic feet	NUMBER(5,2)
2.5.134	PCTBARE_RMRS	Percent bare ground, Rocky Mountain Research Station	NUMBER(3)
2.5.135	QMD_RMRS	Quadratic mean diameter, Rocky Mountain Research Station	NUMBER(5,1)
2.5.136	RANGETYPCD_RMRS	Range type code (existing vegetation classification), Rocky Mountain Research Station	NUMBER(3)
2.5.137	SDIMAX_RMRS	Stand density index maximum, Rocky Mountain Research Station	NUMBER(4)
2.5.138	SDIPCT_RMRS	Stand density index percent, Rocky Mountain Research Station	NUMBER(4,1)
2.5.139	SDI_RMRS	Stand density index for the condition, Rocky Mountain Research Station	NUMBER(8,4)
2.5.140	STAND_STRUCTURE_ME_NERS	Stand structure (Maine), Northeastern Research Station	NUMBER(1)
2.5.141	TREES_PRESENT_NCRS	Trees present on nonforest, North Central Research Station	NUMBER(1)
2.5.142	TREES_PRESENT_NERS	Trees present on nonforest, Northeastern Research Station	NUMBER(1)
2.5.143	TRTCD1_P2A	Treatment code 1, periodic to annual	NUMBER(2)
2.5.144	TRTCD2_P2A	Treatment code 2, periodic to annual	NUMBER(2)
2.5.145	TRTCD3_P2A	Treatment code 3, periodic to annual	NUMBER(2)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
2.5.146	TRTOPCD	Treatment opportunity	NUMBER(2)
2.5.147	TRYR1_P2A	Treatment year 1, periodic to annual	NUMBER(4)
2.5.148	TRYR2_P2A	Treatment year 2, periodic to annual	NUMBER(4)
2.5.149	TRYR3_P2A	Treatment year 3, periodic to annual	NUMBER(4)
2.5.150	LAND_COVER_CLASS_CD	Land cover class code	NUMBER(2)
2.5.151	SIEQN_REF_CD	Site index equation reference code	VARCHAR2(10)
2.5.152	SICOND_FVS	Site index for the condition, used by the Forest Vegetation Simulator	NUMBER(3)
2.5.153	SIBASE_FVS	Site index base age used by the Forest Vegetation Simulator	NUMBER(3)
2.5.154	SISP_FVS	Site index species code used by the Forest Vegetation Simulator	NUMBER(4)
2.5.155	SIEQN_REF_CD_FVS	Site index equation reference code used by the Forest Vegetation Simulator	VARCHAR2(10)
2.5.156	MQUADPROP_UNADJ	Microquadrat proportion unadjusted	NUMBER(11,10)
2.5.157	SOILPROP_UNADJ	Soil proportion unadjusted	NUMBER(11,10)
2.5.158	FOREST_COND_STATUS_CHANGE_CD	Forest land condition status change code	NUMBER(1)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	CND_PK
Unique	PLT_CN, CONDID	N/A	CND_UK
Natural	STATECD, INVYR, UNITCD, COUNTYCD, PLOT, CONDID	N/A	CND_NAT_I
Foreign	PLT_CN	CONDITION to PLOT	CND_PLT_FK

2.5.1 CN

Sequence number. A unique sequence number used to identify a condition record.

2.5.2 PLT_CN

Plot sequence number. Foreign key linking the condition record to the plot record.

2.5.3 INVYR

Inventory year. See SURVEY.INVYR description for definition.

2.5.4 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to appendix B.

2.5.5 UNITCD

Survey unit code. Forest Inventory and Analysis survey unit identification number. Survey units are usually groups of counties within each State. For periodic inventories, survey units may be made up of lands of particular owners. Refer to [appendix B](#) for codes.

2.5.6 COUNTYCD

County code. The identification number for a county, parish, watershed, borough, or similar governmental unit in a State. FIPS codes from the Bureau of the Census are used. Refer to [appendix B](#) for codes.

Note: Summarizing data by county is not recommended for Alaska datasets. For assistance with analyses for Alaska, please consult the PNWRS analyst contact listed in [table 1-1](#).

2.5.7 PLOT

Plot number. An identifier for a plot. Along with STATECD, INVYR, UNITCD, COUNTYCD and/or some other combination of variables, PLOT may be used to uniquely identify a plot.

2.5.8 CONDID

Condition class number. Unique identifying number assigned to each condition on a plot. A condition is initially defined by condition class status. Differences in reserved status, owner group, forest type, stand-size class, regeneration status, and stand density further define condition for forest land. Mapped nonforest conditions are also assigned numbers. At the time of the plot establishment, the condition class at plot center (the center of subplot 1) is usually designated as condition class 1. Other condition classes are assigned numbers sequentially at the time each condition class is delineated. On a plot, each sampled condition class must have a unique number that can change at remeasurement to reflect new conditions on the plot.

2.5.9 COND_STATUS_CD

Condition status code. A code indicating the basic land classification.

Note: Starting with PLOT.MANUAL ≥6.0, codes 1 and 2 have been modified to match FIA's new definition for accessible forest land and nonforest land. The current wording of "at least 10 percent canopy cover" replaces older wording of "at least 10 percent stocked" as the qualifying criterion in classification. This criterion applies to any tally tree species, including woodland tree species.

Codes: COND_STATUS_CD

Code	Description
1	Accessible forest land - Land within the population of interest that can be occupied safely and has at least 10 percent canopy cover by live tally trees of any size or has had at least 10 percent canopy cover of live tally species in the past, based on the presence of stumps, snags, or other evidence. To qualify, the area must be at least 1.0 acre in size and 120.0 feet wide. Forest land includes transition zones, such as areas between forest and nonforest lands that meet the minimal tree canopy cover and forest areas adjacent to urban and built-up lands. Roadside, streamside, and shelterbelt strips of trees must have a width of at least 120 feet and continuous length of at least 363 feet to qualify as forest land. Unimproved roads and trails, streams, and clearings in forest areas are classified as forest if they are less than 120 feet wide or less than an acre in size. Tree-covered areas in agricultural production settings, such as fruit orchards, or tree-covered areas in urban settings, such as city parks, are not considered forest land.
2	Nonforest land - Land that has less than 10 percent canopy cover of tally tree species of any size and, in the case of afforested land, fewer than 150 established trees per acre; or land that has sufficient canopy cover or stems, but is classified as nonforest land use (see criteria under PRESNFCD). Nonforest includes areas that have sufficient cover or live stems to meet the forest land definition, but do not meet the dimensional requirements. Note: Nonforest land includes "other wooded land" that has at least 5 percent, but less than 10 percent, canopy cover of live tally tree species of any size or has had at least 5 percent, but less than 10 percent, canopy cover of tally species in the recent past, based on the presence of stumps, snags, or other evidence. Other wooded land is recognized as a subset of nonforest land, and therefore is not currently considered a separate condition class. Other wooded land is not subject to nonforest use(s) that prevent normal tree regeneration and succession, such as regular mowing, intensive grazing, or recreation activities. In addition, other wooded land is classified according to the same nonforest land use rules as forest land (e.g., 6 percent cover in an urban setting is not considered other wooded land). Other wooded land is therefore defined as having >5 percent and <10 percent canopy cover at present, or evidence of such in the past, and PRESNFCD = 20, 40, 42, 43 or 45.
3	Nonsensus water - Lakes, reservoirs, ponds, and similar bodies of water 1.0 acre to 4.5 acre in size. Rivers, streams, canals, etc., 30.0 feet to 200 feet wide. This definition was used in the 1990 census and applied when the data became available. Earlier inventories defined nonsensus water differently.
4	Census water - Lakes, reservoirs, ponds, and similar bodies of water 4.5 acre in size and larger; and rivers, streams, canals, etc., more than 200 feet wide.
5	Nonsampled, possibility of forest land - Any portion of a plot within accessible forest land that cannot be sampled is delineated as a separate condition. There is no minimum size requirement. The reason the condition was not sampled is provided in COND_NONSAMPLE_REASON_CD.

2.5.10 COND_NONSAMPLE_REASON_CD

Condition nonsampled reason code. A code indicating the reason a condition class was not sampled.

Codes: COND_NONSAMPLE_REASN_CD

Code	Description
01	Outside U.S. boundary - Condition class is outside the U.S. border.
02	Denied access area - Access to the condition class is denied by the legal owner, or by the owner of the only reasonable route to the condition class.
03	Hazardous situation - Condition class cannot be accessed because of a hazard or danger, for example cliffs, quarries, strip mines, illegal substance plantations, temporary high water, etc.
05	Lost data - The data file was discovered to be corrupt after a panel was completed and submitted for processing. Used for the single condition that is required for this plot. This code is for office use only.
06	Lost plot - Entire plot cannot be found. Used for the single condition that is required for this plot.
07	Wrong location - Previous plot can be found, but its placement is beyond the tolerance limits for plot location. Used for the single condition that is required for this plot.
08	Skipped visit - Entire plot skipped. Used for plots that are not completed prior to the time a panel is finished and submitted for processing. Used for the single condition that is required for this plot. This code is for office use only.
09	Dropped intensified plot - Intensified plot dropped due to a change in grid density. Used for the single condition that is required for this plot. This code used only by units engaged in intensification. This code is for office use only.
10	Other - Condition class not sampled due to a reason other than one of the specific reasons listed.
11	Ocean - Condition falls in ocean water below mean high tide line.

2.5.11 RESERVCD

Reserved status code. (*core for accessible forest land; core optional for other sampled land*) A code indicating the reserved status of the condition on publicly owned land.

Starting with PLOT.MANUAL ≥ 6.0 , the description has been modified to match FIA's new application of the definition for reserved land. Reserved land is permanently prohibited from being managed for the production of wood products through statute or agency mandate; the prohibition cannot be changed through decision of the land manager. Logging may occur to meet protected area objectives. Examples include designated Federal wilderness areas, national parks and monuments, and most State parks. Private land cannot be reserved. RESERVCD differs from RESERVCD_5, which stores reserved status based on the previous definition. See [appendix L](#) for applications of RESERVCD by FIA region and State.

Codes: RESERVCD

Code	Description
0	Not reserved.
1	Reserved.

2.5.12 OWNC

Owner class code. (*core for all accessible forest land; core optional for other sampled land*) A code indicating the ownership category of the land for the condition. When PLOT.DESIGNCD = 999, OWNC may be blank (null).

Codes: OWNC

Code	Description
11	National Forest.
12	National Grassland and/or Prairie.
13	Other Forest Service land.
21	National Park Service.
22	Bureau of Land Management.
23	Fish and Wildlife Service.
24	Departments of Defense/Energy.
25	Other Federal.
31	State including State public universities.
32	Local (County, Municipality, etc.) including water authorities.
33	Other non-Federal public.
46	Undifferentiated private and Native American.

The following detailed private owner land codes are not available in this database because of the FIA data confidentiality policy. Users needing this type of information should contact the [FIA Spatial Data Services \(SDS\)](#) group by following the instructions provided at: <https://www.fs.usda.gov/reseaarch/programs/fia/sds>.

Codes: OWNC

Code	Description
41	Corporate, including Native Corporations in Alaska and private universities.
42	Non-governmental conservation/natural resources organization.
43	Unincorporated local partnership/association/club.
44	Native American.
45	Individual and family, including trusts, estates, and family partnerships.

2.5.13 OWNGRPCD

Owner group code. (*core for all accessible forest land; core optional for other sampled land*) A code indicating the ownership group of the land for the condition. When PLOT.DESIGNCD = 999, OWNGRPCD may be blank (null).

Note: OWNGRPCD = 40 includes Native American lands.

Codes: OWNGRPCD

Code	Description
10	Forest Service (OWNC = 11, 12, 13).
20	Other Federal (OWNC 21, 22, 23, 24, 25).

Code	Description
30	State and local government (OWNCD = 31, 32, 33).
40	Private (OWNCD = 41, 42, 43, 44, 45, 46).

2.5.14 FORINDCD

Private owner industrial status code. (*core for all accessible forest land where owner group is private; core optional for other sampled land where owner group is private*)

A code indicating whether the landowner owns and operates a primary wood-processing plant. A primary wood-processing plant is any commercial operation that originates the primary processing of wood on a regular and continuing basis. Examples include: pulp or paper mill, sawmill, panel board mill, post or pole mill.

This attribute is retained in this database for informational purposes but is intentionally left blank (null) because of the FIA data confidentiality policy. Users needing this type of information should contact the [FIA Spatial Data Services \(SDS\)](#) group by following the instructions provided at: <https://www.fs.usda.gov/research/progrms/fia/sds>.

Codes: FORINDCD

Code	Description
0	Land is not owned by industrial owner with wood-processing plant.
1	Land is owned by industrial owner with wood-processing plant.

2.5.15 ADFORCD

Administrative forest code. A code indicating the administrative unit (Forest Service Region and National Forest) in which the condition is located. The first 2 digits of the 4-digit code are for the region number and the last 2 digits are for the Administrative National Forest number. Refer to [appendix C](#) for codes. Populated for U.S. Forest Service lands OWNGRPCD = 10 and blank (null) for all other owners, except in a few cases where an administrative forest manages land owned by another Federal agency; in this case OWNGRPCD = 20 and ADFORCD >0.

2.5.16 FORTYPCD

Forest type code. This is the forest type used for reporting purposes. It is primarily derived using a computer algorithm, except when less than 25 percent of the plot samples a particular forest condition or in a few cases where the derived FORTYPCDCALC does not accurately reflect the actual condition.

Nonstocked forest land is land that currently has less than 10 percent stocking but formerly met the definition of forest land. Forest conditions meeting this definition have few, if any, trees sampled. In these instances, the algorithm cannot assign a specific forest type and the resulting forest type code is 999, meaning nonstocked. See [ALSTKCD](#) for information on estimates of nonstocked areas.

Refer to [appendix D](#) for the complete list of forest type codes and names.

2.5.17 FLDTYPCD

Field forest type code. A code indicating the forest type, assigned by the field crew, based on the tree species or species groups forming a plurality of all live stocking. The field crew assesses the forest type based on the acre of forest land around the plot, in

addition to the species sampled on the condition. Refer to [appendix D](#) for a detailed list of forest type codes and names. Nonstocked forest land is land that currently has less than 10 percent stocking but formerly met the definition of forest land. When PLOT.MANUAL <2.0, forest conditions that do not meet this stocking level were coded FLDTYPCD = 999. Starting with PLOT.MANUAL = 2.0, the crew no longer recorded nonstocked as 999. Instead, they recorded FLDSZCD = 0 to identify nonstocked conditions and entered an estimated forest type for the condition. The crew determined the estimated forest type by either recording the previous forest type on remeasured plots or, on all other plots, the most appropriate forest type to the condition based on the seedlings present or the forest type of the adjacent forest stands. Periodic inventories will differ in the way FLDTYPCD was recorded - it is best to check with individual FIA work units ([table 1-1](#)) for details. In general, when FLDTYPCD is used for analysis, it is necessary to examine the values of both FLDTYPCD and FLDSZCD to identify nonstocked forest land.

2.5.18 MAPDEN

Mapping density. A code indicating the relative tree density of the condition. Codes other than 1 are used as an indication that a significant difference in tree density is the only factor causing another condition to be recognized and mapped on the plot. May be blank (null) for periodic inventories.

Codes: MAPDEN

Code	Description
1	Initial tree density class.
2	Density class 2 - density different than density of the condition assigned a tree density class of 1.
3	Density class 3 - density different than densities of the conditions assigned tree density classes of 1 and 2.

2.5.19 STDAGE

Stand age. For annual inventories (PLOT.MANUAL \geq 1.0), stand age is equal to the field-recorded stand age (FLDAGE) with some exceptions:

- When FLDAGE = 999, tree cores are first sent to the office for the counting of rings. Stand age is then estimated based upon the average total age of live trees that fall within the calculated stand-size assignment.
- When FLDAGE = 998, STDAGE may be blank (null) because no trees were cored in the field.
- If no tree ages are available, then RMRS (SURVEY.RSCD = 22) sets this attribute equal to FLDAGE.

For annual inventories, nonstocked stands have STDAGE set to 0. When FLDSZCD = 0 (nonstocked) but STDSZCD <5 (not nonstocked), STDAGE may be set to 0 because FLDAGE = 0. Annual inventory data will contain stand ages assigned to the nearest year. For periodic data, stand age was calculated using various methods. Contact the appropriate FIA work unit ([table 1-1](#)) for details.

2.5.20 STDSZCD

Stand-size class code. A classification of the predominant (based on stocking) diameter class of live trees within the condition assigned using an algorithm. Large diameter trees

are at least 11.0 inches diameter for hardwoods and at least 9.0 inches diameter for softwoods. Medium diameter trees are at least 5.0 inches diameter and smaller than large diameter trees. Small diameter trees are <5.0 inches diameter. When <25 percent of the plot samples the forested condition (CONDPROP_UNADJ <0.25), this attribute is set to the equivalent field-recorded stand-size class (FLDSZCD). Populated for forest conditions. This attribute is blank (null) for periodic plots that are used only for growth, mortality and removal estimates, and modeling of reserved and unproductive conditions.

Codes: STDSZCD

Code	Description
1	Large diameter - Stands with an all live stocking value of at least 10 (base 100); with more than 50 percent of the stocking in medium and large diameter trees; and with the stocking of large diameter trees equal to or greater than the stocking of medium diameter trees.
2	Medium diameter - Stands with an all live stocking value of at least 10 (base 100); with more than 50 percent of the stocking in medium and large diameter trees; and with the stocking of large diameter trees less than the stocking of medium diameter trees.
3	Small diameter - Stands with an all live stocking value of at least 10 (base 100) on which at least 50 percent of the stocking is in small diameter trees.
5	Nonstocked - Forest land with all live stocking value <10.

2.5.21 FLDSZCD

Field stand-size class code. A code indicating the field-assigned classification of the predominant (based on stocking) diameter class of live trees within the condition. May not be populated for some FIA work units when PLOT.MANUAL <1.0.

Codes: FLDSZCD

Code	Description
0	Nonstocked - Meeting the definition of accessible land and one of the following applies (1) <10 percent stocked by trees, seedlings, and saplings and not classified as cover trees, or 10 percent canopy cover if stocking standards are not available, or (2) for several woodland species where stocking standards are not available, <10 percent canopy cover of trees, seedlings, and saplings.
1	\leq 4.9 inches (seedlings/saplings). At least 10 percent stocking (or 10 percent canopy cover if stocking standards are not available) in trees, seedlings, and saplings, and at least 2/3 of the canopy cover is in trees <5.0 inches d.b.h./d.r.c.
2	5.0-8.9 inches (softwoods and woodland trees)/ 5.0-10.9 inches (hardwoods). At least 10 percent stocking (or 10 percent canopy cover if stocking standards are not available) in trees, seedlings, and saplings; and at least one-third of the canopy cover is in trees >5.0 inches d.b.h./d.r.c. and the plurality of the canopy cover is in softwoods 5.0-8.9 inches diameter and/or hardwoods 5.0-10.9 inches d.b.h., and/or woodland trees 5.0-8.9 inches d.r.c.
3	9.0-19.9 inches (softwoods and woodland trees)/ 11.0-19.9 inches (hardwoods). At least 10 percent stocking (or 10 percent canopy cover if stocking standards are not available) in trees, seedlings, and sapling; and at least one-third of the canopy cover is in trees >5.0 inches d.b.h./d.r.c. and the plurality of the canopy cover is in softwoods 9.0-19.9 inches diameter and/or hardwoods between 11.0-19.9 inches d.b.h., and/or woodland trees 9.0-19.9 inches d.r.c.

Code	Description
4	20.0-39.9 inches. At least 10 percent stocking (or 10 percent canopy cover if stocking standards are not available) in trees, seedlings, and saplings; and at least one-third of the canopy cover is in trees >5.0 inches d.b.h./d.r.c. and the plurality of the canopy cover is in trees 20.0-39.9 inches d.b.h.
5	40.0+ inches. At least 10 percent stocking (or 10 percent canopy cover if stocking standards are not available) in trees, seedlings, and saplings; and at least one-third of the canopy cover is in trees >5.0 inches d.b.h./d.r.c. and the plurality of the canopy cover is in trees ≥40.0 inches d.b.h.

2.5.22 SITECLCD

Site productivity class code. A code indicating the classification of forest land in terms of inherent capacity to grow crops of industrial wood. Identifies the potential growth in cubic feet/acre/year and is based on the culmination of mean annual increment of fully stocked natural stands. This attribute may be assigned based on the site trees available for the plot, or, if no valid site trees are available, this attribute is set equal to SITECLCDEST, a default value that is either an estimated or predicted site productivity class. If SITECLCDEST is used to populate SITECLCD, the attribute SITECL_METHOD is set to 6.

Codes: SITECLCD

Code	Description
1	225+ cubic feet/acre/year.
2	165-224 cubic feet/acre/year.
3	120-164 cubic feet/acre/year.
4	85-119 cubic feet/acre/year.
5	50-84 cubic feet/acre/year.
6	20-49 cubic feet/acre/year.
7	0-19 cubic feet/acre/year.

2.5.23 SICOND

Site index for the condition. This represents the average total length in feet that dominant and co-dominant trees are expected to attain in well-stocked, even-aged stands at the specified base age (SIBASE). Site index is estimated for the condition by either using an individual tree or by averaging site index values that have been calculated for individual site trees (see SITETREE.SITREE) of the same species (SISP). As a result, it may be possible to find additional site index values that are not used in the calculation of SICOND in the SITETREE tables when site index has been calculated for more than one species in a condition. Site index values in SICOND are often used to calculate productivity class and other condition-level attributes. This attribute is blank (null) when no site index data are available.

2.5.24 SIBASE

Site index base age. The base age (sometimes called reference age), in years, of the site index curve used to derive site index. Base age may be breast height age or total age, depending on the specifications of the site index curves being used. This attribute is blank (null) when no site tree data are available.

2.5.25 SISP

Site index species code. The species upon which the site index is based. In most cases, the site index species will be one of the species that define the forest type of the condition (FORTYPCD). In cases where there are no suitable site trees of the type species, other suitable species may be used. This attribute is blank (null) when no site tree data are available.

2.5.26 STDORGCD

Stand origin code. A code indicating the method of stand regeneration for the trees in the condition. An artificially regenerated stand is established by planting or artificial seeding. Populated for forest conditions.

Codes: STDORGCD

Code	Description
0	Natural stands.
1	Clear evidence of artificial regeneration.

2.5.27 STDORGSP

Stand origin species code. The species code for the predominant artificially regenerated species (only populated when STDORGCD = 1). See [appendix F](#). May not be populated for some FIA work units when PLOT.MANUAL <1.0.

2.5.28 PROP_BASIS

Proportion basis. A value indicating what type of fixed-size subplots were installed when this plot was sampled. This information is needed to use the proper adjustment factor for the stratum in which the plot occurs (see POP_STRATUM.ADJ_FACTOR_SUBP and POP_STRATUM.ADJ_FACTOR_MACR).

Note: This attribute may not be populated for periodic inventories.

Codes: PROP_BASIS

Code	Description
SUBP	Subplots (24.0-foot radius per subplot).
MACR	Macroplots (58.9-foot radius per subplot).

2.5.29 CONDPROP_UNADJ

Condition proportion unadjusted. The unadjusted proportion of the plot that is in the condition. This attribute is retained for ease of area calculations. It is equal to either SUBPPROP_UNADJ or MACRPROP_UNADJ, depending on the value of PROP_BASIS. The sum of all condition proportions for a plot equals 1. When generating population area estimates, this proportion is adjusted by either the POP_STRATUM.ADJ_FACTOR_MACR or the POP_STRATUM.ADJ_FACTOR_SUBP to account for partially nonsampled plots (access denied or hazardous portions).

2.5.30 MICRPROP_UNADJ

Microplot proportion unadjusted. The unadjusted proportion of the microplots that are in the condition. The sum of all microplot condition proportions for a plot equals 1.

2.5.31 SUBPPROP_UNADJ

Subplot proportion unadjusted. The unadjusted proportion of the subplots that are in the condition. The sum of all subplot condition proportions for a plot equals 1.

2.5.32 MACRPROP_UNADJ

Macroplot proportion unadjusted. The unadjusted proportion of the macroplots that are in the condition. When macroplots are installed, the sum of all macroplot condition proportions for a plot equals 1; otherwise this attribute is left blank (null).

2.5.33 SLOPE

Condition percent slope. The predominant or average angle of the slope across the condition to the nearest 1 percent. Valid values are 0 through 155 for data collected when PLOT.MANUAL ≥ 1.0 , and 0 through 200 on data collected when PLOT.MANUAL < 1.0 .

When PLOT.MANUAL < 1.0 , the field crew measured slope at a condition level by sighting along the average incline or decline of the condition. When PLOT.MANUAL ≥ 1.0 , slope is collected at a subplot level (see SUBPLOT.SLOPE), and then the slope from the subplot representing the greatest proportion of the condition is assigned as a surrogate. In the event that two or more subplots represent the same area in the condition, the slope from the lower numbered subplot is used.

Note: When PLOT.MANUAL < 1.0 , this attribute is populated for all forest periodic plots and all NCRS periodic plots that were measured as "nonforest with trees" (e.g., wooded pasture, windbreaks).

2.5.34 ASPECT

Condition aspect. The aspect across the condition to the nearest 1 degree. North is recorded as 360. When slope is < 5 percent, there is no aspect and this item is set to 0.

When PLOT.MANUAL < 1.0 , the field crew measured aspect at the condition level. When PLOT.MANUAL ≥ 1.0 , aspect is collected at a subplot level (see SUBPLOT.ASPECT), and then the aspect from the subplot representing the greatest proportion of the condition is assigned as a surrogate. In the event that two or more subplots represent the same area in the condition, the slope from the lower numbered subplot is used.

Note: When PLOT.MANUAL < 1.0 , this attribute is populated for all forest periodic plots and all NCRS periodic plots that were measured as "nonforest with trees" (e.g. wooded pasture, windbreaks).

2.5.35 PHYSCLCD

Physiographic class code. A code indicating the general effect of land form, topographical position, and soil on moisture available to trees.

Note: When PLOT.MANUAL < 1.0 , this attribute is populated for all forest periodic plots and all NCRS periodic plots that were measured as "nonforest with trees" (e.g., wooded pasture, windbreaks).

Codes: PHYSCLCD

Code	Description
-	Xeric sites (normally low or deficient in available moisture)
11	Dry Tops - Ridge tops with thin rock outcrops and considerable exposure to sun and wind.

Code	Description
12	Dry Slopes - Slopes with thin rock outcrops and considerable exposure to sun and wind. Includes most mountain/steep slopes with a southern or western exposure.
13	Deep Sands - Sites with a deep, sandy surface subject to rapid loss of moisture following precipitation. Typical examples include sand hills, ridges, and flats in the South, sites along the beach and shores of lakes and streams.
19	Other Xeric - All dry physiographic sites not described above.
-	Mesic sites (normally moderate but adequate available moisture)
21	Flatwoods - Flat or fairly level sites outside of floodplains. Excludes deep sands and wet, swampy sites.
22	Rolling Uplands - Hills and gently rolling, undulating terrain and associated small streams. Excludes deep sands, all hydric sites, and streams with associated floodplains.
23	Moist Slopes and Coves - Moist slopes and coves with relatively deep, fertile soils. Often these sites have a northern or eastern exposure and are partially shielded from wind and sun. Includes moist mountain tops and saddles.
24	Narrow floodplains/Bottomlands - Floodplains and bottomlands less than 1/4 mile in width along rivers and streams. These sites are normally well drained but are subjected to occasional flooding during periods of heavy or extended precipitation. Includes associated levees, benches, and terraces within a 1/4 mile limit. Excludes swamps, sloughs, and bogs.
25	Broad Floodplains/Bottomlands - Floodplains and bottomlands 1/4-mile or wider along rivers and streams. These sites are normally well drained but are subjected to occasional flooding during periods of heavy or extended precipitation. Includes associated levees, benches, and terraces. Excludes swamps, sloughs, and bogs with year-round water problems.
29	Other Mesic - All moderately moist physiographic sites not described above.
-	Hydric sites (normally abundant or overabundant moisture all year)
31	Swamps/Bogs - Low, wet, flat, forested areas usually quite extensive that are flooded for long periods except during periods of extreme drought. Excludes cypress ponds and small drains.
32	Small Drains - Narrow, stream-like, wet strands of forest land often without a well-defined stream channel. These areas are poorly drained or flooded throughout most of the year and drain the adjacent higher ground.
33	Bays and wet pocosins - Low, wet, boggy sites characterized by peaty or organic soils. May be somewhat dry during periods of extended drought. Examples include sites in the Carolina bays in the Southeast United States.
34	Beaver ponds.
35	Cypress ponds.
36	Forest or Nonforest over Permafrost - Low-lying, sometimes wet, flat areas, often characterized by a thick moss layered ground surface, sometimes comprised of tussocks that tend to form a waterlogged soils layer as the active layer thaws seasonally. Permafrost may be visible or detected with a soil probe. At later periods in the season when permafrost cannot be detected, waterlogged soils layered on top of deeper permafrost are possible
39	Other hydric - All other hydric physiographic sites.

2.5.36 GSSTKCD

Growing-stock stocking code. A code indicating the stocking of the condition by growing-stock trees and seedlings. Growing-stock trees are those where tree class (TREE.TREECLCD) equals 2. The following species groups (TREE.SPGRPCD) are not included: 23 (woodland softwoods), 43 (eastern noncommercial hardwoods), and 48 (woodland hardwoods). Populated for forest conditions.

Estimates (e.g., forest land area, tree volume) associated with nonstocked areas identified with stocking code (GSSTKCD and ALSTKCD), stand-size class (STDSZCD and FLDSZCD), and forest type (FORTYPCDCALC, FORTYPCD, and FLDTYPCD) can differ. Stand-size class (STDSZCD) and forest type (FORTYPCD) use a field-crew recorded stand-size class (FLDSZCD) and forest type (FLDTYPCD) when a condition is less than 25 percent of the plot area ($\text{CONDPROP_UNADJ} < 0.25$); otherwise, stand-size class and forest type are assigned with an algorithm using trees tallied on the plot (for historical documentation, see "[National Algorithms for Determining Stocking Class, Stand Size Class, and Forest Type for Forest Inventory and Analysis Plots](#)" (Arner and others 2001) at <https://www.fia.fs.usda.gov/library/sampling/index.php> or contact the appropriate FIA work unit in [table 1-1](#)). Stocking code and forest type code calculated (FORTYPCDCALC) also use the algorithm to assign stocking to every condition on the plot, regardless of condition size. When estimates include conditions less than 25 percent of the plot area, small differences among estimates can result when summarizing by stocking code or forest type code calculated versus stand-size class or forest type. Differences are expected between field crew and algorithm assignments; the field crew assigns stand-size class and forest type considering trees on and adjacent to the plot, while the algorithm only uses trees tallied on the plot.

Codes: GSSTKCD

Code	Description
1	Overstocked (100+%).
2	Fully stocked (60-99%).
3	Medium stocked (35-59%).
4	Poorly stocked (10-34%).
5	Nonstocked (0-9%).

Note: When PLOT.MANUAL <1.0, this attribute is also populated for all forest plots, and all NCFS periodic plots that were measured as "nonforest with trees" (e.g., wooded pasture, windbreaks). It is blank (null) for periodic plots that are used only for growth, mortality, and removal estimates, and modeling of reserved and unproductive conditions. Some periodic survey data are in the form of an absolute stocking value (0-167). More detailed information on how stocking values were determined from plot data in a particular State can be obtained directly from the FIA work units ([table 1-1](#)).

Codes: GSSTKCD (Absolute stocking value - used for some periodic inventory data)

Code	Description
1	Overstocked (130+%).
2	Fully stocked (100 - 129.9%).
3	Medium stocked (60 - 99.9%).

Code	Description
4	Poorly stocked (16.7 - 59.9%).
5	Nonstocked (<16.7%).

2.5.37 ALSTKCD

All live stocking code. A code indicating the stocking of the condition by live trees, including seedlings. Data are in classes as listed for GSSTKCD above. Populated for forest conditions. May not be populated for some FIA work units when PLOT.MANUAL <1.0.

Estimates (e.g., forest land area, tree volume) associated with nonstocked areas identified with stocking code (GSSTKCD and ALSTKCD), stand-size class (STDSZCD and FLDSZCD), and forest type (FORTYPCDCALC, FORTYPCD, and FLDTYPED) can differ. Stand-size class (STDSZCD) and forest type (FORTYPCD) use a field-crew recorded stand-size class (FLDSZCD) and forest type (FLDTYPED) when a condition is less than 25 percent of the plot area (CONDPROP_UNADJ <0.25); otherwise, stand-size class and forest type are assigned with an algorithm using trees tallied on the plot (for historical documentation, see "[National Algorithms for Determining Stocking Class, Stand Size Class, and Forest Type for Forest Inventory and Analysis Plots](#)" (Arner and others 2001) at <https://www.fs.usda.gov/fmsc/ftp/fvs/docs/gtr/Arner2001.pdf> or contact the appropriate FIA work unit in [table 1-1](#)). Stocking code and forest type code calculated (FORTYPCDCALC) also use the algorithm to assign stocking to every condition on the plot, regardless of condition size. When estimates include conditions less than 25 percent of the plot area, small differences among estimates can result when summarizing by stocking code or forest type code calculated versus stand-size class or forest type. Differences are expected between field crew and algorithm assignments; the field crew assigns stand-size class and forest type considering trees on and adjacent to the plot, while the algorithm only uses trees tallied on the plot.

Note: Some periodic survey data are in the form of an absolute stocking value (0-167). More detailed information on how stocking values were determined from plot data in a particular State can be obtained directly from the FIA work units ([table 1-1](#)).

2.5.38 DSTRBCD1

Disturbance code 1. A code indicating the kind of disturbance occurring since the last measurement or within the last 5 years for new plots. The area affected by the disturbance must be at least 1 acre in size. A significant level of disturbance (mortality or damage to 25 percent of the trees in the condition) is required. Up to three different disturbances per condition can be recorded, from most important to least important (DSTRBCD1, DSTRBCD2, and DSTRBCD1). May not be populated for some FIA work units when PLOT.MANUAL <1.0. Codes 11, 12, 21, and 22 are valid where PLOT.MANUAL ≥2.0.

Codes: DSTRBCD1

Code	Description
0	No visible disturbance.
10	Insect damage.
11	Insect damage to understory vegetation.
12	Insect damage to trees, including seedlings and saplings.
20	Disease damage.

Code	Description
21	Disease damage to understory vegetation.
22	Disease damage to trees, including seedlings and saplings.
30	Fire damage (from crown and ground fire, either prescribed or natural).
31	Ground fire damage.
32	Crown fire damage.
40	Animal damage.
41	Beaver (includes flooding caused by beaver).
42	Porcupine.
43	Deer/ungulate.
44	Bear (<i>core optional</i>).
45	Rabbit (<i>core optional</i>).
46	Domestic animal/livestock (includes grazing).
50	Weather damage.
51	Ice.
52	Wind (includes hurricane, tornado).
53	Flooding (weather induced).
54	Drought.
60	Vegetation (suppression, competition, vines).
70	Unknown / not sure / other.
80	Human-induced damage - any significant threshold of human-caused damage not described in the DISTURBANCE codes or in the TREATMENT codes.
90	Geologic disturbances.
91	Landslide.
92	Avalanche track.
93	Volcanic blast zone.
94	Other geologic event.
95	Earth movement / avalanches.

2.5.39 DSTRBYR1

Disturbance year 1. The year in which disturbance 1 (DSTRBCD1) is estimated to have occurred. If the disturbance occurs continuously over a period of time, the value 9999 is used. If DSTRBCD1 = 0, then DSTRBYR1 = blank (null) or 0. May not be populated for some FIA work units when PLOT.MANUAL<1.0.

2.5.40 DSTRBCD2

Disturbance code 2. The second disturbance code, if the stand has experienced more than one disturbance. See DSTRBCD1 for more information.

2.5.41 DSTRBYR2

Disturbance year 2. The year in which disturbance 2 (DSTRBCD2) occurred. See DSTRBYR1 for more information.

2.5.42 DSTRBCD3

Disturbance code 3. The third disturbance code, if the stand has experienced more than two disturbances. See DSTRBCD1 for more information.

2.5.43 DSTRBYR3

Disturbance year 3. The year in which disturbance 3 (DSTRBCD3) occurred. See DSTRBYR1 for more information.

2.5.44 TRTCD1

Treatment code 1. A code indicating the type of stand treatment that has occurred since the last measurement or within the last 5 years for new plots. The area affected by the treatment must be at least 1 acre in size. Populated for all forested conditions using the National Field Guide protocols (PLOT.MANUAL ≥ 1.0) and populated by some FIA work units where PLOT.MANUAL < 1.0 . When PLOT.MANUAL < 1.0 , inventories may record treatments occurring within the last 20 years for new plots. Up to three different treatments per condition can be recorded, from most important to least important (TRTCD1, TRTCD2, and TRTCD3).

Codes: TRTCD1

Code	Description
00	No observable treatment.
10	Cutting - The removal of one or more trees from a stand.
20	Site preparation - Clearing, slash burning, chopping, diskng, bedding, or other practices clearly intended to prepare a site for either natural or artificial regeneration.
30	Artificial regeneration - Following a disturbance or treatment (usually cutting), a new stand where at least 50 percent of the live trees present resulted from planting or direct seeding.
40	Natural regeneration - Following a disturbance or treatment (usually cutting), a new stand where at least 50 percent of the live trees present (of any size) were established through the growth of existing trees and/or natural seeding or sprouting.
50	Other silvicultural treatment - The use of fertilizers, herbicides, girdling, pruning, or other activities (not covered by codes 10-40) designed to improve the commercial value of the residual stand; or chaining, which is a practice used on woodlands to encourage wildlife forage.

2.5.45 TRTYR1

Treatment year 1. The year in which treatment 1 (TRTCD1) is estimated to have occurred. Populated for all forested conditions that have some treatment using the National Field Guide protocols (PLOT.MANUAL ≥ 1.0) and populated by some FIA work units where PLOT.MANUAL < 1.0 . If TRTCD1 = 00 then TRTYR1 = blank (null) or 0.

2.5.46 TRTCD2

Treatment code 2. The second treatment code, if the stand has experienced more than one treatment since the last measurement or within the last 5 years for new plots. See [TRTCD1](#) for more information.

2.5.47 TRTYR2

Treatment year 2. The year in which treatment 2 (TRTCD2) is estimated to have occurred. See [TRTYR1](#) for more information.

2.5.48 TRTCD3

Treatment code 3. The third treatment code, if the stand has experienced more than two treatments since the last measurement or within the last 5 years for new plots. See [TRTCD1](#) for more information.

2.5.49 TRTYR3

Treatment year 3. The year in which treatment 3 (TRTCD3) is estimated to have occurred. See [TRTYR1](#) for more information.

2.5.50 PRESNFCD

Present nonforest code. A code indicating the current land use for a nonforest condition, which meets the minimum area and width requirements (except those cases where the condition has been solely defined due to developed land uses, such as roads and rights-of-way). PRESNFCD is recorded for the following: (1) conditions that were previously classified as forest but are now classified as nonforest, and (2) sampled nonforest conditions, regardless of the previous condition.

Note: This attribute is *core* starting with FIADB version 6.0 (PLOT.MANUAL \geq 6.0), but for all prior annual inventories, it was *core* for remeasured conditions that were forest before and are now nonforest, and *core optional* for all conditions where current condition class status is nonforest, regardless of the previous condition.

Codes: PRESNFCD

Code	Description
10	Agricultural land.
11	Cropland.
12	Pasture (improved through cultural practices).
13	Idle farmland.
16	Maintained wildlife opening.
17	Windbreak/Shelterbelt.
20	Rangeland.
30	Developed.
31	Cultural (business, residential, other intense human activity).
32	Rights-of-way (improved road, railway, power line).
40	Other (undeveloped beach, marsh, bog, snow, ice).
41	Nonvegetated.
42	Wetland.
43	Beach.
45	Nonforest-Chaparral.

The following detailed current nonforest land use codes are not available in this database because of the FIA data confidentiality policy. Users needing this type of information

should contact the [FIA Spatial Data Services \(SDS\)](#) group by following the instructions provided at <https://www.fs.usda.gov/research/programs/fia/sds>.

Note: Codes 14 and 15 are included in code 10. Codes 33 and 34 are included in code 30.

Codes: PRESNFCD

Code	Description
14	Orchard.
15	Christmas tree plantation.
33	Recreation (park, golf course, ski run).
34	Mining.

2.5.51 BALIVE

Basal area per acre of live trees. Basal area in square feet per acre of all live trees ≥ 1.0 inch d.b.h./d.r.c. sampled in the condition. Populated for forest conditions.

2.5.52 FLDAGE

Field-recorded stand age. The stand age as assigned by the field crew. Based on the average total age, to the nearest year, of the trees in the field-recorded stand-size class of the condition, determined using local procedures. For nonstocked stands, a value of 0 is stored. If all of the trees in a condition class are of a species that by regional standards cannot be cored for age (e.g., mountain mahogany, tupelo), 998 is recorded. If tree cores are not counted in the field, but are collected and sent to the office for the counting of rings, 999 is recorded.

2.5.53 ALSTK

All-live-tree stocking percent. The sum of stocking percent values of all live trees, including seedlings, on the condition. The percent is then assigned to a stocking class, which is found in [ALSTKCD](#). Populated for forest conditions. May not be populated for some FIA work units when PLOT.MANUAL <1.0.

Note: Some periodic survey data are in the form of an absolute stocking value (0-167). More detailed information on how stocking values were determined from plot data in a particular State can be obtained directly from the FIA work units ([table 1-1](#)).

2.5.54 GSSTK

Growing-stock stocking percent. The sum of stocking percent values of all growing-stock trees and seedlings on the condition. The percent is then assigned to a stocking class, which is found in [GSSTKCD](#). Growing-stock trees are those where tree class (TREE.TREECLCD) equals 2. The following species groups (TREE.SPGRPCD) are not included: 23 (woodland softwoods), 43 (eastern noncommercial hardwoods), and 48 (woodland hardwoods). Populated for forest conditions. May not be populated for some FIA work units when PLOT.MANUAL <1.0.

Note: Some periodic survey data are in the form of an absolute stocking value (0-167). More detailed information on how stocking values were determined from plot data in a particular State can be obtained directly from the FIA work units ([table 1-1](#)).

2.5.55 FORTYPCDCALC

Forest type code calculated. Forest type is calculated based on the tree species sampled on the condition. The forest typing algorithm is a hierarchical procedure applied to the tree species sampled on the condition. The algorithm begins by comparing the live tree stocking of softwoods and hardwoods and continues in a stepwise fashion comparing successively smaller subgroups of the preceding aggregation of initial type groups, selecting the group with the largest aggregate stocking value. The comparison proceeds in most cases until a plurality of a forest type is identified.

In instances where the condition is more than 10 percent stocked, but the algorithm cannot identify a forest type, FORTYPCDCALC is blank (null). Nonstocked forest land is land that currently has less than 10 percent stocking but formerly met the definition of forest land. Forest conditions meeting this definition have few, if any, trees sampled. In these instances, the algorithm cannot assign a specific forest type and the resulting forest type code is 999, meaning nonstocked.

FORTYPCDCALC is only used for computational purposes. It is a direct output from the algorithm, and is used to populate FORTYPCD when the condition is at least 25 percent of the plot area ($\text{CONDPROP_UNADJ} \geq .25$). See also FORTYPCD and FLDTYPCD. Refer to appendix D for a complete list of forest type codes and names.

2.5.56 HABTYPED1

Habitat type code 1. A code indicating the primary habitat type (or community type) for this condition. Unique codes are determined by combining both habitat type code and publication code (HABTYPED1 and HABTYPED1_PUB_CD). Habitat type captures information about both the overstory and understory vegetation and usually describes the vegetation that is predicted to become established after all successional stages of the ecosystem are completed without any disturbance. This code can be translated using the publication in which it was named and described (see [HABTYPED1_PUB_CD](#) and [HABTYPED1_DESCR_PUB_CD](#)). Only populated by certain FIA work units (SURVEY.RSCD = 22, 23, 26).

Note: For [Caribbean Islands](#), life zone codes are populated in this column (see [VOL_LOC_GRP](#) for definitions). Only populated by certain FIA work units (SURVEY.RSCD = 33, STATECD = 72, 78).

2.5.57 HABTYPED1_PUB_CD

Habitat type code 1 publication code. A code indicating the publication that lists the name for habitat type code 1 (HABTYPED1). Publication information is documented in the REF_HABTYP_PUBLICATION table. Only used by certain FIA work units (SURVEY.RSCD = 22, 23, 26).

2.5.58 HABTYPED1_DESCR_PUB_CD

Habitat type code 1 description publication code. A code indicating the publication that gives a description for habitat type code 1 (HABTYPED1). This publication may or may not be the same publication that lists the name of the habitat type (HABTYPED1_PUB_CD). Publication information is documented in REF_HABTYP_PUBLICATION table. Only used by certain FIA work units (SURVEY.RSCD = 22, 23, 26).

2.5.59 HABTYPED2

Habitat type code 2. A code indicating the secondary habitat type (or community type) for this condition. See [HABTYPED1](#) for description.

2.5.60 HABTYP_CD2_PUB_CD

Habitat type code 2 publication code. A code indicating the publication that lists the name for habitat type code 2 (HABTYP_CD2). See [HABTYP_CD1_PUB_CD](#) for description.

2.5.61 HABTYP_CD2_DESCR_PUB_CD

Habitat type code 2 description publication code. A code indicating the publication that gives a description for habitat type code 2 (HABTYP_CD2). See [HABTYP_CD1_DESCR_PUB_CD](#) for description.

2.5.62 MIXEDCONF_CD

Mixed conifer code. An indicator to show that the forest condition is a mixed conifer site in California. These sites are a complex association of ponderosa pine, sugar pine, Douglas-fir, white fir, red fir, and/or incense-cedar. Mixed conifer sites use a specific site index equation. This is a yes/no attribute. This attribute is left blank (null) for all other States. Only populated by certain FIA work units (SURVEY.RSCD = 26).

Codes: MIXEDCONF_CD

Code	Description
Y	Yes, the condition is a mixed conifer site in California.
N	No, the condition is not a mixed conifer site in California.

2.5.63 VOL_LOC_GRP

Volume location group. An identifier indicating what equations are used for volume, biomass, site index, etc. A volume group is usually designated for a geographic area, such as a State, multiple States, a group of counties, or an ecoregion.

Codes: VOL_LOC_GRP

Code	Description
S22LAZN	Northern Arizona Ecosystems.
S22LAZS	Southern Arizona Ecosystems.
S22LCOE	Eastern Colorado Ecosystems.
S22LCOW	Western Colorado Ecosystems.
S22LID	Idaho Ecosystems.
S22LMTE	Eastern Montana Ecosystems.
S22LMTW	Western Montana Ecosystems.
S22LNMN	Northern New Mexico Ecosystems.
S22LNMS	Southern New Mexico Ecosystems.
S22LNV	Nevada Ecosystems.
S22LUTNE	Northern and Eastern Utah Ecosystems.
S22LUTSW	Southern and Western Utah Ecosystems.
S22LWYE	Eastern Wyoming Ecosystems.
S22LWYW	Western Wyoming Ecosystems.
S23LCS	Central States (IL, IN, IA, MO).
S23LLS	Lake States (MI, MN, WI).
S23LPS	Plains States (KS, NE, ND, SD).

Code	Description
S24	Northeastern States (CT, DE, ME, MD, MA, NH, NJ, NY, OH, PA, RI, VT, WV).
S26LCA	California other than mixed conifer forest type.
S26LCAMIX	California mixed conifer forest type.
S26LEOR	Eastern Oregon.
S26LEWA	Eastern Washington.
S26LORJJ	Oregon, Jackson and Josephine Counties.
S26LPI	Pacific Islands .
S26LWACF	Washington Silver Fir Zone.
S26LWOR	Western Oregon.
S26LWWA	Western Washington.
S27LAK	Alaska - coastal and interior.
S27LAK1AB	Coastal Alaska Southeast and Central.
S27LAK1C	Coastal Alaska Kodiak and Afognak Islands.
S33	Southern States - excluding Puerto Rico and the Virgin Islands (AL, AR, FL, GA, LA, KY, MS, OK, NC, SC, TN, TX, VA).
S33CARIBDRY	Caribbean Islands - Subtropical dry forest life zones.
S33CARIBLMWR	Caribbean Islands - Lower montane wet and rain forest life zones.
S33CARIBMOIST	Caribbean Islands - Subtropical moist forest life zones.
S33CARIBWET	Caribbean Islands - Subtropical wet and rain forest life zones.

2.5.64 SITECLCDEST

Site productivity class code estimated. This is a field-recorded code that is an estimated or predicted indicator of site productivity. It is used as the value for SITECLCD if no valid site tree is available. When SITECLCDEST is used as SITECLCD, SITECL_METHOD is set to 6. May not be populated for some FIA work units when PLOT.MANUAL < 1.0. Only populated by certain FIA work units (SURVEY.RSCD = 23, 24, 26, 27, 33).

Codes: SITECLCDEST

Code	Description
1	225+ cubic feet/acre/year.
2	165-224 cubic feet/acre/year.
3	120-164 cubic feet/acre/year.
4	85-119 cubic feet/acre/year.
5	50-84 cubic feet/acre/year.
6	20-49 cubic feet/acre/year.
7	0-19 cubic feet/acre/year.

2.5.65 SITETREE_TREE

Site tree tree number. If an individual site index tree is used to calculate SICOND, this is the tree number of the site tree (SITETREE.TREE column) used. Only populated by certain FIA work units (SURVEY.RSCD = 23, 33).

2.5.66 SITECL_METHOD

Site class method. A code identifying the method for determining site index or estimated site productivity class. May not be populated for some FIA work units when PLOT.MANUAL <1.0.

Codes: SITECL_METHOD

Code	Description
1	Tree measurement (length, age, etc.) collected during this inventory.
2	Tree measurement (length, age, etc.) collected during a previous inventory.
3	Site index or site productivity class estimated either in the field or office.
4	Site index or site productivity class estimated by the height-intercept method during this inventory.
5	Site index or site productivity class estimated using multiple site trees.
6	Site index or site productivity class estimated using default values.

2.5.67 CARBON_DOWN_DEAD

Carbon in down dead. Carbon, in tons per acre, of woody material >3 inches in diameter on the ground, and stumps and their roots >3 inches in diameter. Estimated from models based on geographic area, forest type, and live tree carbon density (Smith and Heath 2008). This modeled attribute is not a direct sum of Phase 2 or Phase 3 measurements. This is a per acre estimate and must be multiplied by CONDPROP_UNADJ and the appropriate expansion and adjustment factor located in the POP_STRATUM table.

2.5.68 CARBON_LITTER

Carbon in litter. Carbon, in tons per acre, of organic material on the floor of the forest, including fine woody debris, humus, and fine roots in the organic forest floor layer above mineral soil. Estimated from a model based on litter carbon measurements from a subset of FIA plots, geographic area, elevation, forest type group, aboveground live tree carbon, and climate variables (Domke and others 2016). This modeled attribute, while based on litter carbon observations on FIA plots, is not a direct sum of Phase 2 or Phase 3 measurements. This is a per acre estimate and must be multiplied by CONDPROP_UNADJ and the appropriate expansion and adjustment factor located in the POP_STRATUM table. Not populated for the Caribbean Islands, Pacific Islands, and Interior Alaska.

2.5.69 CARBON_SOIL_ORG

Carbon in soil organic material. Carbon, in tons per acre, in fine organic material below the soil surface to a depth of 1 meter. Does not include roots. Estimated from a model based on soil organic carbon measurements from a subset of FIA plots, geographic area, elevation, forest type group, climate variables, soil order, and surficial geology (Domke and others 2017). This modeled attribute, while based on soil organic carbon observations on FIA plots, is not a direct sum of Phase 2 or Phase 3 measurements. This is a per acre estimate and must be multiplied by CONDPROP_UNADJ and the appropriate expansion and adjustment factor located in the POP_STRATUM table. Not populated for the Caribbean Islands, Pacific Islands, and Interior Alaska.

2.5.70 CARBON_UNDERSTORY_AG

Carbon in understory aboveground. Carbon, in tons per acre, in the aboveground portions of seedlings and woody shrubs. Estimated from models based on geographic

area, forest type, and (except for nonstocked and pinyon-juniper stands) live tree carbon density (Smith and Health 2008). This modeled attribute is a component of the EPA's Greenhouse Gas Inventory and is not a direct sum of Phase 2 or Phase 3 measurements. This is a per acre estimate and must be multiplied by CONDPROP_UNADJ and the appropriate expansion and adjustment factor located in the POP_STRATUM table.

2.5.71 CARBON_UNDERSTORY_BG

Carbon in understory belowground. Carbon, in tons per acre, in the belowground portions of seedlings and woody shrubs. Estimated from models based on geographic area, forest type, and (except for nonstocked and pinyon-juniper stands) live tree carbon density (Smith and Heath 2008). This modeled attribute is a component of the EPA's Greenhouse Gas Inventory and is not a direct sum of Phase 2 or Phase 3 measurements. This is a per acre estimate and must be multiplied by CONDPROP_UNADJ and the appropriate expansion and adjustment factor located in the POP_STRATUM table.

2.5.72 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

2.5.73 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

2.5.74 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

2.5.75 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

2.5.76 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

2.5.77 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

2.5.78 CYCLE

Inventory cycle number. See SURVEY.CYCLE description for definition.

2.5.79 SUBCYCLE

Inventory subcycle number. See SURVEY.SUBCYCLE description for definition.

2.5.80 SOIL_ROOTING_DEPTH_PNW

Soil rooting depth, Pacific Northwest Research Station. A code indicating the soil depth (the depth to which tree roots can penetrate) within each forest land condition class. Required for all forest condition classes. This attribute is coded 1 when more than half of area in the condition class is estimated to be ≤20 inches deep. Ground pumice, decomposed granite, and sand all qualify as types of soil. Only populated by certain FIA work units (SURVEY.RSCD = 26).

Codes: SOIL_ROOTING_DEPTH_PNW

Code	Description
1	≤20 inches.
2	>20 inches.

2.5.81 GROUND_LAND_CLASS_PNW

Present ground land class, Pacific Northwest Research Station. A code indicating a ground land class (GLC) category, which is used to further refine the forest land classification for the condition. Only populated by certain FIA work units (SURVEY.RSCD = 26).

Codes: GROUND_LAND_CLASS_PNW

Code	Description
120	Timberland - Forest land that is potentially capable of producing at least 20 cubic feet/acre/year at culmination in fully stocked, natural stands of continuous crops of trees to industrial roundwood size and quality. Industrial roundwood requires species that grow to size and quality adequate to produce lumber and other manufactured products (exclude fence posts and fuel wood that are not considered manufactured). Timberland is characterized by no severe limitations on artificial or natural restocking with species capable of producing industrial roundwood.
141	Other forest rocky - Other forest land that can produce tree species of industrial roundwood size and quality, but that is unmanageable because the site is steep, hazardous, and rocky, or is predominantly nonstockable rock or bedrock, with trees growing in cracks and pockets. Other forest-rocky sites may be incapable of growing continuous crops due to inability to obtain adequate regeneration success.
142	Other forest unsuitable site (wetland, subalpine, or coastal conifer scrub; California only) - Other forest land that is unsuited for growing industrial roundwood because of one of the following environment factors: willow bogs, spruce bogs, sites with high water tables or even standing water for a portion of the year, and harsh sites due to extreme climatic and soil conditions. Trees present are often extremely slow growing and deformed. Examples: whitebark pine, lodgepole, or mountain hemlock stands at timberline; shore pine along the Pacific Ocean (Monterey, Bishop, and Douglas-fir); willow wetlands with occasional cottonwoods present; Sitka spruce-shrub communities bordering tidal flats and channels along the coast. Includes aspen stands in high-desert areas or areas where juniper/mountain mahogany are the predominant species.
143	Other forest pinyon-juniper - Areas currently capable of 10 percent or more tree stocking with forest trees, with juniper species predominating. These areas are not now, and show no evidence of ever having been 10 percent or more stocked with trees of industrial roundwood form and quality. Stocking capabilities indicated by live juniper trees or juniper stumps and juniper snags less than 25 years dead or cut. Ten percent juniper stocking means 10 percent canopy cover at stand maturity. For woodland juniper species, ten percent stocking means 5 percent canopy cover at stand maturity.
144	Other forest-oak (formally oak woodland) - Areas currently 10 percent or more stocked with forest trees, with low quality forest trees of oak, gray pine, madrone, or other hardwood species predominating, and that are not now, and show no evidence of ever having been 10 percent or more stocked with trees of industrial roundwood form and quality. Trees on these sites are usually short, slow growing, gnarled, poorly formed, and generally suitable only for fuel wood. The following types are included: blue oak, white oak, live oak, oak-gray pine.

Code	Description
146	Other forest unsuitable site (Oregon and Washington only) - Other forest land that is unsuited for growing industrial roundwood because of one of the following environment factors: willow bogs, spruce bogs, sites with high water tables or even standing water for a portion of the year, and harsh sites due to climatic conditions. Trees present are often extremely slow growing and deformed. Examples: whitebark pine or mountain hemlock stands at timberline, shore pine along the Pacific Ocean, willow wetlands with occasional cottonwoods present, and Sitka spruce-shrub communities bordering tidal flats and channels along the coast. Aspen stands in high-desert areas or areas where juniper/mountain mahogany are the predominant species are considered other forest-unsuitable site.
148	Other forest-Cypress (California only) - Forest land with forest trees with cypress predominating. Shows no evidence of having had 10 percent or more cover of trees of industrial roundwood quality and species.
149	Other forest-low productivity (this code is calculated in the office) - Forest land capable of growing crops of trees to industrial roundwood quality, but not able to grow wood at the rate of 20 cubic feet/acre/year. Included are areas of low stocking potential and/or very low site index.
150	Other forest curlleaf mountain mahogany - Areas currently capable of 10 percent or more tree stocking with forest trees, with curlleaf mountain mahogany species predominating. These areas are not now, and show no evidence of ever having been 10 percent or more stocked with trees of industrial roundwood form and quality; 10 percent mahogany stocking means 5 percent canopy cover at stand maturity.

2.5.82 PLANT_STOCKABILITY_FACTOR_PNW

Plant stockability factor, Pacific Northwest Research Station. Some plots in PNWRS have forest land condition classes that are low productivity sites, and are incapable of attaining normal yield table levels of stocking. For such classes, potential productivity (mean annual increment at culmination) must be discounted. Most forested conditions have a default value of 1 assigned; those conditions that meet the low site criteria have a value between 0.1 and 1. Key plant indicators and plant communities are used to assign discount factors, using procedures outlined in MacLean and Bolsinger (1974) and Hanson and others (2002). Only populated by certain FIA work units (SURVEY.RSCD = 26).

2.5.83 STND_COND_CD_PNWRS

Stand condition code, Pacific Northwest Research Station. A code that best describes the condition of the stand within forest condition classes. Stand condition is defined here as "the size, density, and species composition of a plant community following disturbance and at various time intervals after disturbance." Information on stand condition is used in describing wildlife habitat. Only populated by certain FIA work units (SURVEY.RSCD = 26).

Codes: STND_COND_CD_PNWRS

Code	Stand Condition	Description
0	Not applicable.	Condition class is juniper, chaparral, or curlleaf mountain mahogany forest type.
1	Grass-forb.	Shrubs <40 percent canopy cover and <5 feet tall; plot may range from being largely devoid of vegetation to dominance by herbaceous species (grasses and forbs); tree regeneration generally <5 feet tall and <40 percent cover.

Code	Stand Condition	Description
2	Shrub.	Shrubs 40 percent canopy cover or greater, of any height; trees <40 percent canopy cover and <1.0 inch d.b.h./d.r.c. When average stand diameter exceeds 1.0 inch d.b.h./d.r.c., plot is "open sapling" or "closed sapling."
3	Open sapling, poletimber.	Average stand diameter 1.0-8.9 inches d.b.h./d.r.c., and canopy cover <60 percent.
4	Closed sapling, pole, sawtimber.	Average stand diameter is 1.0-21.0 inches d.b.h./d.r.c. and canopy cover is 60 percent or greater.
5	Open sawtimber.	Average stand diameter is 9.0-21.0 inches d.b.h./d.r.c., and canopy cover is <60 percent.
6	Large sawtimber.	Average stand diameter exceeds 21.0 inches d.b.h./d.r.c.; canopy cover may be <100 percent; decay and decadence required for old-growth characteristics is generally lacking, successional trees required by old-growth may be lacking, and dead and down material required by old-growth is lacking.
7	Old-growth.	Average stand diameter exceeds 21.0 inches d.b.h./d.r.c. Stands over 200 years old with at least two tree layers (overstory and understory), decay in living trees, snags, and down woody material. Some of the overstory layer may be composed of long-lived successional species (e.g., Douglas-fir, western redcedar).

2.5.84 STND_STRUC_CD_PNWRS

Stand structure code, Pacific Northwest Research Station. A code indicating the overall structure of the stand. Only populated by certain FIA work units (SURVEY.RSCD = 26).

Codes: STND_STRUC_CD_PNWRS

Code	Stand Condition	Description
1	Even-aged single-storied.	A single even canopy characterizes the stand. The greatest numbers of trees are in a height class represented by the average height of the stand; there are substantially fewer trees in height classes above and below this mean. The smaller trees are usually tall spindly members that have fallen behind their associates. The ages of trees usually do not differ by more than 20 years.
2	Even-aged two-storied.	Stands composed of two distinct canopy layers, such as, an overstory with an understory sapling layer possibly from seed tree and shelterwood operations. This may also be true in older plantations, where shade-tolerant trees may become established. Two relatively even canopy levels can be recognized in the stand. Understory or overtopped trees are common. Neither canopy level is necessarily continuous or closed, but both canopy levels tend to be uniformly distributed across the stand. The average age of each level differs significantly from the other.

Code	Stand Condition	Description
3	Uneven-aged.	Theoretically, these stands contain trees of every age on a continuum from seedlings to mature canopy trees. In practice, uneven-aged stands are characterized by a broken or uneven canopy layer. Usually the largest number of trees is in the smaller diameter classes. As trees increase in diameter, their numbers diminish throughout the stand. Many times, instead of producing a negative exponential distribution of diminishing larger diameters, uneven-aged stands behave irregularly with waves of reproduction and mortality. Consider any stand with three or more structural layers as uneven-aged. Logging disturbances (examples are selection, diameter limit, and salvage cutting) will give a stand an uneven-aged structure.
4	Mosaic.	At least two distinct size classes are represented and these are not uniformly distributed but are grouped in small repeating aggregations, or occur as stringers <120 feet wide, throughout the stand. Each size class aggregation is too small to be recognized and mapped as an individual stand. The aggregations may or may not be even-aged.

2.5.85 STUMP_CD_PNWRS

Stump code, Pacific Northwest Research Station. A code indicating whether or not stumps are present on a condition. Only populated by certain FIA work units (SURVEY.RSCD = 26).

Codes: STUMP_CD_PNWRS

Code	Description
Y	Yes, evidence of cutting or management exists; stumps are present.
N	No, evidence of cutting was not observed; stumps are not present.

2.5.86 FIRE_SRS

Fire, Southern Research Station. A code indicating the presence or absence of fire on the condition since the last survey or within the last 5 years on new/replacement plots. Evidence of fire must occur within the subplot. Only populated by certain FIA work units (SURVEY.RSCD = 33).

Codes: FIRE_SRS

Code	Description
0	No evidence of fire since last survey.
1	Evidence of burning (either prescribed or wildfire).

2.5.87 GRAZING_SRS

Grazing, Southern Research Station. A code indicating the presence or absence of domestic animal grazing on the condition since the last survey or within the last 5 years on new/replacement plots. Evidence of grazing must occur within the subplot. Only populated by certain FIA work units (SURVEY.RSCD = 33).

Codes: GRAZING_SRS

Code	Description
0	No evidence of livestock use (by domestic animals).
1	Evidence of grazing (including dung, tracks, trails, etc.).

2.5.88 HARVEST_TYPE1_SRS

Harvest type code 1, Southern Research Station. A code indicating the harvest type. This attribute is populated when the corresponding attribute TRTCD = 10. Only populated by certain FIA work units (SURVEY.RSCD = 33). Not populated for the [Caribbean Islands](#).

Codes: HARVEST_TYPE1_SRS

Code	Description
11	Clearcut harvest - The removal of the majority of the merchantable trees in a stand; residual stand stocking is under 50 percent.
12	Partial harvest - Removal primarily consisting of highest quality trees. Residual consists of lower quality trees because of high grading or selection harvest. (e.g., uneven aged, group selection, high grading, species selection).
13	Seed-tree/shelterwood harvest - Crop trees are harvested leaving seed source trees either in a shelterwood or seed tree. Also includes the final harvest of the seed trees.
14	Commercial thinning - The removal of trees (usually poletimber sized) from poletimber-sized stands leaving sufficient stocking of growing-stock trees to feature in future stand development. Also included are thinning in sawtimber-sized stands where poletimber-sized (or log-sized) trees have been removed to improve quality of those trees featured in a final harvest.
15	Timber stand improvement (cut trees only) - The cleaning, release or other stand improvement involving non-commercial cutting applied to an immature stand that leaves sufficient stocking.
16	Salvage cutting - The harvesting of dead or damaged trees or of trees in danger of being killed by insects, disease, flooding, or other factors in order to save their economic value.

2.5.89 HARVEST_TYPE2_SRS

Harvest type code 2, Southern Research Station. See [HARVEST_TYPE1_SRS](#).

2.5.90 HARVEST_TYPE3_SRS

Harvest type code 3, Southern Research Station. See [HARVEST_TYPE1_SRS](#).

2.5.91 LAND_USE_SRS

Land use, Southern Research Station. A classification indicating the present land use of the condition. Collected on all condition records where SURVEY.RSCD = 33 and PLOT.DESIGNCD = 1, 230, 231, 232, or 233. It may not be populated for other SRS plot designs. Only populated by certain FIA work units (SURVEY.RSCD = 33).

Codes: LAND_USE_SRS

Code	Description
01	Timberland (SITECLCD = 1, 2, 3, 4, 5, or 6).
02	Other forest land (SITECLCD = 7).
10	Agricultural land - Land managed for crops, pasture, or other agricultural use and is not better described by one of the following detailed codes. The area must be at least 1.0 acre in size and 120.0 feet wide. Note: Codes 14, 15 and 16 are collected only where PLOT.MANUAL ≥ 1 . If PLOT.MANUAL <1, then codes 14 and 15 were coded 11. There was no single rule for coding maintained wildlife openings where PLOT.MANUAL <1, so code 16 may have been coded 10, 11 or 12.
11	Cropland.
12	Pasture (improved through cultural practices).
13	Idle farmland.
14	Orchard.
15	Christmas tree plantation.
16	Maintained wildlife openings.
17	Windbreak/Shelterbelt - Windbreaks or shelterbelts are plantings of single or multiple rows of trees or shrubs that are established for environmental purposes. Windbreaks or shelterbelts are generally established to protect or shelter nearby leeward areas from troublesome winds. SRS Note: If the dimensions of the windbreak or shelterbelt meet the minimum dimensions of forest land (1.0 acre in size and 120.0 feet wide), then the area is considered accessible forest land (COND_STATUS_CD = 1).
20	Rangeland - Land primarily composed of grasses, forbs, or shrubs. This includes lands vegetated naturally or artificially to provide a plant cover managed like native vegetation and does not meet the definition of pasture. The area must be at least 1.0 acre in size and 120.0 feet wide.
30	Developed - Land used primarily by humans for purposes other than forestry or agriculture and is not better described by one of the following detailed codes. Note: Code 30 is used to describe all developed land where PLOT.MANUAL <1. The following detailed codes only apply to PLOT.MANUAL ≥ 1 .
31	Cultural - business, residential, and other places of intense human activity.
32	Rights-of-way - improved roads, railway, power lines, maintained canal.
33	Recreation - parks, skiing, golf courses.
34	Mining.
40	Other - Land parcels greater than 1.0 acre in size and greater than 120.0 feet wide that do not fall into one of the uses described above or below.
41	Nonvegetated.
42	Wetland.
43	Beach.
45	Nonforest - Chaparral.
91	Census Water - Lakes, reservoirs, ponds, and similar bodies of water 4.5 acres in size and larger; and rivers, streams, canals, etc., 30 to 200 feet wide.
92	Noncensus water - Lakes, reservoirs, ponds, and similar bodies of water 1.0 acre to 4.5 acres in size. Rivers, streams, canals, etc., more than 200 feet wide.
99	Nonsampled - Condition not sampled (see COND_NONSAMPLE_REASON_CD for exact reason).

2.5.92 OPERABILITY_SRS

Operability, Southern Research Station. A code indicating the viability of operating logging equipment in the vicinity of the condition. The code represents the most limiting class code that occurs on each forest condition. Only populated by certain FIA work units (SURVEY.RSCD = 33).

Codes: OPERABILITY_SRS

Code	Description
0	No problems.
1	Seasonal access due to water conditions in wet weather.
2	Mixed wet and dry areas typical of multi-channelled streams punctuated with dry islands.
3	Broken terrain, cliffs, gullies, outcroppings, etc. that would severely limit equipment, access or use.
4	Year-round water problems (includes islands).
5	Slopes 20-40 percent.
6	Slope greater than 40 percent.

2.5.93 STAND_STRUCTURE_SRS

Stand structure, Southern Research Station. A code indicating the description of the predominant canopy structure for the condition. Only the vertical position of the dominant and codominant trees in the stand are considered. Only populated by certain FIA work units (SURVEY.RSCD = 33).

Codes: STAND_STRUCTURE_SRS

Code	Description
0	Nonstocked - The condition is less than 10 percent stocked.
1	Single-storied - Most of the dominant/codominant tree crowns form a single canopy (i.e., most of the trees are approximately the same height).
2	Two-storied - The dominant/codominant tree crowns form two distinct canopy layers or stories.
3	Multi-storied - More than two recognizable levels characterize the crown canopy. Dominant/codominant trees of many sizes (diameters and heights) for a multilevel canopy.

2.5.94 NF_COND_STATUS_CD

Nonforest condition status code. A code indicating the sampling status of the condition class.

Codes: NF_COND_STATUS_CD

Code	Description
2	Accessible nonforest land.
5	Nonsampled nonforest.

2.5.95 NF_COND_NONSAMPLE_REASN_CD

Nonforest condition nonsampled reason code. A code indicating the reason a nonforest portion of a plot was not sampled.

Codes: NF_COND_NONSAMPLE_REASN_CD

Code	Description
02	Denied access - Any area within the sampled area of a plot to which access is denied by the legal owner, or to which an owner of the only reasonable route to the plot denies access. There are no minimum area or width requirements for a condition class delineated by denied access. Because a denied-access condition can become accessible in the future, it remains in the sample and is re-examined at the next occasion to determine if access is available.
03	Hazardous situation - Any area within the sampled area on plot that cannot be accessed because of a hazard or danger, for example cliffs, quarries, strip mines, illegal substance plantations, temporary high water, etc. Although the hazard is not likely to change over time, a hazardous condition remains in the sample and is re-examined at the next occasion to determine if the hazard is still present. There are no minimum size or width requirements for a condition class delineated by a hazardous condition.
10	Other - This code is used whenever a condition class is not sampled due to a reason other than one of the specific reasons listed.

2.5.96 CANOPY_CVR_SAMPLE_METHOD_CD

Canopy cover sample method code. A code indicating the canopy cover sample method used to determine LIVE_CANOPY_CVR_PCT, LIVE_MISSING_CANOPY_CVR_PCT, and NBR_LIVE_STEMS. Codes 1-4 are used for field-measured canopy cover, and codes 11-14 are generated from imagery.

Codes: CANOPY_CVR_SAMPLE_METHOD_CD

Code	Method Name	Description
1	Ocular method.	Visual inspection of what is on the ground along with various types of aerial imagery to help determine LIVE_CANOPY_CVR_PCT and LIVE_MISSING_CANOPY_CVR_PCT. Used only in areas that are obviously 0 percent LIVE_MISSING_CANOPY_CVR_PCT or obviously greater than 10 percent LIVE_MISSING_CANOPY_CVR_PCT.
2	Subplot method.	Used when the ocular method is not appropriate and in cases where the terrain, vegetation, and dimensions of a condition or the size of the field crew DO NOT allow a safe or practical sample using the acre method. The crew measures the crowns of all live trees, seedlings, and saplings on each of the four 1/24 acre subplots.
3	Acre method.	Used when the ocular method is not appropriate and when it is safe and practical to sample on the entire acre. To determine if minimum 10 percent LIVE_MISSING_CANOPY_CVR_PCT is reached, the crew samples all live, dead, and missing tree canopies on the one-acre sample plot as described above in LIVE_MISSING_CANOPY_CVR_PCT.

Code	Method Name	Description
4	Sub-acre method.	Used only when the ocular method is not appropriate and only when the acre or subplot methods cannot be established due to the condition's shape, dimensions or accessibility. The crew samples all live, dead, and missing tree canopies on the canopy cover sample plot as described above in LIVE_MISSING_CANOPY_CVR_PCT. The 10 percent threshold is dependent on the sample plot size and respective area in square feet.
11	Dot grid method.	The preferred method for estimating LIVE_CANOPY_CVR_PCT. Under this method, 109 dots are systematically arranged within the 144 foot radius prefield plot and LIVE_CANOPY_CVR_PCT is calculated based on the proportion of dots that fall on a tree crown.
12	Ocular image-based assessment.	Only used for plots that fall in the ocean or when the dot grid method is not possible.
13	Other image-based assessment.	Used when the codes 11 and 12 do not apply.
14	No canopy cover estimate possible.	Used when an estimate of canopy cover was not made because of lacking or poor-quality imagery.

2.5.97 **LIVE_CANOPY_CVR_PCT**

Live canopy cover percent. The percentage of live canopy cover for the condition. Included are live tally trees, saplings, and seedlings that cover the sample area.

2.5.98 **LIVE_MISSING_CANOPY_CVR_PCT**

Live plus missing canopy cover percent. The percentage of live and missing canopy cover for the condition. This percentage for the condition is determined in the field by adding LIVE_CANOPY_CVR_PCT to the estimated missing canopy cover. Included are all dead, harvested, and removed trees, saplings, and seedlings as well as dead portions of live trees. Missing canopy that has been replaced by the current live canopy or missing canopy that existed before the most recent conversion of a forested condition to a nonforest condition is not included. The estimate is based on field observations, aerial photos, historical aerial imagery, and similar evidence in adjacent stands that do not have dead, harvested, or removed trees. The total LIVE_MISSING_CANOPY_CVR_PCT cannot exceed 100 percent.

2.5.99 **NBR_LIVE_STEMS**

Number of live stems. The estimated number of live stems per acre on the condition. The estimate in the field is based on actual stem count of tally tree species within the canopy cover for sample area.

2.5.100 **OWNSUBCD**

Owner subclass code. (*core optional for accessible forest land*) A code that further subdivides the owner class into detailed subcategories. Currently, only populated for the "State" owner class subcategories (OWNCD = 31).

Codes: OWNSUBCD

Code	Description
1	State forestry agency.
2	State wildlife agency.
3	State park agency.
4	Other State lands.

2.5.101 INDUSTRIALCD_FIADB

Industrial code in FIADB. A code indicating the status of the owner with regard to their objectives towards commercial timber production. This attribute is new starting with FIADB version 6.0 (PLOT.MANUAL \geq 6.0). Industrial lands are of sufficient size to produce a continual flow of timber, and are owned by companies, organizations, and individuals who engage in commercially oriented forest management activities, such as harvesting, thinning, and planting.

Codes: INDUSTRIALCD_FIADB

Code	Description
0	Non-industrial.
1	Industrial.

2.5.102 RESERVCD_5

Reserved status code field, versions 1.0-5.0. A code indicating the reserved designation for the condition at the time of the field survey. This attribute is new starting with FIADB version 6.0 (PLOT.MANUAL \geq 6.0), and is used to account for a change in the application of the definition of RESERVCD. In PLOT.MANUAL < 6.0, publicly owned land was considered reserved only if it was withdrawn by law(s) prohibiting the management of land for the production of wood products. Conditions measured prior to PLOT.MANUAL = 6.0 may have different values in RESERVCD and RESERVCD_5 due to changes in the application of the RESERVCD definition. RESERVCD_5 holds the reserved status associated with the previous definition of RESERVCD. Only populated for PLOT.MANUAL \geq 1.0 and PLOT.MANUAL < 6.0.

Codes: RESERVCD_5

Code	Description
0	Not reserved.
1	Reserved.

2.5.103 ADMIN_WITHDRAWN_CD

Administratively withdrawn code. (*core optional*) A code indicating whether or not a condition has an administratively withdrawn designation. Administratively withdrawn land is public land withdrawn by management plans or government regulations prohibiting the management of land for the production of wood products (not merely controlling or prohibiting wood-harvesting methods). Such plans and regulations are formally adopted by land managers and the prohibition against management for wood products cannot be changed through decision of the land manager except by a formal modification of management plans or regulations.

Codes: ADMIN_WITHDRAWN_CD

Code	Description
0	Not administratively withdrawn.
1	Administratively withdrawn.

2.5.104 CHAINING_CD

Chaining code. A code indicating that a condition has been chained, shear bladed, roller chopped, etc., for the purpose of increased forage production. These treatments contrast with silvicultural removals in that little or none of the woody material is removed from the site and there are few residual live trees.

Codes: CHAINING_CD

Code	Description
0	No.
1	Yes.

2.5.105 LAND_COVER_CLASS_CD_RET

Land cover class, retired. A code indicating the type of land cover for a condition that meets the minimum area and width requirements (except those cases where the condition has been solely defined due to developed land uses, such as roads and rights-of-way). If the condition was less than 1 acre, a land cover classification key was used to assign a land cover class.

This attribute is retired when PLOT.MANUAL ≥ 8.0 and replaced by a newer version by the previous name ([LAND_COVER_CLASS_CD](#)). Many of the codes are the same between the retired and the current code sets. The cover classification used by crews has been modified to remove all aspects of land use and focus on land cover. There is no national crosswalk to translate the retired codes into the new codes (see [LAND_COVER_CLASS_CD](#) for the new code list).

Codes: LAND_COVER_CLASS_CD_RET (codes that are $\geq 10\%$ vegetative cover)

Code	Description
01	Treeland: Areas on which trees provide 10% or greater canopy cover and are part of the dominant (uppermost) vegetation layer, including areas that have been planted to produce woody crops. Only tree species that can be tallied in the region are considered. Example areas include forests, forest plantations, reverting fields with $\geq 10\%$ tree canopy cover, clearcuts with $\geq 10\%$ tree canopy cover. This category includes cypress swamps and mangroves.
02	Shrubland: Areas on which shrubs or subshrubs provide 10% or greater cover and are part of the dominant (uppermost) vegetation layer, provided these areas do not qualify as Treeland. Shrub/Subshrub - a woody plant that generally has several erect, spreading, or prostrate stems which give it a bushy appearance. This includes dwarf shrubs, and low or short woody vines (NVCS 2008) and excludes any species on FIA's tree list. Examples include cranberry bogs and other shrub-dominated wetlands, chaparral, and sagebrush.

Code	Description
03	Grassland: Areas on which herbaceous vegetation provide 10% or greater cover and are part of the dominant (uppermost) vegetation layer, provided these areas do not qualify as Treeland or Shrubland. This includes herbs, forbs, and graminoid species. Examples include meadows and prairies. Grazed land is also included, but not if the pasture is improved to such an extent that it meets the requirements for Agricultural Vegetation. This category also includes emergent wetland vegetation like seasonally flooded grasslands, cattail marshes, etc.
04	Non-vascular Vegetation: Areas on which non-vascular vegetation provide 10% or greater cover and are part of the dominant vegetation layer, provided these areas do not qualify as Treeland, Shrubland, or Grassland. Examples include mosses, sphagnum moss bogs, liverworts, hornworts, lichens, and algae.
05	Mixed Vegetation: Areas with 10% or greater vegetative cover but no one life form has 10% or more cover. That is, these areas do not qualify as Treeland, Shrubland, Grassland, or Non-vascular Vegetation, and thus are a mixture of plant life forms. Examples can include early stages of reverting fields and high deserts.
06	Agricultural Vegetation: Areas that are dominated by vegetation grown for the production of crops (food, non-woody fiber and/or ornamental horticulture), including land in any stage of annual crop production, and land being regularly cultivated for production of crops from perennial plants. Agricultural vegetation shows a) rapid turnover in structure, typically at least on an annual basis, either through harvesting and/or planting, or by continual removal of above ground structure (e.g., cutting, haying, or intensive grazing), or b) showing strong linear (planted) features. The herbaceous layer may be bare at various times of the year (NVCS 2008). Examples include row crops and closely sown crops; sod farms, hay and silage crops; orchards (tree fruits and nuts, Christmas trees, nurseries of trees and shrubs), small fruits, and berries; vegetables and melons; unharvested crops; cultivated or improved pasture; idle cropland (can include land in cover and soil-improvement crops and cropland on which no crops were planted) (NRI Field guide). When idle or fallow land ceases to be predominantly covered with manipulated vegetation, then it is no longer Agricultural Vegetation.
07	Developed, Vegetated: Areas predominantly covered by vegetation with highly manipulated growth forms (usually by mechanical pruning, mowing, clipping, etc.), but are not Agricultural. This vegetation type typically contains an almost continuous herbaceous (typically grass) layer, with a closely cropped physiognomy, typically through continual removal of above ground structure (e.g., cutting, mowing), and where tree cover is highly variable, or other highly manipulated planted gardens (NVCS 2008). Examples can include lawns, maintained utility rights-of-way, office parks, and cemeteries.

Codes: LAND_COVER_CLASS_CD_RET (codes that are <10% vegetative cover)

Code	Description
08	Barren: Natural areas of limited plant life (<10%). Areas generally characterized by bare rock, gravel, sand, silt, clay, or other earthen material, with little or no "green" vegetation present regardless of its inherent ability to support life. Examples include naturally barren areas such as lava fields, gravel bars and sand dunes, as well as areas where land clearance has removed the vegetative cover. Can include the natural material portions of quarries, mines, gravel pits, and cut or burned land <10% vegetation.

Code	Description
09	Developed: Areas predominantly covered with constructed materials with limited plant life (<10%). Examples include completely paved surfaces like roads, parking lots and densely developed urban areas.
10	Water: Areas persistently covered and predominated by water and have <10% emergent vegetative cover. Examples include census and noncensus water and permanent snow and ice. For example, only the open water portion of a bog is to be included.

2.5.106 AFFORESTATION_CD

Current afforestation code. A code indicating a condition that has no evidence of prior forest, but does have evidence suggesting deliberate afforestation attempts (planted or prepared to promote tree establishment) to convert to forest in the current inventory cycle or since the last measurement.

Codes: AFFORESTATION_CD

Code	Description
0	No.
1	Yes.

2.5.107 PREV_AFFORESTATION_CD

Previous afforestation code. A code indicating a condition that has no evidence of prior forest, but does have evidence suggesting deliberate afforestation attempts (planted or prepared to promote tree establishment) to convert to forest in the prior inventory cycle or prior to the last measurement.

Codes: PREV_AFFORESTATION_CD

Code	Description
0	No.
1	Yes.

2.5.108 DWM_FUELBED_TYP_CD

DWM condition fuelbed type code. A code indicating the fuels available for consumption by fire. Codes are from Scott and Burgan (2005).

Codes: DWM_FUELBED_TYP_CD

Code	Description
GR1	Short, sparse dry climate grass.
GR2	Low load, dry climate grass.
GR3	Low load, very coarse, humid climate grass.
GR4	Moderate load, dry climate grass.
GR5	Low load, humid climate grass.
GR6	Moderate load, humid climate grass.
GR7	High load, dry climate grass.

Code	Description
GR8	High load, very coarse, humid climate grass.
GR9	Very high load, humid climate grass.
GS1	Low load, dry climate grass-shrub.
GS2	Moderate load, dry climate grass-shrub.
GS3	Moderate load, humid climate grass-shrub.
GS4	High load, humid climate grass-shrub.
SB1	Slash-blowdown: low load activity fuel.
SB2	Moderate load activity fuel or low load blowdown.
SB3	High load activity fuel or moderate load blowdown.
SB4	High load blowdown.
SH1	Low load dry climate shrub.
SH2	Moderate load dry climate shrub.
SH3	Moderate load, humid climate shrub.
SH4	Low load, humid climate timber-shrub.
SH5	High load, dry climate shrub.
SH6	Low load, humid climate shrub.
SH7	Very high load, dry climate shrub.
SH8	High load, humid climate shrub.
SH9	Very high load, humid climate shrub.
TL1	Low load compact conifer litter.
TL2	Low load broadleaf litter.
TL3	Moderate load conifer litter.
TL4	Small downed logs.
TL5	High load conifer litter.
TL6	Moderate load broadleaf litter.
TL7	Large downed logs.
TL8	Long-needle litter.
TL9	Very high load broadleaf litter.
TU1	Low load dry climate timber-grass-shrub.
TU2	Moderate load, humid climate timber-shrub.
TU3	Moderate load, humid climate timber-grass-shrub.
TU4	Dwarf conifer with understory.
TU5	Very high load, dry climate timber-shrub.
NB1	Nonburnable urban/developed.
NB2	Nonburnable snow/ice.
NB3	Nonburnable agricultural.
NB8	Nonburnable open water.
NB9	Nonburnable bare ground.

2.5.109 NVCS_PRIMARY_CLASS

Primary class. The primary classification determined by the NVCS classification algorithm. 'NATURAL' or 'CULTURAL' are the valid values. As of August 2017, the classification algorithm has only been developed for the eastern continental United States excluding the western edges of the Plains States, Oklahoma, and Texas. This column will only be populated for forested conditions in the supported area.

Note: For more information on the 'NATURAL' and 'CULTURAL' vegetation classifications, refer to the [Data Standard](#) web page on the USNVC website (available at web address: <https://www.usnvc.org>).

2.5.110 NVCS_LEVEL_1_CD

Level 1 code of the NVCS. The NVCS code describing the vegetative community of the condition at the first level of the NVCS hierarchy. It is populated for both the 'NATURAL' and 'CULTURAL' primary classifications. Code definitions can be found in the NVCS_LEVEL_1_CODES table. Joins to this table must use both the NVCS_PRIMARY_CLASS and NVCS_LEVEL_1_CD values as shown in the following example.

```
SELECT c.cn AS cnd_cn,
       c.nvcs_primary_class,
       c.nvcs_level_1_cd,
       r.meaning
  FROM cond c, ref_nvcs_level_1_codes r
 WHERE c.nvcs_primary_class = r.primary_class
   AND c.nvcs_level_1_cd = r.nvcs_code;
```

2.5.111 NVCS_LEVEL_2_CD

Level 2 code of the NVCS. The NVCS code describing the vegetative community of the condition at the second level of the NVCS hierarchy. It is populated for both the 'NATURAL' and 'CULTURAL' primary classifications. Code definitions can be found in the NVCS_LEVEL_2_CODES table. Joins to this table must use both the NVCS_PRIMARY_CLASS and NVCS_LEVEL_2_CD values as shown in the following example.

```
SELECT c.cn AS cnd_cn,
       c.nvcs_primary_class,
       c.nvcs_level_2_cd,
       r.meaning
  FROM cond c, ref_nvcs_level_2_codes r
 WHERE c.nvcs_primary_class = r.primary_class
   AND c.nvcs_level_2_cd = r.nvcs_code;
```

2.5.112 NVCS_LEVEL_3_CD

Level 3 code of the NVCS. The NVCS code describing the vegetative community of the condition at the third level of the NVCS hierarchy. It is populated for both the 'NATURAL' and 'CULTURAL' primary classifications. Code definitions can be found in the NVCS_LEVEL_3_CODES table. Joins to this table must use both the NVCS_PRIMARY_CLASS and NVCS_LEVEL_3_CD values as shown in the following example.

```

SELECT c.cn AS cnd_cn,
       c.nvcs_primary_class,
       c.nvcs_level_3_cd,
       r.meaning
  FROM cond c, ref_nvcs_level_3_codes r
 WHERE c.nvcs_primary_class = r.primary_class
   AND c.nvcs_level_3_cd = r.nvcs_code;

```

2.5.113 NVCS_LEVEL_4_CD

Level 4 code of the NVCS. The NVCS code describing the vegetative community of the condition at the fourth level of the NVCS hierarchy. It is populated for both the 'NATURAL' and 'CULTURAL' primary classifications. Code definitions can be found in the NVCS_LEVEL_4_CODES table. Joins to this table must use both the NVCS_PRIMARY_CLASS and NVCS_LEVEL_4_CD values as shown in the following example.

```

SELECT c.cn AS cnd_cn,
       c.nvcs_primary_class,
       c.nvcs_level_4_cd,
       r.meaning
  FROM cond c, ref_nvcs_level_4_codes r
 WHERE c.nvcs_primary_class = r.primary_class
   AND c.nvcs_level_4_cd = r.nvcs_code;

```

2.5.114 NVCS_LEVEL_5_CD

Level 5 code of the NVCS. The NVCS code describing the vegetative community of the condition at the fifth level of the NVCS hierarchy. It is populated for both the 'NATURAL' and 'CULTURAL' primary classifications. Code definitions can be found in the NVCS_LEVEL_5_CODES table. Joins to this table must use both the NVCS_PRIMARY_CLASS and NVCS_LEVEL_5_CD values as shown in the following example.

```

SELECT c.cn AS cnd_cn,
       c.nvcs_primary_class,
       c.nvcs_level_5_cd,
       r.meaning
  FROM cond c, ref_nvcs_level_5_codes r
 WHERE c.nvcs_primary_class = r.primary_class
   AND c.nvcs_level_5_cd = r.nvcs_code;

```

2.5.115 NVCS_LEVEL_6_CD

Level 6 code of the NVCS. The NVCS code describing the vegetative community of the condition at the sixth level of the NVCS hierarchy. It is populated for the 'CULTURAL' primary classification. Code definitions can be found in the NVCS_LEVEL_6_CODES table. Joins to this table must use both the NVCS_PRIMARY_CLASS and NVCS_LEVEL_6_CD values as shown in the following example.

```

SELECT c.cn AS cnd_cn,
       c.nvcs_primary_class,
       c.nvcs_level_6_cd,

```

```

        r.meaning
    FROM cond c, ref_nvcs_level_6_codes r
    WHERE c.nvcs_primary_class = r.primary_class
        AND c.nvcs_level_6_cd = r.nvcs_code;

```

2.5.116 NVCS_LEVEL_7_CD

Level 7 code of the NVCS. The NVCS code describing the vegetative community of the condition at the seventh level of the NVCS hierarchy. It is populated for the 'CULTURAL' primary classification. Code definitions can be found in the NVCS_LEVEL_7_CODES table. Joins to this table must use both the NVCS_PRIMARY_CLASS and NVCS_LEVEL_7_CD values as shown in the following example.

```

SELECT c.cn AS cnd_cn,
       c.nvcs_primary_class,
       c.nvcs_level_7_cd,
       r.meaning
    FROM cond c, ref_nvcs_level_7_codes r
    WHERE c.nvcs_primary_class = r.primary_class
        AND c.nvcs_level_7_cd = r.nvcs_code;

```

2.5.117 NVCS_LEVEL_8_CD

Level 8 code of the NVCS. The NVCS code describing the vegetative community of the condition at the eighth level of the NVCS hierarchy. It is populated for the 'CULTURAL' primary classification. Code definitions can be found in the NVCS_LEVEL_8_CODES table. Joins to this table must use both the NVCS_PRIMARY_CLASS and NVCS_LEVEL_8_CD values as shown in the following example.

```

SELECT c.cn AS cnd_cn,
       c.nvcs_primary_class,
       c.nvcs_level_8_cd,
       r.meaning
    FROM cond c, ref_nvcs_level_8_codes r
    WHERE c.nvcs_primary_class = r.primary_class
        AND c.nvcs_level_8_cd = r.nvcs_code;

```

2.5.118 AGE_BASIS_CD_PNWRS

Age basis code, Pacific Northwest Research Station. A code that indicates the method used to determine stand age. Only populated by certain FIA work units (SURVEY.RSCD = 26, 27). Not populated for the [Pacific Islands](#).

Codes: AGE_BASIS_CD_PNWRS

Code	Description
00	Stand is nonstocked.
10	Weighted average of trees bored for age (on macroplot).
11	Weighted average of trees bored for age (off macroplot).
20	Whorl counted only (on or off macroplot).
30	Mixed method of whorl-count and/or bored age (on or off macroplot).
40	Time since last inventory - years added to previously recorded stand age.

Code	Description
50	Age based on documentary evidence or landowner discussion.
51	Age based on crew call considering site and tree diameters.
60	All trees in the condition are of a species which cannot be bored.
70	Tree cores not counted in the field, but taken to field office to count.
80	Stand age >997 years.

2.5.119 COND_STATUS_CHNG_CD_RMRS

Condition class status change code, Rocky Mountain Research Station. A code that describes the type of change that has occurred for the condition class since the previous inventory. Only populated by certain FIA work units (SURVEY.RSCD = 22).

Note: For condition classes that have changed, the past condition class number (CONDID) remains with the condition that is most similar to the previous classification.

Codes: COND_STATUS_CHNG_CD_RMRS

Code	Present	Past
1	Accessible forest land (COND_STATUS_CD = 1).	Previously all accessible forest land (COND_STATUS_CD = 1).
2	Not accessible forest land (COND_STATUS_CD = 2, 3, 4, 5).	Previously all not accessible forest land (COND_STATUS_CD = 2, 3, 4, 5).
3	Accessible forest land (COND_STATUS_CD = 1).	Some portion of this condition was not accessible forest land (COND_STATUS_CD = 2, 3, 4, 5).
4	Not accessible forest land (COND_STATUS_CD = 2, 3, 4, 5).	Some portion of this condition was accessible forest land (COND_STATUS_CD = 1).

2.5.120 CRCOVPCT_RMRS

Live crown cover percent, Rocky Mountain Research Station. The percentage of live crown cover, to the nearest 1 percent, of all established tally seedlings, saplings, and trees. Crown cover is the percentage of ground surface area covered by a vertical projection of the live crowns. Only populated by certain FIA work units (SURVEY.RSCD = 22).

Note: The CRCOVPCT_RMRS and LIVE_CANOPY_CVR_PCT attributes both list the percentage of live crown cover; however, they differ in the methods that are used. For CRCOVPCT_RMRS, a line transect method is used for determining cover. For LIVE_CANOPY_CVR_PCT, individual crown widths within the sample area are measured, and then an "ellipse formula" is used to calculate canopy area.

2.5.121 DOMINANT_SPECIES1_PNWRS

Dominant tree species 1 (Pacific Islands), Pacific Northwest Research Station. A code corresponding to the tree species with the plurality of cover for all live trees in the condition class that are not overtapped. Recorded for all accessible forest land condition classes. Only populated by certain FIA work units (SURVEY.RSCD = 26).

Refer to [appendix F](#) for codes.

2.5.122 DOMINANT_SPECIES2_PNWRS

Dominant tree species 2 (Pacific Islands), Pacific Northwest Research Station. A code for the second most abundant tree species in each condition class. See [DOMINANT_SPECIES1_PNWRS](#) for further detail. If a second species does not exist, a code of 0000 is recorded. Only populated by certain FIA work units (SURVEY.RSCD = 26).

2.5.123 DOMINANT_SPECIES3_PNWRS

Dominant tree species 3 (Pacific Islands), Pacific Northwest Research Station. A code for the third most abundant tree species in each condition class. See [DOMINANT_SPECIES1_PNWRS](#) for further detail. If a third species does not exist, a code of 0000 is recorded. Only populated by certain FIA work units (SURVEY.RSCD = 26).

2.5.124 DSTRBCD1_P2A

Disturbance code 1, periodic to annual. A code indicating the kind of disturbance occurring since the last measurement. The area affected by the disturbance must be at least 1 acre in size. A significant level of disturbance (mortality or damage to 25 percent of the trees in the condition) is required. Up to three different disturbances per condition can be recorded, from most important to least important (DSTRBCD1_P2A, DSTRBCD2_P2A, and DSTRBCD3_P2A). Populated for forested conditions at locations with periodic to annual remeasurement. Not populated for all States.

Periodic to annual (P2A) remeasurement includes plots where the newly established annual plot is located at the same center point as the previously established periodic plot.

Note: For RMRS, both the periodic and the annual plot have DESIGNCD = 1.

Codes: DSTRBCD1_P2A

Code	Description
0	No visible disturbance.
10	Insect damage.
11	Insect damage to understory vegetation.
12	Insect damage to trees, including seedlings and saplings.
20	Disease damage.
21	Disease damage to understory vegetation.
22	Disease damage to trees, including seedlings and saplings.
30	Fire damage (from crown and ground fire, either prescribed or natural).
31	Ground fire damage.
32	Crown fire damage.
40	Animal damage.
41	Beaver (includes flooding caused by beaver).
42	Porcupine.
43	Deer/ungulate.
44	Bear (<i>core optional</i>).
45	Rabbit (<i>core optional</i>).
46	Domestic animal/livestock (includes grazing).
50	Weather damage.

Code	Description
51	Ice.
52	Wind (includes hurricane, tornado).
53	Flooding (weather induced).
54	Drought.
60	Vegetation (suppression, competition, vines).
70	Unknown / not sure / other (include in NOTES).
80	Human-induced damage - any significant threshold of human-caused damage not described in the disturbance codes or in the treatment codes listed.
90	Geologic disturbances.
91	Landslide.
92	Avalanche track.
93	Volcanic blast zone.
94	Other geologic event.
95	Earth movement / avalanches.

2.5.125 DSTRBCD2_P2A

Disturbance code 2, periodic to annual. The second disturbance code, if the stand has experienced more than one disturbance. Populated for forested conditions at locations with periodic to annual remeasurement. Not populated for all States. See [DSTRBCD1_P2A](#) for more information.

2.5.126 DSTRBCD3_P2A

Disturbance code 3, periodic to annual. The third disturbance code, if the stand has experienced more than two disturbances. Populated for forested conditions at locations with periodic to annual remeasurement. Not populated for all States. See [DSTRBCD1_P2A](#) for more information.

2.5.127 DSTRBYR1_P2A

Disturbance year 1, periodic to annual. The year in which disturbance 1 (DSTRBCD1_P2A) is estimated to have occurred. If the disturbance occurs continuously over a period of time, the value '9999' is used. Populated for forested conditions at locations with periodic to annual remeasurement. Not populated for all States.

Periodic to annual (P2A) remeasurement includes plots where the newly established annual plot is located at the same center point as the previously established periodic plot.

Note: For RMRS, both the periodic and the annual plot have DESIGNCD = 1.

2.5.128 DSTRBYR2_P2A

Disturbance year 2, periodic to annual. The year in which disturbance 2 (DSTRBCD2_P2A) is estimated to have occurred. Populated for forested conditions at locations with periodic to annual remeasurement. Not populated for all States. See [DSTRBYR1_P2A](#) for more information.

2.5.129 DSTRBYR3_P2A

Disturbance year 3, periodic to annual. The year in which disturbance 3 (DSTRBCD3_P2A) is estimated to have occurred. Populated for forested conditions at locations with periodic to annual remeasurement. Not populated for all States. See [DSTRBYR1_P2A](#) for more information.

2.5.130 FLDTYPCD_30

Field forest type code, version 3.0. Forest type codes when PLOT.MANUAL <4.0, assigned by the field crew, based on the tree species or species groups forming a plurality of all live stocking. The field crew assesses the forest type based on the acre of forest land around the plot, in addition to the species sampled on the condition.

Nonstocked forest land is land that currently has less than 10 percent stocking but formerly met the definition of forest land. For nonstocked forest land, the crew determined the forest type by either recording the previous forest type on remeasured plots or, on all other plots, the most appropriate forest type to the condition based on the seedlings present or the forest type of the adjacent forest stands. When PLOT.MANUAL <2.0, forest conditions that did not meet the 10 percent stocking level were coded FLDTYPCD = 999. Starting with PLOT.MANUAL = 2.0, the crew no longer recorded nonstocked as 999. Instead, they recorded FLDSZCD = 0 to identify nonstocked conditions and entered a forest type for the condition. In general, when FLDTYPCD is used for analysis, it is necessary to examine the values of both FLDTYPCD and FLDSZCD to identify nonstocked forest land.

Changes to forest type codes from PLOT.MANUAL = 3.0 to 4.0 are listed below. For a current list of forest type codes and names, refer to [appendix D](#).

Retired codes:

Forest type group or forest type	Code	Description
Forest type group	950	Other western hardwoods.
Forest type	181	Eastern redcedar.
Forest type	183	Western juniper.
Forest type	223	Jeffrey-Coulter-bigcone Douglas-fir.
Forest type	382	Australian pine. Note: Australian pine now aggregated with "other exotic hardwoods" (code 995).
Forest type	803	Cherry-ash-yellow poplar.
Forest type	807	Elm-ash-locust.
Forest type	925	Deciduous oak woodland.
Forest type	926	Evergreen oak woodland.
	932	Canyon-interior live oak.
Forest type	951	Pacific madrone.
Forest type	952	Mesquite woodland.
Forest type	953	Mountain brush woodland.
Forest type	954	Intermountain maple woodland.

Forest type group or forest type	Code	Description
Forest type	955	Miscellaneous western hardwoods Note: When reclassified, timber species trees were recoded as 962 (other hardwoods) and woodland species tree were recoded as 976 (miscellaneous woodland hardwoods).
Forest type	981	Sable palm. Note: Sable palm no longer tallied as a tree; any 981 recoded to either 983 (palms) or 962 (other hardwoods).

Code changes or additions:

Forest type group or forest type	Old code	New code	Description
Forest type group	-	150	Tropical softwoods.
Forest type group	-	170	Other eastern softwoods.
Forest type group	-	390	Other softwoods.
Forest type group	-	960	Other hardwoods.
Forest type group	950	970	Woodland hardwoods. Note: Forest type groups recoded from code 950 to 970, with the exception of Pacific madrone (Pacific madrone moved to the "other hardwoods" forest type group - code 960).
Forest type	-	128	Fraser fir.
Forest type	-	129	Red spruce / Fraser fir.
Forest type	-	151	Tropical pines.
Forest type	181	171	Eastern redcedar.
Forest type	-	172	Florida softwoods.
Forest type	223	203	Bigcone Douglas-Fir.
Forest type	223	225	Jeffrey pine.
Forest type	223	226	Coulter pine.
Forest type	183	369	Western juniper.
Forest type	-	384	Norway spruce.
Forest type	-	385	Introduced larch.
Forest type	-	391	Other softwoods.
Forest type	803	516	Cherry / white ash / yellow-poplar.
Forest type	807	517	Elm / ash / black locust.
Forest type	-	609	Baldcypress / pondcypress.
Forest type	-	903	Gray birch.
Forest type	-	905	Pin cherry.
Forest type	932	933	Canyon live oak.
Forest type	932	934	Interior live oak.
Forest type	-	935	California white oak (valley oak).
Forest type	951	961	Pacific madrone.

Forest type group or forest type	Old code	New code	Description
Forest type	955	962	Other hardwoods.
Forest type	925	971	Deciduous oak woodland. Note: Gambel oak included within this type.
Forest type	926	972	Evergreen oak woodland.
Forest type	952	973	Mesquite woodland.
Forest type	953	974	Cercocarpus (mountain brush) woodland.
Forest type	954	975	Intermountain maple woodland.
Forest type	955	976	Miscellaneous woodland hardwoods.
Forest type	-	983	Palms.
Forest type	-	989	Other tropical hardwoods.

2.5.131 FOREST_COMMUNITY_PNWRS

Forest type ([Pacific Islands](#)), **Pacific Northwest Research Station**. A code indicating the forest type that best describes the species with the plurality of crown cover for all live trees in the condition class that are not overtopped. Recorded for all accessible forest land condition classes in the [Pacific Islands](#). Only populated by certain FIA work units (SURVEY.RSCD = 26).

Note: Pacific Island forest types are taken from Mueller-Dombois and Fosberg (1998).

Codes: FOREST_COMMUNITY_PNWRS.

Code	Description
1	Strand or halophytic vegetation - vegetation near the shore containing species adapted to high rates of evaporation by wind and to high salt concentrations from windblown ocean spray or inundation by salt water.
2	Mangrove swamps - trees with high salt tolerance growing on tidally inundated shores and in landlocked depressions. Many species have pneumatophores, adaptive structures for aeration of waterlogged root systems.
3	Lowland tropical rainforest - multistoried forest with many canopy-dwelling epiphytes, open ground, and shrub layers. This forest community can extend up the lower slopes with windward rainy exposures.
4	Montane rainforest -the predominant type on moist hilltops and mountain slopes in many tropical islands. Forests of low stature that are rich in shrubs and epiphytes.
5	Cloud forest - These forests are covered with clouds or fog much of the time. The trees have low canopies and are often dripping with moisture. The trees are typically small-leaved and covered with masses of epiphytic mosses and liverworts, which also form a deep ground cover.
6	Mesophytic or moist forest - seasonally dry evergreen forests on leeward, drier slopes.
7	Xerophytic - forests found on truly dry, rain-shadow, leeward mountain slopes and lowlands.

Code	Description
8	Agroforestry - tree species are included in crop or animal production agricultural ecosystems.
9	Plantations - an area planted with tree species for the purpose of timber production. Species planted are mainly eucalypt, mahogany, and pine species that replace indigenous forests and savannas.

2.5.132 **LAND_USECD_RMRS**

Land use code, Rocky Mountain Research Station. A code indicating the current land use for an accessible forest land or nonforest land condition class. Only populated by certain FIA work units (SURVEY.RSCD = 22).

Codes: **LAND_USECD_RMRS**

Code	Description
1	Condition is not being manipulated by human activities such as regular mowing, intensive grazing, or recreation activities.
2	Condition is being manipulated by human activities that prevent normal regeneration and succession such as regular mowing, intensive grazing, or recreation activities.
3	Condition has been chained in the past.
4	An inclusion that would generally be recognized as a separate condition, except that it is not large enough to qualify (<1 acre or <120 feet wide), regardless of live plus missing crown cover percent.

2.5.133 **MAICF**

Mean annual increment cubic feet. A measure of the productivity of forest land for the condition expressed as the average increase in cubic feet of (growing stock) wood volume per acre per year occurring in the year that mean annual increment (MAI) culminates (peaks), in fully stocked natural stands. This attribute is calculated using site index for the condition, entered into a yield equation, and calculates MAI at culmination. Only populated by certain FIA work units (SURVEY.RSCD = 22, 26, 27).

Notes:

- For RMRS (SURVEY.RSCD = 22), MAICF is assigned a default value of 10 for conditions with a woodland forest type (FORTYPCD).
- For PNWRS (SURVEY.RSCD = 26, 27), MAICF is not calculated for conditions with a woodland forest type (FORTYPCD).

2.5.134 **PCTBARE_RMRS**

Percent bare ground, Rocky Mountain Research Station. A value indicating the amount of bare ground on the subplot by forested condition, to the nearest percent.

Bare ground is exposed soil and rock fragments smaller than ¾ inch (longest dimension). Rocks protruding through the soil or cryptobiotic crusts are not included in bare ground estimates. In addition, areas that are part of a nonforested condition are also not included in bare ground estimates; only forested conditions are examined (e.g., if a subplot is half forested and 25 percent of the forested portion is bare ground, then the percent bare ground is recorded as 25 percent). Only populated by certain FIA work units (SURVEY.RSCD = 22).

2.5.135 QMD_RMRS

Quadratic mean diameter, Rocky Mountain Research Station. The quadratic mean diameter, or the diameter of the tree of average basal area, on the condition. Based on live trees ≥ 1.0 inch d.b.h./d.r.c. Only populated by certain FIA work units (SURVEY.RSCD = 22).

2.5.136 RANGETPCD_RMRS

Range type code (existing vegetation classification), Rocky Mountain Research Station. For each nonforest condition, a code indicating the predominant existing vegetation type that is most representative of the condition. Data only collected for plots that have a sampled nonforest condition(s) (PLOT.NF_PLOT_STATUS_CD = 1). Only populated by certain FIA work units (SURVEY.RSCD = 22).

A code of 999 is recorded when the type is undefined or there is not enough vegetation to classify a type. The existing vegetation classification is not necessarily the same as habitat type.

Codes: RANGETPCD_RMRS

Code	Range type (existing vegetation classification)
101	Bluebunch wheatgrass.
102	Idaho fescue.
103	Green fescue.
104	Antelope bitterbrush / bluebunch wheatgrass.
105	Antelope bitterbrush / Idaho fescue.
106	Bluegrass scabland.
107	Western juniper / big sagebrush / bluebunch wheatgrass.
108	Alpine Idaho fescue.
301	Bluebunch wheatgrass / blue grama.
302	Bluebunch wheatgrass / Sandberg bluegrass.
303	Bluebunch wheatgrass / western wheatgrass.
304	Idaho fescue / bluebunch wheatgrass.
305	Idaho fescue / Richardson needlegrass.
306	Idaho fescue / slender wheatgrass.
307	Idaho fescue / threadleaf sedge.
308	Idaho fescue / tufted hairgrass.
309	Idaho fescue / western wheatgrass.
310	Needle-and-thread / blue grama.
311	Rough fescue / bluebunch wheatgrass.
312	Rough fescue / Idaho fescue.
313	Tufted hairgrass / sedge.
314	Big sagebrush / bluebunch wheatgrass.
315	Big sagebrush / Idaho fescue.
316	Big sagebrush / rough fescue.
317	Bitterbrush / bluebunch wheatgrass.
318	Bitterbrush / Idaho fescue.

Code	Range type (existing vegetation classification)
319	Bitterbrush / rough fescue.
320	Black sagebrush / bluebunch wheatgrass.
321	Black sagebrush / Idaho fescue.
322	Curlleaf mountain-mahogany / bluebunch wheatgrass.
323	Shrubby cinquefoil / rough fescue.
324	Threetip sagebrush / Idaho fescue.
401	Basin big sagebrush.
402	Mountain big sagebrush.
403	Wyoming big sagebrush.
404	Threetip sagebrush.
405	Black sagebrush.
406	Low sagebrush.
407	Stiff sagebrush.
408	Other sagebrush types.
409	Tall forb.
410	Alpine rangeland.
413	Gambel oak.
414	Salt desert shrub.
415	Curlleaf mountain-mahogany.
416	True mountain-mahogany.
417	Littleleaf mountain-mahogany.
418	Bigtooth maple.
419	Bittercherry.
420	Snowbrush.
421	Chokecherry / serviceberry / rose.
601	Bluestem prarie.
602	Bluestem / prarie sandreed.
603	Pralie sandreed / needlegrass.
604	Bluestem / grama prarie.
605	Sandsage prarie.
606	Wheatgrass / bluestem / needlegrass.
607	Wheatgrass / needlegrass.
608	Wheatgrass / grama / needlegrass.
609	Wheatgrass / grama.
610	Wheatgrass.
611	Blue grama / buffalograss.
612	Sagebrush / grass.
613	Fescue grassland.
614	Crested wheatgrass.

Code	Range type (existing vegetation classification)
615	Wheatgrass / saltgrass / grama.
999	Undefined.

2.5.137 SDIMAX_RMRS

Stand density index maximum, Rocky Mountain Research Station. The maximum value for the stand density index (SDI) for a particular forest type and region, at the condition level. If the condition is nonstocked, the field-recorded forest type (FLDTPCD) is used in place of a calculated forest type (FORTYP). Refer to SDI_RMRS for further detail. Only populated by certain FIA work units (SURVEY.RSCD = 22).

2.5.138 SDIPCT_RMRS

Stand density index percent, Rocky Mountain Research Station. A relative measure of stand density for live trees (≥ 1.0 inch d.b.h./d.r.c.) on the condition, expressed as a percentage of the maximum stand density index (SDI).

SDIPCT_RMRS is computed as follows:

$$\text{SDIPCT_RMRS} = (\text{SDI_RMRS}/\text{SDIMAX_RMRS}) * 100$$

Refer to [SDI_RMRS](#) and [SDIMAX_RMRS](#) for more information. Only populated by certain FIA work units (SURVEY.RSCD = 22).

2.5.139 SDI_RMRS

Stand density index for the condition, Rocky Mountain Research Station. An index that expresses the stand density for live trees (≥ 1.0 inch d.b.h./d.r.c.) on the condition. SDI_RMRS is based on a quadratic mean diameter of the stand and the number of live trees per acre (TPA_UNADJ) at the condition level. It is computed for timber and woodland species (≥ 1.0 inch d.b.h./d.r.c.), and is equal to the sum of stand density index (SDI) values for individual trees on the condition. SDI is a widely used measure developed by Reineke (1933). Only populated by certain FIA work units (SURVEY.RSCD = 22).

2.5.140 STAND_STRUCTURE_ME_NERS

Stand structure (Maine), Northeastern Research Station. A code indicating the basic stand structure of the trees in the condition. This attribute is ancillary, that is, contrasting conditions are never delineated based on variation in this attribute.

Only populated by certain FIA work units (SURVEY.RSCD = 24) and only in Maine.

Codes: STAND_STRUCTURE_ME_NERS

Code	Description
1	Single-storied - Stands characterized by an even canopy of uniform height with close competition between trees. The smaller trees are usually members of the stand that were stressed or overtapped and have fallen behind their associates. Regeneration and/or tall relics from a previous stand may be present. Most of the trees in the condition are within the height class of the average stand height.
2	Two-storied - Stands composed of two relatively even but distinct canopy layers, such as a mature overstory with an understory sapling layer, possibly from seed tree and shelterwood operations, or an overstory of tall conifers with an understory of low hardwoods. Neither canopy is necessarily continuous or closed, but both canopy levels tend to be uniformly distributed across the stand. Each canopy level must cover at least 25 percent of the condition.
3	Multi-storied - Stands generally containing trees from every size group on a continuum from seedlings to mature trees and are characterized by a broken or uneven canopy layer. Usually the largest number of trees is in the smaller diameter classes. Includes any stand with three or more structural layers if each of the three or more layers covers at least 25 percent of the condition.
4	Mosaic - Stands contain at least two distinct size classes each of which covers at least 25 percent of the condition; however, these classes are not uniformly distributed but are grouped in small repeating aggregations, or occur in stringers less than 120.0 ft. (36.6 m.) wide, throughout the stand. Each size class aggregation is too small to be recognized and mapped as an individual stand; the aggregations may or may not be single-storied.
5	Nonstocked - Less than 10-percent tree stocking present.

2.5.141 TREES_PRESENT_NCNS

Trees present on nonforest, North Central Research Station. A code indicating the presence or absence of live trees ≥ 5.0 inches d.b.h. that are within the nonforest condition represented in the "plot triangle" (the triangle formed by the 3 outer subplots, representing 0.84 acres that is used for office photo interpretation to determine whether or not a plot is sent to the field for measurement).

Only populated by certain FIA work units (SURVEY.RSCD = 23). Data collected in all States when PLOT.MANUAL = 1.0-5.1 (INVYR = 1999-2013), and continued for Indiana when PLOT.MANUAL = 6.0 (INVYR >2013).

Codes: TREES_PRESENT_NCNS

Code	Description
1	Nonforest land without live trees ≥ 5.0 inches d.b.h.
2	Nonforest land with live trees ≥ 5.0 inches d.b.h.

2.5.142 TREES_PRESENT_NERS

Trees present on nonforest, Northeastern Research Station. A code indicating the presence or absence of live trees ≥ 5.0 inches d.b.h. that are within the nonforest condition represented in the "plot triangle" (the triangle formed by the 3 outer subplots, representing 0.84 acres that is used for office photo interpretation to determine whether or not a plot is sent to the field for measurement).

Data back-populated for all States in certain FIA work units (SURVEY.RSCD = 24) for COND_STATUS_CD = 4 (census water) for INVYR = 1999-2006. Data collected and back-populated for all nonforest conditions (SURVEY.RSCD = 24) for INVYR = 2007-2013.

Codes: TREES_PRESENT_NERS

Code	Description
1	Nonforest land without live trees \geq 5.0 inches d.b.h.
2	Nonforest land with live trees \geq 5.0 inches d.b.h.

2.5.143 TRTCD1_P2A

Treatment code 1, periodic to annual. A code indicating the type of stand treatment that has occurred since the last periodic measurement. The area affected by the treatment must be at least 1 acre in size. Up to three different treatments per condition can be recorded, from most important to least important (TRTCD1_P2A, TRTCD2_P2A, and TRTCD3_P2A). Populated for forested conditions at locations with periodic to annual remeasurement. Not populated for all States.

Periodic to annual (P2A) remeasurement includes plots where the newly established annual plot is located at the same center point as the previously established periodic plot.

Note: For RMRS (SURVEY.RSCD = 22), both the periodic and the annual plot have DESIGNCD = 1.

Codes: TRTCD1_P2A

Code	Description
00	No observable treatment.
10	Cutting - The removal of one or more trees from a stand.
20	Site preparation - Clearing, slash burning, chopping, diskng, bedding, or other practices clearly intended to prepare a site for either natural or artificial regeneration.
30	Artificial regeneration - Following a disturbance or treatment (usually cutting), a new stand where at least 50 percent of the live trees present resulted from planting or direct seeding.
40	Natural regeneration - Following a disturbance or treatment (usually cutting), a new stand where at least 50 percent of the live trees present (of any size) were established through the growth of existing trees and/or natural seeding or sprouting.
50	Other silvicultural treatment - The use of fertilizers, herbicides, girdling, pruning, or other activities (not covered by codes 10-40) designed to improve the commercial value of the residual stand, or chaining, which is a practice used on woodlands to encourage wildlife forage.

2.5.144 TRTCD2_P2A

Treatment code 2, periodic to annual. The second treatment code, if the stand has experienced more than one treatment since the last periodic measurement. Populated for forested conditions at locations with periodic to annual remeasurement. Not populated for all States. See [TRTCD1_P2A](#) for more information.

2.5.145 TRTCD3_P2A

Treatment code 3, periodic to annual. The third treatment code, if the stand has experienced more than two treatments since the last periodic measurement. Populated for forested conditions at locations with periodic to annual remeasurement. Not populated for all States. See [TRTCD1_P2A](#) for more information.

2.5.146 TRTOPCD

Treatment opportunity code. A code indicating the best possible silvicultural treatment recommended for a forest condition, based on stand size, forest type, site productivity, and other factors. Only calculated for certain FIA work units (SURVEY.RSCD = 23).

Codes: TRTOPCD

Code	Description
1	Regen without site prep.
2	Regen with site prep.
3	Stand conversion.
4	Thin seed/sap.
5	Thin pole.
6	Other stocking control.
7	Other intermediate.
8	Clearcut.
9	Partial harvest.
10	Salvage harvest.
11	None.

2.5.147 TRTYR1_P2A

Treatment year 1, periodic to annual. The year in which treatment 1 (TRTCD1_P2A) is estimated to have occurred. Populated for forested conditions at locations with periodic to annual remeasurement. Not populated for all States.

Periodic to annual (P2A) remeasurement includes plots where the newly established annual plot is located at the same center point as the previously established periodic plot.

Note: For RMRS, both the periodic and the annual plot have DESIGNCD = 1.

2.5.148 TRTYR2_P2A

Treatment year 2, periodic to annual. The year in which treatment 2 (TRTCD2_P2A) is estimated to have occurred. Populated for forested conditions at locations with periodic to annual remeasurement. Not populated for all States. See [TRTYR1_P2A](#) for more information.

2.5.149 TRTYR3_P2A

Treatment year 3, periodic to annual. The year in which treatment 3 (TRTCD3_P2A) is estimated to have occurred. Populated for forested conditions at locations with periodic to annual remeasurement. Not populated for all States. See [TRTYR1_P2A](#) for more information.

2.5.150 LAND_COVER_CLASS_CD

Land cover class code. A code indicating the type of cover for a condition that meets the minimum area and width requirements, except those with cases where the condition has been defined due to one of the exceptions to the size and width requirements. If the condition was less than 1 acre, a cover classification key was used to assign a cover class.

This is the revised cover class attribute implemented in PLOT.MANUAL = 8.0. Many of the codes are the same between the retired and the current code sets. The cover classification key used by crews has been modified to remove all aspects of land use and focus on land cover. There is no national crosswalk to translate the retired codes into the new codes (see [LAND_COVER_CLASS_CD_RET](#) for the old code list).

Codes: LAND_COVER_CLASS_CD (codes that are $\geq 10\%$ live vegetative cover)

Code	Description
01	Tree Cover: Areas on which live trees provide 10% or greater canopy cover and are part of the dominant (uppermost) vegetation layer, including areas that have been planted to produce woody crops, Christmas trees, orchards, etc. Only include tree species that are listed on the FIA Master Tree Species List (refer to Public Box folder available at web address: https://usfs-public.box.com/v/FIA-TreeSpeciesList) after taking into account the three exclusion zones. Varieties and subspecies are tallied at the species level and hybrids are based on the dominant external characteristics. Species not included on the FIA Master Tree Species List are considered shrub cover. Example areas include forests, forest plantations, reverting fields with $\geq 10\%$ tree canopy cover, clearcuts with $\geq 10\%$ tree canopy cover. This category includes cypress swamps and mangroves (not to be confused with aquatic vegetation).
02	Shrub Cover: Areas on which live shrubs or subshrubs provide 10% or greater cover and are part of the dominant (uppermost) vegetation layer, provided these areas do not qualify as Tree Cover. Shrub/Subshrub - a woody plant that generally has several erect, spreading, or prostrate stems, which give it a bushy appearance. This includes dwarf shrubs, and low or short woody vines (Federal Geographic Data Committee Vegetation Subcommittee 2008) and excludes any species on FIA's tree list. Examples include cranberry bogs, berry crops, and other shrub-dominated wetlands, chaparral, and sagebrush.
03	Herbaceous Cover: Areas on which live herbaceous vegetation (including seasonally senescent cover) provides 10% or greater cover and are part of the dominant (uppermost) vegetation layer, provided these areas do not qualify as Tree Cover or Shrub Cover. This includes herbs, forbs, and graminoid species. Examples include meadows, prairies, croplands (while crops are present), and improved pasture. This category also includes emergent wetland vegetation like seasonally flooded grasslands, cattail marshes, etc.
04	Non-vascular Vegetation Cover: Areas on which non-vascular vegetation provides 10% or greater cover and are part of the dominant vegetation layer, provided these areas do not qualify as Tree Cover, Shrub Cover, or Herbaceous Cover. Examples include mosses, sphagnum moss bogs, liverworts, hornworts, lichens, and algae.
05	Mixed Vegetation Cover: Areas with 10% or greater live vegetative cover but no one life form has 10% or more cover. That is, these areas do not qualify as Tree Cover, Shrub Cover, Herbaceous Cover or Non-vascular Vegetation Cover, and thus are a mixture of plant life forms. Examples can include early stages of reverting fields and high deserts.

Codes: LAND_COVER_CLASS_CD (codes that are <10% live vegetative cover)

Code	Description
08	Barren: Areas predominately covered by bare rock, gravel, sand, silt, clay, or other earthen material, which contains <10% vegetation cover regardless of its inherent ability to support life. Examples include naturally barren areas such as lava fields, gravel bars, sand dunes, salt flats, deserts, playas, and rock outcroppings, as well as areas of bare soil exposed by land clearing (including plowed, harvested, or planted but not yet emerged cropland), wildfire, and other forms of disturbance. Also includes minerals and other geologic materials exposed by surface mining and roads made of dirt and gravel.
09	Impervious: Areas predominantly covered with constructed materials that contain <10% vegetation cover. Examples include paved roads, parking lots, driveways, sidewalks, rooftops, and other man-made structures.
10	Water: Areas persistently covered and predominated by water and have <10% emergent vegetative cover. Examples include census and noncensus water and permanent snow and ice as well as glaciers. For example, only the open water portion of a bog is to be included.
12	Unknown: No classification was possible.

2.5.151 SIEQN_REF_CD

Site index equation reference code. This is the internal reference code for site index equations in the FIA equation library. There are more equations in the library than are currently in use by FIA. Site index equations have not been developed for all species, so the equation reference for a given species in a given geographic range may refer to an equation developed for a different species. See REF_SIEQN.[SIEQN_REF_NOTES](#) for additional information associated with each SIEQN_REF_CD (e.g., notes, primary reference).

2.5.152 SICOND_FVS

Site index for the condition, used by the Forest Vegetation Simulator. This is similar to SICOND, but is computed using the equation required by, and species allowed by, the Forest Vegetation Simulator (FVS). Site index values in SICOND_FVS are not used for other computations in the FIA processing system, and are primarily used when exporting FIA data for use in FVS. This attribute is blank (null) when no site index data are available.

2.5.153 SIBASE_FVS

Site index base age used by the Forest Vegetation Simulator. The base age (sometimes called reference age), in years, of the site index curves used to derive site index. Base age is specific to a given family of site index curves, and is usually set close to the common rotation age or the age of culmination of mean annual increment for a species. The most commonly used base ages are 25, 50, 80, and 100 years. It is possible for a given species to have different sets of site index curves in different geographic regions, and each set of curves may use a different base age.

Note: For a given geographic location, FVS variants may require the use of site index equations that were developed using a different base age than used by the site index equations used in standard FIA compilation procedures. Because of the historical development of FIA procedures and FVS growth models, the two systems have differences in the base ages that are used.

2.5.154 SISP_FVS

Site index species code used by the Forest Vegetation Simulator. Site index species code used by the Forest Vegetation Simulator. The species upon which the site index is based for use in the vegetation simulator. In most cases the site index species will be one of the species that define the forest type of the condition (FORTYP_CD). However, the list of species allowed for computation of site index for use in FVS can differ from species allowed by other FIA computational processes. It is possible for SISP to be blank and SISP_FVS to be populated. This attribute is blank (null) when no site tree data are available.

2.5.155 SIEQN_REF_CD_FVS

Site index equation reference code used by the Forest Vegetation Simulator. This is the internal reference code for site index equations in the FIA equation library that is used to calculate site index. There are more equations in the library than are currently in use by FIA. Site index equations have not been developed for all species, so the equation reference for a given species in a given geographic range may refer to an equation developed for a different species. See [REF_SIEQN.SIEQN_REF_NOTES](#) for additional information associated with each SIEQN_REF_CD (e.g., notes, primary reference).

2.5.156 MQUADPROP_UNADJ

Microquadrat proportion unadjusted. The unadjusted proportion of the microquadrats that are in the condition. Microquadrats are used to collect data for ground layer functional groups (see GRND_LYR_FNCTL_GRP.[FUNCTIONAL_GROUP_CD](#)). The sum of all microquadrat proportions on a plot equals 1.

2.5.157 SOILPROP_UNADJ

Soil proportion unadjusted. The unadjusted proportion of the soils sample that is in the condition. The sum of all soil proportions in a plot equals 1.

2.5.158 FOREST_COND_STATUS_CHANGE_CD

Forest land condition status change code. A code indicating the reason why the forest land condition status changed since the last inventory. If the status did not change, FOREST_COND_STATUS_CHANGE_CD = 0 is recorded.

Codes: FOREST_COND_STATUS_CHANGE_CD

Code	Description
0	No change - the condition is not a new forested condition (not originating from a previous forested condition) nor is it a new condition that is the result of a previously forested condition no longer qualifying as such or the condition was previously not field visited or was previously classified as non-sampled.
1	Physical changes - condition status changed due to actual on-the-ground physical change either natural or human-caused.
2	Crew error - condition status changed due to a previous crew's error.
3	Procedural changes – condition status changed due to a change in variable definition or procedures.

2.6 Subplot Table

(Oracle table name: SUBPLOT)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
2.6.1	CN	Sequence number	VARCHAR2(34)
2.6.2	PLT_CN	Plot sequence number	VARCHAR2(34)
2.6.3	PREV_SBP_CN	Previous subplot sequence number	VARCHAR2(34)
2.6.4	INVYR	Inventory year	NUMBER(4)
2.6.5	STATECD	State code	NUMBER(4)
2.6.6	UNITCD	Survey unit code	NUMBER(2)
2.6.7	COUNTYCD	County code	NUMBER(3)
2.6.8	PLOT	Plot number	NUMBER(5)
2.6.9	SUBP	Subplot number	NUMBER(3)
2.6.10	SUBP_STATUS_CD	Subplot/macroplot status code	NUMBER(1)
2.6.11	POINT_NONSAMPLE_REASN_CD	Point nonsampled reason code	NUMBER(2)
2.6.12	MICRCOND	Microplot center condition	NUMBER(1)
2.6.13	SUBPCOND	Subplot center condition	NUMBER(1)
2.6.14	MACRCOND	Macroplot center condition	NUMBER(1)
2.6.15	CONDLIST	Subplot/macroplot condition list	NUMBER(4)
2.6.16	SLOPE	Subplot percent slope	NUMBER(3)
2.6.17	ASPECT	Subplot aspect	NUMBER(3)
2.6.18	WATERDEP	Snow/water depth	NUMBER(2,1)
2.6.19	P2A_GRM_FLG	Periodic to annual growth, removal, and mortality flag	VARCHAR2(1)
2.6.20	CREATED_BY	Created by	VARCHAR2(30)
2.6.21	CREATED_DATE	Created date	DATE
2.6.22	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
2.6.23	MODIFIED_BY	Modified by	VARCHAR2(30)
2.6.24	MODIFIED_DATE	Modified date	DATE
2.6.25	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)
2.6.26	CYCLE	Inventory cycle number	NUMBER(2)
2.6.27	SUBCYCLE	Inventory subcycle number	NUMBER(2)
2.6.28	ROOT_DIS_SEV_CD_PNWRS	Root disease severity rating code, Pacific Northwest Research Station	NUMBER(1)
2.6.29	NF_SUBP_STATUS_CD	Nonforest subplot/macroplot status code	NUMBER(1)
2.6.30	NF_SUBP_NONSAMPLE_REASN_CD	Nonforest subplot/macroplot nonsampled reason code	NUMBER(2)
2.6.31	P2VEG_SUBP_STATUS_CD	P2 vegetation subplot status code	NUMBER(1)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
2.6.32	P2VEG_SUBP_NONSAMPLE_REASN_CD	P2 vegetation subplot nonsampled reason code	NUMBER(2)
2.6.33	INVASIVE_SUBP_STATUS_CD	Invasive subplot status code	NUMBER(1)
2.6.34	INVASIVE_NONSAMPLE_REASN_CD	Invasive nonsampled reason code	NUMBER(2)
2.6.35	CROWN_CLOSURE_ME_NERS	Crown closure (Maine), Northeastern Research Station	NUMBER(1)
2.6.36	GROUND_TRAN PTS_BARE_RMRS	Ground surface cover transect points - bare ground, Rocky Mountain Research Station	NUMBER(3)
2.6.37	GROUND_TRAN PTS_CRYP_RMRS	Ground surface cover transect points - cryptogamic crust, Rocky Mountain Research Station	NUMBER(3)
2.6.38	GROUND_TRAN PTS_DEV_RMRS	Ground surface cover transect points - developed land, Rocky Mountain Research Station	NUMBER(3)
2.6.39	GROUND_TRAN PTS_LICHEN_RMRS	Ground surface cover transect points - lichen, Rocky Mountain Research Station	NUMBER(3)
2.6.40	GROUND_TRAN PTS_LITTER_RMRS	Ground surface cover transect points - litter, Rocky Mountain Research Station	NUMBER(3)
2.6.41	GROUND_TRAN PTS_MOSS_RMRS	Ground surface cover transect points - moss, Rocky Mountain Research Station	NUMBER(3)
2.6.42	GROUND_TRAN PTS_NOTSAMP_RMRS	Ground surface cover transect points - not sampled, Rocky Mountain Research Station	NUMBER(3)
2.6.43	GROUND_TRAN PTS_OTHER_RMRS	Ground surface cover transect points - other cover, Rocky Mountain Research Station	NUMBER(3)
2.6.44	GROUND_TRAN PTS_PEIS_RMRS	Ground surface cover transect points - permanent ice and snow, Rocky Mountain Research Station	NUMBER(3)
2.6.45	GROUND_TRAN PTS_ROAD_RMRS	Ground surface cover transect points - road, Rocky Mountain Research Station	NUMBER(3)
2.6.46	GROUND_TRAN PTS_ROCK_RMRS	Ground surface cover transect points - rock, Rocky Mountain Research Station	NUMBER(3)
2.6.47	GROUND_TRAN PTS_TRIS_RMRS	Ground surface cover transect points - transient ice and snow, Rocky Mountain Research Station	NUMBER(3)
2.6.48	GROUND_TRAN PTS_VEG_RMRS	Ground surface cover transect points - basal vegetation, Rocky Mountain Research Station	NUMBER(3)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
2.6.49	GROUND_TRAN PTS_WATER_RMR S	Ground surface cover transect points - water, Rocky Mountain Research Station	NUMBER(3)
2.6.50	GROUND_TRAN PTS_WOOD_RMR S	Ground surface cover transect points - wood, Rocky Mountain Research Station	NUMBER(3)
2.6.51	PREV_STATUSCD_RMRS	Previous subplot status code, Rocky Mountain Research Station	NUMBER(1)
2.6.52	ROOTSEVCD_RMRS	Root disease severity rating code, Rocky Mountain Research Station	NUMBER(1)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	SBP_PK
Unique	PLT_CN, SUBP	N/A	SBP_UK
Natural	STATECD, INVYR, UNITCD, COUNTYCD, PLOT, SUBP	N/A	SBP_NAT_I
Foreign	PLT_CN, SUBPCOND	SUBPLOT to COND	SBP_CND_FK
Foreign	PLT_CN, MICRCOND	SUBPLOT to COND	SBP_CND_FK2
Foreign	PLT_CN, MACRCOND	SUBPLOT to COND	SBP_CND_FK3
Foreign	PLT_CN	SUBPLOT to PLOT	SBP_PLT_FK

Note: The SUBPLOT record may not exist for some periodic inventory data.

2.6.1 CN

Sequence number. A unique sequence number used to identify a subplot record.

2.6.2 PLT_CN

Plot sequence number. Foreign key linking the subplot record to the plot record.

2.6.3 PREV_SBP_CN

Previous subplot sequence number. Foreign key linking the subplot record to the previous inventory's subplot record for this subplot. Only populated on annual remeasured plots.

2.6.4 INVYR

Inventory year. See SURVEY.INVYR description for definition.

2.6.5 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

2.6.6 UNITCD

Survey unit code. Forest Inventory and Analysis survey unit identification number. Survey units are usually groups of counties within each State. For periodic inventories, survey units may be made up of lands of particular owners. Refer to [appendix B](#) for codes.

2.6.7 COUNTYCD

County code. The identification number for a county, parish, watershed, borough, or similar governmental unit in a State. FIPS codes from the Bureau of the Census are used. Refer to [appendix B](#) for codes.

Note: Summarizing data by county is not recommended for Alaska datasets. For assistance with analyses for Alaska, please consult the PNWRS analyst contact listed in [table 1-1](#).

2.6.8 PLOT

Plot number. An identifier for a plot. Along with STATECD, INVYR, UNITCD, COUNTYCD and/or some other combinations of variables, PLOT may be used to uniquely identify a plot.

2.6.9 SUBP

Subplot number. The number assigned to the subplot. The national plot design (PLOT.DESIGNCD = 1) has subplot number values of 1 through 4. Other plot designs have various subplot number values. See PLOT.DESIGNCD and [appendix G](#) for information about plot designs. For more explanation about SUBP, contact the appropriate FIA work unit ([table 1-1](#)).

2.6.10 SUBP_STATUS_CD

Subplot/macroplot status code. A code indicating whether or not forest land was sampled on the subplot/macroplot. May be blank (null) in periodic inventories and where SUBP >4.

Codes: SUBP_STATUS_CD

Code	Description
1	Sampled - at least one accessible forest land condition present on subplot.
2	Sampled - no accessible forest land condition present on subplot.
3	Nonsampled - possibility of forest land.

2.6.11 POINT_NONSAMPLE_REASN_CD

Point nonsampled reason code. A code indicating the reason an entire subplot (or macroplot) was not sampled.

Codes: POINT_NONSAMPLE_REASN_CD

Code	Description
01	Outside U.S. boundary - Entire subplot (or macroplot) is outside of the U.S. border.
02	Denied access area - Access to the entire subplot (or macroplot) is denied by the legal owner, or by the owner of the only reasonable route to the subplot (or macroplot).

Code	Description
03	Hazardous situation - Entire subplot (or macroplot) cannot be accessed because of a hazard or danger, for example cliffs, quarries, strip mines, illegal substance plantations, high water, etc.
04	Time limitation - Entire subplot (or macroplot) cannot be sampled due to a time restriction. This code is reserved for areas with limited access, and in situations where it is imperative for the crew to leave before the plot can be completed (e.g., scheduled helicopter rendezvous).
05	Lost data - The plot data file was discovered to be corrupt after a panel was completed and submitted for processing. This code is assigned to entire plots or full subplots that could not be processed.
06	Lost plot - Entire plot cannot be found. Used for the four subplots that are required for this plot.
07	Wrong location - Previous plot can be found, but its placement is beyond the tolerance limits for plot location. Used for the four subplots that are required for this plot.
08	Skipped visit - Entire plot skipped. Used for plots that are not completed prior to the time a panel is finished and submitted for processing. Used for the four subplots that are required for this plot. This code is for office use only.
09	Dropped intensified plot - Intensified plot dropped due to a change in grid density. Used for the four subplots that are required for this plot. This code used only by units engaged in intensification. This code is for office use only.
10	Other - Entire subplot (or macroplot) not sampled due to a reason other than one of the specific reasons already listed.
11	Ocean - Subplot/macroplot falls in ocean water below mean high tide line.

2.6.12 MICRCOND

Microplot center condition. Condition number for the condition at the center of the microplot.

2.6.13 SUBPCOND

Subplot center condition. Condition number for the condition at the center of the subplot.

2.6.14 MACRCOND

Macroplot center condition. Condition number for the condition at the center of the macroplot. Blank (null) if macroplot is not measured.

2.6.15 CONDLIST

Subplot/macroplot condition list. (*core optional*) This is a listing of all condition classes located within the 24.0/58.9-foot radius around the subplot/macroplot center. A maximum of four conditions is permitted on any individual subplot/macroplot. For example, a value of 2300 indicates that conditions 2 and 3 are on the subplot/macroplot.

2.6.16 SLOPE

Subplot percent slope. The predominant or average angle of the slope across the subplot, to the nearest 1 percent. Valid values are 0 through 155.

2.6.17 ASPECT

Subplot aspect. The aspect across the subplot, to the nearest 1 degree. Aspect is measured by sighting along the direction used to determine slope. North is recorded as 360. When slope is <5 percent, there is no aspect and it is recorded as 0.

2.6.18 WATERDEP

Snow/water depth. The approximate depth in feet of water or snow covering the subplot. Not collected for certain FIA work units in 1999 (SURVEY.RSCD = 23, 24). May not be populated for some FIA work units when PLOT.MANUAL <1.0.

2.6.19 P2A_GRM_FLG

Periodic to annual growth, removal, and mortality flag. A code indicating if this subplot is part of a periodic inventory that is only included for the purposes of computing growth, removals and/or mortality estimates, referred to as GRM throughout this document. The flag is set to 'Y' for those subplots that are needed for change estimation and otherwise is left blank (null).

2.6.20 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

2.6.21 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

2.6.22 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

2.6.23 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

2.6.24 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

2.6.25 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

2.6.26 CYCLE

Inventory cycle number. See SURVEY.CYCLE description for definition.

2.6.27 SUBCYCLE

Inventory subcycle number. See SURVEY.SUBCYCLE description for definition.

2.6.28 ROOT_DIS_SEV_CD_PNWRS

Root disease severity rating code, Pacific Northwest Research Station. The root disease severity rating that describes the degree of root disease present. Only populated by certain FIA work units (SURVEY.RSCD = 26).

Codes: ROOT_DIS_SEV_CD_PNWRS

Code	Description
0	No evidence of root disease visible within 50 feet of the 58.9 foot macroplot.
1	Root disease present within 50 feet of the macroplot, but no evidence of disease on the macroplot.
2	Minor evidence of root disease on the macroplot, such as suppressed tree killed by root disease, or a minor part of the overstory showing symptoms of infection. Little or no detectable reduction in canopy closure or volume.
3	Canopy reduction evident, up to 20 percent; usually as a result of death of 1 codominant tree on an otherwise fully stocked site. In absence of mortality, numerous trees showing symptoms of root disease infection.
4	Canopy reduction at least 20 percent; up to 30 percent as a result of root disease mortality. Snags and downed trees removed from canopy by disease as well as live trees with advance symptoms of disease contribute to impact.
5	Canopy reduction 30-50 percent as a result of root disease. At least half of the ground area of macroplot considered infested with evidence of root disease-killed trees. Macroplots representing mature stands with half of their volume in root disease-tolerant species usually do not go much above severity 5 because of the ameliorating effect of the disease-tolerant trees.
6	50-75 percent reduction in canopy with most of the ground area considered infested as evidenced by symptomatic trees. Much of the canopy variation in this category is generally a result of root disease-tolerant species occupying infested ground.
7	At least 75 percent canopy reduction. Macroplots that reach this severity level usually are occupied by only the most susceptible species. There are very few of the original overstory trees remaining although infested ground is often densely stocked with regeneration of susceptible species.
8	The entire macroplot falls within a definite root disease pocket with only one or very few susceptible overstory trees present.
9	The entire macroplot falls within a definite root disease pocket with no overstory trees of the susceptible species present.

2.6.29 NF_SUBP_STATUS_CD

Nonforest subplot/macropot status code. A code describing the sampling status of the other-than-forest subplot/macropot.

Codes: NF_SUBP_STATUS_CD

Code	Description
1	Sampled - at least one accessible nonforest land condition present on the subplot/macropot.
2	Sampled - no nonforest land condition present on subplot/macropot (i.e., subplot/macropot is either census and/or noncensus water).
3	Nonsampled nonforest.

2.6.30 NF_SUBP_NONSAMPLE_REASON_CD

Nonforest subplot/macropot nonsampled reason code. A code indicating the reason an entire nonforest subplot (or macropot) was not sampled.

Codes: NF_SUBP_NONSAMPLE_REASN_CD

Code	Description
02	Denied access - A subplot/macroplot to which access is denied by the legal owner, or to which an owner of the only reasonable route to the plot denies access. Because a denied-access subplot/macroplot can become accessible in the future, it remains in the sample and is re-examined at the next occasion to determine if access is available.
03	Hazardous situation - A subplot/macroplot that cannot be accessed because of a hazard or danger, for example cliffs, quarries, strip mines, illegal substance plantations, temporary high water, etc. Although the hazard is not likely to change over time, a hazardous condition remains in the sample and is re-examined at the next occasion to determine if the hazard is still present.
04	Time limitation - This code applies to a full subplot/macroplot that cannot be sampled due to a time restriction. This code is reserved for areas with limited access, and in situations where it is imperative for the crew to leave before the plot can be completed (e.g., scheduled helicopter rendezvous).
10	Other - This code is used whenever a subplot/macroplot is not sampled due to a reason other than one of the specific reasons already listed.

2.6.31 P2VEG_SUBP_STATUS_CD

P2 vegetation subplot status code. A code indicating if the subplot was sampled for P2 vegetation.

Codes: P2VEG_SUBP_STATUS_CD

Code	Description
1	Subplot sampled for P2 vegetation.
2	Subplot not sampled for P2 vegetation.

2.6.32 P2VEG_SUBP_NONSAMPLE_REASN_CD

P2 vegetation subplot nonsampled reason code. A code indicating why vegetation on a subplot could not be sampled.

Codes: P2VEG_SUBP_NONSAMPLE_REASN_CD

Code	Description
04	Time limitation.
05	Lost Data (for office use only).
10	Other (for example, snow or water covering vegetation that is supposed to be sampled).

2.6.33 INVASIVE_SUBP_STATUS_CD

Invasive subplot status code. A code indicating if the subplot was sampled for invasive plants.

Codes: INVASIVE_SUBP_STATUS_CD

Code	Description
1	Subplot sampled, invasive plants present.

Code	Description
2	Subplot sampled, no invasive plants present.
3	Subplot not sampled for invasive plants.

2.6.34 INVASIVE_NONSAMPLE_REASN_CD

Invasive nonsampled reason code. A code indicating why a subplot could not be sampled for invasive plants.

Codes: INVASIVE_NONSAMPLE_REASN_CD

Code	Description
04	Time limitation.
05	Lost Data (for office use only).
10	Other (for example, snow or water covering vegetation that is supposed to be sampled).

2.6.35 CROWN_CLOSURE_ME_NERS

Crown closure (Maine), Northeastern Research Station. A code indicating the percent of the subplot that is covered by live trees directly overhead. Only populated by certain FIA work units (SURVEY.RSCD = 24).

Codes: CROWN_CLOSURE_ME_NERS

Code	Description
0	0-25%
1	26-50%
2	51-75%
3	>75%

2.6.36 GROUND_TRAN PTS_BARE_RMRS

Ground surface cover transect points - bare ground, Rocky Mountain Research Station. A value indicating the percent of the subplot area covered by bare ground. This value is an estimate based on the number of sampling points on the subplot area that were classified as bare ground using a ground surface cover transect sampling method. Bare ground is defined as exposed soil and rock fragments smaller than ¾ inch in diameter. Larger rocks protruding through the soil are not classified as bare ground.

Data only collected for subplots that have a sampled nonforest condition at subplot center (NF_SUBP_STATUS_CD = 1). Only populated by certain FIA work units (SURVEY.RSCD = 22).

2.6.37 GROUND_TRAN PTS_CRYP_RMRS

Ground surface cover transect points - cryptogamic crust, Rocky Mountain Research Station. A value indicating the percent of the subplot area covered by cryptogamic crust. This value is an estimate based on the number of sampling points on the subplot area that were classified as cryptogamic crust using a ground surface cover transect sampling method.

Cryptogamic crust is defined as thin, biotically dominated ground or surface crusts on soil in dry rangeland conditions (such as algae, lichen, mosses, or cyanobacteria, which are growing on bare soil).

Data only collected for subplots that have a sampled nonforest condition at subplot center (NF_SUBP_STATUS_CD = 1). Only populated by certain FIA work units (SURVEY.RSCD = 22).

2.6.38 GROUND_TRAN_PTS_DEV_RMRS

Ground surface cover transect points - developed land, Rocky Mountain Research Station.

A value indicating the percent of the subplot area covered by developed land. This value is an estimate based on the number of sampling points on the subplot area that were classified as developed land using a ground surface cover transect sampling method. Developed land is defined as surface area covered by the following: (1) any man-made structure other than a road, such as a building, dam, parking lot, or electronic site/structure, (2) maintained residential yards, or (3) agricultural crops (not rangeland).

Data only collected for subplots that have a sampled nonforest condition at subplot center (NF_SUBP_STATUS_CD = 1). Only populated by certain FIA work units (SURVEY.RSCD = 22).

2.6.39 GROUND_TRAN_PTS_LICHEN_RMRS

Ground surface cover transect points - lichen, Rocky Mountain Research Station.

A value indicating the percent of the subplot area covered by lichens. This value is an estimate based on the number of sampling points on the subplot area that were classified as lichen using a ground surface cover transect sampling method. A lichen is defined as an organism generally recognized as a single plant that consists of a fungus and an alga or cyanobacterium living in a symbiotic association. This category does not apply to lichens growing on bare soils in dry rangeland conditions. For rangeland conditions, see [GROUND_TRAN_PTS_CRYP_RMRS](#) (cryptogamic crusts).

Data only collected for subplots that have a sampled nonforest condition at subplot center (NF_SUBP_STATUS_CD = 1). Only populated by certain FIA work units (SURVEY.RSCD = 22).

2.6.40 GROUND_TRAN_PTS_LITTER_RMRS

Ground surface cover transect points - litter, Rocky Mountain Research Station.

A value indicating the percent of the subplot area covered by litter. This value is an estimate based on the number of sampling points on the subplot area that were classified as litter using a ground surface cover transect sampling method. Litter is defined as organic debris, freshly fallen or slightly decomposed; it includes dead vegetation, animal feces, etc.

Data only collected for subplots that have a sampled nonforest condition at subplot center (NF_SUBP_STATUS_CD = 1). Only populated by certain FIA work units (SURVEY.RSCD = 22).

2.6.41 GROUND_TRAN_PTS_MOSS_RMRS

Ground surface cover transect points - moss, Rocky Mountain Research Station.

A value indicating the percent of the subplot area covered by moss. This value is an estimate based on the number of sampling points on the subplot area that were classified as moss using a ground surface cover transect sampling method. Moss is defined as

nonvascular, terrestrial green plants including mosses, hornworts and liverworts - always herbaceous. This category does not apply to moss growing on bare soils in dry rangeland conditions. For rangeland conditions, see [GROUND_TRAN PTS_CRYP_RMRS](#) (cryptogamic crusts).

Data only collected for subplots that have a sampled nonforest condition at subplot center (NF_SUBP_STATUS_CD = 1). Only populated by certain FIA work units (SURVEY.RSCD = 22).

2.6.42 GROUND_TRAN PTS_NOTSAMP_RMRS

Ground surface cover transect points - not sampled, Rocky Mountain Research Station. A value indicating the percent of the subplot area that was not sampled. This value is based on the number of sampling points on the subplot area that were classified as not sampled using a ground surface cover transect sampling method. When this category is used, the reason for not sampling any points along the transect should be described in the subplot notes.

Data only collected for subplots that have a sampled nonforest condition at subplot center (NF_SUBP_STATUS_CD = 1). Only populated by certain FIA work units (SURVEY.RSCD = 22).

2.6.43 GROUND_TRAN PTS_OTHER_RMRS

Ground surface cover transect points - other cover, Rocky Mountain Research Station. A value indicating the percent of the subplot area classified as other cover. This value is an estimate based on the number of sampling points on the subplot area that were classified as other cover using a ground surface cover transect sampling method. This category includes covers that are not defined elsewhere by one of the other ground cover transect categories (e.g., trash). When this category is used, the other cover should be described in the subplot notes.

Data only collected for subplots that have a sampled nonforest condition at subplot center (NF_SUBP_STATUS_CD = 1). Only populated by certain FIA work units (SURVEY.RSCD = 22).

2.6.44 GROUND_TRAN PTS_PEIS_RMRS

Ground surface cover transect points - permanent ice and snow, Rocky Mountain Research Station. A value indicating the percent of the subplot area covered by permanent ice and snow. This value is an estimate based on the number of sampling points on the subplot area that were classified as permanent ice and snow using a ground surface cover transect sampling method. This category is defined as surface area covered with ice and snow at the time of plot measurement, which is considered to be permanent.

Data only collected for subplots that have a sampled nonforest condition at subplot center (NF_SUBP_STATUS_CD = 1). Only populated by certain FIA work units (SURVEY.RSCD = 22).

2.6.45 GROUND_TRAN PTS_ROAD_RMRS

Ground surface cover transect points - road, Rocky Mountain Research Station. A value indicating the percent of the subplot area covered by road. This value is an estimate based on the number of sampling points on the subplot area that were classified as road using a ground surface cover transect sampling method. This category is defined as improved roads, paved roads, gravel roads, improved dirt roads, and off-road vehicle trails, which

are regularly maintained or in long-term continuing use. These roads are generally constructed using machinery. Cutbanks and fills are included.

Data only collected for subplots that have a sampled nonforest condition at subplot center (NF_SUBP_STATUS_CD = 1). Only populated by certain FIA work units (SURVEY.RSCD = 22).

2.6.46 GROUND_TRAN_PTS_ROCK_RMRS

Ground surface cover transect points - rock, Rocky Mountain Research Station. A value indicating the percent of the subplot area covered by rock. This value is an estimate based on the number of sampling points on the subplot area that were classified as rock using a ground surface cover transect sampling method. This category includes rocks and rock fragments that are greater than ¾ inch in diameter.

Data only collected for subplots that have a sampled nonforest condition at subplot center (NF_SUBP_STATUS_CD = 1). Only populated by certain FIA work units (SURVEY.RSCD = 22).

2.6.47 GROUND_TRAN_PTS_TRIS_RMRS

Ground surface cover transect points - transient ice and snow, Rocky Mountain Research Station. A value indicating the percent of the subplot area covered by transient ice and snow. This value is an estimate based on the number of sampling points on the subplot area that were classified as transient ice and snow using a ground surface cover transect sampling method. This category is defined as surface area covered with ice and snow at the time of plot measurement, which is considered to be transient.

Data only collected for subplots that have a sampled nonforest condition at subplot center (NF_SUBP_STATUS_CD = 1). Only populated by certain FIA work units (SURVEY.RSCD = 22).

2.6.48 GROUND_TRAN_PTS_VEG_RMRS

Ground surface cover transect points - basal vegetation, Rocky Mountain Research Station. A value indicating the percent of the subplot area covered by basal vegetation. This value is an estimate based on the number of sampling points on the subplot area that were classified as basal vegetation using a ground surface cover transect sampling method. Basal vegetation is defined as the area outline of a plant near the ground surface. For grass, this consists of the shoot system at ground level. For trees and shrubs, this consists of the stem area.

Data only collected for subplots that have a sampled nonforest condition at subplot center (NF_SUBP_STATUS_CD = 1). Only populated by certain FIA work units (SURVEY.RSCD = 22).

2.6.49 GROUND_TRAN_PTS_WATER_RMRS

Ground surface cover transect points - water, Rocky Mountain Research Station. A value indicating the percent of the subplot area covered by water. This value is an estimate based on the number of sampling points on the subplot area that were classified as water using a ground surface cover transect sampling method. This category is defined as water remaining above the ground surface during the growing season, such as streams, bogs, swamps, marshes and ponds.

Data only collected for subplots that have a sampled nonforest condition at subplot center (NF_SUBP_STATUS_CD = 1). Only populated by certain FIA work units (SURVEY.RSCD = 22).

2.6.50 GROUND_TRAN PTS_WOOD_RMRS

Ground surface cover transect points - wood, Rocky Mountain Research Station. A value indicating the percent of the subplot area covered by wood. This value is an estimate based on the number of sampling points on the subplot area that were classified as wood using a ground surface cover transect sampling method. This category is defined as woody material, including slash and small and large woody debris, regardless of depth. Litter and non-continuous litter are not included.

Data only collected for subplots that have a sampled nonforest condition at subplot center (NF_SUBP_STATUS_CD = 1). Only populated by certain FIA work units (SURVEY.RSCD = 22).

2.6.51 PREV_STATUSCD_RMRS

Previous subplot status code, Rocky Mountain Research Station. A code indicating the subplot sampling at the previous inventory visit. Blank (null) values may be present for periodic inventories. Only populated by certain FIA work units (SURVEY.RSCD = 22).

Codes: PREV_STATUSCD_RMRS

Code	Description
1	Sampled - at least one accessible forest land condition present on subplot.
2	Sampled - no accessible forest land condition present on subplot.
3	Nonsampled - possibility of forest land.

2.6.52 ROOTSEVCD_RMRS

Root disease severity rating code, Rocky Mountain Research Station. A code indicating the severity of root disease on the subplot area. Data only collected for plots sampled by RMRS in Region 1 (MT, ID, ND, SD) when SUBP_STATUS_CD = 1 or NF_SUBP_STATUS_CD = 1. Only populated by certain FIA work units (SURVEY.RSCD = 22).

Codes: ROOTSEVCD_RMRS

Code	Description
0	No evidence of root disease visible within 50 feet of the subplot perimeter.
1	Root disease present within 50 feet of the subplot perimeter, but no evidence of root disease on subplot.
2	Minor evidence of root disease evident on the subplot - suppressed tree killed by root disease, or minor part of overstory showing symptoms of infection. Little or no reduction in canopy closure or volume.
3	Up to 20 percent canopy reduction evident - as a result of the death of one codominant tree on an otherwise fully stocked site. In the absence of mortality, numerous trees showing symptoms of root disease infection.
4	20 to 30 percent canopy reduction - as a result of root disease-caused mortality. The presence of snags and downed dead trees as a result of disease, leaving gaps in the tree canopy, as well as live trees with advanced symptoms of disease.

Code	Description
5	30 to 50 percent canopy reduction - as a result of root disease. Almost half of ground area of subplot considered infested with evidence of root disease-killed trees. Note: Subplots representing mature stands with half of their volume in root disease-tolerant species usually don't go much above severity 5 because of the ameliorating effect of the disease tolerant trees.
6	50 to 75 percent canopy reduction → most of the ground area considered infested as evidenced by symptomatic trees. Much of the canopy variation in this category results from disease-tolerant species occupying infested ground.
7	75 percent or more canopy reduction - subplots with this severity level usually were occupied by only the most susceptible species. Very few of the original overstory trees remain, although the infested ground area is often densely stocked with regeneration of the susceptible species.
8	Entire subplot falls within a definite root disease patch with only one or very few susceptible overstory trees present (standing/live) within the canopy.
9	Entire subplot falls within a definite root disease patch with no overstory trees of the susceptible species present within the canopy.

2.7 Subplot Condition Table

(Oracle table name: SUBP_COND)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
2.7.1	CN	Sequence number	VARCHAR2(34)
2.7.2	PLT_CN	Plot sequence number	VARCHAR2(34)
2.7.3	INVYR	Inventory year	NUMBER(4)
2.7.4	STATECD	State code	NUMBER(4)
2.7.5	UNITCD	Survey unit code	NUMBER(2)
2.7.6	COUNTYCD	County code	NUMBER(3)
2.7.7	PLOT	Plot number	NUMBER(5)
2.7.8	SUBP	Subplot number	NUMBER(3)
2.7.9	CONDID	Condition class number	NUMBER(1)
2.7.10	CREATED_BY	Created by	VARCHAR2(30)
2.7.11	CREATED_DATE	Created date	DATE
2.7.12	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
2.7.13	MODIFIED_BY	Modified by	VARCHAR2(30)
2.7.14	MODIFIED_DATE	Modified date	DATE
2.7.15	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)
2.7.16	MICRCOND_PROP	Microplot-condition proportion	NUMBER
2.7.17	SUBPCOND_PROP	Subplot-condition proportion	NUMBER
2.7.18	MACRCOND_PROP	Macroplot-condition proportion	NUMBER
2.7.19	NONFR_INCL_PCT_SUBP	Nonforest inclusions percentage of subplot	NUMBER(3)
2.7.20	NONFR_INCL_PCT_MACRO	Nonforest inclusions percentage of macroplot	NUMBER(3)
2.7.21	CYCLE	Inventory cycle number	NUMBER(2)
2.7.22	SUBCYCLE	Inventory subcycle number	NUMBER(2)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	SCD_PK
Unique	PLT_CN, SUBP, CON DID	N/A	SCD_UK
Natural	STATECD, INVYR, UNITCD, COUNTYCD, PLOT, SUBP, CON DID	N/A	SCD_NAT_I
Foreign	PLT_CN, CON DID	SUBP_COND to COND	SCD_CND_FK
Foreign	PLT_CN	SUBP_COND to PLOT	SCD_PLT_FK
Foreign	PLT_CN, SUBP	SUBP_COND to SUBPLOT	SCD_SBP_FK

Note: The SUBP_COND record may not exist for some periodic inventory data.

2.7.1 **CN**

Sequence number. A unique sequence number used to identify a subplot condition record.

2.7.2 **PLT_CN**

Plot sequence number. Foreign key linking the subplot condition record to the plot record.

2.7.3 **INVYR**

Inventory year. See SURVEY.[INVYR](#) description for definition.

2.7.4 **STATECD**

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

2.7.5 **UNITCD**

Survey unit code. Forest Inventory and Analysis survey unit identification number. Survey units are usually groups of counties within each State. For periodic inventories, survey units may be made up of lands of particular owners. Refer to [appendix B](#) for codes.

2.7.6 **COUNTYCD**

County code. The identification number for a county, parish, watershed, borough, or similar governmental unit in a State. FIPS codes from the Bureau of the Census are used. Refer to [appendix B](#) for codes.

Note: Summarizing data by county is not recommended for Alaska datasets. For assistance with analyses for Alaska, please consult the PNWRS analyst contact listed in [table 1-1](#).

2.7.7 **PLOT**

Plot number. An identifier for a plot. Along with STATECD, INVYR, UNITCD, COUNTYCD and/or some other combination of variables, PLOT may be used to uniquely identify a plot.

2.7.8 **SUBP**

Subplot number. The number assigned to the subplot. The national plot design (PLOT.DESIGNCD = 1) has subplot number values of 1 through 4. Other plot designs have various subplot number values. See PLOT.[DESIGNCD](#) and [appendix G](#) for information about plot designs. For more explanation about SUBP, contact the appropriate FIA work unit ([table 1-1](#)).

2.7.9 **CONDID**

Condition class number. The unique identifying number assigned to a condition that exists on the subplot, and is defined in the COND table. See COND.[CONDID](#) for details on the attributes which delineate a condition.

2.7.10 **CREATED_BY**

Created by. See SURVEY.[CREATED_BY](#) description for definition.

2.7.11 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

2.7.12 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

2.7.13 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

2.7.14 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

2.7.15 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

2.7.16 MICRCOND_PROP

Microplot-condition proportion. Proportion of this microplot in this condition.

2.7.17 SUBPCOND_PROP

Subplot-condition proportion. Proportion of this subplot in this condition.

2.7.18 MACRCOND_PROP

Macroplot-condition proportion. Proportion of this macroplot in this condition.

2.7.19 NONFR_INCL_PCT_SUBP

Nonforest inclusions percentage of subplot. Nonforest area estimate, expressed as a percentage, of the 24.0-foot radius subplot present within a mapped, accessible forest land condition class in Oregon, Washington, and California. Only populated by certain FIA work units (SURVEY.RSCD = 26).

2.7.20 NONFR_INCL_PCT_MACRO

Nonforest inclusions percentage of macroplot. Nonforest area estimate, expressed as a percentage, of the 58.9-foot radius macroplot present within a mapped, accessible forest land condition class in Oregon, Washington, and California. Only populated by certain FIA work units (SURVEY.RSCD = 26).

2.7.21 CYCLE

Inventory cycle number. See SURVEY.CYCLE description for definition.

2.7.22 SUBCYCLE

Inventory subcycle number. See SURVEY.SUBCYCLE description for definition.

2.8 Boundary Table

(Oracle table name: BOUNDARY)

This table now available from the [FIA Spatial Data Services \(SDS\)](#) group by following the instructions provided at <https://www.fs.usda.gov/research/programs/fia/sds>.

2.9 Subplot Condition Change Matrix

(Oracle table name: SUBP_COND_CHNG_MTRX)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
2.9.1	CN	Sequence number	VARCHAR2(34)
2.9.2	STATECD	State code	NUMBER(4)
2.9.3	SUBP	Subplot number	NUMBER(1)
2.9.4	SUBPTYP	Plot type code	NUMBER(1)
2.9.5	PLT_CN	Plot sequence number	VARCHAR2(34)
2.9.6	CONDID	Condition class number	NUMBER(1)
2.9.7	PREV_PLT_CN	Previous plot sequence number	VARCHAR2(34)
2.9.8	PREVCOND	Previous condition class number	NUMBER(1)
2.9.9	SUBPTYP_PROP_CHNG	Plot type proportion change	NUMBER(5,4)
2.9.10	CREATED_BY	Created by	VARCHAR2(30)
2.9.11	CREATED_DATE	Created date	DATE
2.9.12	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
2.9.13	MODIFIED_BY	Modified by	VARCHAR2(30)
2.9.14	MODIFIED_DATE	Modified date	DATE
2.9.15	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	CMX_PK
Unique	PLT_CN, PREV_PLT_CN, SUBP, SUBPTYP, CONDID, PREVCOND	N/A	CMX_UK
Foreign	PREV_PLT_CN	SUBP_COND_CHNG_MTRX to PLOT	CMX_PLT_FK
Foreign	PLT_CN	SUBP_COND_CHNG_MTRX to PLOT	CMX_PLT_FK2

This table contains information about the mix of current and previous conditions that occupy the same area on the subplot. Figure 2-1 provides an illustration of how the information in this table is derived using data from two points in time that are stored in the BOUNDARY and COND tables.

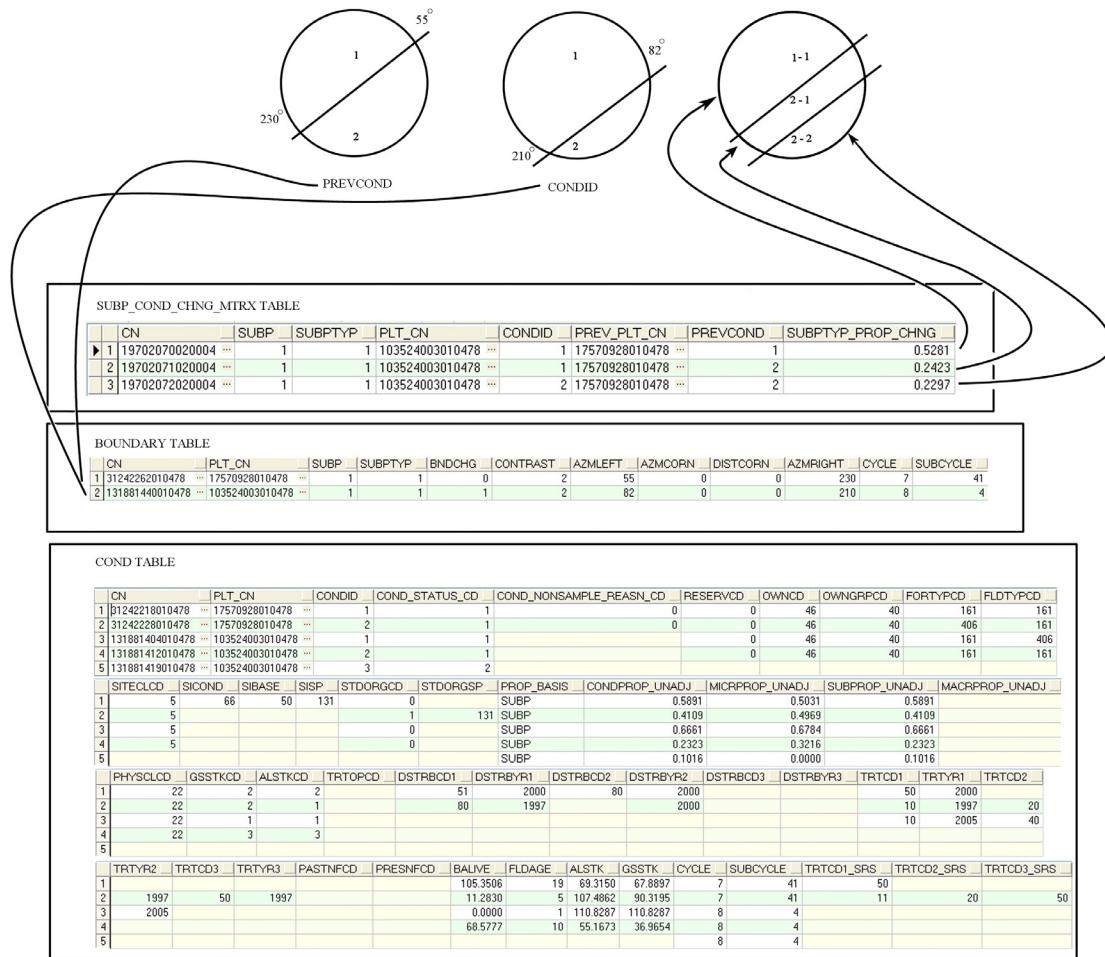


Figure 2-1: Illustration of the SUBP_COND_CHNG_MTRX table function.

2.9.1 CN

Sequence number. A unique sequence number used to identify a subplot condition change matrix record.

2.9.2 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

2.9.3 SUBP

Subplot number. The number assigned to the subplot. The national plot design (PLOT.DESIGNCD = 1) has subplot number values of 1 through 4. Other plot designs have various subplot number values.

2.9.4 SUBPTYP

Plot type code. A code indicating whether the record is for a subplot, microplot, or macroplot.

Codes: SUBPTYP

Code	Description
1	Subplot.
2	Microplot.
3	Macroplot.

2.9.5 PLT_CN

Plot sequence number. The foreign key linking the subplot condition change matrix record to the plot record for the current inventory.

2.9.6 CONDID

Condition class number. The unique identifying number assigned to a condition that exists on the subplot, and is defined in the COND table. See COND.[CONDID](#) for details on the attributes which delineate a condition.

2.9.7 PREV_PLT_CN

Previous plot sequence number. The foreign key linking the subplot condition change matrix record to the plot record from the previous inventory.

Note: If the previous plot was classified as periodic, PREV_PLT_CN will not link to the periodic record.

2.9.8 PREVCOND

Previous condition class number. Identifies the condition class number from the previous inventory.

2.9.9 SUBPTYP_PROP_CHNG

Plot type proportion change. The unadjusted proportion of the subplot that is in the same geographic area condition for both the previous and current inventory. For details, see chapter 7.7 in [The Forest Inventory and Analysis Database: Population Estimation User Guide](#)

2.9.10 CREATED_BY

Created by. See SURVEY.[CREATED_BY](#) description for definition.

2.9.11 CREATED_DATE

Created date. See SURVEY.[CREATED_DATE](#) description for definition.

2.9.12 CREATED_IN_INSTANCE

Created in instance. See SURVEY.[CREATED_IN_INSTANCE](#) description for definition.

2.9.13 MODIFIED_BY

Modified by. See SURVEY.[MODIFIED_BY](#) description for definition.

2.9.14 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

2.9.15 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

Section revision: 04.2024

Chapter 3: Database Tables - Tree Level

Chapter Contents:

Section	Database table	Oracle table name
3.1	Tree Table	TREE
3.2	Tree Woodland Stems Table	TREE_WOODLAND_STEMS
3.3	Tree Growth, Removal, and Mortality Component Table	TREE_GRM_COMPONENT
3.4	Tree Growth, Removal, and Mortality Threshold Table	TREE_GRM_THRESHOLD
3.5	Tree Growth, Removal, and Mortality Midpoint Table	TREE_GRM_MIDPT
3.6	Tree Growth, Removal, and Mortality Begin Table	TREE_GRM_BEGIN
3.7	Tree Growth, Removal, and Mortality Estimation Table	TREE_GRM_ESTN
3.8	Begin and End Table	BEGINEND
3.9	Seedling Table	SEEDLING
3.10	Site Tree Table	SITETREE

Definitions for database tables:

For further detail and examples, refer to the Overview (chapter 1).

Keys Presented with the Tables

Key type	Definition
Primary	A single column in a table whose values uniquely identify each row in an Oracle table.
Unique	Multiple columns in a table whose values uniquely identify each row in an Oracle table. There can be one and only one row for each unique key value.
Natural	A type of unique key made from existing attributes in the table. It is stored as an index in this database.
Foreign	A column in a table that is used as a link to a matching column in another Oracle table.

Oracle Data Types

Oracle data type	Definition
DATE	A data type that stores the date.
NUMBER	A data type that contains only numbers, positive or negative, with a floating-decimal point.
NUMBER(SIZE, D)	A data type that contains only numbers up to a specified maximum size. The maximum size (<i>and optional fixed-decimal point</i>) is specified by the value(s) listed in the parentheses.
VARCHAR2(SIZE)	A data type that contains alphanumeric data (numbers and/or characters) up to a specified maximum size.

3.1 Tree Table

(Oracle table name: TREE)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
3.1.1	CN	Sequence number	VARCHAR2(34)
3.1.2	PLT_CN	Plot sequence number	VARCHAR2(34)
3.1.3	PREV_TRE_CN	Previous tree sequence number	VARCHAR2(34)
3.1.4	INVYR	Inventory year	NUMBER(4)
3.1.5	STATECD	State code	NUMBER(4)
3.1.6	UNITCD	Survey unit code	NUMBER(2)
3.1.7	COUNTYCD	County code	NUMBER(3)
3.1.8	PLOT	Plot number	NUMBER(5)
3.1.9	SUBP	Subplot number	NUMBER(3)
3.1.10	TREE	Tree number	NUMBER(9)
3.1.11	CONDID	Condition class number	NUMBER(1)
3.1.12	AZIMUTH	Azimuth	NUMBER(3)
3.1.13	DIST	Horizontal distance	NUMBER(4,1)
3.1.14	PREVCOND	Previous condition class number	NUMBER(1)
3.1.15	STATUSCD	Status code	NUMBER(1)
3.1.16	SPCD	Species code	NUMBER
3.1.17	SPGRPCD	Species group code	NUMBER(2)
3.1.18	DIA	Current diameter	NUMBER(5,2)
3.1.19	DIAHTCD	Diameter height code	NUMBER(1)
3.1.20	HT	Total height	NUMBER(3)
3.1.21	HTCD	Height method code	NUMBER(2)
3.1.22	ACTUALHT	Actual height	NUMBER(3)
3.1.23	TREECLCD	Tree class code	NUMBER(2)
3.1.24	CR	Compacted crown ratio	NUMBER(3)
3.1.25	CCLCD	Crown class code	NUMBER(2)
3.1.26	TREEGRCD	Tree grade code	NUMBER(2)
3.1.27	AGENTCD	Cause of death (agent) code	NUMBER(2)
3.1.28	CULL	Rotten and missing cull	NUMBER(3)
3.1.29	DAMLOC1	Damage location 1	NUMBER(2)
3.1.30	DAMTYP1	Damage type 1	NUMBER(2)
3.1.31	DAMSEV1	Damage severity 1	NUMBER(1)
3.1.32	DAMLOC2	Damage location 2	NUMBER(2)
3.1.33	DAMTYP2	Damage type 2	NUMBER(2)
3.1.34	DAMSEV2	Damage severity 2	NUMBER(1)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
3.1.35	DECAYCD	Decay class code	NUMBER(2)
3.1.36	STOCKING	Tree stocking	NUMBER(7,4)
3.1.37	WDLDSTEM	Woodland tree species stem count	NUMBER(3)
3.1.38	VOLCFNET	Net cubic-foot stem wood volume	NUMBER(11,6)
3.1.39	VOLCFGRS	Gross cubic-foot stem wood volume	NUMBER(11,6)
3.1.40	VOLCSNET	Net cubic-foot wood volume in the sawlog portion of a sawtimber tree	NUMBER(11,6)
3.1.41	VOLCSGRS	Gross cubic-foot wood volume in the sawlog portion of a sawtimber tree	NUMBER(11,6)
3.1.42	VOLBFNET	Net board-foot wood volume in the sawlog portion of a sawtimber tree	NUMBER(11,6)
3.1.43	VOLBFGRS	Gross board-foot wood volume in the sawlog portion of a sawtimber tree	NUMBER(11,6)
3.1.44	VOLCFSND	Sound cubic-foot stem wood volume	NUMBER(11,6)
3.1.45	DIACHECK	Diameter check code	NUMBER(2)
3.1.46	MORTYR	Mortality year	NUMBER(4)
3.1.47	SALVCD	Salvable dead code	NUMBER(2)
3.1.48	UNCRCRD	Uncompacted live crown ratio	NUMBER(3)
3.1.49	CPOS_CD	Crown position code	NUMBER(2)
3.1.50	CLIGHTCD	Crown light exposure code	NUMBER(2)
3.1.51	CVIGORCD	Crown vigor code (sapling)	NUMBER(2)
3.1.52	CDENCD	Crown density code	NUMBER(3)
3.1.53	CDIEBKCD	Crown dieback code	NUMBER(3)
3.1.54	TRANSCD	Foliage transparency code	NUMBER(3)
3.1.55	TREEHISTCD	Tree history code	NUMBER(3)
3.1.56	BHAGE	Breast height age	NUMBER(4)
3.1.57	TOTAGE	Total age	NUMBER(4)
3.1.58	CULLDEAD	Dead cull	NUMBER(3)
3.1.59	CULLFORM	Form cull	NUMBER(3)
3.1.60	CULLMSTOP	Missing top cull	NUMBER(3)
3.1.61	CULLBF	Board-foot cull	NUMBER(3)
3.1.62	CULLCF	Cubic-foot cull	NUMBER(3)
3.1.63	BFSND	Board-foot-cull soundness	NUMBER(3)
3.1.64	CFSND	Cubic-foot-cull soundness	NUMBER(3)
3.1.65	SAWHT	Sawlog height	NUMBER(2)
3.1.66	BOLEHT	Bole height	NUMBER(3)
3.1.67	FORMCL	Form class	NUMBER(1)
3.1.68	HTCALC	Current height calculated	NUMBER(3)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
3.1.69	HRDWD_CLUMP_CD	Hardwood clump code	NUMBER(1)
3.1.70	SITREE	Calculated site index	NUMBER(3)
3.1.71	CREATED_BY	Created by	VARCHAR2(30)
3.1.72	CREATED_DATE	Created date	DATE
3.1.73	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
3.1.74	MODIFIED_BY	Modified by	VARCHAR2(30)
3.1.75	MODIFIED_DATE	Modified date	DATE
3.1.76	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)
3.1.77	MORTCD	Mortality code	NUMBER(1)
3.1.78	HTDMP	Height to diameter measurement point	NUMBER(3,1)
3.1.79	ROUGHCULL	Rough cull	NUMBER(2)
3.1.80	MIST_CL_CD	Mistletoe class code	NUMBER(1)
3.1.81	CULL_FLD	Rotten/missing cull, field recorded	NUMBER(2)
3.1.82	RECONCILECD	Reconcile code	NUMBER(1)
3.1.83	PREVDIA	Previous diameter	NUMBER(5,2)
3.1.84	P2A_GRM_FLG	Periodic to annual growth, removal, and mortality flag	VARCHAR2(1)
3.1.85	TREECLCD_NERS	Tree class code, Northeastern Research Station	NUMBER(2)
3.1.86	TREECLCD_SRS	Tree class code, Southern Research Station	NUMBER(2)
3.1.87	TREECLCD_NCNS	Tree class code, North Central Research Station	NUMBER(2)
3.1.88	TREECLCD_RMRS	Tree class code, Rocky Mountain Research Station	NUMBER(2)
3.1.89	STANDING_DEAD_CD	Standing dead code	NUMBER(2)
3.1.90	PREV_STATUS_CD	Previous tree status code	NUMBER(1)
3.1.91	PREV_WLDLSTEM	Previous woodland stem count	NUMBER(3)
3.1.92	TPA_UNADJ	Trees per acre unadjusted	NUMBER(11,6)
3.1.93	DRYBIO_BOLE	Dry biomass of wood in the merchantable bole	NUMBER(13,6)
3.1.94	DRYBIO_STUMP	Dry biomass of wood in the stump	NUMBER(13,6)
3.1.95	DRYBIO_BG	Belowground dry biomass	NUMBER(13,6)
3.1.96	CARBON_AG	Aboveground carbon of wood and bark	NUMBER(13,6)
3.1.97	CARBON_BG	Belowground carbon	NUMBER(13,6)
3.1.98	CYCLE	Inventory cycle number	NUMBER(2)
3.1.99	SUBCYCLE	Inventory subcycle number	NUMBER(2)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
3.1.100	BORED_CD_PNWRS	Tree bored code, Pacific Northwest Research Station	NUMBER(1)
3.1.101	DAMLOC1_PNWRS	Damage location 1, Pacific Northwest Research Station	NUMBER(2)
3.1.102	DAMLOC2_PNWRS	Damage location 2, Pacific Northwest Research Station	NUMBER(2)
3.1.103	DIACHECK_PNWRS	Diameter check, Pacific Northwest Research Station	NUMBER(1)
3.1.104	DMG_AGENT1_CD_PNWRS	Damage agent 1, Pacific Northwest Research Station	NUMBER(2)
3.1.105	DMG_AGENT2_CD_PNWRS	Damage agent 2, Pacific Northwest Research Station	NUMBER(2)
3.1.106	DMG_AGENT3_CD_PNWRS	Damage agent 3, Pacific Northwest Research Station	NUMBER(2)
3.1.107	MIST_CL_CD_PNWRS	Leafy mistletoe class code, Pacific Northwest Research Station	NUMBER(1)
3.1.108	SEVERITY1_CD_PNWRS	Damage severity 1, Pacific Northwest Research Station	NUMBER(1)
3.1.109	SEVERITY1A_CD_PNWRS	Damage severity 1A, Pacific Northwest Research Station	NUMBER(2)
3.1.110	SEVERITY1B_CD_PNWRS	Damage severity 1B, Pacific Northwest Research Station	NUMBER(1)
3.1.111	SEVERITY2_CD_PNWRS	Damage severity 2, Pacific Northwest Research Station	NUMBER(1)
3.1.112	SEVERITY2A_CD_PNWRS	Damage severity 2A, Pacific Northwest Research Station	NUMBER(2)
3.1.113	SEVERITY2B_CD_PNWRS	Damage severity 2B, Pacific Northwest Research Station	NUMBER(1)
3.1.114	SEVERITY3_CD_PNWRS	Damage severity 3, Pacific Northwest Research Station	NUMBER(1)
3.1.115	UNKNOWN_DAMTYP1_PNWRS	Unknown damage type 1, Pacific Northwest Research Station	NUMBER(1)
3.1.116	UNKNOWN_DAMTYP2_PNWRS	Unknown damage type 2, Pacific Northwest Research Station	NUMBER(1)
3.1.117	PREV_PNTN_SRS	Previous periodic prism point, tree number, Southern Research Station	NUMBER(4)
3.1.118	DISEASE_SRS	Disease, Southern Research Station	NUMBER(1)
3.1.119	DIEBACK_SEVERITY_SRS	Dieback severity, Southern Research Station	NUMBER(2)
3.1.120	DAMAGE_AGENT_CD1	Damage agent code 1	NUMBER(5)
3.1.121	DAMAGE_AGENT_CD2	Damage agent code 2	NUMBER(5)
3.1.122	DAMAGE_AGENT_CD3	Damage agent code 3	NUMBER(5)
3.1.123	CENTROID_DIA	Centroid diameter (Pacific Islands)	NUMBER(4,1)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
3.1.124	CENTROID_DIA_HT	Calculated centroid diameter height (Pacific Islands)	NUMBER(4,1)
3.1.125	CENTROID_DIA_HT_ACTUAL	Actual centroid diameter height (Pacific Islands)	NUMBER(4,1)
3.1.126	UPPER_DIA	Upper stem diameter (Pacific Islands)	NUMBER(4,1)
3.1.127	UPPER_DIA_HT	Upper stem diameter height (Pacific Islands)	NUMBER(4,1)
3.1.128	VOLCSSND	Sound cubic-foot wood volume in the sawlog portion of a sawtimber tree	NUMBER(11,6)
3.1.129	DRYBIO_SAWLOG	Dry biomass of wood in the sawlog portion of a sawtimber tree	NUMBER(13,6)
3.1.130	DAMAGE_AGENT_CD1_SRS	Damage agent code 1 (Caribbean Islands), Southern Research Station	NUMBER(5)
3.1.131	DAMAGE_AGENT_CD2_SRS	Damage agent code 2 (Caribbean Islands), Southern Research Station	NUMBER(5)
3.1.132	DAMAGE_AGENT_CD3_SRS	Damage agent code 3 (Caribbean Islands), Southern Research Station	NUMBER(5)
3.1.133	DRYBIO_AG	Aboveground dry biomass of wood and bark	NUMBER(13,6)
3.1.134	ACTUALHT_CALC	Actual height, calculated	NUMBER(3)
3.1.135	ACTUALHT_CALC_CD	Actual height, calculated, code	NUMBER(1)
3.1.136	CULL_BF_ROTTEN	Rotten/missing board-foot cull of the sawlog	NUMBER(12,9)
3.1.137	CULL_BF_ROTTEN_CD	Rotten/missing board-foot cull of the sawlog code	NUMBER(2)
3.1.138	CULL_BF_ROUGH	Rough board-foot cull of the sawlog	NUMBER(12,9)
3.1.139	CULL_BF_ROUGH_CD	Rough board-foot cull of the sawlog code	NUMBER(2)
3.1.140	PREVDIA_FLD	Previous diameter, field	NUMBER
3.1.141	TREECLCD_31_NCRS	Tree class code (version 3.1), North Central Research Station	NUMBER(1)
3.1.142	TREE_GRADE_NCRS	Tree grade, North Central Research Station	NUMBER(3)
3.1.143	BOUGHS_AVAILABLE_NCRS	Balsam fir boughs available, North Central Research Station	NUMBER(1)
3.1.144	BOUGHS_HRVST_NCRS	Balsam fir boughs harvested, North Central Research Station	NUMBER(1)
3.1.145	TREECLCD_31_NERS	Tree class code (version 3.1), Northeastern Research Station	NUMBER(1)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
3.1.146	AGENTCD_NERS	General damage / cause of death (agent) code, Northeastern Research Station	NUMBER(2)
3.1.147	BFSNDCD_NERS	Board-foot soundness code, Northeastern Research Station	NUMBER(1)
3.1.148	AGECHKCD_RMRS	Radial growth and tree age check code, Rocky Mountain Research Station	NUMBER(1)
3.1.149	PREV_ACTUALHT_RMRS	Previous actual height, Rocky Mountain Research Station	NUMBER(3)
3.1.150	PREV_AGECHKCD_RMRS	Previous radial growth and tree age check code, Rocky Mountain Research Station	NUMBER(1)
3.1.151	PREV_BHAGE_RMRS	Previous breast height age, Rocky Mountain Research Station	NUMBER(4)
3.1.152	PREV_HT_RMRS	Previous total length, Rocky Mountain Research Station	NUMBER(3)
3.1.153	PREV_TOTAGE_RMRS	Previous total age, Rocky Mountain Research Station	NUMBER(4)
3.1.154	PREV_TREECLCD_RMRS	Previous tree class code, Rocky Mountain Research Station	NUMBER(2)
3.1.155	RADAGECD_RMRS	Radial growth / age code, Rocky Mountain Research Station	NUMBER(1)
3.1.156	RADGRW_RMRS	Radial growth, Rocky Mountain Research Station	NUMBER(2)
3.1.157	VOLBSGRS	Gross board-foot wood volume in the sawlog portion of a sawtimber tree (Scribner Rule)	NUMBER(11,6)
3.1.158	VOLBSNET	Net board-foot wood volume in the sawlog portion of a sawtimber tree (Scribner Rule)	NUMBER(11,6)
3.1.159	SAPLING_FUSIFORM_SRS	Sapling fusiform, Southern Research Station	NUMBER(1)
3.1.160	EPIPHYTE_PNWRS	Epiphyte loading (Pacific Islands), Pacific Northwest Research Station	NUMBER(1)
3.1.161	ROOT_HT_PNWRS	Rooting height (Pacific Islands), Pacific Northwest Research Station	NUMBER(2)
3.1.162	CAVITY_USE_PNWRS	Cavity presence, Pacific Northwest Research Station	VARCHAR2(1)
3.1.163	CORE_LENGTH_PNWRS	Length of measured core, Pacific Northwest Research Station	NUMBER(4,1)
3.1.164	CULTURALLY_KILLED_PNWRS	Culturally killed code, Pacific Northwest Research Station	NUMBER(1)
3.1.165	DIA_EST_PNWRS	Standing dead estimated diameter, Pacific Northwest Research Station	NUMBER(4,1)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
3.1.166	GST_PNWRS	Growth sample tree, Pacific Northwest Research Station	VARCHAR2(1)
3.1.167	INC10YR_PNWRS	10-year increment, Pacific Northwest Research Station	NUMBER(3)
3.1.168	INC5YRHT_PNWRS	5-year height growth, Pacific Northwest Research Station	NUMBER(3,1)
3.1.169	INC5YR_PNWRS	5-year increment, Pacific Northwest Research Station	NUMBER(3)
3.1.170	RING_COUNT_INNER_2INCHES_PN WRS	Number of rings in inner 2 inches, Pacific Northwest Research Station	NUMBER(3)
3.1.171	RING_COUNT_PNWRS	Number of rings, Pacific Northwest Research Station	NUMBER(3)
3.1.172	SNAG_DIS_CD_PNWRS	Snag reason for disappearance code, Pacific Northwest Research Station	NUMBER(1)
3.1.173	CONEPRESCD1	Cone presence code 1	NUMBER(1)
3.1.174	CONEPRESCD2	Cone presence code 2	NUMBER(1)
3.1.175	CONEPRESCD3	Cone presence code 3	NUMBER(1)
3.1.176	MASTCD	Mast code	NUMBER(1)
3.1.177	VOLTSGRS	Gross cubic-foot total-stem wood volume	NUMBER(13,6)
3.1.178	VOLTSGRS_BARK	Gross cubic-foot total-stem bark volume	NUMBER(13,6)
3.1.179	VOLTSSND	Sound cubic-foot total-stem wood volume	NUMBER(13,6)
3.1.180	VOLTSSND_BARK	Sound cubic-foot total-stem bark volume	NUMBER(13,6)
3.1.181	VOLCFGGRS_STUMP	Gross cubic-foot stump wood volume	NUMBER(13,6)
3.1.182	VOLCFGGRS_STUMP_BARK	Gross cubic-foot stump bark volume	NUMBER(13,6)
3.1.183	VOLCF SND_STUMP	Sound cubic-foot stump wood volume	NUMBER(13,6)
3.1.184	VOLCF SND_STUMP_BARK	Sound cubic-foot stump bark volume	NUMBER(13,6)
3.1.185	VOLCFGGRS_BARK	Gross cubic-foot stem bark volume	NUMBER(13,6)
3.1.186	VOLCFGGRS_TOP	Gross cubic-foot stem-top wood volume	NUMBER(13,6)
3.1.187	VOLCFGGRS_TOP_BARK	Gross cubic-foot stem-top bark volume	NUMBER(13,6)
3.1.188	VOLCF SND_BARK	Sound cubic-foot stem bark volume	NUMBER(13,6)
3.1.189	VOLCF SND_TOP	Sound cubic-foot stem-top wood volume	NUMBER(13,6)
3.1.190	VOLCF SND_TOP_BARK	Sound cubic-foot stem-top bark volume	NUMBER(13,6)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
3.1.191	VOLCFNET_BARK	Net cubic-foot stem bark volume	NUMBER(13,6)
3.1.192	VOLCSGRS_BARK	Gross cubic-foot bark volume in the sawlog portion of a sawtimber tree	NUMBER(13,6)
3.1.193	VOLCSSND_BARK	Sound cubic-foot bark volume in the sawlog portion of a sawtimber tree	NUMBER(13,6)
3.1.194	VOLCSNET_BARK	Net cubic-foot bark volume in the sawlog portion of a sawtimber tree	NUMBER(13,6)
3.1.195	DRYBIO_STEM	Dry biomass of wood in the total stem	NUMBER(13,6)
3.1.196	DRYBIO_STEM_BARK	Dry biomass of bark in the total stem	NUMBER(13,6)
3.1.197	DRYBIO_STUMP_BARK	Dry biomass of bark in the stump	NUMBER(13,6)
3.1.198	DRYBIO_BOLE_BARK	Dry biomass of bark in the merchantable bole	NUMBER(13,6)
3.1.199	DRYBIO_BRANCH	Dry biomass of branches	NUMBER(13,6)
3.1.200	DRYBIO_FOLIAGE	Dry biomass of foliage	NUMBER(13,6)
3.1.201	DRYBIO_SAWLOG_BARK	Dry biomass of bark in the sawlog portion of a sawtimber tree	NUMBER(13,6)
3.1.202	PREV_ACTUALHT_FLD	Previous actual height	NUMBER(3)
3.1.203	PREV_HT_FLD	Previous total height	NUMBER(3)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	TRE_PK
Unique	PLT_CN, SUBP, TREE	N/A	TRE_UK
Natural	STATECD, INVYR, UNITCD, COUNTYCD, PLOT, SUBP, TREE	N/A	TRE_NAT_I
Foreign	PLT_CN	TREE to PLOT	TRE_PLT_FK

Prior to October 2006, there were two separate research stations in the North, the Northeastern Research Station (NERS) and the North Central Research Station (NCRS).

The NERS region included the following States: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Ohio, Rhode Island, Vermont, and West Virginia.

The NCRS region included the following States: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, South Dakota, and Wisconsin.

In October 2006, these two research stations were combined into one, the Northern Research Station (NRS). Following the database structure created prior to the merger, regional data collected by the NRS are currently split into NCRS and NERS columns determined by the State of data collection.

Since the merger starting at PLOT.MANUAL = 3.1, there has been only one regional field guide for all NRS States, the regional [NRS field guide](#). In the database, however, there are

attributes named MANUAL_NERS and MANUAL_NCRS. Only one of these attributes is populated; the other is blank (NULL), depending on the State of data collection.

3.1.1 CN

Sequence number. A unique sequence number used to identify a tree record.

3.1.2 PLT_CN

Plot sequence number. Foreign key linking the tree record to the plot record.

3.1.3 PREV_TRE_CN

Previous tree sequence number. Foreign key linking the tree to the previous inventory's tree record for this tree. Only populated on trees remeasured from a previous annual inventory.

3.1.4 INVYR

Inventory year. See SURVEY.[INVYR](#) description for definition.

3.1.5 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

3.1.6 UNITCD

Survey unit code. Forest Inventory and Analysis survey unit identification number. Survey units are usually groups of counties within each State. For periodic inventories, survey units may be made up of lands of particular owners. Refer to [appendix B](#) for codes.

3.1.7 COUNTYCD

County code. The identification number for a county, parish, watershed, borough, or similar governmental unit in a State. FIPS codes from the Bureau of the Census are used. Refer to [appendix B](#) for codes.

Note: Summarizing data by county is not recommended for Alaska datasets. For assistance with analyses for Alaska, please consult the PNWRS analyst contact listed in [table 1-1](#).

3.1.8 PLOT

Plot number. An identifier for a plot. Along with STATECD, INVYR, UNITCD, COUNTYCD and/or some other combinations of variables, PLOT may be used to uniquely identify a plot.

3.1.9 SUBP

Subplot number. The number assigned to the subplot. The national plot design (PLOT.DESIGNCD = 1) has subplot number values of 1 through 4. Other plot designs have various subplot number values. See PLOT.[DESIGNCD](#) and [appendix G](#) for information about plot designs. For more explanation about SUBP, contact the appropriate FIA work unit ([table 1-1](#)).

3.1.10 TREE

Tree number. A number used to uniquely identify a tree on a subplot. Tree numbers can be used to track trees when PLOT.[DESIGNCD](#) is the same between inventories.

3.1.11 CONDID

Condition class number. The unique identifying number assigned to a condition on which the tree is located, and is defined in the COND table. See COND.CONDID for details on the attributes which delineate a condition.

3.1.12 AZIMUTH

Azimuth. This attribute now available from the [FIA Spatial Data Services \(SDS\)](#) group by following the instructions provided at the following web address:
<https://www.fs.usda.gov/research/programs/fia/sds>.

3.1.13 DIST

Horizontal distance. This attribute now available from the [FIA Spatial Data Services \(SDS\)](#) group by following the instructions provided at the following web address:
<https://www.fs.usd.gov/research/programs/fia/sds>.

3.1.14 PREVCOND

Previous condition class number. This Identifies the condition within the plot on which the tree occurred at the previous inventory.

3.1.15 STATUSCD

Status code. A code indicating whether the sample tree is live, cut, or dead at the time of measurement. Includes dead and cut trees, which are required to estimate aboveground biomass and net annual volume for growth, mortality, and removals. This code is not used when querying data for change estimates.

Note: New and replacement plots use only codes 1 and 2.

Codes: STATUSCD

Code	Description
0	No status - Tree is not presently in the sample (remeasurement plots only). Tree was incorrectly tallied at the previous inventory, currently not tallied due to definition or procedural change, or is not tallied because it is located on a nonsampled condition (e.g., hazardous or denied). RECONCILECD = 5-9 required for remeasured annual inventory data but not for periodic inventory data.
1	Live tree.
2	Dead tree.
3	Removed - Cut and removed by direct human activity related to harvesting, silviculture or land clearing. This tree is assumed to be utilized.

3.1.16 SPCD

Species code. An FIA tree species code. Refer to [appendix F](#) for codes.

3.1.17 SPGRPCD

Species group code. A code assigned to each tree species to group them for reporting purposes. Codes and their associated names (see REF_SPECIES_GROUP.NAME) are shown in [appendix E](#). Refer to [appendix F](#) for individual tree species and corresponding species group codes.

3.1.18 DIA

Current diameter. The current diameter, in inches, of the sample tree at the point of diameter measurement. For timber species, diameter is measured at breast height (d.b.h.), which is usually measured at 4.5 feet above the ground line on the uphill side of the tree. For woodland species, which are often multi-stemmed, diameter is measured at the ground line or at the stem root collar (d.r.c.), whichever is higher. DIA for woodland species (DRC) is computed using the following formula:

$$\text{DRC} = \text{SQRT} [\text{SUM} (\text{stem diameter}^2)]$$

For additional information about where the tree diameter is measured, see [DIAHTCD](#) or [HTDMP](#). DIA for live trees contains the measured value. DIA for cut and dead trees presents problems associated with uncertainty of when the tree was cut or died as well as structural deterioration of dead trees. Consult individual FIA work units ([table 1-1](#)) for explanations of how DIA is collected for dead and cut trees.

3.1.19 DIAHTCD

Diameter height code. A code indicating the location at which diameter was measured. For trees with code 1 (d.b.h.), the actual measurement point may be found in [HTDMP](#).

Codes: DIAHTCD

Code	Description
1	Breast height (d.b.h.).
2	Root collar (d.r.c.).

3.1.20 HT

Total height. (*All live and standing dead tally trees ≥ 1.0 inch d.b.h./d.r.c.*) The total length (height) of a tree, in feet, from the ground to the tip of the apical meristem beginning in PLOT.[MANUAL](#) = 1.1. The total length of a tree is not always its actual length. If the main stem is broken, the actual length is measured or estimated and the missing piece is added to the actual length to estimate total length. The amount added is determined by measuring the broken piece if it can be located on the ground; otherwise it is estimated. The minimum height for timber species is 5 feet and for woodland species is 1 foot. Starting with PLOT.[MANUAL](#) = 7.0, the core minimum diameter to qualify for a standing dead tree was changed from 5.0 inches to 1.0 inch. For multi-stemmed woodland species, this attribute is based on the length of the longest stem present.

Note: Prior to PLOT.[MANUAL](#) = 7.0, this attribute was tallied as follows:

- *Core Phase 2:* ≥ 5.0 -inch d.b.h./d.r.c. live trees.
- *Core optional Phase 2:* 1.0-4.9-inch d.b.h./d.r.c. live trees and ≥ 5.0 -inch d.b.h./d.r.c. standing dead trees.
- *Core Phase 3:* ≥ 1.0 -inch d.b.h./d.r.c. live trees.
- *Core optional Phase 3:* ≥ 5.0 -inch d.b.h./d.r.c. standing dead trees.

3.1.21 HTCD

Height method code. (*All live and standing dead tally trees ≥ 1.0 inch d.b.h./d.r.c.*) A code indicating how length (height) was determined beginning in PLOT.[MANUAL](#) = 1.1. Starting

with PLOT.[MANUAL](#) = 7.0, the *core* minimum diameter to qualify for a standing dead tree was changed from 5.0 inches to 1.0 inch.

Note: Prior to PLOT.[MANUAL](#) = 7.0, this attribute was tallied as follows:

- *Core* Phase 2: ≥ 5.0 -inch d.b.h./d.r.c. live trees.
- *Core optional* Phase 2: 1.0-4.9-inch d.b.h./d.r.c. live trees and ≥ 5.0 -inch d.b.h./d.r.c. standing dead trees.
- *Core* Phase 3: ≥ 1.0 -inch d.b.h./d.r.c. live trees.
- *Core optional* Phase 3: ≥ 5.0 -inch d.b.h./d.r.c. standing dead trees.

Codes: HTCD

Code	Description
1	Field measured (total and actual length).
2	Total length visually estimated in the field, actual length measured.
3	Total and actual lengths are visually estimated.
4	Estimated with a model.

3.1.22 ACTUALHT

Actual height. (*All live and standing dead tally trees ≥ 1.0 inch d.b.h./d.r.c.*) The length (height) of the tree to the nearest foot from ground level to the highest remaining portion of the tree still present and attached to the bole. If ACTUALHT = HT, then the tree does not have a broken top. If ACTUALHT < HT, then the tree does have a broken or missing top. The minimum height for timber species is 5 feet and for woodland species is 1 foot. Starting with PLOT.[MANUAL](#) = 7.0, the *core* minimum diameter to qualify for a standing dead tree was changed from 5.0 inches to 1.0 inch.

Note: Prior to PLOT.[MANUAL](#) = 7.0, this attribute was tallied as follows:

- *Core* Phase 2: live and standing dead trees with broken tops, ≥ 5.0 inches d.b.h./d.r.c.
- *Core optional* Phase 2: live trees 1.0-4.9 inches d.b.h./d.r.c. with broken or missing tops.
- *Core* Phase 3: live trees ≥ 1.0 inch d.b.h./d.r.c. (with broken or missing tops) and standing dead trees ≥ 5.0 inches d.b.h./d.r.c. (with broken or missing tops).

3.1.23 TREECLCD

Tree class code. A code indicating the general quality of the tree. In annual inventory, this is the tree class for both live and dead trees at the time of current measurement. In periodic inventory, for cut and dead trees, this is the tree class of the tree at the time it died or was cut. Therefore, cut and dead trees collected in periodic inventory can be coded as growing-stock trees.

Codes: TREECLCD

Code	Description
2	Growing stock - All live trees of commercial species that meet minimum merchantability standards. In general, these trees have at least one solid 8-foot section, are reasonably free of form defect on the merchantable bole, and at least 34 percent or more of the volume is merchantable. For the California, Oregon, Washington, and Alaska inventories, a 26 percent or more merchantable volume standard is applied, rather than 34 percent or more. Excludes rough or rotten cull trees.
3	Rough cull - All live trees that do not now, or prospectively, have at least one solid 8-foot section, reasonably free of form defect on the merchantable bole, or have 67 percent or more of the merchantable volume cull; and more than half of this cull is due to sound dead wood cubic-foot loss or severe form defect volume loss. For the California, Oregon, Washington, and Alaska inventories, 75 percent or more cull, rather than 67 percent or more cull, applies. This class also contains all trees of noncommercial species, or those species where SPGRPCD equals 23 (woodland softwoods), 43 (eastern noncommercial hardwoods), or 48 (woodland hardwoods). Refer to appendix F to find the species that have these SPGRPCD codes. For dead trees, this code indicates that the tree is salvable (sound).
4	Rotten cull - All live trees with 67 percent or more of the merchantable volume cull, and more than half of this cull is due to rotten or missing cubic-foot volume loss. California, Oregon, Washington, and Alaska inventories use a 75 percent cutoff. For dead trees, this code indicates that the tree is nonsalvable (not sound).

3.1.24 CR

Compacted crown ratio. The percent of the tree bole supporting live, healthy foliage (the crown is ocularly compacted to fill in gaps) when compared to actual length (ACTUALHT). When PLOT.MANUAL <1.0 the variable may have been a code, which was converted to the midpoint of the ranges represented by the codes, and is stored as a percentage. May not be populated for periodic inventories.

3.1.25 CCLCD

Crown class code. A code indicating the amount of sunlight received and the crown position within the canopy.

Codes: CCLCD

Code	Description
1	Open grown - Trees with crowns that have received full light from above and from all sides throughout all or most of their life, particularly during early development.
2	Dominant - Trees with crowns extending above the general level of the canopy and receiving full light from above and partly from the sides; larger than the average trees in the stand, and with crowns well developed, but possibly somewhat crowded on the sides.
3	Codominant - Trees with crowns forming part of the general level of the canopy cover and receiving full light from above, but comparatively little from the side. Usually with medium crowns more or less crowded on the sides.
4	Intermediate - Trees shorter than those in the preceding two classes, with crowns either below or extending into the canopy formed by the dominant and codominant trees, receiving little direct light from above, and none from the sides; usually with small crowns very crowded on the sides.
5	Overtopped - Trees with crowns entirely below the general canopy level and receiving no direct light either from above or the sides.

3.1.26 TREEGRCD

Tree grade code. A code indicating the quality of sawtimber trees. This attribute is populated for live, growing-stock, sawtimber trees on subplots 1-4 where PLOT.MANUAL ≥ 1.0 for plots that are in a forest condition class. This attribute may be populated for other tree records that do not meet the above criteria. For example, it may be populated with the previous tree grade on dead and cut trees. Standards for tree grading are specific to species and differ slightly by research station. Only populated by certain FIA work units (SURVEY.RSCD = 23, 24, 33). Tree grade codes along with explanations of the codes and when they are used can be found in the [Northern regional field guide](#) (SURVEY.RSCD = 23, 24) and [Southern regional field guide](#) (SURVEY.RSCD = 33).

3.1.27 AGENTCD

Cause of death (agent) code. (*core: all remeasured plots when the tree was alive at the previous visit and at revisit is dead or removed OR the tree is standing dead in the current inventory and the tree is ingrowth, through growth, or a missed live tree; core optional: all initial plot visits when tree qualifies as a mortality tree*) When PLOT.MANUAL ≥ 1.0 , this attribute was collected on only dead and cut trees. When PLOT.MANUAL < 1.0 , this attribute was collected on all trees (live, dead, and cut). Cause of damage was recorded for live trees if the presence of damage or pathogen activity was serious enough to reduce the quality or vigor of the tree. When a tree was damaged by more than one agent, the most severe damage was coded. When no damage was observed on a live tree, 00 was recorded. Damage recorded for dead trees was the cause of death. Each FIA program records specific codes that may differ from one State to the next. These codes fall within the ranges listed below. For the specific codes used in a particular State, contact the FIA work unit responsible for that State ([table 1-1](#)).

Codes: AGENTCD

Code	Description
00	No agent recorded (only allowed on live trees in data prior to 1999).
10	Insect.
20	Disease.
30	Fire.
40	Animal.
50	Weather.
60	Vegetation (e.g., suppression, competition, vines/kudzu).
70	Unknown / not sure / other - includes death from human activity not related to silvicultural or landclearing activity (accidental, random, etc.).
80	Silvicultural or landclearing activity (death caused by harvesting or other silvicultural activity, including girdling, chaining, etc., or other landclearing activity).

3.1.28 CULL

Rotten and missing cull. The percent of the cubic-foot volume in a live or dead tally tree that is rotten or missing. This is a calculated value that is derived from the field-recorded cull estimate (see [CULL_FLD](#)) or a modeled cull estimate.

3.1.29 DAMLOC1

Damage location 1. (*core where PLOT.MANUAL = 1.0 through 1.6; core optional beginning with PLOT.MANUAL = 1.7*) A code indicating where damage (meeting or exceeding a severity threshold, as defined in the field guide) is present on the tree.

Codes: DAMLOC1

Code	Description
0	No damage.
1	Roots (exposed) and stump (up to 12 inches from ground level).
2	Roots, stump, and lower bole.
3	Lower bole (lower half of bole between stump and base of live crown).
4	Lower and upper bole.
5	Upper bole (upper half of bole between stump and base of live crown).
6	Crownstem (main stem within the live crown).
7	Branches (>1 inch diameter at junction with main stem and within the live crown).
8	Buds and shoots of current year.
9	Foliage.

3.1.30 DAMTYP1

Damage type 1. (*core where PLOT.MANUAL = 1.0 through 1.6; core optional beginning with PLOT.MANUAL = 1.7*) A code indicating the kind of damage (meeting or exceeding a severity threshold, as defined in the field guide) present. If DAMLOC1 = 0, then DAMTYP1 = blank (null).

Codes: DAMTYP1

Code	Description
01	Canker, gall.
02	Conk, fruiting body, or sign of advanced decay.
03	Open wound.
04	Resinosis or gumosis.
05	Crack or seam.
11	Broken bole or broken root within 3 feet of bole.
12	Broom on root or bole.
13	Broken or dead root further than 3 feet from bole.
20	Vines in the crown.
21	Loss of apical dominance, dead terminal.
22	Broken or dead branches.
23	Excessive branching or brooms within the live crown.
24	Damaged shoots, buds, or foliage.
25	Discoloration of foliage.
31	Other.

3.1.31 DAMSEV1

Damage severity 1. (*core where PLOT.MANUAL = 1.0 through 1.6; core optional beginning with PLOT.MANUAL = 1.7*) A code indicating how much of the tree is affected. Valid severity codes vary by damage type and damage location and must exceed a threshold value, as defined in the field guide. If DAMLOC1 = 0, then DAMSEV1 = blank (null).

Codes: DAMSEV1

Code	Description
0	01 to 09% of location affected.
1	10 to 19% of location affected.
2	20 to 29% of location affected.
3	30 to 39% of location affected.
4	40 to 49% of location affected.
5	50 to 59% of location affected.
6	60 to 69% of location affected.
7	70 to 79% of location affected.
8	80 to 89% of location affected.
9	90 to 99% of location affected.

3.1.32 DAMLOC2

Damage location 2. (*core where PLOT.MANUAL = 1.0 through 1.6; core optional beginning with PLOT.MANUAL = 1.7*) A code indicating where secondary damage (meeting or exceeding a severity threshold, as defined in the field guide) is present. Uses same codes as DAMLOC1. If DAMLOC1 = 0, then DAMLOC2 = blank (null) or 0.

3.1.33 DAMTYP2

Damage type 2. (*core where PLOT.MANUAL = 1.0 through 1.6; core optional beginning with PLOT.MANUAL = 1.7*) A code indicating the kind of secondary damage (meeting or exceeding a severity threshold, as defined in the field guide) present. Uses same codes as DAMTYP1. If DAMLOC1 = 0, then DAMTYP2 = blank (null).

3.1.34 DAMSEV2

Damage severity 2. (*core where PLOT.MANUAL = 1.0 through 1.6; core optional beginning with PLOT.MANUAL = 1.7*) A code indicating how much of the tree is affected by the secondary damage. Valid severity codes vary by damage type and damage location and must exceed a threshold value, as defined in the field guide. Uses same codes as DAMSEV1. If DAMLOC1 = 0, then DAMSEV2 = blank (null).

3.1.35 DECAYCD

Decay class code. A code indicating the stage of decay in a standing dead tree ([STANDING_DEAD_CD = 1](#)). Not populated for standing dead saplings (1.0-4.9 inches d.b.h./d.r.c.) when PLOT.MANUAL <7.0.

Codes: DECAYCD

Code	Description
1	All limbs and branches are present; the top of the crown is still present; all bark remains; sapwood is intact, with minimal decay; heartwood is sound and hard.
2	There are few limbs and no fine branches; the top may be broken; a variable amount of bark remains; sapwood is sloughing with advanced decay; heartwood is sound at base but beginning to decay in the outer part of the upper bole.
3	Only limb stubs exist; the top is broken; a variable amount of bark remains; sapwood is sloughing; heartwood has advanced decay in upper bole and is beginning at the base.
4	Few or no limb stubs remain; the top is broken; a variable amount of bark remains; sapwood is sloughing; heartwood has advanced decay at the base and is sloughing in the upper bole.
5	No evidence of branches remains; the top is broken; <20 percent of the bark remains; sapwood is gone; heartwood is sloughing throughout.

3.1.36 STOCKING

Tree stocking. The stocking value, in percent, computed for each live tree. Stocking values are computed using several specific species equations that were developed from normal yield tables and stocking charts. Resultant values are a function of diameter. The stocking of individual trees is used to calculate COND.GSSTK, COND.GSSTKCD, COND.ALSTK, and COND.ALSTKCD on the condition record.

3.1.37 WDLDSTEM

Woodland tree species stem count. The number of live and dead stems used to calculate diameter on a woodland tree. Woodland species are identified by REF_SPECIES.WOODLAND = 'Y' in the REF_SPECIES table. SFTWD_HRDWD These tree species have diameter measured at the root collar. For a stem to be counted, it must have a minimum stem size of 1 inch in diameter and 1 foot in length.

3.1.38 VOLCFNET

Net cubic-foot stem wood volume. The net cubic-foot volume of wood in the central stem of timber species (trees where diameter is measured at breast height [d.b.h.] \geq 5.0 inches d.b.h., from a 1-foot stump to a minimum 4-inch top diameter, or to where the central stem breaks into limbs all of which are <4.0 inches in diameter. Calculated for live and standing dead trees. Does not include rotten, missing, and form cull (volume loss due to rotten, missing, and form cull defect has been deducted). This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. This attribute is blank (null) for timber species with DIA <5.0 inches and for woodland species. Refer to appendix K for more information on FIA volume, biomass, and carbon estimation.

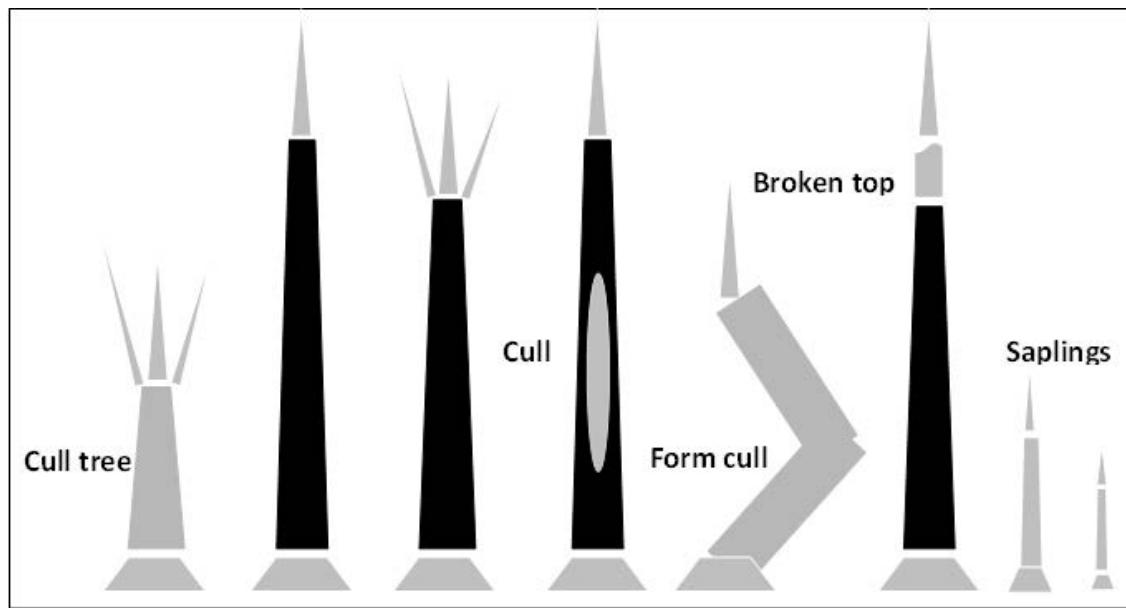


Figure 3-1: Illustration of timber species net cubic-foot stem wood volume (VOLCFNET) in black. Gray trees and gray parts are excluded. See VOLCFNET for a full description of this attribute.

3.1.39 VOLCFGRS

Gross cubic-foot stem wood volume. The total cubic-foot volume of wood in the central stem of timber species (trees where diameter is measured at breast height [d.b.h.]) ≥ 5.0 inches d.b.h., from a 1-foot stump to a minimum 4-inch top diameter, or to where the central stem breaks into limbs all of which are < 4.0 inches in diameter. Calculated for live and standing dead trees. Includes rotten, missing, and form cull (volume loss due to rotten, missing, and form cull defect has not been deducted). This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. This attribute is blank (null) for timber species with DIA < 5.0 inches and for woodland species. Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

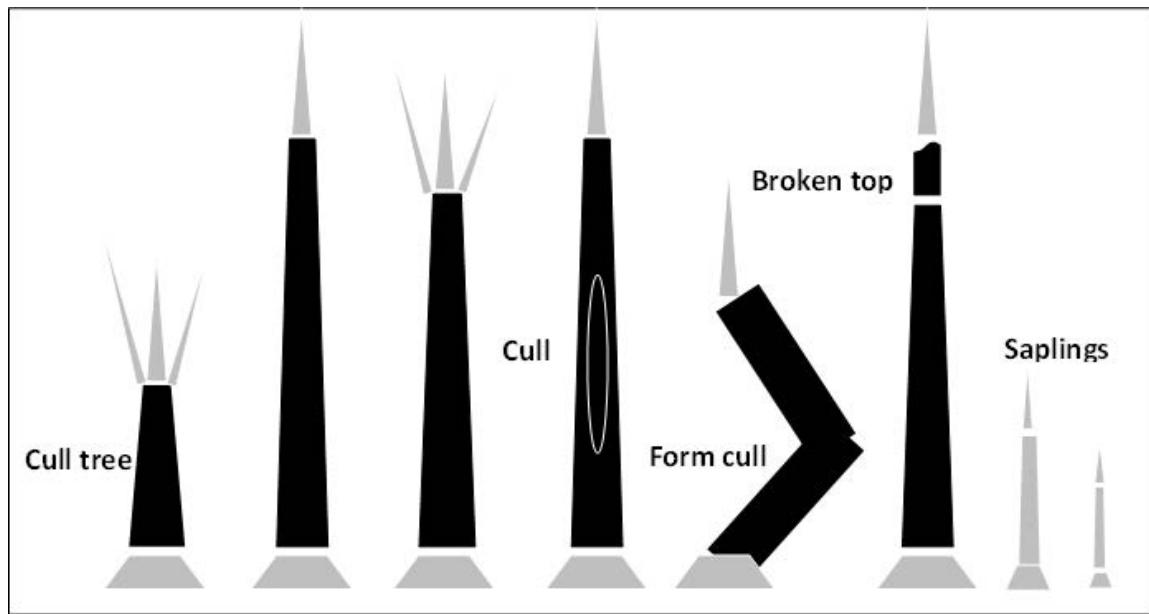


Figure 3-2: Illustration of timber species gross cubic-foot wood volume (VOLCFGRS) in black. Gray trees and gray parts are excluded. See VOLCFGRS for a full description of this attribute.

3.1.40 VOLCSNET

Net cubic-foot wood volume in the sawlog portion of a sawtimber tree. The net cubic-foot volume of wood in the central stem of a timber species tree of sawtimber size (9.0 inches d.b.h. minimum for softwoods, 11.0 inches d.b.h. minimum for hardwoods), from a 1-foot stump to a minimum top diameter, (7.0 inches for softwoods, 9.0 inches for hardwoods) or to where the central stem breaks into limbs, all of which are less than the minimum top diameter. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. This attribute is blank (null) for softwood trees with DIA <9.0 inches (<11.0 inches for hardwoods). All sawtimber-size trees have entries in this field if they are growing-stock trees (TREECLCD = 2 and STATUSCD = 1). All rough and rotten trees (TREECLCD = 3 or 4) and dead and cut trees (STATUSCD = 2 or 3) are blank (null) in this field. Form cull and rotten/missing cull are excluded. Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

3.1.41 VOLCSGRS

Gross cubic-foot wood volume in the sawlog portion of a sawtimber tree. The total cubic-foot volume of wood in the central stem of a timber species tree of sawtimber size (9.0 inches d.b.h. minimum for softwoods, 11.0 inches d.b.h. minimum for hardwoods), from a 1-foot stump to a minimum top diameter (7.0 inches for softwoods, 9.0 inches for hardwoods), or to where the central stem breaks into limbs, all of which are less than the minimum top diameter. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. This attribute is blank (null) for softwood trees with DIA <9.0 inches (<11.0 inches for hardwoods). All sawtimber-size trees have entries in this field if they are growing-stock trees (TREECLCD = 2 and STATUSCD = 1). All rough and rotten trees (TREECLCD = 3 or 4) and dead and cut trees (STATUSCD = 2 or 3) are blank (null)

in this field. Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

3.1.42 VOLBFNET

Net board-foot wood volume in the sawlog portion of a sawtimber tree. The net board-foot (International 1/4-inch Rule) volume of wood in the central stem of a timber species tree of sawtimber size (9.0 inches d.b.h. minimum for softwoods, 11.0 inches d.b.h. minimum for hardwoods), from a 1-foot stump to a minimum top diameter (7.0 inches for softwoods, 9.0 inches for hardwoods), or to where the central stem breaks into limbs all of which are less than the minimum top diameter. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per unit area information. This attribute is blank (null) for softwood trees with DIA <9.0 inches (<11.0 inches for hardwoods). All sawtimber-size trees have entries in this field if they are growing-stock trees ([TREECLCD](#) = 2 and [STATUSCD](#) = 1). All rough and rotten trees ([TREECLCD](#) = 3 or 4) and dead and cut trees ([STATUSCD](#) = 2 or 3) are blank (null) in this field. Form cull and rotten/missing cull are excluded.

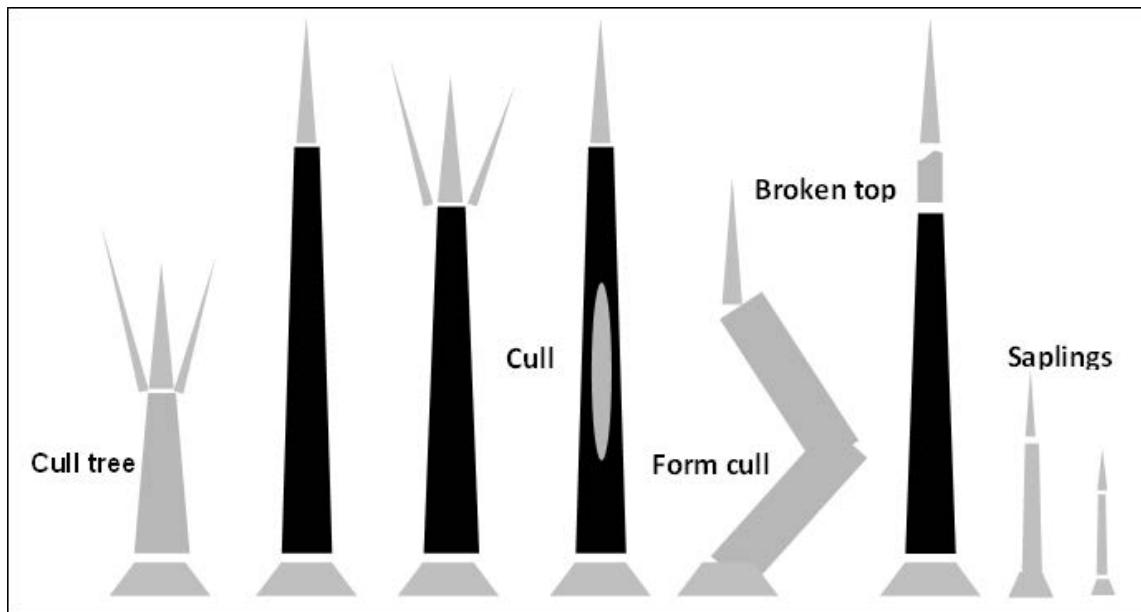


Figure 3-3: Illustration of timber species net board-foot wood volume in the sawlog portion of a sawtimber tree (VOLBFNET) in black. Gray trees and gray parts are excluded. See VOLBFNET for a full description of this attribute.

3.1.43 VOLBFGRS

Gross board-foot wood volume in the sawlog portion of a sawtimber tree. The total board-foot (International 1/4-inch Rule) volume of wood in the central stem of a timber species tree of sawtimber size (9.0 inches d.b.h. minimum for softwoods, 11.0 inches d.b.h. minimum for hardwoods), from a 1-foot stump to a minimum top diameter (7.0 inches for softwoods, 9.0 inches for hardwoods), or to where the central stem breaks into limbs all of which are less than the minimum top diameter. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per unit area information. This attribute is blank (null) for softwood trees with DIA <9.0 inches (<11.0 inches for hardwoods). All sawtimber-size trees have entries in this field if they are growing-stock trees ([TREECLCD](#)

= 2 and **STATUSCD** = 1). All rough and rotten trees (**TREECLCD** = 3 or 4) and dead and cut trees (**STATUSCD** = 2 or 3) are blank (null) in this field.

3.1.44 VOLCFSND

Sound cubic-foot stem wood volume. The sound cubic-foot volume of wood in the central stem of timber species (trees where diameter is measured at breast height [d.b.h.]) ≥ 5.0 inches d.b.h., from a 1-foot stump to a minimum 4-inch top diameter, or to where the central stem breaks into limbs all of which are < 4.0 inches in diameter. Calculated for live and standing dead trees. Does not include rotten and missing cull (volume loss due to rotten and missing cull defect has been deducted). This is a per tree value and must be multiplied by **TPA_UNADJ** to obtain per acre information. This attribute is blank (null) for timber species with DIA < 5.0 inches and for woodland species. Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

3.1.45 DIACHECK

Diameter check code. A code indicating the reliability of the diameter measurement.

Note: If both codes 1 and 2 apply, code 2 is used.

Codes: DIACHECK

Code	Description
0	Diameter accurately measured.
1	Diameter estimated.
2	Diameter measured at different location than previous measurement (remeasurement trees only).
5	Diameter modeled in the office (used with periodic inventories).

3.1.46 MORTYR

Mortality year. (*core optional*) The estimated year in which a remeasured tree died or was cut. Populated where **PLOT.MANUAL** ≥ 1.0 and populated by some FIA work units where **PLOT.MANUAL** < 1.0 .

3.1.47 SALVCD

Salvable dead code. A code indicating whether or not a standing or down dead tree is salvable based on regional standards. Contact the appropriate FIA work unit for information on how this code is assigned for a particular State ([table 1-1](#)).

Codes: SALVCD

Code	Description
0	Dead not salvable.
1	Dead salvable.

3.1.48 UNCRCD

Uncompacted live crown ratio. (*core optional Phase 2: ≥ 5.0 -inch live trees; core Phase 3: ≥ 1.0 -inch live trees*) Percentage determined by dividing the live crown length by the actual tree length. When **PLOT.MANUAL** < 3.0 the variable was a code, which was converted to the midpoint of the ranges represented by the codes, and is stored as a percentage.

3.1.49 CPOSCD

Crown position code. (*core on Phase 3 plots only*) The relative position of each tree in relation to the overstory canopy.

Codes: CPOSCD

Code	Description
1	Superstory.
2	Overstory.
3	Understory.
4	Open canopy.

3.1.50 CLIGHTCD

Crown light exposure code. (*core optional on Phase 2 plots; core on Phase 3 plots only*) A code indicating the amount of light being received by the tree crown. Collected for all live trees at least 5 inches d.b.h./d.r.c. Trees with UNCRCD <35 have a maximum CLIGHTCD of 1.

Codes: CLIGHTCD

Code	Description
0	The tree receives no direct sunlight because it is shaded by adjacent trees or other vegetation.
1	Receives full light from the top or 1 side.
2	Receives full light from the top and 1 side (or 2 sides without the top).
3	Receives full light from the top and 2 sides (or 3 sides without the top).
4	Receives full light from the top and 3 sides.
5	Receives full light from the top and 4 sides.

3.1.51 CVIGORCD

Crown vigor code (sapling). (*core optional on Phase 2 plots; core on Phase 3 plots only*) A code indicating the vigor of sapling crowns. Collected for live trees 1.0-4.9 inches d.b.h./d.r.c.

Codes: CVIGORCD

Code	Description
1	Saplings must have an uncompacted live crown ratio of 35 or higher, have <5 percent dieback (deer/rabbit browse is not considered as dieback but is considered missing foliage) and 80 percent or more of the foliage present is normal or at least 50 percent of each leaf is not damaged or missing. Twigs and branches that are dead because of normal shading are not included.

Code	Description
2	Saplings do not meet class 1 or 3 criteria. They may have any uncompacted live crown ratio, may or may not have dieback and may have between 21 and 100 percent of the foliage classified as normal.
3	Saplings may have any uncompacted live crown ratio and have 1 to 20 percent normal foliage or the percent of foliage missing combined with the percent of leaves that are over 50 percent damaged or missing should equal 80 percent or more of the live crown. Twigs and branches that are dead because of normal shading are not included. Code is also used for saplings that have no crown by definition.

3.1.52 CDENCD

Crown density code. (*core optional on Phase 2 plots; core on Phase 3 plots only*) A code indicating how dense the tree crown is, estimated in percent classes. Collected for all live trees ≥5.0 inches d.b.h./d.r.c. Crown density is the amount of crown branches, foliage, and reproductive structures that blocks light visibility through the crown.

Codes: CDENCD

Code	Description
00	0%
05	1-5%
10	6-10%
15	11-15%
20	16-20%
25	21-25%
30	26-30%
35	31-35%
40	36-40%
45	41-45%
50	46-50%
55	51-55%
60	56-60%
65	61-65%
70	66-70%
75	71-75%
80	76-80%
85	81-85%
90	86-90%
95	91-95%
99	96-100%

3.1.53 CDIEBKCD

Crown dieback code. (*core optional on Phase 2 plots; core on Phase 3 plots only*) A code indicating the amount of recent dead material in the upper and outer portion of the

crown, estimated in percent classes. Collected for all live trees ≥ 5.0 inches d.b.h./d.r.c. See [CDENCD](#) for codes.

3.1.54 TRANSCD

Foliage transparency code. (*core optional on Phase 2 plots; core on Phase 3 plots only*) A code indicating the amount of light penetrating the foliated portion of the crown, estimated in percent classes. Collected for all live trees ≥ 5.0 inches d.b.h./d.r.c. See [CDENCD](#) for codes.

3.1.55 TREEHISTCD

Tree history code. Identifies the tree with detailed information as to whether the tree is live, dead, cut, removed due to land use change, etc. Contact the appropriate FIA work unit for the definitions ([table 1-1](#)). Only populated by certain FIA work units (SURVEY.RSCD = 23, 24, 33).

3.1.56 BHAGE

Breast height age. The age of a live tree derived from counting tree rings from an increment core sample extracted at a height of 4.5 feet above ground. Breast height age is collected for a subset of trees and only for trees when the diameter is measured at breast height (d.b.h.). This data item is used to calculate classification attributes such as stand age. For PNWRS, one tree is sampled for BHAGE for each species, within each crown class, and for each condition class present on a plot. Age of saplings (<5.0 inches d.b.h.) may be aged by counting branch whorls above 4.5 feet. No timber hardwood species other than red alder are bored for age. For RMRS, one tree is sampled for each species and broad diameter class present on a plot. Only populated by certain FIA work units (SURVEY.RSCD = 22, 26) and is left blank (null) when it is not collected.

3.1.57 TOTAGE

Total age. The age of a live tree derived either from counting tree rings from an increment core sample extracted at the base of a tree where diameter is measured at root collar (d.r.c.), or for small saplings (1.0-2.9 inches d.b.h.) by counting all branch whorls, or by adding a species-dependent number of years to breast height age. Total age is collected for a subset of trees and is used to calculate classification attributes such as stand age. Only populated by certain FIA work units (SURVEY.RSCD = 22, 26) and is left blank (null) when it is not collected.

3.1.58 CULLDEAD

Dead cull. The percentage of cubic-foot volume in the merchantable bole that is cull due to sound dead material. Recorded for trees ≥ 5.0 inches d.b.h./d.r.c. The merchantable bole is from a 1-foot stump to a 4-inch top diameter outside bark (DOB). For woodland species (REF_SPECIES.WOODLAND = 'Y'), the merchantable portion is between the point of d.r.c. measurement to a 1.5-inch top DOB. For trees with broken tops, cull above the actual height (ACTUALHT) is not included. Only populated by certain FIA work units (SURVEY.RSCD = 22).

3.1.59 CULLFORM

Form cull. The percentage of cubic-foot volume in the sawlog portion that is cull due to form defect. Recorded for live timber species of sawtimber size (9.0 inches d.b.h. minimum for softwoods, 11.0 inches d.b.h. minimum for hardwoods). The sawlog portion is from a 1-foot stump to a 7.0-inch top diameter outside bark (DOB) for softwoods and a

9.0-inch top DOB for hardwoods. For trees with broken tops, cull above the actual height (ACTUALHT) is not included. This attribute is blank (null) for dead trees and woodland species (REF_SPECIES.WOODLAND = 'Y'). Only populated by certain FIA work units (SURVEY.RSCD = 22).

3.1.60 CULLMSTOP

Missing top cull. The percentage of cubic-foot volume that is cull due to a missing (broken) merchantable top. Recorded for trees ≥ 5.0 inches d.b.h./d.r.c. This estimate does not include any portion of the missing top that is < 4.0 inches diameter outside bark (DOB). Some broken-top trees have 0 percent missing top cull because no merchantable volume was lost. For woodland species (REF_SPECIES.WOODLAND = 'Y') with multiple stems, CULLMSTOP = 0 is recorded. Only populated by certain FIA work units (SURVEY.RSCD = 22).

3.1.61 CULLBF

Board-foot cull. The percent of the gross board-foot volume that is cull due to rot or form. Only populated by certain FIA work units (SURVEY.RSCD = 24).

3.1.62 CULLCF

Cubic-foot cull. The percent of the gross cubic-foot volume that is cull due to rot or form. Only populated by certain FIA work units (SURVEY.RSCD = 24).

3.1.63 BFSND

Board-foot-cull soundness. The percent of the board-foot cull that is sound (due to form). Only populated by certain FIA work units (SURVEY.RSCD = 24).

3.1.64 CFSND

Cubic-foot-cull soundness. The percent of the cubic-foot cull that is sound (due to form). Only populated by certain FIA work units (SURVEY.RSCD = 24).

3.1.65 SAWHT

Sawlog height. The length (height) of a tree, recorded to a 7-inch top (9-inch for hardwoods), where at least one 8-foot log, merchantable or not, is present. On broken topped trees, sawlog length is recorded to the point of the break. Only populated by certain FIA work units (SURVEY.RSCD = 24).

3.1.66 BOLEHT

Bole height. The length between the 1-foot stump and the 4.0-inch top diameter of outside bark (DOB), where at least one 4-foot section is present. In periodic inventories, this attribute was measured in the field. For annual inventories, this attribute is a calculated, modeled value. Only populated by certain FIA work units (SURVEY.RSCD = 24).

3.1.67 FORMCL

Form class. A code used in calculating merchantable bole net volume. Recorded for all live hardwood trees tallied that are ≥ 5.0 inch d.b.h./d.r.c. Also recorded for conifers ≥ 5.0 inch d.b.h. in Region 5 National Forests (only collected when INVYR = 2001-2009). Only populated by certain FIA work units (SURVEY.RSCD = 26).

Codes: FORMCL

Code	Description
1	First 8 feet above stump is straight.
2	First 8 feet above stump is NOT straight or forked; but there is at least one straight 8-foot log elsewhere in the tree.
3	No 8-foot logs anywhere in the tree now or in the future due to form.

3.1.68 HTCALC

Current height calculated. If the height is unmeasurable (e.g., the tree is cut or dead), the height is calculated, in feet, and stored in this attribute. Only populated by certain FIA work units (SURVEY.RSCD = 33).

3.1.69 HRDWD_CLUMP_CD

Hardwood clump code. A code sequentially assigned to each hardwood clump within each species as they are found on a subplot. Up to 9 hardwood clumps can be identified and coded within each species on each subplot. A clump is defined as having 3 or more live stems originating from a common point on the root system. Woodland hardwood species are not evaluated for clump code. Clump code data are used to adjust stocking estimates since trees growing in clumps contribute less to stocking than do individual trees. Only populated by certain FIA work units (SURVEY.RSCD = 26).

3.1.70 SITREE

Calculated site index. Computed for every tree. The site index represents the average total length, in feet, that dominant and co-dominant trees in fully-stocked, even-aged stands (of the same species as this tree) will obtain at key ages (usually 25 or 50 years). Only computed by certain FIA work units (SURVEY.RSCD = 23).

3.1.71 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

3.1.72 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

3.1.73 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

3.1.74 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

3.1.75 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

3.1.76 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

3.1.77 MORTCD

Mortality code. (*core optional*) Used for a tree that was alive within past 5 years, but has died. Not populated for standing dead trees <5.0 inches d.b.h./d.r.c. when PLOT.[MANUAL](#) <7.0.

Codes: MORTCD

Code	Description
0	Tree does not qualify as mortality.
1	Tree does qualify as mortality.

3.1.78 HTDMP

Height to diameter measurement point. This value is equal to the actual length, to the nearest 0.1 foot, from ground to the point of diameter measurement. This attribute is populated for trees ≥ 1.0 inch d.b.h., which were not measured for diameter directly at breast height (due to an abnormal swelling, branches, damage, or other at 4.5 feet above ground). This item is blank (null) for trees ≥ 1.0 inch d.b.h., where diameter was measured directly at breast height (4.5 feet above ground) and for woodland species where diameter was measured at root collar. *Core optional* when PLOT.[MANUAL](#) <8.0; *core* when PLOT.[MANUAL](#) ≥ 8.0 .

3.1.79 ROUGHCULL

Rough cull. (*core optional*) The percentage of cubic-foot volume in the merchantable bole that is cull due to sound dead material or tree form. Recorded for live trees ≥ 5.0 inches d.b.h./d.r.c. The merchantable bole is from a 1-foot stump to a 4-inch top diameter outside bark (DOB). For woodland species (REF_SPECIES.WOODLAND = 'Y'), the merchantable portion is between the point of d.r.c. measurement to a 1.5-inch top DOB, and ROUGHCULL only includes sound dead material.

Note:

- For PLOT.MANUAL <2.0, ROUGHCULL only included sound dead material (i.e., it did not include cull due to tree form).
- When SURVEY.RSCD = 26,27, only populated for live conifers, red alder, and bigleaf maple.

3.1.80 MIST_CL_CD

Mistletoe class code. (*core optional*) A rating of dwarf mistletoe infection. Recorded on all live conifer species except juniper. Using the Hawksworth (1979) six-class rating system, the live crown is divided into thirds, and each third is rated using the following scale: 0 is for no visible infection, 1 for <50 percent of branches infected, 2 for >50 percent of branches infected. The ratings for each third are summed together to yield the Hawksworth rating.

Codes: MIST_CL_CD

Code	Description
0	Hawksworth tree DMR rating of 0, no infection.
1	Hawksworth tree DMR rating of 1, light infection.
2	Hawksworth tree DMR rating of 2, light infection.

Code	Description
3	Hawksworth tree DMR rating of 3, medium infection.
4	Hawksworth tree DMR rating of 4, medium infection.
5	Hawksworth tree DMR rating of 5, heavy infection.
6	Hawksworth tree DMR rating of 6, heavy infection.

3.1.81 CULL_FLD

Rotten/missing cull, field recorded. (*core: ≥5.0-inch live trees; core optional: ≥5.0-inch standing dead trees*) The percentage rotten or missing cubic-foot cull volume, estimated to the nearest 1 percent. This estimate does not include any cull estimate above actual length; therefore volume lost from a broken top is not included (see [CULL](#) for percent cull including cull from broken top). When field crews estimate volume loss (tree cull), they only consider the cull on the merchantable bole of the tree, from a 1-foot stump to a 4-inch top diameter outside bark (DOB). For woodland species, the merchantable portion is between the point of d.r.c. measurement to a 1.5-inch top DOB.

3.1.82 RECONCILECD

Reconcile code. A code indicating the reason a tree either enters or is no longer a part of the inventory. Only recorded for remeasurement locations.

Notes:

- Starting with PLOT.[MANUAL](#) = 9.0, codes 1-2 are only valid for new trees (STATUSCD = 1, 2) on the plot and exclude trees associated with a change in procedures/definitions or previous cruiser error, as such trees are accounted for with RECONCILECD = 7 or 8. Codes 6-9 are valid for both new tally trees and remeasured trees that no longer qualify as tally.
- When PLOT.[MANUAL](#) = 7.0 through 8.0, standing dead saplings that were not included in the previous inventory were assigned RECONCILECD = 4.

Codes: RECONCILECD

Code	Description
1	Ingrowth - Either (a) a new tally tree not qualifying as through growth, or (b) a new tree on land that was formerly nonforest and now qualifies as forest land unrelated to cruiser error or procedural/definition change.
2	Through growth - New tally tree 5 inches d.b.h./d.r.c. and larger, within the microplot, which was not missed at the previous inventory (i.e., grew from seedling to at least 5.0 inches d.b.h. between plot inventory cycles - such trees were never tallied on a microplot).
3	Retired code - Starting with PLOT. MANUAL = 9.0, this code is no longer used; it is still valid for PLOT. MANUAL <9.0. <i>Missed live - a live tree missed at previous inventory and that is live or dead now. Includes currently tallied trees on previously nonsampled conditions.</i>
4	Retired code - Starting with PLOT. MANUAL = 9.0, this code is no longer used; it is still valid for PLOT. MANUAL <9.0. <i>Missed dead - a dead tree missed at previous inventory and that is dead now. Includes currently tallied trees on previously nonsampled conditions.</i>
5	Shrank - Live tree that shrunk below threshold diameter on microplot/subplot/macroplot. Must currently be alive. Only valid for remeasured trees that no longer qualify as tally (STATUSCD = 0).

Code	Description
6	Physical movement - Either (a) tree was correctly tallied in previous inventory, but has now moved beyond the radius of the plot due to natural causes (e.g., small earth movement, hurricane), or (b) tree was outside the radius of the plot previously, but has now moved within the plot due to natural causes. Tree must be either live before and still alive now or dead before and dead now. If tree was live before and now dead, this is a mortality tree and should have STATUSCD = 2 (not 0).
7	Cruiser error - Either (a) tree was erroneously tallied (added tree), or (b) tree was erroneously not tallied (missed tree) at the previous inventory.
8	Procedural change - Either (a) tree was tallied at the previous inventory, but is no longer tallied due to a definition or procedural change, or (b) tree was not tallied at the previous inventory, but is now tallied due to a definition or procedural change, regardless of d.b.h/d.r.c. at the time of the previous inventory.
9	Nonsampled area - Either (a) tree was located in a sampled condition at the previous inventory, but now is in a nonsampled condition, or (b) the area where the tree is located was previously not sampled, but now is sampled. All trees located in a nonsampled area (either now or previously) have RECONCILECD = 9.

3.1.83 PREVDIA

Previous diameter. The previous diameter, in inches, of the sample tree at the point of diameter measurement. Populated for remeasured trees.

3.1.84 P2A_GRM_FLG

Periodic to annual growth, removal, and mortality flag. A code indicating if this tree is part of a periodic inventory that is only included for the purposes of computing growth, removals and/or mortality estimates. The flag is set to 'Y' for those trees that are needed for estimation and otherwise is left blank (null).

3.1.85 TREECLCD_NERS

Tree class code, Northeastern Research Station. In annual inventory, this code represents a classification of the overall quality of a tree that is ≥ 5.0 inches d.b.h. It classifies the quality of a sawtimber tree based on the present condition, or it classifies the quality of a poletimber tree as a prospective determination (i.e., a forecast of potential quality when and if the tree becomes sawtimber size). For more detailed description, see the regional field guide located at the [NRS Data Collection](#) web page (<https://www.nrs.fs.usda.gov/fia/data-collection/>). Only populated by certain FIA work units (SURVEY.RSCD = 24).

Codes: TREECLCD_NERS

Code	Description
1	Preferred - Live tree that would be favored in cultural operations. Mature tree, that is older than the rest of the stand; has less than 20 percent total board-foot cull; is expected to live for 5 more years; and is a low risk tree. In general, the tree has the following qualifications: <ul style="list-style-type: none"> • must be free from "general" damage (i.e., damages that would now or prospectively cause a reduction of tree class, significantly deter growth, or prevent it from producing marketable products in the next 5 years). • should have no more than 10 percent board-foot cull due to form defect. • should have good vigor, usually indicated by a crown ratio of 30 percent or more and dominant or co-dominant. • usually has a grade 1 butt log.
2	Acceptable - This class includes: <ul style="list-style-type: none"> • live sawtimber tree that does not qualify as a preferred tree, but is not a cull tree (see Rough and Rotten Cull). • live poletimber tree that prospectively will not qualify as a preferred tree, but is not now or prospectively a cull tree (see Rough and Rotten Cull).
3	Rough Cull - This class includes: <ul style="list-style-type: none"> • live sawtimber tree that currently has 67 percent or more predominantly sound board-foot cull; or does not contain one merchantable 12-foot sawlog or two non-contiguous merchantable 8-foot sawlogs. • live poletimber tree that currently has 67 percent or more predominantly sound cubic-foot cull; or prospectively will have 67 percent or more predominantly sound board-foot cull; or will not contain one merchantable 12-foot sawlog or two noncontiguous merchantable 8-foot sawlogs.
4	Rotten Cull - This class includes: <ul style="list-style-type: none"> • live sawtimber tree that currently has 67 percent or more predominantly unsound board-foot cull. • live poletimber tree that currently has 67 percent or more predominantly unsound cubic-foot cull; or prospectively will have 67 percent or more predominantly unsound board-foot cull.
5	Dead - Tree that has recently died (within the last several years); but still retains many branches (including some small branches and possibly some fine twigs); and has bark that is generally tight and hard to remove from the tree.
6	Snag - Dead tree, or what remains of a dead tree, that is at least 4.5 feet tall and is missing most of its bark. This category includes a tree covered with bark that is very loose. This bark can usually be removed, often times in big strips, with very little effort. A snag is not a recently dead tree. Most often, it has been dead for several years - sometimes, for more than a decade.

3.1.86 TREECLCD_SRS

Tree class code, Southern Research Station. A code indicating the general quality of the tree. Prior to the merger of the Southern and Southeastern Research Stations (INVYR \leq 1997), a growing-stock classification (code 2) was only assigned to species that were considered to have commercial value. Since the merger (INVYR >1997), code 2 has been applied to all tree species meeting the growing-stock form, grade, size and soundness requirements, regardless of commercial value. Only populated by certain FIA work units (SURVEY.RSCD = 33).

Codes: TREECLCD_SRS

Code	Description
2	Growing-stock - All trees that have at least one 12-foot log or two 8-foot logs that meet grade and size requirements and at least 1/3 of the total board foot volume is merchantable. Poletimber-sized trees are evaluated based on their potential.
3	Rough cull - Trees that do not contain at least one 12-foot log or two 8-foot logs, or more than 1/3 of the total board foot volume is not merchantable, primarily due to roughness or poor form.
4	Rotten cull: Trees that do not contain at least one 12-foot log or two 8-foot logs, or more than 1/3 of the total board foot volume is not merchantable, primarily due to rotten, unsound wood.

3.1.87 TREECLCD_NCRS

Tree class code, North Central Research Station. In annual inventory, a code indicating tree suitability for timber products, or the extent of decay in the butt section of down-dead trees. It is recorded on live standing, standing-dead, and down dead trees that are ≥ 1.0 inch d.b.h. Tree class is basically a check for the straightness and soundness of the sawlog portion on a sawtimber tree or the potential sawlog portion on a poletimber tree or sapling. "Sawlog portion" is defined as the length between the 1-foot stump and the 9.0-inch top diameter of outside bark, DOB, for hardwoods, or the 7.0-inch top DOB for softwoods. For more detailed description, see the regional field guide located at the [NRS Data Collection](#) web page (<https://www.nrs.fs.usda.gov/fia/data-collection/>). Only populated by certain FIA work units (SURVEY.RSCD = 23).

Codes: TREECLCD_NCRS

Code	Description
20	Growing stock - Any live tree of commercial species that is sawtimber size and has at least one merchantable 12-foot sawlog or two merchantable 8-foot sawlogs meeting minimum log-grade requirements. At least one-third of the gross board-foot volume of the sawlog portion must be merchantable material. A merchantable sawlog must be at least 50 percent sound at any point. Any pole timber size tree that has the potential to meet the above specifications.
30	Rough Cull, Salvable, and Salvable-down - Includes any tree of noncommercial species, or any tree that is sawtimber size and has no merchantable sawlog. Over one-half of the volume in the sawlog portion does not meet minimum log-grade specifications due to roughness, excessive sweep or crook, splits, cracks, limbs, or forks. Rough cull pole-size trees do not have the potential to meet the specifications for growing-stock because of forks, limb stoppers, or excessive sweep or crook. A down-dead tree ≥ 5.0 -inch d.b.h. that meets these standards is given a tree/decay code of 30.

Code	Description
31	Short-log Cull - Any live sawtimber-size tree of commercial species that has at least one 8-foot sawlog, but < a 12-foot sawlog, meeting minimum log-grade specifications. Any live sawtimber-size tree of commercial species that has less than one-third of the volume of the sawlog portion in merchantable logs, but has at least one 8-foot or longer sawlog meeting minimum log-grade specifications. A short sawlog must be 50 percent sound at any point. Pole-size trees never receive a tree class code 31.
40	Rotten Cull - Any live tree of commercial species that is sawtimber size and has no merchantable sawlog. Over one-half of the volume in the sawlog portion does not meet minimum log-grade specifications primarily because of rot, missing sections, or deadwood. Classify any pole-size tree that does not have the potential to meet the specifications for growing-stock because of rot as rotten cull. Assume that all live trees will eventually attain sawlog size at d.b.h. Predicted death, tree vigor, and plot site index are not considered in determining tree class. A standing-dead tree without an 8-foot or longer section that is at least 50 percent sound has a tree class of 40. On remeasurement of a sapling, if it has died and is still standing it is given a tree class of 40.

3.1.88 TREECLCD_RMRS

Tree class code, Rocky Mountain Research Station. A code indicating the general quality of the tree. Only populated by certain FIA work units (SURVEY.RSCD = 22).

Codes: TREECLCD_RMRS

Code	Description
1	Sound-live timber species - All live timber trees (species with diameter measured at breast height) that meet minimum merchantability standards. In general, these trees have at least one solid 8-foot section, are reasonably free of form defect on the merchantable bole, and at least 34 percent or more of the volume is merchantable. Excludes rough or rotten cull timber trees.
2	All live woodland species - All live woodland trees (woodland species can be identified by REF_SPECIES.WOODLAND = 'Y'). All trees assigned to species groups 23 and 48 belong in this category (see appendix E).
3	Rough-live timber species - All live trees that do not now, or prospectively, have at least one solid 8-foot section, reasonably free of form defect on the merchantable bole, or have 67 percent or more of the merchantable volume cull; and more than half of this cull is due to sound dead wood cubic-foot loss or severe form defect volume loss.
4	Rotten-live timber species - All live trees with 67 percent or more of the merchantable volume cull, and more than half of this cull is due to rotten or missing cubic-foot volume loss.
5	Hard (salvable) dead - dead trees that have less than 67 percent of the volume cull due to rotten or missing cubic-foot volume loss.
6	Soft (nonsalvable) dead - dead trees that have 67 percent or more of the volume cull due to rotten or missing cubic-foot volume loss.

3.1.89 STANDING_DEAD_CD

Standing dead code. A code indicating if a tree qualifies as standing dead. To qualify as a standing dead tally tree, the dead tree must be ≥ 1.0 inch d.b.h., have a bole that has an unbroken actual length (ACTUALHT) ≥ 4.5 feet, and lean < 45 degrees from vertical as measured from the base of the tree to 4.5 feet. For woodland species with multiple stems,

a tree is considered down if more than 2/3 of the volume is no longer attached or upright; cut and removed volume is not considered. For woodland species with single stems to qualify as a standing dead tally tree, dead trees must be ≥ 1.0 inch d.r.c., be ≥ 1.0 foot in unbroken actual length ([ACTUALHT](#)), and lean <45 degrees from vertical.

Populated where PLOT.[MANUAL](#) ≥ 2.0 ; may be populated using information collected on dead trees in earlier inventories for dead trees.

Note: Starting with PLOT.[MANUAL](#) = 7.0, the *core* minimum diameter to qualify for a standing dead tree was changed from 5.0 inches to 1.0 inch.

Codes: STANDING_DEAD_CD

Code	Description
0	No - tree does not qualify as standing dead.
1	Yes - tree does qualify as standing dead.

3.1.90 PREV_STATUS_CD

Previous tree status code. Tree status that was recorded at the previous inventory on all tally trees ≥ 1.0 inch d.b.h./d.r.c. Includes all new standing dead trees ([STATUSCD](#) = 2, [STANDING_DEAD_CD](#) = 1, [RECONCILECD](#) >0).

Codes: PREV_STATUS_CD

Code	Description
1	Live tree - live tree at the previous inventory.
2	Dead tree - standing dead at the previous inventory.

3.1.91 PREV_WDLDSTEM

Previous woodland stem count. Woodland tree species stem count that was recorded at the previous inventory.

3.1.92 TPA_UNADJ

Trees per acre unadjusted. The number of trees per acre that the sample tree theoretically represents based on the sample design. For fixed-radius plots taken with the mapped plot design (PLOT.[DESIGNCD](#) = 1), TPA_UNADJ is set to a constant derived from the plot size and equals 6.018046 for trees sampled on subplots, 74.965282 for trees sampled on microplots, and 0.999188 for trees sampled on macroplots. Variable-radius plots were often used in earlier inventories, so the value in TPA_UNADJ decreases as the tree diameter increases. Based on the procedures described in Bechtold and Patterson (2005), this attribute must be adjusted using factors stored in the POP_STRATUM table to derive population estimates. Examples of estimating population totals are shown in [The Forest Inventory and Analysis Database: Population Estimation User Guide](#).

3.1.93 DRYBIO_BOLE

Dry biomass of wood in the merchantable bole. The oven-dry biomass, in pounds, of wood in the merchantable bole of timber species (trees where diameter is measured at breast height [d.b.h.]) ≥ 5.0 inches d.b.h., from a 1-foot stump to a minimum 4-inch top diameter. Calculated for live and standing dead trees. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. This attribute is blank (null) for

timber species with DIA <5.0 inches and for woodland species. Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

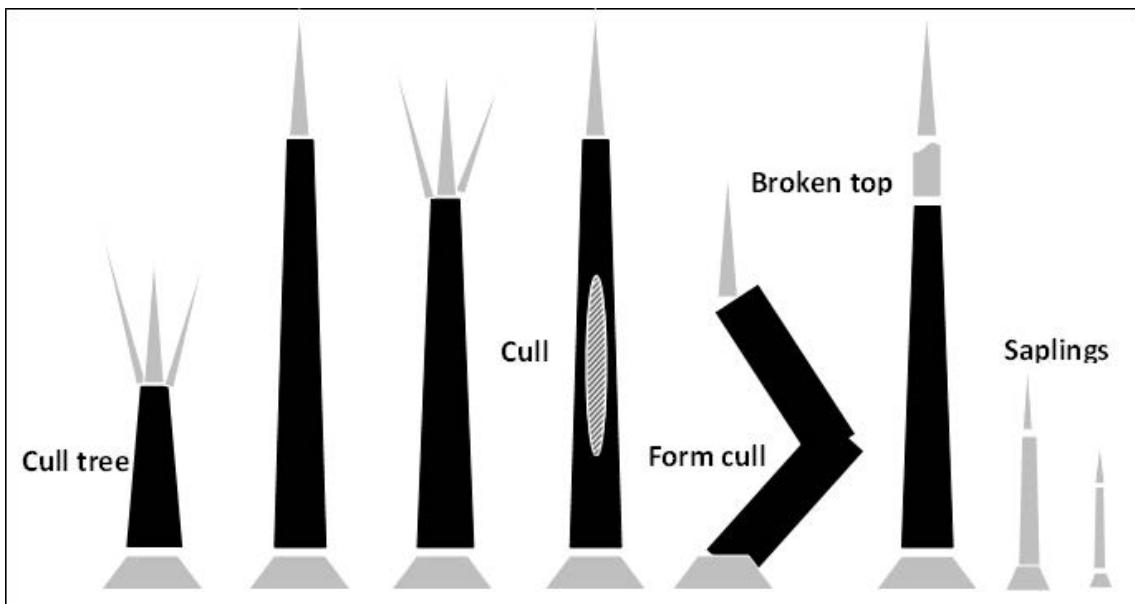


Figure 3-4: Illustration of timber species dry biomass of wood in the merchantable bole biomass (DRYBIO_BOLE) in black. Gray trees and gray parts are excluded. wood biomass is proportionally reduced to account for cull; the cull wood, represented by the cross-hatched area in the figure, has lost some of its structural integrity and therefore its mass. See DRYBIO_BOLE for a full description of this attribute.

3.1.94 DRYBIO_STUMP

Dry biomass of wood in the stump. The oven-dry biomass, in pounds, of wood in the stump of timber species (trees where diameter is measured at breast height [d.b.h.]) ≥ 5.0 inches d.b.h. The stump is that portion of the tree from the ground line to the bottom of the merchantable bole (i.e., below 1 foot). Calculated for live and standing dead trees. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. This attribute is blank (null) for timber species with DIA <5.0 inches and for woodland species. Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

3.1.95 DRYBIO_BG

Belowground dry biomass. The oven-dry biomass, in pounds, of the belowground portion of a tree, including coarse roots with a root diameter ≥ 0.1 inch. This is a modeled estimate, calculated for live and standing dead trees ≥ 1.0 inch d.b.h./d.r.c. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

Note: Not populated for standing dead saplings (1.0-4.9 inches d.b.h./d.r.c.) when PLOT.[MANUAL](#) <7.0.

3.1.96 CARBON_AG

Aboveground carbon of wood and bark. The carbon, in pounds, of wood and bark in the aboveground portion, excluding foliage, of live and standing dead trees ≥ 1.0 inch

d.b.h./d.r.c. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. The amount of carbon is calculated based on applying species-specific carbon fractions to the aboveground biomass:

$$\text{CARBON_AG} = \text{REF_SPECIES.CARBON_RATIO_LIVE} * \text{DRYBIO_AG}$$

This attribute is populated for all tree species tallied in the continental U.S. as well as both the Caribbean and Pacific Islands, including Hawaii (refer to the FIA Master Tree Species List, available at the following web address:

<https://www.fia.fs.usda.gov/library/field-guides-methods-proc/>). Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

Note: Not populated for standing dead saplings (1.0-4.9 inches d.b.h./d.r.c.) when PLOT.[MANUAL](#) <7.0.

3.1.97 CARBON_BG

Belowground carbon. The carbon, in pounds, of the belowground portion of a tree, including coarse roots with a root diameter ≥ 0.1 inch. Calculated for live and standing dead trees ≥ 1.0 inch d.b.h./d.r.c. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. The amount of carbon is calculated based on applying species-specific carbon fractions to the belowground biomass:

$$\text{CARBON_BG} = \text{REF_SPECIES.CARBON_RATIO_LIVE} * \text{DRYBIO_BG}$$

Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

Note: Not populated for standing dead saplings (1.0-4.9 inches d.b.h./d.r.c.) when PLOT.[MANUAL](#) <7.0.

3.1.98 CYCLE

Inventory cycle number. See SURVEY.[CYCLE](#) description for definition.

3.1.99 SUBCYCLE

Inventory subcycle number. See SURVEY.[SUBCYCLE](#) description for definition.

3.1.100 BORED_CD_PNWRS

Tree bored code, Pacific Northwest Research Station. Used in conjunction with tree age (BHAGE and TOTAGE). Only populated by certain FIA work units (SURVEY.[RSCD](#) = 26).

Codes: BORED_CD_PNWRS

Code	Description
1	Trees bored or 'whorl counted' at the current inventory.
2	Tree age derived from a previous inventory.
3	Tree age was extrapolated.

3.1.101 DAMLOC1_PNWRS

Damage location 1, Pacific Northwest Research Station. The location on the tree where Damage Agent 1 is found. Only populated by certain FIA work units (SURVEY.[RSCD](#) = 26).

Codes: DAMLOC1_PNWRS

Code	Location	Definition
0	-	No damage found.
1	Roots	Above ground up to 12 inches on bole.
2	Bole	Main stem(s) starting at 12 inches above the ground, including forks up to a 4 inch top. (A fork is at least equal to 1/3 diameter of the bole, and occurs at an angle <45 degrees in relation to the bole.) This is not a valid location code for woodland species; use only locations 1, 3, and 4. For saplings, bole includes the main stem starting at ground level and extends to the top of the leader.
3	Branch	All other woody material. Primary branch(es) occur at an angle ≥45 degrees in relation to the bole. For saplings, a branch is all branches (not any part of the bole).
4	Foliage	All leaves, buds, and shoots.

3.1.102 DAMLOC2_PNWRS

Damage location 2, Pacific Northwest Research Station. See [DAMLOC1_PNWRS](#). Only populated by certain FIA work units (SURVEY.RSCD = 26).

3.1.103 DIACHECK_PNWRS

Diameter check, Pacific Northwest Research Station. A separate estimate of the diameter without the obstruction if the diameter was estimated because of moss/vine/obstruction, etc. Only populated by certain FIA work units (SURVEY.RSCD = 26).

Codes: DIACHECK_PNWRS

Code	Description
5	Diameter estimated because of moss.
6	Diameter estimated because of vines.
7	Diameter estimated (double nail diameter).

3.1.104 DMG_AGENT1_CD_PNWRS

Damage agent 1, Pacific Northwest Research Station. Primary damage agent code in PNWRS. Up to three damaging agents can be coded in PNWRS as DMG_AGENT1_CD_PNWRS, DMG_AGENT2_CD_PNWRS, and DMG_AGENT3_CD_PNWRS. A 2-digit code (with values from 01 to 99) indicating the tree damaging agent that is considered to be of greatest importance to predict tree growth, survival, and forest composition and structure. Additionally, there are two classes of damaging agents. Class I damage agents are considered more important than class II agents and are thus coded as a primary agent before the class II agents. For more information, see [appendix I](#). Only populated by certain FIA work units (SURVEY.RSCD = 26).

3.1.105 DMG_AGENT2_CD_PNWRS

Damage agent 2, Pacific Northwest Research Station. See [DMG_AGENT1_CD_PNWRS](#). Only populated by certain FIA work units (SURVEY.RSCD = 26).

3.1.106 DMG_AGENT3_CD_PNWRS

Damage agent 3, Pacific Northwest Research Station. See [DMG_AGENT1_CD_PNWRS](#). Only populated by certain FIA work units (SURVEY.RSCD = 26).

3.1.107 MIST_CL_CD_PNWRS

Leafy mistletoe class code, Pacific Northwest Research Station. All juniper species, incense cedars, white fir (CA only) and oak trees are rated for leafy mistletoe infection. This item is used to describe the extent and severity of leafy mistletoe infection (see [MIST_CL_CD](#) for dwarf mistletoe information). Only populated by certain FIA work units (SURVEY.RSCD = 26).

Codes: MIST_CL_CD_PNWRS

Code	Description
0	None.
7	<50 percent of crown infected.
8	≥50 percent of crown infected or any occurrence on the bole.

3.1.108 SEVERITY1_CD_PNWRS

Damage severity 1, Pacific Northwest Research Station. Damage severity depends on the damage agent coded (see [appendix I](#) for codes). This is a 2-digit code that indicates either percent of location damaged (01-99), or the appropriate class of damage (values vary from 0-9 depending on the specific Damage Agent). Only populated by certain FIA work units (SURVEY.RSCD = 26).

3.1.109 SEVERITY1A_CD_PNWRS

Damage severity 1A, Pacific Northwest Research Station. Damage severity depends on the damage agent coded (see [appendix I](#) for codes). This is a 2-digit code indicating either percent of location damaged (01-99), or the appropriate class of damage (values vary from 0-4 depending on the specific Damage Agent). Only populated by certain FIA work units (SURVEY.RSCD = 26).

3.1.110 SEVERITY1B_CD_PNWRS

Damage severity 1B, Pacific Northwest Research Station. Damage severity B is only coded when the Damage Agent is white pine blister rust (36). Only populated by certain FIA work units (SURVEY.RSCD= 26).

Codes: SEVERITY1B_CD_PNWRS

Code	Description
1	Branch infections located more than 2.0 feet from tree bole.
2	Branch infections located 0.5 to 2.0 feet from tree bole.
3	Branch infection located within 0.5 feet of tree bole OR tree bole infection present.

3.1.111 SEVERITY2_CD_PNWRS

Damage severity 2, Pacific Northwest Research Station. Damage severity depends on the damage agent coded (see [appendix I](#) for codes). This is a 2-digit code indicating either percent of location damaged (01-99), or the appropriate class of damage (values vary

from 0-9 depending on the specific Damage Agent). Only populated by certain FIA work units (SURVEY.RSCD = 26).

3.1.112 SEVERITY2A_CD_PNWRS

Damage severity 2A, Pacific Northwest Research Station. See [SEVERITY1A_CD_PNWRS](#). Only populated by certain FIA work units (SURVEY.RSCD = 26).

3.1.113 SEVERITY2B_CD_PNWRS

Damage severity 2B, Pacific Northwest Research Station. See [SEVERITY1B_CD_PNWRS](#). Only populated by certain FIA work units (SURVEY.RSCD = 26).

3.1.114 SEVERITY3_CD_PNWRS

Damage severity 3, Pacific Northwest Research Station. Damage severity depends on the damage agent coded (see [appendix I](#) for codes). This is a 2-digit code indicating either percent of location damaged (01-99), or the appropriate class of damage (values vary from 0-9 depending on the specific Damage Agent). Only populated by certain FIA work units (SURVEY.RSCD = 26).

3.1.115 UNKNOWN_DAMTYP1_PNWRS

Unknown damage type 1, Pacific Northwest Research Station. A code indicating the sign or symptom recorded when UNKNOWN damage code 90 is used. Only populated by certain FIA work units (SURVEY.RSCD = 26).

Codes: UNKNOWN_DAMTYP1_PNWRS

Code	Description
1	Canker/gall.
2	Open wound.
3	Resinosis.
4	Broken.
5	Damaged or discolored foliage.
6	Other.

3.1.116 UNKNOWN_DAMTYP2_PNWRS

Unknown damage type 2, Pacific Northwest Research Station. See [UNKNOWN_DAMTYP1_PNWRS](#). Only populated by certain FIA work units (SURVEY.RSCD = 26).

3.1.117 PREV_PNTN_SRS

Previous periodic prism point, tree number, Southern Research Station. In some older Southeast Experiment Station States, the prism point, tree number (PNTN) of the current cycle did not match the previous cycle's prism point, tree number. PREV_PNTN_SRS is used to join the current and the previous prism plot trees. Not populated for the [Caribbean Islands](#).

3.1.118 DISEASE_SRS

Disease, Southern Research Station. A code indicating the incidence of fusiform, comandra rust or dieback. Dieback is only recorded for live hardwood trees where DIA ≥ 5.0 inches with at least 10 percent dieback. Fusiform and comandra rust are only

recorded for live pine trees ≥ 5.0 inches d.b.h. with the following species codes: 110, 111, 121, 126, 128, or 131. Populated for all forested plots using the National Field Guide protocols (PLOT.MANUAL = 1.6-5.1). Only populated by certain FIA work units (SURVEY.RSCD = 33).

Codes: DISEASE_SRS

Code	Description
0	None.
1	Fusiform/Comandra rust on species codes 110, 111, 121, 126, 128, and 131, based on any incidence of cankers within 12 inches of the stem.
2	Hardwood dieback of 10% or more of the crown area. Not recorded on overtopped trees.

3.1.119 DIEBACK_SEVERITY_SRS

Dieback severity, Southern Research Station. A code indicating the severity of hardwood crown dieback. Populated when DISEASE_SRS = 2. Populated for all forested plots using the National Field Guide protocols (PLOT.MANUAL = 1.6-5.1). Only populated by certain FIA work units (SURVEY.RSCD = 33).

Codes: DIEBACK_SEVERITY_SRS

Code	Description
1	10-19% of crown affected.
2	20-29% of crown affected.
3	30-39% of crown affected.
4	40-49% of crown affected.
5	50-59% of crown affected.
6	60-69% of crown affected.
7	70-79% of crown affected.
8	80-89% of crown affected.
9	90-99% of crown affected.

3.1.120 DAMAGE_AGENT_CD1

Damage agent code 1. (*core: all live tally trees ≥ 5.0 inches d.b.h./d.r.c; core optional: all live tally trees ≥ 1.0 inch d.b.h./d.r.c.*) A code indicating the first damage agent recorded by the field crew when inspecting the tree from bottom to top (roots, bole, branches, foliage). Up to three damage agents can be recorded per tree (DAMAGE_AGENT_CD1, DAMAGE_AGENT_CD2, and DAMAGE_AGENT_CD3). Damage agents are not necessarily recorded in order of severity. The codes used for damage agents come from the January 2012 Pest Trend Impact Plot System (PTIPS) list from the Forest Health Assessment and Applied Sciences Team (FHAAT) that has been modified to meet FIA's needs. The list is modified by each region to meet the specific needs of that region. The general agent codes are listed here. See [appendix H](#) for the complete list of codes.

Codes: DAMAGE_AGENT_CD1

Code	General Agent	Damage Threshold*	Descriptions
0	-	No damage.	-
10000	General insects.	Any damage to the terminal leader; damage $\geq 20\%$ of the roots or boles with $>20\%$ of the circumference affected; damage $>20\%$ of the multiple-stems (on multi-stemmed woodland species) with $>20\%$ of the circumference affected; $>20\%$ of the branches affected; damage $\geq 20\%$ of the foliage with $\geq 50\%$ of the leaf/needle affected.	Insect damage that cannot be placed in any of the following insect categories.
11000	Bark beetles.	Any evidence of a successful attack (successful attacks generally exhibit boring dust, many pitch tubes and/or fading crowns).	Bark beetles (<i>Dendroctonus</i> , <i>Ips</i> , and other genera) are phloem-feeding insects that bore through the bark and create extensive galleries between the bark and the wood. Symptoms of beetle damage include fading or discolored tree crown (yellow or red), pitch tubes or pitch streaks on the bark, extensive egg galleries in the phloem, boring dust in the bark crevices or at the base of the tree. Bark chipping by woodpeckers may be conspicuous. They inflict damage or destroy all parts of trees at all stages of growth by boring in the bark, inner bark, and phloem. Visible signs of attack include pitch tubes or large pitch masses on the tree, dust and frass on the bark and ground, and resin streaming. Internal tunneling has various patterns. Most have tunnels of uniform width with smaller galleries of variable width radiating from them. Galleries may or may not be packed with fine boring dust.
12000	Defoliators.	Any damage to the terminal leader; damage $\geq 20\%$ of the foliage with $\geq 50\%$ of the leaf/needle affected.	These are foliage-feeding insects that may reduce growth and weaken the tree causing it to be more susceptible to other damaging agents. General symptoms of defoliation damage include large amounts of missing foliage, browning foliage, extensive branch mortality, or dead tree tops.
13000	Chewing insects. Note: This is only collected by RMRS and SRS.	Any damage to the terminal leader; damage $\geq 20\%$ of the foliage with $\geq 50\%$ of the leaf/needle affected.	Insects, like grasshoppers and cicadas that chew on trees (those insects not covered by defoliators in code 12000).

Code	General Agent	Damage Threshold*	Descriptions
14000	Sucking insects.	Any damage to the terminal leader; damage $\geq 20\%$ of the foliage with $\geq 50\%$ of the leaf/needle affected.	Adelgids, scales and aphids feed on all parts of the tree. Often they cause galling on branches and trunks. Some appear benign but enable fungi to invade where they otherwise could not (e.g., beech bark disease). The most important ones become conspicuous because of the mass of white, cottony wax that conceals eggs and young nymphs.
15000	Boring insects.	Any damage to the terminal leader; damage $\geq 20\%$ of the roots, stems, or branches.	Most wood boring insects attack only severely declining and dead trees. Certain wood boring insects cause significant damage to trees, especially the exotic Asian longhorn beetle, emerald ash borer, and Sirex wood wasp. Bark beetles have both larval and adult galleries in the phloem and adjacent surface of the wood. Wood borers have galleries caused only by larval feeding. Some, such as the genus <i>Agrilus</i> (including the emerald ash borer) have galleries only in the phloem and surface of the wood. Other wood borers, such as Asian longhorn beetle bore directly into the phloem and wood. Sirex adults oviposit their eggs through the bark, and developing larvae bore directly into the wood of pines.
19000	General diseases.	Any damage to the terminal leader; damage $\geq 20\%$ of the roots or boles with $>20\%$ of the circumference affected; damage $>20\%$ of the multiple-stems (on multi-stemmed woodland species) with $>20\%$ of the circumference affected; $>20\%$ of the branches affected; damage $\geq 20\%$ of the foliage with $\geq 50\%$ of the leaf/needle affected.	Diseases that cannot be placed in any of the following disease categories.

Code	General Agent	Damage Threshold*	Descriptions
21000	Root/butt diseases.	Any occurrence.	<p>Root disease kills all or a portion of a tree's roots. Quite often, the pathogenic fungus girdles the tree at the root collar. Tree damage includes mortality (often occurring in groups or "centers"), reduced tree growth, and increased susceptibility to other agents (especially bark beetles). General symptoms include resin at the root collar, thin, chlorotic (faded) foliage, and decay of roots. A rot is a wood decay caused by fungi. Rots are characterized by a progression of symptoms in the affected wood. First, the wood stains and discolors, then it begins to lose its structural strength, and finally the wood starts to break down, forming cavities in the stem. Even early stages of wood decay can cause cull due to losses in wood strength and staining of the wood. Rot can lead to mortality, cull, an increased susceptibility to other agents (such as insects), wind throw, and stem breakage.</p>

Code	General Agent	Damage Threshold*	Descriptions
22000	Cankers (non-rust).	Any occurrence.	<p>A canker -- a sunken lesion on the stem caused by the death of cambium -- may cause tree breakage or kill the portion of the tree above the canker. Cankers may be caused by various agents but are most often caused by fungi. A necrotic lesion begins in the bark of branches, trunk or roots, and progresses inward killing the cambium and underlying cells. The causal agent may or may not penetrate the wood. This results in areas of dead tissue that become deeper and wider.</p> <p>There are two types of cankers, annual and perennial. Annual cankers enlarge only once and do so within an interval briefer than the growth cycle of the tree, usually less than one year. Little or no callus is associated with annual cankers, and they may be difficult to distinguish from mechanical injuries. Perennial cankers are usually the more serious of the two, and grow from year to year with callus forming each year on the canker margin, often resulting in a target shape. The most serious non-rust cankers occur on hardwoods, although branch mortality often occurs on conifers.</p>
22500	Stem decays.	Any visual evidence (conks; fruiting bodies; rotten wood).	Rot occurring in the bole/stems of trees above the roots and stump.
23000	Parasitic / Epiphytic plants.	Dwarf mistletoes with Hawksworth rating of ≥ 3 ; true mistletoes and vines covering $\geq 50\%$ of crown.	Parasitic and epiphytic plants can cause damage to trees in a variety of ways. The most serious ones are dwarf mistletoes, which reduce growth and can cause severe deformities. Vines may damage trees by strangulation, shading, or physical damage. Benign epiphytes, such as lichens or mosses, are not considered damaging agents.
24000	Decline Complexes/ Dieback/Wilts.	Damage $\geq 20\%$ dieback of crown area.	Tree disease which results not from a single causal agent but from an interacting set of factors. Terms that denote the symptom syndrome, such as dieback and wilt, are commonly used to identify these diseases.
25000	Foliage diseases.	Damage $\geq 20\%$ of the foliage with $\geq 50\%$ of the leaf/needle affected.	Foliage diseases are caused by fungi and result in needle shed, growth loss, and, potentially, tree mortality. This category includes needle casts, blights, and needle rusts.

Code	General Agent	Damage Threshold*	Descriptions
26000	Stem rusts.	Any occurrence on the bole or stems (on multi-stemmed woodland species), or on branches \leq 1 foot from boles or stems; damage to \geq 20% of branches.	A stem rust is a disease caused by fungi that kill or deform all or a portion of the stem or branches of a tree. Stem rusts are obligate parasites and host specialization is very common. They infect and develop on fast-growing tissues and cause accelerated growth of infected tissues resulting in galls or cankers. Heavy resinosis is usually associated with infections. Sometimes yellow or reddish-orange spores are present giving a "rusty" appearance. Damage occurs when the disease attacks the cambium of the host, girdling and eventually killing the stem above the attack. Symptoms of rusts include galls (an abnormal and pronounced swelling or deformation of plant tissue that forms on branches or stems) and cankers (a sunken lesion on the stem caused by death of the cambium which often results in the death of tree tops and branches).
27000	Broom rusts.	\geq 50% of crown area affected.	Broom rust is a disease caused by fungi that kill or deform all or a portion of the branches of a tree. Broom rusts are obligate parasites and host specialization is very common. They infect and develop on fast-growing tissues and cause accelerated growth of infected tissues resulting in galls. Symptoms of rusts include galls, an abnormal and pronounced swelling or deformation of plant tissue that forms on branches or stems.
30000	Fire.	Damage \geq 20% of bole circumference; $>$ 20% of stems on multi-stemmed woodland species affected; \geq 20% of crown affected.	Fire damage may be temporary, such as scorched foliage, or may be permanent, such as in cases where cambium is killed around some portion of the bole. The location and amount of fire damage will determine how the damage may affect the growth and survival of the tree. Fire often causes physiological stress, which may predispose the tree to attack by insects of other damaging agents.

Code	General Agent	Damage Threshold*	Descriptions
41000	Wild animals.	Any damage to the terminal leader; damage $\geq 20\%$ of the roots or boles with $>20\%$ of the circumference affected; damage $>20\%$ of the multiple-stems (on multi-stemmed woodland species) with $>20\%$ of the circumference affected; $>20\%$ of the branches affected; damage $\geq 20\%$ of the foliage with $\geq 50\%$ of the leaf/needle affected.	Wild animals from birds to large mammals cause open wounds. Some common types of damage include: sapsucker bird peck, deer rub, bear clawing, porcupine feeding, and beaver gnawing.
42000	Domestic animals.	Any damage to the terminal leader; damage $\geq 20\%$ of the roots or boles with $>20\%$ of the circumference affected; damage $>20\%$ of the multiple-stems (on multi-stemmed woodland species) with $>20\%$ of the circumference affected; $>20\%$ of the branches affected; damage $\geq 20\%$ of the foliage with $\geq 50\%$ of the leaf/needle affected.	Open wounds caused by cattle and horses occur on the roots and lower trunk. Soil compaction from the long term presence of these animals in a woodlot can also cause indirect damage.
50000	Abiotic.	Any damage to the terminal leader; damage $\geq 20\%$ of the roots or boles with $>20\%$ of the circumference affected; damage $>20\%$ of the multiple-stems (on multi-stemmed woodland species) with $>20\%$ of the circumference affected; $>20\%$ of the branches affected; damage $\geq 20\%$ of the foliage with $\geq 50\%$ of the leaf/needle affected.	Abiotic damages are those that are not caused by other organisms. In some cases, the type and severity of damage may be similar for different types of agents (e.g., broken branches from wind, snow, or ice).
60000	Competition.	Overtopped shade-intolerant trees that are not expected to survive for 5 years or saplings not expected to reach tree size (5.0 inches d.b.h./d.r.c.).	Suppression of overtapped shade-intolerant species. Trees that are not expected to survive for 5 years or saplings not expected to reach tree size (5.0 inches d.b.h./d.r.c.).
70000	Human activities.	Any damage to the terminal leader; damage $\geq 20\%$ of the roots or boles with $>20\%$ of the circumference affected; damage $>20\%$ of the multiple-stems (on multi-stemmed woodland species) with $>20\%$ of the circumference affected; $>20\%$ of the branches affected; damage $\geq 20\%$ of the foliage with $\geq 50\%$ of the leaf/needle affected.	People can injure trees in a variety of ways, from poor pruning, to vandalism, to logging injury. Signs include open wounds or foreign embedded objects.

Code	General Agent	Damage Threshold*	Descriptions
71000	Harvest.	Removal of $\geq 10\%$ of cubic volume.	Only recorded for woodland species trees that have partial cutting.
90000	Other damage.	Any damage to the terminal leader; damage $\geq 20\%$ of the roots or boles with $>20\%$ of the circumference affected; damage $>20\%$ of the multiple-stems (on multi-stemmed woodland species) with $>20\%$ of the circumference affected; $>20\%$ of the branches affected; damage $\geq 20\%$ of the foliage with $\geq 50\%$ of the leaf/needle affected.	-
99000	Unknown damage.	Any damage to the terminal leader; damage $\geq 20\%$ of the roots or boles with $>20\%$ of the circumference affected; damage $>20\%$ of the multiple-stems (on multi-stemmed woodland species) with $>20\%$ of the circumference affected; $>20\%$ of the branches affected; damage $\geq 20\%$ of the foliage with $\geq 50\%$ of the leaf/needle affected.	Use this code only when observed damage cannot be attributed to a general or specific agent.

* Some Regional specific damage agents within a category may have differing damage thresholds.

3.1.121 DAMAGE_AGENT_CD2

Damage agent code 2. (*core: all live tally trees ≥ 5.0 inches d.b.h./d.r.c; core optional: all live tally trees ≥ 1.0 inch d.b.h./d.r.c.*) See [DAMAGE_AGENT_CD1](#).

3.1.122 DAMAGE_AGENT_CD3

Damage agent code 3. (*core: all live tally trees ≥ 5.0 inches d.b.h./d.r.c; core optional: all live tally trees ≥ 1.0 inch d.b.h./d.r.c.*) See [DAMAGE_AGENT_CD1](#).

3.1.123 CENTROID_DIA

Centroid diameter (Pacific Islands). The outside bark diameter, in inches, measured at CENTROID_DIA_HT_ACTUAL. For tree ferns, diameter is measured where the fronds emerge from the trunk. Only populated by certain FIA work units (SURVEY.RSCD = 26) for the [Pacific Islands](#). This diameter is part of the upper stem diameter protocol that began with remeasurement, except for Hawaii, where the protocol was implemented in the first measurement.

3.1.124 CENTROID_DIA_HT

Calculated centroid diameter height (Pacific Islands). The height, in feet, to stem centroid. The stem centroid is located at 30 percent of the total length (HT) of the stem. Only populated by certain FIA work units (SURVEY.RSCD = 26) for the [Pacific Islands](#). This height is part of the upper stem diameter protocol that began with the first remeasurement, except for Hawaii, where the protocol was implemented in the first measurement.

3.1.125 CENTROID_DIA_HT_ACTUAL

Actual centroid diameter height (Pacific Islands). The height, in feet, to where stem centroid diameter was actually measured. It may differ from CENTROID_DIA_HT if abnormalities in the stem prevented a normal diameter measurement. Only populated by certain FIA work units (SURVEY.RSCD = 26) for the [Pacific Islands](#). This height is part of the upper stem diameter protocol that began with the first remeasurement, except for Hawaii, where the protocol was implemented in the first measurement.

3.1.126 UPPER_DIA

Upper stem diameter (Pacific Islands). The outside bark upper stem diameter, in inches, measured at least 3 feet above the point where DIA was taken. For larger trees, UPPER_DIA was recorded at the point where the main stem was at least 4.0 inches in diameter. This diameter is used in the calculation of stem taper, needed to improve the estimation of stem volume. Only populated by certain FIA work units (SURVEY.RSCD = 26) for the [Pacific Islands](#). This is the legacy upper stem diameter protocol and will not be collected after the first remeasurement.

3.1.127 UPPER_DIA_HT

Upper stem diameter height (Pacific Islands). The height, in feet, to where upper stem diameter (UPPER_DIA) was measured. Only populated by certain FIA work units (SURVEY.RSCD = 26) for the [Pacific Islands](#). This is the legacy upper stem diameter protocol and will not be collected after the first remeasurement.

3.1.128 VOLCSSND

Sound cubic-foot wood volume in the sawlog portion of a sawtimber tree. The sound cubic-foot volume of wood in the central stem of a timber species tree of sawtimber size (9.0 inches d.b.h. minimum for softwoods, 11.0 inches minimum d.b.h. for hardwoods), from a 1-foot stump to a minimum top diameter (7.0 inches for softwoods, 9.0 inches for hardwoods) or to where the central stem breaks into limbs, all of which are less than the minimum top diameter. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. This attribute is blank (null) for softwood trees with DIA < 9.0 inches (< 11.0 inches for hardwoods). All sawtimber-size trees have entries in this field if they are growing-stock trees (TREECLCD = 2 and STATUSCD = 1). All rough and rotten trees (TREECLCD = 3 or 4) and dead and cut trees (STATUSCD = 2 or 3) are blank (null) in this field. Does not include rotten and missing cull (volume loss due to rotten and missing cull defect has been deducted). Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

3.1.129 DRYBIO_SAWLOG

Dry biomass of wood in the sawlog portion of a sawtimber tree. The oven-dry biomass, in pounds, of wood in the sawlog portion of timber species trees of sawtimber size (9.0 inches d.b.h. minimum for softwoods, 11.0 inches minimum d.b.h. for hardwoods), from a 1-foot stump to a minimum top diameter (7.0 inches for softwoods, 9.0 inches for hardwoods) or to where the central stem breaks into limbs, all of which are less than the minimum top diameter. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. This attribute is blank (null) for softwood trees with DIA < 9.0 inches (< 11.0 inches for hardwoods) and standing dead trees. Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

3.1.130 DAMAGE_AGENT_CD1_SRS

Damage agent code 1 (Caribbean Islands), Southern Research Station. A code indicating the first damage agent observed when inspecting the tree from bottom to top (roots, bole, branches, foliage). Up to three damage agents can be recorded (DAMAGE_AGENT_CD1_SRS, DAMAGE_AGENT_CD2_SRS, DAMAGE_AGENT_CD3_SRS). If more than one agent is observed, the most threatening one is listed first where agents threatening survival are listed first and agents threatening wood quality second. The codes used for damage agents come from the January 2012 Pest Trend Impact Plot System (PTIPS) list from the Forest Health Assessment and Applied Sciences Team (FHAAT) that has been modified to meet FIA's needs. See [appendix H](#) for the complete list of codes. Only populated by certain FIA work units (SURVEY.RSCD = 33) for the Caribbean Islands.

3.1.131 DAMAGE_AGENT_CD2_SRS

Damage agent code 2 (Caribbean Islands), Southern Research Station. See [DAMAGE_AGENT_CD1_SRS](#).

3.1.132 DAMAGE_AGENT_CD3_SRS

Damage agent code 3 (Caribbean Islands), Southern Research Station. See [DAMAGE_AGENT_CD1_SRS](#).

3.1.133 DRYBIO_AG

Aboveground dry biomass of wood and bark. The oven-dry biomass, in pounds, of wood and bark in the aboveground portion, excluding foliage, of live and standing dead trees ≥ 1.0 inch d.b.h./d.r.c. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. Refer to [appendix K](#) on FIA volume, biomass, and carbon estimation.

Note: Not populated for standing dead saplings (1.0-4.9 inches d.b.h./d.r.c.) when PLOT.[MANUAL](#) <7.0.

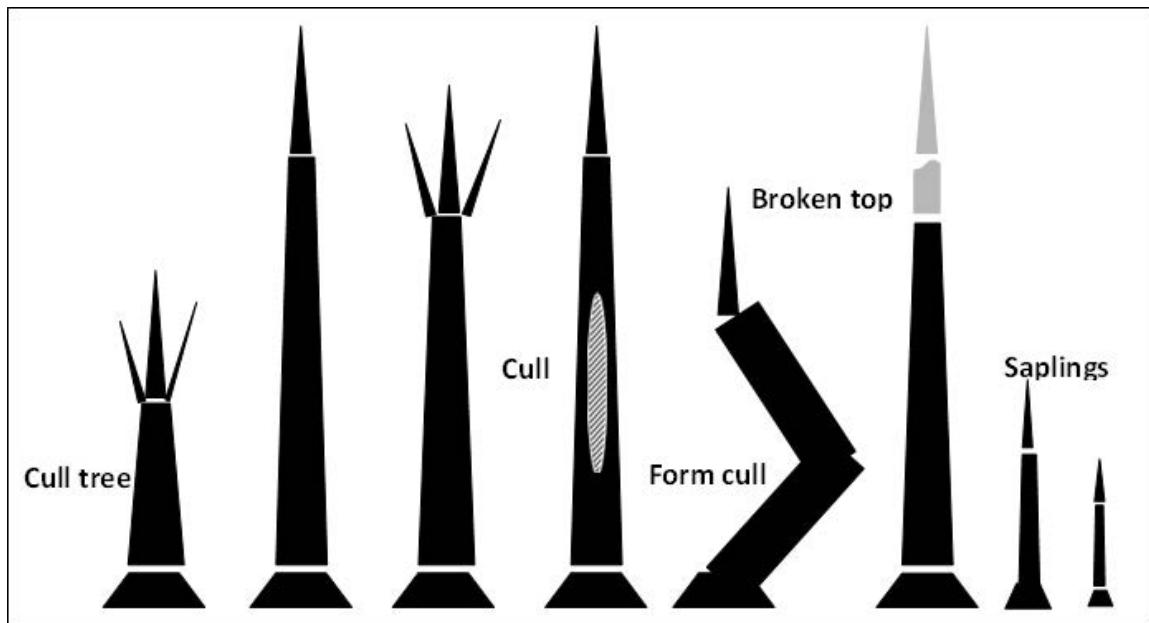


Figure 3-5: Illustration of aboveground dry biomass (DRYBIO_AG) in black. Roots, foliage, and missing wood are excluded. Wood biomass is proportionally reduced to amount for cull. See DRYBIO_AG for a full description of this attribute.

3.1.134 ACTUALHT_CALC

Actual height, calculated. The calculated length (height) of the tree to the nearest foot from ground level to the highest remaining portion of the tree still present and attached to the bole. The calculations are made using regional methods.

3.1.135 ACTUALHT_CALC_CD

Actual height, calculated, code. A code identifying the method used to calculate the ACTUALHT_CALC value. Only populated by certain FIA work units (SURVEY.RSCD = 24). For more information about regional methods, contact the appropriate FIA work unit ([table 1-1](#)).

Codes: ACTUALHT_CALC_CD

Code	Meaning	Description
1	NERS method.	Value calculated for NERS States using regional methods.

3.1.136 CULL_BF_ROTEN

Rotten/missing board-foot cull of the sawlog. The percent of volume within the recorded sawlog length (SAWHT) that cannot be used to produce boards, because of rot or missing sections of the bole. Does not include cull due to sweep, crook, excessive branches (e.g., whorls), large limbs and other defects. Only populated by certain FIA work units (SURVEY.RSCD= 24). Not collected for all years or States.

3.1.137 CULL_BF_ROTEN_CD

Rotten/missing board-foot cull of the sawlog code. A code indicating if the CULL_BF_ROTEN attribute is not null. Only populated by certain FIA work units (SURVEY.RSCD = 24). Not collected for all years or States.

Codes: CULL_BF_ROTEN_CD

Code	Description
1	Rotten board-foot cull (CULL_BF_ROTEN) of the sawlog is not null.

3.1.138 CULL_BF_ROUGH

Rough board-foot cull of the sawlog. The percent of volume within the recorded sawlog length (SAWHT) that cannot be used to produce boards, because of sweep, crook, excessive branches (e.g., whorls), large limbs and other defects. Does not include cull due to rot. Only populated by certain FIA work units (SURVEY.RSCD = 24). Not collected for all years or States.

3.1.139 CULL_BF_ROUGH_CD

Rough board-foot cull of the sawlog code. A code indicating if the CULL_BF_ROUGH attribute is not null. Only populated by certain FIA work units (SURVEY.RSCD = 24). Not collected for all years or States.

Codes: CULL_BF_ROUGH_CD

Code	Description
1	Rough board-foot cull (CULL_BF_ROUGH) of the sawlog is not null.

3.1.140 PREVDIA_FLD

Previous diameter, field. The previous diameter, in inches, of the sample tree at the point of diameter measurement, if the value was updated by the current field crew.

Note: PREVDIA differs from PREVDIA_FLD when the field crew updates the downloaded value in the data collection program.

- PREVDIA - This value is the downloaded diameter from the previous inventory record.
- PREVDIA_FLD - This value is the editable field.

3.1.141 TREECLCD_31_NCRS

Tree class code (version 3.1), North Central Research Station. A classification of the general quality of a tree that is ≥ 5.0 inches d.b.h. It classifies the quality of a live sawtimber tree based on the present condition. It also forecasts the potential quality of a live poletimber tree when it becomes sawtimber size. For standing dead trees, it identifies those trees that could be salvaged for wood fiber (e.g., chips) if a salvage operation was imminent.

Collected on all live and dead trees ≥ 5.0 inches d.b.h. for States in the NCRS region (SURVEY.RSCD = 23) for PLOT.MANUAL_NCRS ≥ 3.0 .

Codes: TREECLCD_31_NCRS

Code	Description
2	Growing Stock - A live sawtimber-size tree with one-third or more of the gross board-foot volume in the entire sawlog length meeting grade, soundness, and size requirements; or the potential to do so for poletimber-size trees. It must contain one merchantable 12-foot log or two non-contiguous merchantable 8-foot logs, now (sawtimber) or prospectively (poletimber).
3	Rough Cull - A live tree that does not contain at least one 12-foot sawlog or two noncontiguous 8-foot logs now (sawtimber) or prospectively (poletimber), primarily because of roughness or poor form within the sawlog length. Or sawtimber and prospectively poletimber with two-thirds or more of its gross board-foot volume that does not meet size, soundness, and grade requirements; and 50% or more of the assigned total board-foot cull within the sawlog length is rough cull.
4	Rotten Cull - A live tree that does not contain at least one 12-foot sawlog or two noncontiguous 8-foot logs now (sawtimber) or prospectively (poletimber) and/or do not meet grade specifications for percent sound primarily because of rot within the sawlog length. Or sawtimber and prospectively poletimber with two-thirds or more of its gross board-foot volume that does not meet size, soundness, and grade requirements; and 50% or more of the assigned total board-foot cull within the sawlog length is rotten cull.
5	Salvable Dead - A standing dead tree with at least one-third merchantable sound volume. ROTTEN/MISSING CUBIC-FOOT CULL does not exceed 67%. Note: ROUGH CUBIC-FOOT CULL is not a criterion for determining salvable dead.
6	Nonsalvable Dead - A standing dead tree that does not qualify as salvable.

3.1.142 TREE_GRADE_NCRS

Tree grade, North Central Research Station. A 3-digit code indicating the quality of sawtimber-sized trees that have a TREECLCD_NCRS of 20 or 31. The first digit indicates the grade and the second and third digits represent the limiting factor for hardwood grades.

Minimum sawlog length for tree grades is 12 feet and for log grades is 8 feet. Sawlog lengths do not extend above large forks, have excessive limbs or other defects, or have a section of the tree bole that does not meet minimum log grade specification. Limitations or "stoppers" for all softwoods and for hardwood grades 1, 2 and 3 include: any limb (live or dead) having a collar diameter exceeding the stem DOB at that point; or any group of 2.0-inch collar diameter or larger limbs (live or dead), within a 1-foot span, having a combined sum of diameters greater than the stem DOB of that section. Limitations for grade 4 hardwoods include: any limb or group of limbs, within a 1 foot span, with a collar diameter or sum of collar diameters greater than 1/3 of the stem DOB of that section.

Data collected for States in the NCRS region (SURVEY.RSCD = 23) in inventory years 1999-2009, PLOT.MANUAL_NCRS = 1.0-4.0. Refer to PLOT.MANUAL_NCRS for additional information (such as tables on tree grades and standard specifications for logs).

First digit:

- For a **hardwood** sawtimber tree (TREECLCD_NCRS = 20), the grade of the sawlog portion of the tree is based on "Hardwood Tree Grades for Factory Lumber" (Hanks 1976).

- For a **softwood** sawtimber tree (TREECLCD_NCRS = 20), the grade is based on the portion of the log that gives the best grade. For a softwood, where TREECLCD_NCRS = 31, the grade is based on the log that is present.

Codes: TREE_GRADE_NCRS (1st digit)

Grade	Valid species
1	Hardwoods and softwoods.
2	Hardwoods and softwoods.
3	Hardwoods and softwoods.
4	Hardwoods only and white pine.
5	Hardwoods only.

Second and third digits:

- For **hardwoods** with a grade 2, 3, 4, or 5, the second and third digit indicate the limiting quality factor that is keeping the log from moving into a better quality grade. For hardwood logs with a grade 5, the second digit is a 2 or 7 when an 8-foot log is present. If a 12-foot upper log is present, the second digit is 6.
- For **softwoods**, the second and third digits are always '00'.

Codes: TREE_GRADE_NCRS (2nd and 3rd digits)

Code	Limiting factor
00	Not applicable, already a grade 1, all softwoods.
10	Diameter.
20	Length.
30	Clear cuttings.
40	Sweep and crook.
50	Cull.
60	Position in tree.
70	Multiple factors.
80	Diameter and clear cutting.

Codes: TREE_GRADE_NCRS (Possible code combinations)

Code	Tree type
000	Hardwoods/softwoods.
100	Hardwoods/softwoods.
200	Softwoods.
210	Hardwoods.
230	Hardwoods.
240	Hardwoods.
250	Hardwoods.
270	Hardwoods.

Code	Tree type
280	Hardwoods.
300	Softwoods.
310	Hardwoods.
330	Hardwoods.
340	Hardwoods.
350	Hardwoods.
370	Hardwoods.
380	Hardwoods.
400	Softwoods - white pine only.
430	Hardwoods.
520	Hardwoods.
560	Hardwoods.
570	Hardwoods.

3.1.143 BOUGHS_AVAILABLE_NCNS

Balsam fir boughs available, North Central Research Station. A code indicating if harvestable balsam fir boughs are present on trees ≥ 1.0 inch d.b.h. Boughs are harvestable if they occur in the bottom 7.5 feet of the tree and there is at least one branch no larger in diameter than a pencil where clipped and they are at least 18 inches in length with live needles.

Data populated for States in the NCNS region (SURVEY.RSCD = 23) for PLOT.MANUAL_NCNS = 2.0-3.0 (INVYR = 2004-2006). Only populated in Minnesota for PLOT.MANUAL_NCNS = 3.1-4.0 (INVYR in 2007, 2008).

Codes: BOUGHS_AVAILABLE_NCNS

Code	Description
0	No boughs available.
1	Boughs available.

3.1.144 BOUGHS_HRVST_NCNS

Balsam fir boughs harvested, North Central Research Station. A code indicating whether or not balsam fir boughs were harvested on trees ≥ 1.0 inch d.b.h.

Data populated for States in the NCNS region (SURVEY.RSCD = 24) for PLOT.MANUAL_NCNS = 2.0-3.0 (INVYR = 2004-2006). Only populated in Minnesota for PLOT.MANUAL_NERS = 3.1-4.0 (INVYR in 2007, 2008).

Codes: BOUGHS_HRVST_NCNS

Code	Description
0	Boughs have not been harvested.
1	Boughs have been harvested.

3.1.145 TREECLCD_31_NERS

Tree class code (version 3.1), Northeastern Research Station. A classification of the general quality of a tree that is ≥ 5.0 inches d.b.h. It classifies the quality of a live sawtimber tree based on the present condition. It also forecasts the potential quality of a live poletimber tree when it becomes sawtimber size. For standing dead trees, it identifies trees that could be salvaged for wood fiber (e.g., chips) if a salvage operation was imminent. Implemented beginning with PLOT.[MANUAL_NERS](#) = 3.1 (inventory year 2007) of the field guide.

Data collected as follows (SURVEY.[RSCD](#) = 24):

- All trees ≥ 5.0 inches d.b.h./d.r.c. when [STATUSCD](#) = 1 or 2 and [STANDING_DEAD_CD_NERS](#) = 1.
- Annual data inventory years 2007 to present.

Codes: TREECLCD_31_NERS

Code	Description
2	Growing Stock - A live sawtimber-size tree with one-third or more of the gross board-foot volume in the entire sawlog length meeting grade, soundness, and size requirements; or the potential to do so for poletimber-size trees. It must contain one merchantable 12-foot log or two non-contiguous merchantable 8-foot logs, now (sawtimber) or prospectively (poletimber).
3	Rough Cull - A live tree that does not contain at least one 12-foot sawlog or two noncontiguous 8-foot logs now (sawtimber) or prospectively (poletimber), primarily because of roughness or poor form within the sawlog length. Or sawtimber and prospectively poletimber with two-thirds or more of its gross board-foot volume that does not meet size, soundness, and grade requirements; and 50% or more of the assigned total board-foot cull within the sawlog length is rough cull.
4	Rotten Cull - A live tree that does not contain at least one 12-foot sawlog or two noncontiguous 8-foot logs now (sawtimber) or prospectively (poletimber) and/or do not meet grade specifications for percent sound primarily because of rot within the sawlog length. Or sawtimber and prospectively poletimber with two-thirds or more of its gross board-foot volume that does not meet size, soundness, and grade requirements; and 50% or more of the assigned total board-foot cull within the sawlog length is rotten cull.
5	Salvable Dead - A standing dead tree with at least one-third merchantable sound volume. Rotten/missing cubic-foot cull does not exceed 67%. Note: Rough cubic-foot cull is not a criterion for determining salvable dead.
6	Nonsalvable Dead - A standing dead tree that does not qualify as salvable.

3.1.146 AGENTCD_NERS

General damage / cause of death (agent) code, Northeastern Research Station. The cause of death for all trees since the previous survey. Also used as a damage indicator for periodic surveys until 2000.

Data collected as follows (SURVEY.[RSCD](#) = 24):

- Annual data through inventory year 2006, except Ohio (39).
- Last periodic for CT, DE, MD, MA, NH, NJ, NY, RI, VT and WV:
1993: New York (36)
1997: New Hampshire (33), Vermont (50)

1998: Connecticut (9), Massachusetts (25), Rhode Island (44)

1999: Delaware (10), Maryland (24), New Jersey (34)

2000: West Virginia (54)

Codes: AGENTCD_NERS (periodic inventories in CT, DE, MD, MA, NH, NJ, RI, VT, WV)

Code	Description
0	None.
1	Insect.
2	Disease.
3	Fire.
4	Animal.
5	Weather.
6	Suppression.
7	Unknown and other.
8	Harvest-related.

Codes: AGENTCD_NERS (periodic inventory in NY, 1993)

Code	Description
00	None.
10	Insect.
20	Disease.
30	Fire.
40	Animal.
41	Animal browse: 1-10%.
42	Animal browse: 11-40%.
43	Animal browse: 41-100%.
50	Weather.
60	Suppression.
70	Harvest-related.
80	Other human.
90	Unknown or not listed.
99	Dead sapling.

Codes: AGENTCD_NERS (annual data: 2000-2003)

Code	Description
10	Insect damage.
20	Disease damage.
30	Fire damage.
40	Animal damage.
50	Weather damage.

Code	Description
60	Vegetation (suppression, competition, vines/kudzu).
70	Unknown / not sure / other (include notes).
80	Human-caused damage (cultural, logging, accidental damage, etc.).
90	Physical (hit by a falling tree).

Codes: AGENTCD_NERS (annual data: 2004-2006)

Code	Description
10	Insect.
20	Disease.
30	Fire.
40	Animal.
50	Weather.
60	Vegetation (suppression, competition, vines/kudzu).
70	Unknown / not sure / other - includes death from human activity not related to silvicultural or land clearing activity (accidental, random, etc.).
80	Silvicultural or land clearing activity (death caused by harvesting or other silvicultural activity, including girdling, chaining, etc., or to land clearing activity).

3.1.147 BFSND_CD_NERS

Board-foot soundness code, Northeastern Research Station. A code based on percentage of board-foot cull that is sound cull. Sound cull is caused by form defects: sweep, crook, limbs and forks.

Data collected as follows (SURVEY.RSCD = 24):

- Live and dead trees, ≥ 9.0 inches d.b.h. if softwood, and ≥ 11.0 inches d.b.h. if hardwood.
- Annual data through inventory year 2006, except Ohio (39).
- Last periodic for CT, DE, MD, MA, NH, NJ, NY, RI, VT and WV:
 - 1993: New York (36)
 - 1997: New Hampshire (33), Vermont (50)
 - 1998: Connecticut (9), Massachusetts (25), Rhode Island (44)
 - 1999: Delaware (10), Maryland (24), New Jersey (34)
 - 2000: West Virginia (54)

Codes: BFSNDCC_NERS

Code	Description
0	00-09%
1	10-19%
2	20-29%
3	30-39%
4	40-49%
5	50-59%
6	60-69%
7	70-79%
8	80-89%
9	90-100%

3.1.148 AGECHKCD_RMRS

Radial growth and tree age check code, Rocky Mountain Research Station. A code indicating the method used to obtain radial growth and tree age. Only populated by certain FIA work units (SURVEY.RSCD = 22).

Note: Code 3 was added starting with PLOT.MANUAL = 6.0

Codes: AGECHKCD_RMRS

Code	Description
0	<ul style="list-style-type: none"> Age/radial growth measured directly from core. Age/radial growth calculated from remeasurement data (same tree).
1	<ul style="list-style-type: none"> Age/radial growth was estimated due to rot. Age/radial growth was estimated because rings were difficult to count (old suppressed trees). Age was estimated because the increment bore could not reach to tree center.
2	<ul style="list-style-type: none"> Age/radial growth was calculated from a similar remeasure tree (same species and diameter class). Age/radial growth was based on a similar tree off the subplot.
3	<ul style="list-style-type: none"> Age measured from a collected tree core (for cores collected and sent into the office for aging).

3.1.149 PREV_ACTUALHT_RMRS

Previous actual height, Rocky Mountain Research Station. The actual length (height) of a tree, in feet, assigned at the previous inventory (from annual or periodic data). This attribute is downloaded from the previous inventory and is editable by the current field crew. If the previous actual length is obviously wrong (e.g., length recorded as 031 instead of 013), an updated PREV_ACTUALHT_RMRS is estimated.

For RMRS (SURVEY.RSCD = 22), actual length is collected for all tally trees \geq 1.0 inch d.b.h./d.r.c. with missing tops (top on live trees is completely detached; top on dead trees is greater than 50 percent detached from the tree). If the top is intact, this item may be

omitted. The actual length of the tree is recorded to the nearest 1.0 foot, from ground level to the break.

3.1.150 PREV_AGECHKCD_RMRS

Previous radial growth and tree age check code, Rocky Mountain Research Station. A code indicating the method used to obtain radial growth and tree age assigned at the previous inventory (from annual or periodic data). Populated for PLOT.[MANUAL](#) ≥4.0. Only populated by certain FIA work units (SURVEY.[RSCD](#) = 22).

Codes: PREV_AGECHKCD_RMRS

Code	Description
0	<ul style="list-style-type: none"> Age/radial growth measured directly from core. Age/radial growth calculated from remeasurement data (same tree).
1	<ul style="list-style-type: none"> Age/radial growth was estimated due to rot. Age/radial growth was estimated because rings were difficult to count (old suppressed trees). Age was estimated because the increment bore could not reach to tree center.
2	<ul style="list-style-type: none"> Age/radial growth was calculated from a similar remeasure tree (same species and diameter class). Age/radial growth was based on a similar tree off the subplot.
3	<ul style="list-style-type: none"> Age measured from a collected tree core (for cores collected and sent into the office for aging).

Note: Code 3 was added starting with PLOT.[MANUAL](#) = 6.0.

3.1.151 PREV_BHAGE_RMRS

Previous breast height age, Rocky Mountain Research Station. The breast height age (BHAGE) assigned to a tree at the previous inventory (from annual or periodic data). Populated for PLOT.[MANUAL](#) ≥4.0.

BHAGE is the age of a live tree derived from counting tree rings from an increment core sample extracted at a height of 4.5 feet above ground. Breast height age is collected for a subset of trees and only for trees where the diameter is measured at breast height (d.b.h.). This data item is used to calculate classification attributes such as stand age. It is left blank (null) when it is not collected.

For RMRS (SURVEY.[RSCD](#) = 22), one tree is sampled for each species and broad diameter class present on a plot.

3.1.152 PREV_HT_RMRS

Previous total length, Rocky Mountain Research Station. The total length (height) of a tree, in feet, assigned at the previous inventory (from annual or periodic data). This attribute is downloaded from the previous inventory and is editable by the current field crew. If the previous total length is obviously wrong (e.g., length recorded as 031 instead of 013), an updated PREV_HT_RMRS is estimated.

For RMRS (SURVEY.[RSCD](#) = 22), total length is collected for all tally trees ≥1.0 inch d.b.h./d.r.c. and is recorded to the nearest 1.0 foot. The total length of a sample tree is from the ground to the tip of the apical meristem. The total length of a tree is not always

its actual length. If the main stem is broken, the actual length is measured or estimated and the missing piece is added to the actual length to estimate total length. The amount added is determined by measuring the broken piece if it can be located on the ground; otherwise it is estimated. The minimum height for timber species is 5.0 feet and for woodland species is 1.0 foot.

3.1.153 PREV_TOTAGE_RMRS

Previous total age, Rocky Mountain Research Station. The total age assigned to a tree at the previous inventory (from annual or periodic data). Populated for PLOT.MANUAL ≥4.0. The age for live trees is derived by counting tree rings from an increment core sample extracted at the base of a tree where diameter is measured at root collar (d.r.c.), or for small saplings (1.0-2.9 inches d.b.h.) by counting all branch whorls, or by adding a species-dependent number of years to breast height age. Total age is collected for a subset of trees and is used to calculate classification attributes such as stand age. It is left blank (null) when it is not collected. Only populated by certain FIA work units (SURVEY.RSCD = 22).

3.1.154 PREV_TREECLCD_RMRS

Previous tree class code, Rocky Mountain Research Station. The tree class (TREECLCD_RMRS) assigned at the previous inventory (from annual or periodic data). This attribute is downloaded from the previous inventory and is editable by the current field crew. If the past tree class is obviously wrong (e.g., the previous code was recorded as 6 [soft dead] and the tree is still alive), an updated PREV_TREECLCD_RMRS is recorded. This attribute is also recorded for new mortality trees. Only populated by certain FIA work units (SURVEY.RSCD = 22).

3.1.155 RADAGECD_RMRS

Radial growth / age code, Rocky Mountain Research Station. A code indicating if growth and/or age information is required for the tree.

Tree age and radial growth information are collected for specified tally trees and timber species site trees. In addition, age information is collected for timber species seedling counts. General guidelines for radial growth and age tree selection are as follows:

Radial growth and age tree selection guidelines:

- **Timber species -**
 - Radial growth information is required for a minimum of two trees in each diameter class (starting with the 4-inch class) for each species.
 - Age information is required for a minimum of one tree in each diameter class and species, and for one timber species seedling count per species (i.e., one count for each species group for the entire plot, not condition class).
 - For both radial growth and age, if rough or rotten trees are bored, select additional sound trees if tallied.
- **Woodland species -**
 - For each woodland genus group tallied across the subplots, select one representative live tally tree within each stand-size class tallied. Core the largest stem near the base to obtain the age and radial.

Codes: RADAGECD_RMRS

Code	Description
0	No. Do NOT collect radial growth or age information. This is not a site tree nor an age and/or growth tree.
1	Yes. Collect only radial growth; this is a timber species growth tree only.
2	Yes. Collect both radial growth and age information; this tree is either a site tree or an age/growth tree. Also use this code for 2-inch class saplings that get age only.
3	Yes. Collect radial growth, age will be determined from the core. Use this code where it is required to collect tree cores (cannot be used for site trees).
4	Yes. Use Past/Current Diameters for growth (replaces just radial).
5	Yes. Collect age information. Use Past/Current Diameters for growth (replace radial).

Diameter size-class ranges for timber species are as follows:

Stand-Size Class	Softwoods	Hardwoods
-	Size-class range (d.b.h.)	Size-class range (d.b.h.)
1	0-0.9 inches (count whorls/scars): age only.	0-0.9 inches.
1	1.0-2.9 inches (age at base): age only.	1.0-2.9 inches.
1	3.0-4.9 inches (age at BH): age and radial.	3.0-4.9 inches.
2	5.0-8.9 inches.	5.0-8.9 inches.
2	-	9.0-10.9 inches.
3	9.0-12.9 inches.	11.0-12.9 inches.
3	13.0-16.9 inches.	13.0-16.9 inches.
3	17.0-20.9 inches.	17.0-20.9 inches.
3	etc.	etc.

3.1.156 RADGRW_RMRS

Radial growth, Rocky Mountain Research Station. A 2-digit number indicating the length of a 10-year radial increment for trees that require radial growth information to be collected (see [RADAGECD_RMRS](#) for radial growth and age tree selection guidelines).

Radial growth measurement is taken to the nearest 1/20th inch for the last 10 years of radial growth from an increment core taken immediately below the point of diameter measurement and at a right angle to the bole. Using a ruler with a 1/20th-inch scale, the length on the core is measured from the inner edge of the last (most recent) complete summer wood ring to the inner edge of the summer wood ring 10 years previous (for example, 6/20 inches is recorded as 06 and 23/20 inches is recorded as 23). Only populated by certain FIA work units (SURVEY.RSCD = 22).

3.1.157 VOLBSGRS

Gross board-foot wood volume in the sawlog portion of a sawtimber tree (Scribner Rule). The total board-foot (Scribner Rule) volume of wood in the central stem of a timber species tree of sawtimber size (9.0 inches d.b.h. minimum for softwoods, 11.0 inches d.b.h. minimum for hardwoods), from a 1-foot stump to a minimum top diameter (7.0 inches for softwoods, 9.0 inches for hardwoods), or to where the central stem breaks into

limbs all of which are less than the minimum top diameter. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per unit area information. This attribute is blank (null) for softwood trees with DIA <9.0 inches (<11.0 inches for hardwoods). All sawtimber-size trees have entries in this field if they are growing-stock trees (TREECLCD = 2 and STATUSCD = 1). All rough and rotten trees (TREECLCD = 3 or 4) and dead and cut trees (STATUSCD = 2 or 3) are blank (null) in this field. Only populated by certain FIA work units (SURVEY.RSCD = 22, 26, 27).

3.1.158 VOLBSNET

Net board-foot wood volume in the sawlog portion of a sawtimber tree (Scribner Rule). The net board-foot (Scribner Rule) volume of wood in the central stem of a timber species tree of sawtimber size (9.0 inches d.b.h. minimum for softwoods, 11.0 inches d.b.h. minimum for hardwoods), from a 1-foot stump to a minimum top diameter (7.0 inches for softwoods, 9.0 inches for hardwoods), or to where the central stem breaks into limbs all of which are less than the minimum top diameter. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per unit area information. This attribute is blank (null) for softwood trees with DIA <9.0 inches (<11.0 inches for hardwoods). All sawtimber-size trees have entries in this field if they are growing-stock trees (TREECLCD = 2 and STATUSCD = 1). All rough and rotten trees (TREECLCD = 3 or 4) and dead and cut trees (STATUSCD = 2 or 3) are blank (null) in this field. Form cull and rotten/missing cull are excluded. Only populated by certain FIA work units (SURVEY.RSCD = 22, 26, 27).

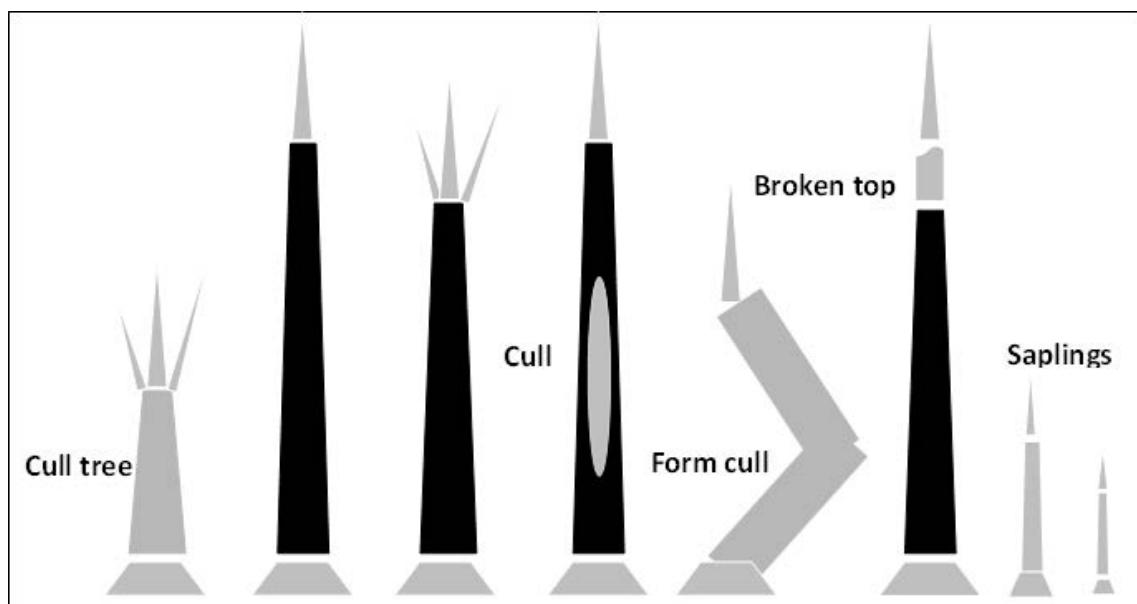


Figure 3-6: Illustration of timber species net board-foot wood volume in the sawlog portion of a sawtimber tree (VOLBSNET) in black. Gray trees and gray parts are excluded. See VOLBSNET for a full description of this attribute.

3.1.159 SAPLING_FUSIFORM_SRS

Sapling fusiform, Southern Research Station. A code indicating the incidence of fusiform occurring on the main stem or on a live branch within 12 inches of the main stem of longleaf, slash, and loblolly pine saplings (STATUSCD = 1 and SPCD = 11, 121, or 131 and

$1 \leq \text{DIA} < 5$). Only populated by certain FIA work units (SURVEY.RSCD = 33). Not populated for the [Caribbean Islands](#).

Codes: SAPLING_FUSIFORM_SRS

Code	Description
0	None.
1	Fusiform present.

3.1.160 EPIPHYTE_PNWRS

Epiphyte loading (Pacific Islands), Pacific Northwest Research Station. A rating indicating the extent of epiphyte loading. Epiphytes are defined as plants that use the tree for support, however, they do not draw nourishment from it. The rating is based on the Hawksworth (1979) six-class rating system. Using this rating system, the live crown is divided into thirds, and each third is rated using the following scale: 0 is for no visible epiphytes, 1 for <50 percent of the branches or bole loaded with epiphytes, 2 for >50 percent of the branches or bole loaded with epiphytes. The ratings for each third are summed together to yield the Hawksworth rating. This rating is collected for all live trees ≥ 1.0 inch d.b.h. Only populated by certain FIA work units (SURVEY.RSCD = 26).

Codes: EPIPHYTE_PNWRS

Code	Description
0	Hawksworth tree rating of 0, none.
1	Hawksworth tree rating of 1, light epiphyte loading.
2	Hawksworth tree rating of 2, light epiphyte loading.
3	Hawksworth tree rating of 3, medium epiphyte loading.
4	Hawksworth tree rating of 4, medium epiphyte loading.
5	Hawksworth tree rating of 5, heavy epiphyte loading.
6	Hawksworth tree rating of 6, heavy epiphyte loading.

3.1.161 ROOTHT_PNWRS

Rooting height (Pacific Islands), Pacific Northwest Research Station. The height of the stilted or buttressed root system from the ground level to the highest point where the stilts or buttresses protrude from the bole of the tree. Measured to the nearest foot. Only populated by certain FIA work units (SURVEY.RSCD = 26).

3.1.162 CAVITY_USE_PNWRS

Cavity presence, Pacific Northwest Research Station. A code indicating the largest cavity present in a live tree that is utilized by wildlife. Only populated by certain FIA work units (SURVEY.RSCD = 26). Not populated for the [Pacific Islands](#).

Codes: CAVITY_USE_PNWRS

Code	Description
0	No cavity or den present.
1	Cavity or den present <6.0 inches wide.
2	Cavity or den present ≥ 6.0 inches wide.

3.1.163 CORE_LENGTH_PNWRS

Length of measured core, Pacific Northwest Research Station. The total length, in inches, of the extracted core used when the tree age is extrapolated. Only populated by certain FIA work units (SURVEY.RSCD = 26). Not populated for the [Pacific Islands](#).

3.1.164 CULTURALLY_KILLED_PNWRS

Culturally killed code, Pacific Northwest Research Station. A code indicating if a cut tree was killed by direct human intervention, but not utilized (removed from plot). Only populated by certain FIA work units (SURVEY.RSCD = 26, 27). Not populated for the [Pacific Islands](#).

Codes: CULTURALLY_KILLED_PNWRS

Code	Description
0	Any tree that does not meet the criteria listed in code 1.
1	Any tree that was killed by direct human cause (girdled, cut, knocked over, sprayed with herbicide, etc.), which has not been removed from plot (a treatment must be recorded).

3.1.165 DIA_EST_PNWRS

Standing dead estimated diameter, Pacific Northwest Research Station. An estimate of the diameter at breast height for a standing dead tree when it was alive. Only populated by certain FIA work units (SURVEY.RSCD = 26, 27). Not populated for the [Pacific Islands](#).

3.1.166 GST_PNWRS

Growth sample tree, Pacific Northwest Research Station. A code indicating whether or not a tree is to be measured for total length and actual length and used as a growth sample tree. Only populated by certain FIA work units (SURVEY.RSCD = 26, 27). Not populated for the [Pacific Islands](#).

Codes: GST_PNWRS

Code	Description
N	Tree is not a growth sample tree.
Y	Tree is a growth sample tree.

3.1.167 INC10YR_PNWRS

10-year increment, Pacific Northwest Research Station. The radial increment for the most recent ten years of full growth for all conifers and red alder. This measurement is taken to the nearest 1/20th inch using an increment borer at the current inventory. Only populated by certain FIA work units (SURVEY.RSCD = 26, 27). Not populated for the [Pacific Islands](#).

3.1.168 INC5YRHT_PNWRS

5-year height growth, Pacific Northwest Research Station. The height to the nearest 1.0 foot, for the most recent five years of growth for pine, spruce, Douglas-fir, and true firs. Only populated by certain FIA work units (SURVEY.RSCD = 26). Not populated for the [Pacific Islands](#).

Note: This measurement is only populated for USFS Region 5 and Region 6 administered lands; it is used for growth and yield models.

3.1.169 INC5YR_PNWRS

5-year increment, Pacific Northwest Research Station. The radial increment for the most recent five years of full growth for all conifers and red alder. This measurement is taken to the nearest 1/20th inch using an increment borer at the current inventory. Only populated by certain FIA work units (SURVEY.RSCD = 26). Not populated for the [Pacific Islands](#).

3.1.170 RING_COUNT_INNER_2INCHES_PNWRS

Number of rings in inner 2 inches, Pacific Northwest Research Station. The number of tree rings in the inner two inches of the core closest to the center of the tree. Only populated by certain FIA work units (SURVEY.RSCD = 26). Not populated for the [Pacific Islands](#).

3.1.171 RING_COUNT_PNWRS

Number of rings, Pacific Northwest Research Station. The total number of tree rings counted when the tree age is extrapolated. Only populated by certain FIA work units (SURVEY.RSCD = 26). Not populated for the [Pacific Islands](#).

3.1.172 SNAG_DIS_CD_PNWRS

Snag reason for disappearance code, Pacific Northwest Research Station. A code indicating the reason why a standing dead tree recorded during a previous inventory visit is no longer tallied. Only populated by certain FIA work units (SURVEY.RSCD = 26, 27). Not populated for the [Pacific Islands](#).

Codes: SNAG_DIS_CD_PNWRS

Code	Description
2	Fell over "naturally" (wind, decay, etc.) or no longer self-supported; still present.
3	Fell over "naturally"; removed from the site, or not discernible by crew.
4	Cut down or pushed over; still present.
5	Cut down or pushed over; removed from the site, or not discernible by crew.
6	Diameter (d.b.h./d.r.c.) and/or height no longer meet minimum for tally (snag "shrank" to <5.0 inches d.b.h./d.r.c. or <4.5 feet tall).

3.1.173 CONEPRESCD1

Cone presence code 1. A code indicating the type of cone presence on a live pinyon pine species ≥ 5.0 inches d.r.c. Up to three codes may be recorded per tree (CONEPRES1, CONEPRES2, CONEPRES3) if more than one code describes cone presence. When multiple codes apply, the cone type that describes the most abundant presence is recorded for CONEPRES1. The cone type describing the second most abundant presence is recorded for CONEPRES2. The cone type describing the third most abundant presence is recorded for CONEPRES3. Code 0 is recorded for CONEPRES1 to indicate that there are no cones present. Code 0 is recorded for CONEPRES2 or CONEPRES3 to indicate that there are no additional codes describing cone presence for the tree. Only populated by certain FIA work units (SURVEY.RSCD = 22).

Codes: CONEPRESCD1

Code	Description
0	No cones present on tree.
1	Non-viable cone - Small (≤ 1 inch d.r.c), closed brown conelets with no yellow/green coloration.
2	Last year's old cones - Open, empty (dark brown or gray) cone(s) (≥ 2 inches d.r.c.) with no sap or seeds present (previous years' cones).
3	Current year viable cones - Small (≤ 1 inch d.r.c) and/or large (≥ 2 inches d.r.c.) green cone(s) with sap and/or seeds present (this year's cones).

3.1.174 CONEPRESCD2

Cone presence code 2. See CONEPRESCD1 description for definition.

3.1.175 CONEPRESCD3

Cone presence code 3. See CONEPRESCD1 description for definition.

3.1.176 MASTCD

Mast code. A rating indicating the amount of masting for a live pinyon pine species ≥ 5.0 inches d.r.c. Mast refers to the production of a seed (in this case, cone) crop. Using a rating system, the live crown of a tree is divided into thirds horizontally, and each third is evaluated for the current-year cone production using the following scale: 0 indicates no cones present, 1 indicates that the section has <50 percent of its branches producing cones, and 2 indicates that the section has ≥ 50 percent of its branches producing cones. The ratings for each third are summed together to obtain a MASTCD rating (0-6) for the tree. Only populated by certain FIA work units (SURVEY.RSCD = 22).

Codes: MASTCD

Code	Description
0	Mast rating of 0, none.
1	Mast rating of 1, low level of branches producing cones.
2	Mast rating of 2, low level of branches producing cones.
3	Mast rating of 3, medium level of branches producing cones.
4	Mast rating of 4, medium level of branches producing cones.
5	Mast rating of 5, high level of branches producing cones.
6	Mast rating of 6, high level of branches producing cones.

3.1.177 VOLTSGRS

Gross cubic-foot total-stem wood volume. For timber species (trees where the diameter is measured at breast height [d.b.h.] ≥ 1.0 inch d.b.h., this is the total cubic-foot volume of wood in the central stem from ground line to the tree tip. For woodland species (trees where the diameter is measured at root collar [d.r.c.]; identified by REF_SPECIES.WOODLAND = 'Y') ≥ 1.5 inches d.r.c., this is the total cubic-foot volume of wood and bark from the d.r.c. measurement point(s) to a 1.5-inch top diameter, including branches that are at least 1.5 inches in diameter along the length of the branch. Calculated for live and standing dead trees. Includes rotten, missing, and form cull (volume loss due to rotten, missing, and form cull defect has not been deducted). This is

a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. This attribute is blank (null) for woodland species with DIA <1.5 inches d.r.c. Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

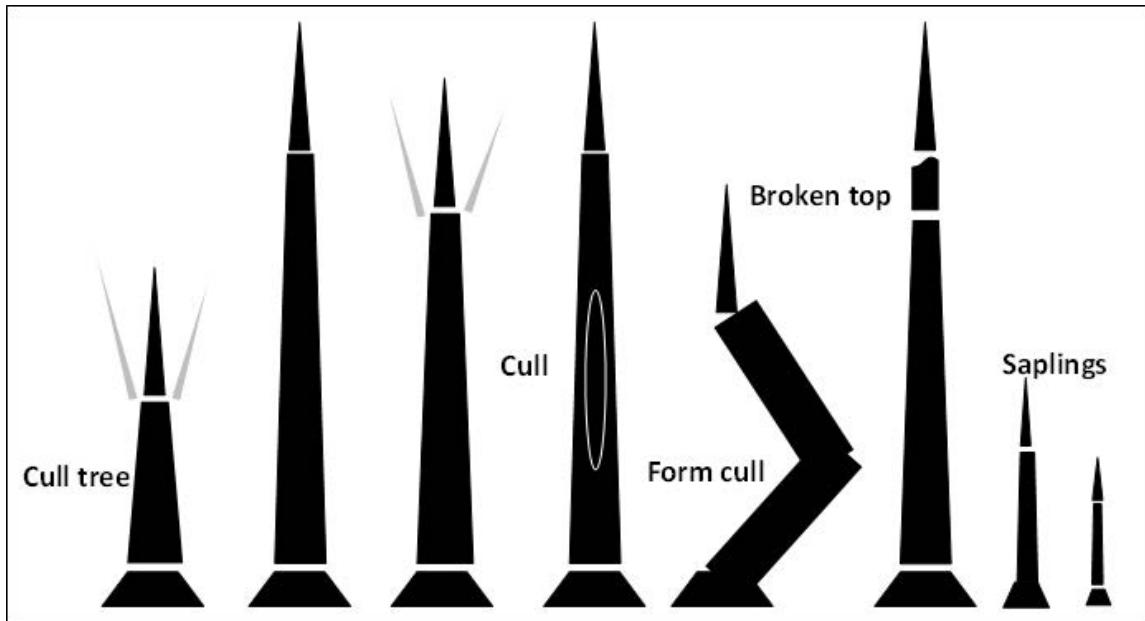


Figure 3-7: Illustration of timber species gross cubic-foot total-stem wood volume (VOLTSGRS) in black. Gray tree parts are excluded. See VOLTSGRS for a full description of this attribute.

3.1.178 VOLTSGRS_BARK

Gross cubic-foot total-stem bark volume. The total cubic-foot volume of bark in the central stem of timber species (trees where diameter is measured at breast height [d.b.h.] ≥ 1.0 inch d.b.h., from ground line to the tree tip. Calculated for live and standing dead trees. Includes rotten, missing, and form cull (volume loss due to rotten, missing, and form cull defect has not been deducted). This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. This attribute is blank (null) for woodland species. Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

3.1.179 VOLTSSND

Sound cubic-foot total-stem wood volume. For timber species (trees where the diameter is measured at breast height [d.b.h.] ≥ 1.0 inch d.b.h., this is the total sound cubic-foot volume of wood in the central stem from ground line to the tree tip. For woodland species (trees where the diameter is measured at root collar [d.r.c.]; identified by REF_SPECIES.WOODLAND = 'Y') ≥ 1.5 inches d.r.c., this is the total sound cubic-foot volume of wood and bark from the d.r.c. measurement point(s) to a 1.5-inch top diameter, including branches that are at least 1.5 inches in diameter along the length of the branch. Calculated for live and standing dead trees. Does not include rotten and missing cull (volume loss due to rotten and missing cull defect has been deducted). This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. This attribute

is blank (null) for woodland species with DIA <1.5 inches d.r.c. Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

3.1.180 **VOLTSSND_BARK**

Sound cubic-foot total-stem bark volume. The total sound cubic-foot volume of bark in the central stem of timber species (trees where diameter is measured at breast height [d.b.h.] \geq 1.0 inch d.b.h., from ground line to the tree tip. Calculated for live and standing dead trees. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. This attribute is blank (null) for woodland species. Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

3.1.181 **VOLCFGRS_STUMP**

Gross cubic-foot stump wood volume. The total cubic-foot volume of wood in the stump of timber species (trees where diameter is measured at breast height [d.b.h.] \geq 5.0 inches d.b.h. The stump is that portion of the tree from the ground line to the bottom of the merchantable bole (i.e., below 1 foot). Calculated for live and standing dead trees. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. This attribute is blank (null) for timber species with DIA <5.0 inches and for woodland species. Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

3.1.182 **VOLCFGRS_STUMP_BARK**

Gross cubic-foot stump bark volume. The total cubic-foot volume of bark in the stump of timber species (trees where diameter is measured at breast height [d.b.h.] \geq 5.0 inches d.b.h. The stump is that portion of the tree from the ground line to the bottom of the merchantable bole (i.e., below 1 foot). Calculated for live and standing dead trees. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. This attribute is blank (null) for timber species with DIA <5.0 inches and for woodland species. Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

3.1.183 **VOLCF SND_STUMP**

Sound cubic-foot stump wood volume. The sound cubic-foot volume of wood in the stump of timber species (trees where diameter is measured at breast height [d.b.h.] \geq 5.0 inches d.b.h. The stump is that portion of the tree from the ground line to the bottom of the merchantable bole (i.e., below 1 foot). Calculated for live and standing dead trees. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. This attribute is blank (null) for timber species with DIA <5.0 inches and for woodland species. Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

3.1.184 **VOLCF SND_STUMP_BARK**

Sound cubic-foot stump bark volume. The sound cubic-foot volume of bark in the stump of timber species (trees where diameter is measured at breast height [d.b.h.] \geq 5.0 inches d.b.h. The stump is that portion of the tree from the ground line to the bottom of the merchantable bole (i.e., below 1 foot). Calculated for live and standing dead trees. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. This attribute is blank (null) for timber species with DIA <5.0 inches and for woodland species. Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

3.1.185 VOLCFGRS_BARK

Gross cubic-foot stem bark volume. The total cubic-foot volume of bark in the central stem of timber species (trees where diameter is measured at breast height [d.b.h.] ≥ 5.0 inches d.b.h., from a 1-foot stump to a minimum 4-inch top diameter, or to where the central stem breaks into limbs all of which are < 4.0 inches in diameter. Calculated for live and standing dead trees. Includes rotten, missing, and form cull (volume loss due to rotten, missing, and form cull defect has not been deducted). This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. This attribute is blank (null) for timber species with DIA < 5.0 inches and for woodland species. Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

3.1.186 VOLCFGRS_TOP

Gross cubic-foot stem-top wood volume. The total cubic-foot volume of wood in the non-merchantable top of timber species (trees where diameter is measured at breast height [d.b.h.] ≥ 5.0 inches d.b.h. The top is the portion of the stem above the merchantable bole (i.e., above the 4-inch top diameter). Calculated for live and standing dead trees. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. This attribute is blank (null) for timber species with DIA < 5.0 inches and for woodland species. Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

3.1.187 VOLCFGRS_TOP_BARK

Gross cubic-foot stem-top bark volume. The total cubic-foot volume of bark in the non-merchantable top of timber species (trees where diameter is measured at breast height [d.b.h.] ≥ 5.0 inches d.b.h. The top is the portion of the stem above the merchantable bole (i.e., above the 4-inch top diameter). Calculated for live and standing dead trees. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. This attribute is blank (null) for timber species with DIA < 5.0 inches and for woodland species. Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

3.1.188 VOLCFSND_BARK

Sound cubic-foot stem bark volume. The sound cubic-foot volume of bark in the central stem of timber species (trees where diameter is measured at breast height [d.b.h.] ≥ 5.0 inches d.b.h., from a 1-foot stump to a minimum 4-inch top diameter, or to where the central stem breaks into limbs all of which are < 4.0 inches in diameter. Calculated for live and standing dead trees. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. This attribute is blank (null) for timber species with DIA < 5.0 inches and for woodland species. Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

3.1.189 VOLCFSND_TOP

Sound cubic-foot stem-top wood volume. The sound cubic-foot volume of wood in the non-merchantable top of timber species (trees where diameter is measured at breast height [d.b.h.] ≥ 5.0 inches d.b.h. The top is the portion of the stem above the merchantable bole (i.e., above the 4-inch top diameter). Calculated for live and standing dead trees. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. This attribute is blank (null) for timber species with DIA < 5.0 inches and for woodland species. Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

3.1.190 VOLCFSND_TOP_BARK

Sound cubic-foot stem-top bark volume. The sound cubic-foot volume of bark in the non-merchantable top of timber species (trees where diameter is measured at breast height [d.b.h.]) ≥ 5.0 inches d.b.h. The top is the portion of the stem above the merchantable bole (i.e., above the 4-inch top diameter). Calculated for live and standing dead trees. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. This attribute is blank (null) for timber species with DIA < 5.0 inches and for woodland species. Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

3.1.191 VOLCFNET_BARK

Net cubic-foot stem bark volume. The net cubic-foot volume of bark in the central stem of timber species (trees where diameter is measured at breast height [d.b.h.]) ≥ 5.0 inches d.b.h., from a 1-foot stump to a minimum 4-inch top diameter, or to where the central stem breaks into limbs all of which are < 4.0 inches in diameter. Calculated for live and standing dead trees. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. This attribute is blank (null) for timber species with DIA < 5.0 inches and for woodland species. Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

3.1.192 VOLCSGRS_BARK

Gross cubic-foot bark volume in the sawlog portion of a sawtimber tree. The total cubic-foot volume of bark in the central stem of a timber species tree of sawtimber size (9.0 inches d.b.h. minimum for softwoods, 11.0 inches d.b.h. minimum for hardwoods), from a 1-foot stump to a minimum top diameter (7.0 inches for softwoods, 9.0 inches for hardwoods), or to where the central stem breaks into limbs, all of which are less than the minimum top diameter. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. This attribute is blank (null) for softwood trees with DIA < 9.0 inches (< 11.0 inches for hardwoods). All sawtimber-size trees have entries in this field if they are growing-stock trees (TREECLCD = 2 and STATUSCD = 1). All rough and rotten trees (TREECLCD = 3 or 4) and dead and cut trees (STATUSCD = 2 or 3) are blank (null) in this field. Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

3.1.193 VOLCSSND_BARK

Sound cubic-foot bark volume in the sawlog portion of a sawtimber tree. The sound cubic-foot volume of bark in the central stem of a timber species tree of sawtimber size (9.0 inches d.b.h. minimum for softwoods, 11.0 inches d.b.h. minimum for hardwoods), from a 1-foot stump to a minimum top diameter (7.0 inches for softwoods, 9.0 inches for hardwoods), or to where the central stem breaks into limbs, all of which are less than the minimum top diameter. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. This attribute is blank (null) for softwood trees with DIA < 9.0 inches (< 11.0 inches for hardwoods). All sawtimber-size trees have entries in this field if they are growing-stock trees (TREECLCD = 2 and STATUSCD = 1). All rough and rotten trees (TREECLCD = 3 or 4) and dead and cut trees (STATUSCD = 2 or 3) are blank (null) in this field. Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

3.1.194 VOLCSNET_BARK

Net cubic-foot bark volume in the sawlog portion of a sawtimber tree. The net cubic-foot volume of bark in the central stem of a timber species tree of sawtimber size (9.0 inches d.b.h. minimum for softwoods, 11.0 inches d.b.h. minimum for hardwoods), from a 1-foot stump to a minimum top diameter (7.0 inches for softwoods, 9.0 inches for hardwoods), or to where the central stem breaks into limbs, all of which are less than the minimum top diameter. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. This attribute is blank (null) for softwood trees with DIA <9.0 inches (<11.0 inches for hardwoods). All sawtimber-size trees have entries in this field if they are growing-stock trees (TREECLCD = 2 and STATUSCD = 1). All rough and rotten trees (TREECLCD = 3 or 4) and dead and cut trees (STATUSCD = 2 or 3) are blank (null) in this field. Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

3.1.195 DRYBIO_STEM

Dry biomass of wood in the total stem. The oven-dry biomass, in pounds, of wood in the total stem of timber species (trees where diameter is measured at breast height [d.b.h.] \geq 1.0 inch d.b.h., from ground line to the tree tip. Calculated for live and standing dead trees. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. This attribute is blank (null) for woodland species. Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

3.1.196 DRYBIO_STEM_BARK

Dry biomass of bark in the total stem. The oven-dry biomass, in pounds, of bark in the total stem of timber species (trees where diameter is measured at breast height [d.b.h.] \geq 1.0 inch d.b.h., from ground line to the tree tip. Calculated for live and standing dead trees. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. This attribute is blank (null) for woodland species. Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

3.1.197 DRYBIO_STUMP_BARK

Dry biomass of bark in the stump. The oven-dry biomass, in pounds, of bark in the stump of timber species (trees where diameter is measured at breast height [d.b.h.] \geq 5.0 inches d.b.h. The stump is that portion of the tree from the ground line to the bottom of the merchantable bole (i.e., below 1 foot). Calculated for live and standing dead trees. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. This attribute is blank (null) for timber species with DIA <5.0 inches and for woodland species. Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

3.1.198 DRYBIO_BOLE_BARK

Dry biomass of bark in the merchantable bole. The oven-dry biomass, in pounds, of bark in the merchantable bole of timber species (trees where diameter is measured at breast height [d.b.h.] \geq 5.0 inches d.b.h., from a 1-foot stump to a minimum 4-inch top diameter. Calculated for live and standing dead trees. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. This attribute is blank (null) for timber species with DIA <5.0 inches and for woodland species. Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

3.1.199 DRYBIO_BRANCH

Dry biomass of branches. The oven-dry biomass, in pounds, of wood and bark in the branches/limbs of timber species (trees where diameter is measured at breast height [d.b.h.] ≥ 1.0 inch d.b.h.) DRYBIO_BRANCH is only branches; it does not include any portion of the total stem. Calculated for live and standing dead trees. For live trees, this value is reduced for broken tops. For standing dead trees, this value is reduced for broken tops as well as DECAYCD. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. This attribute is blank (null) for woodland species. Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

3.1.200 DRYBIO_FOLIAGE

Dry biomass of foliage. The oven-dry biomass, in pounds, of foliage for live trees ≥ 1.0 inch d.b.h./d.r.c. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

3.1.201 DRYBIO_SAWLOG_BARK

Dry biomass of bark in the sawlog portion of a sawtimber tree. The oven-dry biomass, in pounds, of bark in the sawlog portion of timber species trees of sawtimber size (9.0 inches d.b.h. minimum for softwoods, 11.0 inches minimum d.b.h. for hardwoods), from a 1-foot stump to a minimum top diameter (7.0 inches for softwoods, 9.0 inches for hardwoods) or to where the central stem breaks into limbs, all of which are less than the minimum top diameter. This is a per tree value and must be multiplied by TPA_UNADJ to obtain per acre information. This attribute is blank (null) for softwood trees with DIA < 9.0 inches (< 11.0 inches for hardwoods) and standing dead trees. Refer to [appendix K](#) for information on FIA volume, biomass, and carbon estimation.

3.1.202 PREV_ACTUALHT_FLD

Previous actual height. (*All live and standing dead tally trees ≥ 1.0 inch d.b.h./d.r.c.*) The actual height measured in the field from the previous inventory. See [ACTUALHT](#) for details.

3.1.203 PREV_HT_FLD

Previous total height. (*All live and standing dead tally trees ≥ 1.0 inch d.b.h./d.r.c.*) The total height from the previous inventory (HTCD = 1, 2, or 3). See [HT](#) for details.

3.2 Tree Woodland Stems Table

(Oracle table name: TREE_WOODLAND_STEMS)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
3.2.1	CN	Sequence number	VARCHAR2(34)
3.2.2	PLT_CN	Plot sequence number	VARCHAR2(34)
3.2.3	INVYR	Inventory year	NUMBER(4)
3.2.4	STATECD	State code	NUMBER(4)
3.2.5	UNITCD	Survey unit code	NUMBER(2)
3.2.6	COUNTYCD	County code	NUMBER(3)
3.2.7	PLOT	Plot number	NUMBER
3.2.8	SUBP	Subplot number	NUMBER
3.2.9	TREE	Woodland tree number	NUMBER(9)
3.2.10	TRE_CN	Tree sequence number	VARCHAR2(34)
3.2.11	DIA	Woodland stem diameter	NUMBER(5,2)
3.2.12	STATUSCD	Woodland stem status code	NUMBER(1)
3.2.13	STEM_NBR	Woodland stem number	NUMBER(3)
3.2.14	CYCLE	Inventory cycle number	NUMBER(2)
3.2.15	SUBCYCLE	Inventory subcycle number	NUMBER(2)
3.2.16	CREATED_BY	Created by	VARCHAR2(30)
3.2.17	CREATED_DATE	Created date	DATE
3.2.18	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
3.2.19	MODIFIED_BY	Modified by	VARCHAR2(30)
3.2.20	MODIFIED_DATE	Modified date	DATE
3.2.21	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	WOODS_PK
Unique	TRE_CN, STEM_NBR	N/A	WOODS_UK
Unique	PLT_CN, SUBP, TREE, STEM_NBR	N/A	WOODS_UK2
Foreign	PLT_CN	TREE_WOODLAND_STEMS to PLOT	WOODS_PLT_FK
Foreign	TRE_CN	TREE_WOODLAND_STEMS to TREE	WOODS_TRE_FK

3.2.1 CN

Sequence number. A unique sequence number used to identify a tree woodland stems record.

3.2.2 PLT_CN

Plot sequence number. Foreign key linking the tree woodland stems record to the plot record.

3.2.3 INVYR

Inventory year. See SURVEY.[INVYR](#) description for definition.

3.2.4 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

3.2.5 UNITCD

Survey unit code. Forest Inventory and Analysis survey unit identification number. Survey units are usually groups of counties within each State. For periodic inventories, survey units may be made up of lands of particular owners. Refer to [appendix B](#) for codes.

3.2.6 COUNTYCD

County code. The identification number for a county, parish, watershed, borough, or similar governmental unit in a State. FIPS codes from the Bureau of the Census are used. Refer to [appendix B](#) for codes.

Note: Summarizing data by county is not recommended for Alaska datasets. For assistance with analyses for Alaska, please consult the PNWRS analyst contact listed in [table 1-1](#).

3.2.7 PLOT

Plot number. An identifier for a plot. Along with STATECD, INVYR, UNITCD, COUNTYCD and/or some other combinations of variables, PLOT may be used to uniquely identify a plot.

3.2.8 SUBP

Subplot number. The number assigned to the subplot. The national plot design (PLOT.DESIGNCD = 1) has subplot number values of 1 through 4. Other plot designs have various subplot number values. See PLOT.[DESIGNCD](#) and [appendix G](#) for information about plot designs. For more explanation about SUBP, contact the appropriate FIA work unit ([table 1-1](#)).

3.2.9 TREE

Woodland tree number. A number that uniquely identifies the woodland tree on the subplot to which the individual qualifying stem belongs.

Woodland species are often multi-stemmed. Individual stems (live or dead) must be at least 1 foot in length and at least 1.0 inch in diameter 1 foot up from the stem diameter measurement point to qualify for measurement.

3.2.10 TRE_CN

Tree sequence number. Foreign key linking the tree woodland stem record to the tree record.

3.2.11 DIA

Woodland stem diameter. The current diameter, in inches, at the point of diameter measurement for the individual qualifying stem on the woodland tree. Individual stems (live or dead) must be at least 1 foot in length and at least 1.0 inch in diameter 1 foot up from the stem diameter measurement point to qualify for measurement.

For woodland species, which are often multi-stemmed, diameter is measured at the ground line or at the stem root collar (d.r.c.), whichever is higher. The overall diameter for woodland species tree (DRC) is computed using the following formula:

$$\text{DRC} = \text{SQRT} [\text{SUM} (\text{stem diameter}^2)]$$

The computed DRC value for the woodland tree is stored in the TREE.[DIA](#) column.

3.2.12 STATUSCD

Woodland stem status code. A code indicating whether the individual qualifying stem on the woodland tree is live or dead.

Woodland species are often multi-stemmed. Individual stems (live or dead) must be at least 1 foot in length and at least 1.0 inch in diameter 1 foot up from the stem diameter measurement point to qualify for measurement.

Codes: STATUSCD

Code	Description
1	Live stem.
2	Dead stem.

3.2.13 STEM_NBR

Woodland stem number. A number that uniquely identifies the individual qualifying stem on the woodland tree, which was used to measure the tree diameter.

Woodland species are often multi-stemmed. Individual stems (live or dead) must be at least 1 foot in length and at least 1.0 inch in diameter 1 foot up from the stem diameter measurement point to qualify for measurement.

The total number of live and dead stems used to calculate the diameter (TREE.[DIA](#)) on a woodland tree is stored in the tree table (TREE.[WLDSTEM](#)).

3.2.14 CYCLE

Inventory cycle number. See SURVEY.[CYCLE](#) description for definition.

3.2.15 SUBCYCLE

Inventory subcycle number. See SURVEY.[SUBCYCLE](#) description for definition.

3.2.16 CREATED_BY

Created by. See SURVEY.[CREATED_BY](#) description for definition.

3.2.17 CREATED_DATE

Created date. See SURVEY.[CREATED_DATE](#) description for definition.

3.2.18 CREATED_IN_INSTANCE

Created in instance. See SURVEY.[CREATED_IN_INSTANCE](#) description for definition.

3.2.19 MODIFIED_BY

Modified by. See SURVEY.[MODIFIED_BY](#) description for definition.

3.2.20 MODIFIED_DATE

Modified date. See SURVEY.[MODIFIED_DATE](#) description for definition.

3.2.21 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.[MODIFIED_IN_INSTANCE](#) description for definition.

3.3 Tree Growth, Removal, and Mortality Component Table

(Oracle table name: TREE_GRM_COMPONENT)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
3.3.1	TRE_CN	Tree sequence number	VARCHAR2(34)
3.3.2	PREV_TRE_CN	Previous tree sequence number	VARCHAR2(34)
3.3.3	PLT_CN	Plot sequence number	VARCHAR2(34)
3.3.4	STATECD	State code	NUMBER
3.3.5	DIA_BEGIN	Beginning diameter	NUMBER(5,2)
3.3.6	DIA_MIDPT	Midpoint diameter	NUMBER(5,2)
3.3.7	DIA_END	Ending diameter	NUMBER(5,2)
3.3.8	ANN_DIA_GROWTH	Computed annual diameter growth	NUMBER(5,2)
3.3.9	ANN_HT_GROWTH	Computed annual height growth	NUMBER(5,2)
3.3.10	SUBPTYP_BEGIN	Beginning plot type code	NUMBER(1)
3.3.11	SUBPTYP_MIDPT	Midpoint plot type code	NUMBER(1)
3.3.12	SUBPTYP_END	Ending plot type code	NUMBER(1)
3.3.13	MICR_COMPONENT_AL_FOREST	Trees with DIA ≥ 1.0 inch - growth component for the all live estimation type on forest land	VARCHAR2(15)
3.3.14	MICR_SUBTYP_GRM_AL_FOREST	Trees with DIA ≥ 1.0 inch - plot type for GRM for the all live estimation type on forest land	NUMBER(1)
3.3.15	MICR_TPAGROW_UNADJ_AL_FOREST	Trees with DIA ≥ 1.0 inch - unadjusted trees per acre for growth for the all live estimation type on forest land	NUMBER(11,6)
3.3.16	MICR_TPAREMV_UNADJ_AL_FOREST	Trees with DIA ≥ 1.0 inch - unadjusted trees per acre per year for removals for the all live estimation type on forest land	NUMBER(11,6)
3.3.17	MICR_TPAMORT_UNADJ_AL_FOREST	Trees with DIA ≥ 1.0 inch - unadjusted trees per acre per year for mortality for the all live estimation type on forest land	NUMBER(11,6)
3.3.18	SUBP_COMPONENT_AL_FOREST	Trees with DIA ≥ 5.0 inches - growth component for the all live estimation type on forest land	VARCHAR2(15)
3.3.19	SUBP_SUBTYP_GRM_AL_FOREST	Trees with DIA ≥ 5.0 inches - plot type for GRM for the all live estimation type on forest land	NUMBER(1)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
3.3.20	SUBP_TPAGROW_UNADJ_AL_FOREST	Trees with DIA \geq 5.0 inches - unadjusted trees per acre for growth for the all live estimation type on forest land	NUMBER(11,6)
3.3.21	SUBP_TPAREMV_UNADJ_AL_FOREST	Trees with DIA \geq 5.0 inches - unadjusted trees per acre per year for removals for the all live estimation type on forest land	NUMBER(11,6)
3.3.22	SUBP_TPAMORT_UNADJ_AL_FOREST	Trees with DIA \geq 5.0 inches - unadjusted trees per acre per year for mortality for the all live estimation type on forest land	NUMBER(11,6)
3.3.23	SUBP_COMPONENT_GS_FOREST	Trees with DIA \geq 5.0 inches - growth component for the growing-stock estimation type on forest land	VARCHAR2(15)
3.3.24	SUBP_SUBPTYP_GRM_GS_FOREST	Trees with DIA \geq 5.0 inches - plot type for GRM for the growing-stock estimation type on forest land	NUMBER(1)
3.3.25	SUBP_TPAGROW_UNADJ_GS_FOREST	Trees with DIA \geq 5.0 inches - unadjusted trees per acre for growth for the growing-stock estimation type on forest land	NUMBER(11,6)
3.3.26	SUBP_TPAREMV_UNADJ_GS_FOREST	Trees with DIA \geq 5.0 inches - unadjusted trees per acre per year for removals for the growing-stock estimation type on forest land	NUMBER(11,6)
3.3.27	SUBP_TPAMORT_UNADJ_GS_FOREST	Trees with DIA \geq 5.0 inches - unadjusted trees per acre per year for mortality for the growing-stock estimation type on forest land	NUMBER(11,6)
3.3.28	SUBP_COMPONENT_SL_FOREST	Trees with DIA \geq 5.0 inches - growth component for the sawtimber estimation type on forest land	VARCHAR2(15)
3.3.29	SUBP_SUBPTYP_GRM_SL_FOREST	Trees with DIA \geq 5.0 inches - plot type for GRM for the sawtimber estimation type on forest land	NUMBER(1)
3.3.30	SUBP_TPAGROW_UNADJ_SL_FOREST	Trees with DIA \geq 5.0 inches - unadjusted trees per acre for growth for the sawtimber estimation type on forest land	NUMBER(11,6)
3.3.31	SUBP_TPAREMV_UNADJ_SL_FOREST	Trees with DIA \geq 5.0 inches - unadjusted trees per acre per year for removals for the sawtimber estimation type on forest land	NUMBER(11,6)
3.3.32	SUBP_TPAMORT_UNADJ_SL_FOREST	Trees with DIA \geq 5.0 inches - unadjusted trees per acre per year for mortality for the sawtimber estimation type on forest land	NUMBER(11,6)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
3.3.33	MICR_COMPONENT_AL_TIMBER	Trees with DIA ≥ 1.0 inch - growth component for the all live estimation type on timberland	VARCHAR2(15)
3.3.34	MICR_SUBPTYP_GRM_AL_TIMBER	Trees with DIA ≥ 1.0 inch - plot type for GRM for the all live estimation type on timberland	NUMBER(1)
3.3.35	MICR_TPAGROW_UNADJ_AL_TIMER	Trees with DIA ≥ 1.0 inch - unadjusted trees per acre for growth for the all live estimation type on timberland	NUMBER(11,6)
3.3.36	MICR_TPAREMV_UNADJ_AL_TIMBER	Trees with DIA ≥ 1.0 inch - unadjusted trees per acre per year for removals for the all live estimation type on timberland	NUMBER(11,6)
3.3.37	MICR_TPAMORT_UNADJ_AL_TIMER	Trees with DIA ≥ 1.0 inch - unadjusted trees per acre per year for mortality for the all live estimation type on timberland	NUMBER(11,6)
3.3.38	SUBP_COMPONENT_AL_TIMBER	Trees with DIA ≥ 5.0 inches - growth component for the all live estimation type on timberland	VARCHAR2(15)
3.3.39	SUBP_SUBPTYP_GRM_AL_TIMBER	Trees with DIA ≥ 5.0 inches - plot type for GRM for the all live estimation type on timberland	NUMBER(1)
3.3.40	SUBP_TPAGROW_UNADJ_AL_TIMER	Trees with DIA ≥ 5.0 inches - unadjusted trees per acre for growth for the all live estimation type on timberland	NUMBER(11,6)
3.3.41	SUBP_TPAREMV_UNADJ_AL_TIMER	Trees with DIA ≥ 5.0 inches - unadjusted trees per acre per year for removals for the all live estimation type on timberland	NUMBER(11,6)
3.3.42	SUBP_TPAMORT_UNADJ_AL_TIMER	Trees with DIA ≥ 5.0 inches - unadjusted trees per acre per year for mortality for the all live estimation type on timberland	NUMBER(11,6)
3.3.43	SUBP_COMPONENT_GS_TIMBER	Trees with DIA ≥ 5.0 inches - growth component for the growing-stock estimation type on timberland	VARCHAR2(15)
3.3.44	SUBP_SUBPTYP_GRM_GS_TIMBER	Trees with DIA ≥ 5.0 inches - plot type for GRM for the growing-stock estimation type on timberland	NUMBER(1)
3.3.45	SUBP_TPAGROW_UNADJ_GS_TIMER	Trees with DIA ≥ 5.0 inches - unadjusted trees per acre for growth for the growing-stock estimation type on timberland	NUMBER(11,6)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
3.3.46	SUBP_TPAREMV_UNADJ_GS_TIMBER	Trees with DIA \geq 5.0 inches - unadjusted trees per acre per year for removals for the growing-stock estimation type on timberland	NUMBER(11,6)
3.3.47	SUBP_TPAMORT_UNADJ_GS_TIMBER	Trees with DIA \geq 5.0 inches - unadjusted trees per acre per year for mortality for the growing-stock estimation type on timberland	NUMBER(11,6)
3.3.48	SUBP_COMPONENT_SL_TIMBER	Trees with DIA \geq 5.0 inches - growth component for the sawtimber estimation type on timberland	VARCHAR2(15)
3.3.49	SUBP_SUBPTYP_GRM_SL_TIMBER	Trees with DIA \geq 5.0 inches - plot type for GRM for the sawtimber estimation type on timberland	NUMBER(1)
3.3.50	SUBP_TPAGROW_UNADJ_SL_TIMBER	Trees with DIA \geq 5.0 inches - unadjusted trees per acre for growth for the sawtimber estimation type on timberland	NUMBER(11,6)
3.3.51	SUBP_TPAREMV_UNADJ_SL_TIMBER	Trees with DIA \geq 5.0 inches - unadjusted trees per acre per year for removals for the sawtimber estimation type on timberland	NUMBER(11,6)
3.3.52	SUBP_TPAMORT_UNADJ_SL_TIMBER	Trees with DIA \geq 5.0 inches - unadjusted trees per acre per year for mortality for the sawtimber estimation type on timberland	NUMBER(11,6)
3.3.53	GROWTSAL_FOREST	Net annual sound cubic-foot total-stem wood growth of a live tree for the all live estimation type on forest land	NUMBER(13,6)
3.3.54	GROWCFAL_FOREST	Net annual sound cubic-foot stem wood growth of a live tree for the all live estimation type on forest land	NUMBER(13,6)
3.3.55	GROWCFGs_FOREST	Net annual merchantable cubic-foot stem wood growth of a growing-stock tree on forest land	NUMBER(13,6)
3.3.56	GROWBFSL_FOREST	Net annual merchantable board-foot wood growth of a sawtimber tree on forest land	NUMBER(13,6)
3.3.57	REMVTSAL_FOREST	Sound cubic-foot total-stem wood volume of a live tree for removal purposes for the all live estimation type on forest land	NUMBER(13,6)
3.3.58	REMVCFAL_FOREST	Sound cubic-foot stem wood volume of a live tree for removal purposes for the all live estimation type on forest land	NUMBER(13,6)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
3.3.59	REMVCFGS_FOREST	Merchantable cubic-foot stem wood volume of a growing-stock tree for removal purposes on forest land	NUMBER(13,6)
3.3.60	REMVBFSL_FOREST	Merchantable board-foot wood volume of a sawtimber tree for removal purposes on forest land	NUMBER(13,6)
3.3.61	MORTTSAL_FOREST	Sound cubic-foot total-stem wood volume of a tree for mortality purposes for the all live estimation type on forest land	NUMBER(13,6)
3.3.62	MORTCFAL_FOREST	Sound cubic-foot stem wood volume of a tree for mortality purposes for the all live estimation type on forest land	NUMBER(13,6)
3.3.63	MORTCFGPS_FOREST	Merchantable cubic-foot stem wood volume of a growing-stock tree for mortality purposes on forest land	NUMBER(13,6)
3.3.64	MORTBFSL_FOREST	Merchantable board-foot wood volume of a sawtimber tree for mortality purposes on forest land	NUMBER(13,6)
3.3.65	GROWTSAL_TIMBER	Net annual sound cubic-foot total-stem wood growth of a live tree for the all live estimation type on timberland	NUMBER(13,6)
3.3.66	GROWCFAL_TIMBER	Net annual sound cubic-foot stem wood growth of a live tree for the all live estimation type on timberland	NUMBER(13,6)
3.3.67	GROWCFGPS_TIMBER	Net annual merchantable cubic-foot stem wood growth of a growing-stock tree on timberland	NUMBER(13,6)
3.3.68	GROWBFSL_TIMBER	Net annual merchantable board-foot wood growth of a sawtimber tree on timberland	NUMBER(13,6)
3.3.69	REMVTSAI_TIMBER	Sound cubic-foot total-stem wood volume of a live tree for removal purposes for the all live estimation type on timberland	NUMBER(13,6)
3.3.70	REMVCFAL_TIMBER	Sound cubic-foot stem wood volume of a live tree for removal purposes for the all live estimation type on timberland	NUMBER(13,6)
3.3.71	REMVCFGS_TIMBER	Merchantable cubic-foot stem wood volume of a growing-stock tree for removal purposes on timberland	NUMBER(13,6)
3.3.72	REMVBFSL_TIMBER	Merchantable board-foot wood volume of a sawtimber tree for removal purposes on timberland	NUMBER(13,6)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
3.3.73	MORTTSAL_TIMBER	Sound cubic-foot total-stem wood volume of a tree for mortality purposes for the all live estimation type on timberland	NUMBER(13,6)
3.3.74	MORTCFAL_TIMBER	Sound cubic-foot stem wood volume of a tree for mortality purposes for the all live estimation type on timberland	NUMBER(13,6)
3.3.75	MORTCFGs_TIMBER	Merchantable cubic-foot stem wood volume of a growing-stock tree for mortality purposes on timberland	NUMBER(13,6)
3.3.76	MORTBFSL_TIMBER	Merchantable board-foot wood volume of a sawtimber tree for mortality purposes on timberland	NUMBER(13,6)
3.3.77	CREATED_BY	Created by	VARCHAR2(30)
3.3.78	CREATED_DATE	Created date	DATE
3.3.79	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
3.3.80	MODIFIED_BY	Modified by	VARCHAR2(30)
3.3.81	MODIFIED_DATE	Modified date	DATE
3.3.82	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	TRE_CN	N/A	TRE_GRM_CMP_PK
Foreign	TRE_CN	TREE_GRM_COMPONENT to TREE	TRE_GRM_CMP_FK

This table stores information used to compute net growth, removals, and mortality (GRM) estimates for remeasurement trees. Remeasurement is from the time 1 (T1, most recent past measurement) date to the time 2 (T2, current) date. This table provides the same information as the TREE_GRM_ESTN table, but the data have been reformatted such that each remeasurement tree is represented by a single record in this table as opposed to multiple records in the TREE_GRM_ESTN table. This is an experimental restructuring of the data intended to help FIA develop new methods of presenting data and supporting estimation through download files as well as estimation tools like EVALIDator. Details about the land basis (forest land or timberland), component of change (e.g., survivor tree), and estimation type (all live, growing stock, or sawtimber) are incorporated into the columns in various combinations.

For example, the column SUBP_COMPONENT_AL_FOREST identifies the change component for the all live estimation type on forest land. The same information could be queried from rows in the TREE_GRM_ESTN table by including the following in the WHERE clause of a SQL statement:

```
AND LAND_BASIS = 'FORESTLAND'
AND ESTN_TYPE = 'AL'
```

Queries of rows by attribute estimates and accompanying units (e.g., TREE_GRM_ESTN.ESTIMATE = 'VOLUME' and TREE_GRM_ESTN.ESTN_UNITS = 'CF') are not applicable to this table. The attribute estimates and units are identified by columns in the TREE_GRM_COMPONENT, TREE_GRM_BEGIN, and TREE_GRM_MIDPT tables. For example, TREE_GRM_COMPONENT.GROWCFAL_FOREST stores the net annual sound cubic-foot growth of a live tree on forest land (all live estimation type). The begin and mid-point diameters as well as the begin and mid-point estimates that were part of the TREE_GRM_ESTN table structure are now stored in independent tables (TREE_GRM_BEGIN and TREE_GRM_MIDPT). The standard net growth, removals, and mortality estimates for volume only are included in the TREE_GRM_COMPONENT table. Information on the individual growth components (e.g., growth on ingrowth: G_I) are not included. The TREE_GRM_BEGIN, TREE_GRM_MIDPT, and TREE tables currently support estimates of volume as well as biomass. Carbon estimates can also be produced by assuming a ratio of dry biomass to carbon of 2:1. Multiply the dry biomass estimate by 0.5 to compute an estimate of carbon content.

3.3.1 TRE_CN

Tree sequence number. Foreign key linking the GRM tree component record to the tree record.

3.3.2 PREV_TRE_CN

Previous tree sequence number. Foreign key linking the GRM tree component record to the time 1 tree record if one exists. It can be blank (null) in some cases. For example, an ingrowth tree would not have a time 1 (T1) record.

3.3.3 PLT_CN

Plot sequence number. Foreign key linking the GRM tree component record to the plot record.

3.3.4 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

3.3.5 DIA_BEGIN

Beginning diameter. Diameter at the beginning of the measurement interval. This is the value actually used in the calculation of GRM estimates and may not match the value on the T1 tree record in all cases. For example, in cases where the point of diameter measurement is moved between T1 and T2, the T1 diameter can be estimated by a model.

3.3.6 DIA_MIDPT

Midpoint diameter. Diameter at the midpoint of the measurement interval.

3.3.7 DIA_END

Ending diameter. Diameter at the end of the remeasurement period.

3.3.8 ANN_DIA_GROWTH

Computed annual diameter growth. The annual diameter growth for the tree expressed as inches per year.

3.3.9 ANN_HT_GROWTH

Computed annual height growth. The annual height growth for a tree expressed as feet per year.

3.3.10 SUBTYP_BEGIN

Beginning plot type code. A code indicating the plot type at the beginning of the remeasurement period. This value is assigned based on the size of the tree at the beginning of the remeasurement period.

Codes: SUBTYP_BEGIN

Code	Description
0	No plot type. Tree not present.
1	Subplot.
2	Microplot.
3	Macroplot.

3.3.11 SUBTYP_MIDPT

Midpoint plot type code. A code indicating the plot type at the midpoint of the remeasurement period. This value is assigned based on the size of the tree at the midpoint of the remeasurement period. See [SUBTYP_BEGIN](#) description for codes.

3.3.12 SUBTYP_END

Ending plot type code. A code indicating the plot type at the end of the remeasurement period. This value is assigned based on the size of the tree at the end of the remeasurement period. See [SUBTYP_BEGIN](#) description for codes.

3.3.13 MICR_COMPONENT_AL_FOREST

Trees with DIA ≥ 1.0 inch - growth component for the all live estimation type on forest land. Growth component (trees with DIA ≥ 1.0 inch) on forest land for the all live estimation type.

Note: The MICR prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

Codes: MICR_COMPONENT_AL_FOREST

Code	Description
CUT0	Tree was killed due to harvesting activity by T2 ((TREE.STATUSCD = 3) or (TREE.STATUSCD = 2 and TREE.AGENTCD = 80)). Applicable only in periodic-to-periodic, periodic-to-annual, and modeled GRM estimates.
CUT 1	Tree was previously in estimate at T1 and was killed due to harvesting activity by T2 ((TREE.STATUSCD = 3) or (TREE.STATUSCD = 2 and TREE.AGENTCD = 80)).
CUT2	Tree grew across minimum threshold diameter for the estimate since T1 and was killed due to harvesting activity by T2 ((TREE.STATUSCD = 3) or (TREE.STATUSCD = 2 and TREE.AGENTCD = 80)).
INGROWTH	Tree grew across minimum threshold diameter for the estimate since T1. For example, a sapling grows across the 5-inch diameter threshold becoming ingrowth on the subplot.

Code	Description
MORTALITY0	Tree died of natural causes by T2 (TREE.AGENTCD <> 80). Applicable only in periodic-to-periodic, periodic-to-annual, and modeled GRM estimates.
MORTALITY1	Tree was previously in estimate at T1 and died of natural causes by T2 (TREE.AGENTCD <> 80).
MORTALITY2	Tree grew across minimum threshold diameter for the estimate since T1 and died of natural causes by T2 (TREE.AGENTCD <> 80).
NOT USED	Tree was either live or dead at T1 and has no status at T2.
SURVIVOR	Tree has remained live and in the estimate from T1 through T2.
UNKNOWN	Tree lacks information required to classify component usually due to procedural changes.
REVERSION1	Tree grew across minimum threshold diameter for the estimate by the midpoint of the measurement interval and the condition reverted to the land basis by T2.
REVERSION2	Tree grew across minimum threshold diameter for the estimate after the midpoint of the measurement interval and the condition reverted to the land basis by T2.
DIVERSION0	Tree was removed from the estimate by something other than harvesting activity by T2 (not (TREE.STATUSCD = 3) and not (TREE.STATUSCD = 2 and TREE.AGENTCD = 80)). Applicable only in periodic-to-periodic, periodic-to-annual, and modeled GRM estimates.
DIVERSION1	Tree was previously in estimate at T1 and the condition diverted from the land basis by T2 (not (TREE.STATUSCD = 3) and not (TREE.STATUSCD = 2 and TREE.AGENTCD = 80)).
DIVERSION2	Tree grew across minimum threshold diameter for the estimate since T1 and the condition diverted from the land basis by T2 (not (TREE.STATUSCD= 3) and not (TREE.STATUSCD = 2 and TREE.AGENTCD = 80)).
CULLINCR	Not used at this time.
CULLDECR	Not used at this time.
N/A - A2A	Component of change is not defined or does not exist. Applicable only in annual-to-annual GRM estimates.
N/A - A2A SOON	Component of change is not defined or does not exist. Applicable only in annual-to-annual GRM estimates.
N/A - MODELED	Component of change is not defined or does not exist. Applicable only in annual-to-annual GRM estimates.
N/A - P2A	Component of change is not defined or does not exist. Applicable only in periodic-to-annual GRM estimates.
N/A - P2P	Component of change is not defined or does not exist. Applicable only in periodic-to-periodic GRM estimates.
N/A - PERIODIC	Component of change is not defined or does not exist. Applicable only in periodic-to-periodic GRM estimates.

3.3.14 MICR_SUBTYP_GRM_AL_FOREST

Trees with DIA ≥ 1.0 inch - plot type for GRM for the all live estimation type on forest land. The plot type for growth, removals, and mortality (GRM) (trees with DIA ≥ 1.0 inch) on forest land for the all live estimation type. This plot type is used during estimation to locate the appropriate stratum adjustment factor. See [SUBTYP_BEGIN](#) description for codes.

Note: The MICR prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.15 MICR_TPAGROW_UNADJ_AL_FOREST

Trees with DIA ≥ 1.0 inch - unadjusted trees per acre for growth for the all live estimation type on forest land. Unadjusted trees per acre for growth (trees with DIA ≥ 1.0 inch) on forest land for the all live estimation type. This value must be adjusted using the stratum adjustment factors stored in the POP_STRATUM table.

Note: This column is populated with a constant value based on the plot size for those plots using a fixed-radius design. It is populated using a value inversely related to the tree size for plots using a variable-radius design. The MICR prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.16 MICR_TPAREMV_UNADJ_AL_FOREST

Trees with DIA ≥ 1.0 inch - unadjusted trees per acre per year for removals for the all live estimation type on forest land. Unadjusted trees per acre for removals (trees with DIA ≥ 1.0 inch) on forest land for the all live estimation type. This value must be adjusted using the stratum adjustment factors stored in the POP_STRATUM table.

Note: This column is populated with a constant value based on the plot size for those plots using a fixed-radius design. It is populated using a value inversely related to the tree size for plots using a variable-radius design. The MICR prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.17 MICR_TPAMORT_UNADJ_AL_FOREST

Trees with DIA ≥ 1.0 inch - unadjusted trees per acre per year for mortality for the all live estimation type on forest land. Unadjusted trees per acre per year for mortality (trees with DIA ≥ 1.0 inch) on forest land for the all live estimation type. This value must be adjusted using the stratum adjustment factors stored in the POP_STRATUM table.

Note: This column is populated with a constant value based on the plot size for those plots using a fixed-radius design. It is populated using a value inversely related to the tree size for plots using a variable-radius design. The MICR prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.18 SUBP_COMPONENT_AL_FOREST

Trees with DIA ≥ 5.0 inches - growth component for the all live estimation type on forest land. Growth component (trees with DIA ≥ 5.0 inches) on forest land for the all live estimation type. See [MICR_COMPONENT_AL_FOREST](#) description for codes.

Note: The SUBP prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.19 SUBP_SUBPTYP_GRM_AL_FOREST

Trees with DIA ≥ 5.0 inches - plot type for GRM for the all live estimation type on forest land. The plot type for growth, removals, and mortality (GRM) (trees with DIA ≥ 5.0 inches) on forest land for the all live estimation type. This plot type is used during estimation to locate the appropriate stratum adjustment factor. See [SUBPTYP_BEGIN](#) description for codes.

Note: The SUBP prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.20 **SUBP_TPAGROW_UNADJ_AL_FOREST**

Trees with DIA ≥ 5.0 inches - unadjusted trees per acre for growth for the all live estimation type on forest land. Unadjusted trees per acre for growth (trees with DIA ≥ 5.0 inches) on forest land for the all live estimation type. This value must be adjusted using the stratum adjustment factors stored in the POP_STRATUM table.

Note: This column is populated with a constant value based on the plot size for those plots using a fixed-radius design. It is populated using a value inversely related to the tree size for plots using a variable-radius design. The SUBP prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.21 **SUBP_TPAREMV_UNADJ_AL_FOREST**

Trees with DIA ≥ 5.0 inches - unadjusted trees per acre per year for removals for the all live estimation type on forest land. Unadjusted trees per acre per year for removals (trees with DIA ≥ 5.0 inches) on forest land for the all live estimation type. This value must be adjusted using the stratum adjustment factors stored in the POP_STRATUM table.

Note: This column is populated with a constant value based on the plot size for those plots using a fixed-radius design. It is populated using a value inversely related to the tree size for plots using a variable-radius design. The SUBP prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.22 **SUBP_TPAMORT_UNADJ_AL_FOREST**

Trees with DIA ≥ 5.0 inches - unadjusted trees per acre per year for mortality for the all live estimation type on forest land. Unadjusted trees per acre per year for mortality (trees with DIA ≥ 5.0 inches) on forest land for the all live estimation type. This value must be adjusted using the stratum adjustment factors stored in the POP_STRATUM table.

Note: This column is populated with a constant value based on the plot size for those plots using a fixed-radius design. It is populated using a value inversely related to the tree size for plots using a variable-radius design. The SUBP prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.23 **SUBP_COMPONENT_GS_FOREST**

Trees with DIA ≥ 5.0 inches - growth component for the growing-stock estimation type on forest land. Growth component (trees with DIA ≥ 5 inches) on forest land for the growing-stock estimation type. See [MICR_COMPONENT_AL_FOREST](#) description for codes.

Note: The SUBP prefix on the column name does not relate to the plot size.

3.3.24 **SUBP_SUBPTYP_GRM_GS_FOREST**

Trees with DIA ≥ 5.0 inches - plot type for GRM for the growing-stock estimation type on forest land. The plot type for growth, removals, and mortality (GRM) (trees with DIA ≥ 5.0 inches) on forest land for the growing-stock estimation type. This plot type is used during estimation to locate the appropriate stratum adjustment factor. See [SUBPTYP_BEGIN](#) description for codes.

Note: The SUBP prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.25 **SUBP_TPAGROW_UNADJ_GS_FOREST**

Trees with DIA ≥ 5.0 inches - unadjusted trees per acre for growth for the growing-stock estimation type on forest land. Unadjusted trees per acre for growth (trees with DIA ≥ 5.0 inches) on forest land for the growing-stock estimation type. This value must be adjusted using the stratum adjustment factors stored in the POP_STRATUM table.

Note: This column is populated with a constant value based on the plot size for those plots using a fixed-radius design. It is populated using a value inversely related to the tree size for plots using a variable-radius design. The SUBP prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.26 **SUBP_TPAREMV_UNADJ_GS_FOREST**

Trees with DIA ≥ 5.0 inches - unadjusted trees per acre per year for removals for the growing-stock estimation type on forest land. Unadjusted trees per acre per year for removals (trees with DIA ≥ 5.0 inches) on forest land for the growing-stock estimation type. This value must be adjusted using the stratum adjustment factors stored in the POP_STRATUM table.

Note: This column is populated with a constant value based on the plot size for those plots using a fixed-radius design. It is populated using a value inversely related to the tree size for plots using a variable-radius design. The SUBP prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.27 **SUBP_TPAMORT_UNADJ_GS_FOREST**

Trees with DIA ≥ 5.0 inches - unadjusted trees per acre per year for mortality for the growing-stock estimation type on forest land. Unadjusted trees per acre per year for mortality (trees with DIA ≥ 5.0 inches) on forest land for the growing-stock estimation type. This value must be adjusted using the stratum adjustment factors stored in the POP_STRATUM table.

Note: This column is populated with a constant value based on the plot size for those plots using a fixed-radius design. It is populated using a value inversely related to the tree size for plots using a variable-radius design. The SUBP prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.28 **SUBP_COMPONENT_SL_FOREST**

Trees with DIA ≥ 5.0 inches - growth component for the sawtimber estimation type on forest land. Growth component (trees with DIA ≥ 5.0 inches) on forest land for the sawtimber estimation type. See [MICR_COMPONENT_AL_FOREST](#) description for codes.

Note: The SUBP prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.29 SUBP_SUBPTYP_GRM_SL_FOREST

Trees with DIA ≥ 5.0 inches - plot type for GRM for the sawtimber estimation type on forest land. The plot type for growth, removals, and mortality (GRM) (trees with DIA ≥ 5.0 inches) on forest land for the sawtimber estimation type. This plot type is used during estimation to locate the appropriate stratum adjustment factor. See [SUBPTYP_BEGIN](#) description for codes.

Note: The SUBP prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.30 SUBP_TPAGROW_UNADJ_SL_FOREST

Trees with DIA ≥ 5.0 inches - unadjusted trees per acre for growth for the sawtimber estimation type on forest land. Unadjusted trees per acre for growth (trees with DIA ≥ 5.0 inches) on forest land for the sawtimber estimation type. This value must be adjusted using the stratum adjustment factors stored in the POP_STRATUM table.

Note: This column is populated with a constant value based on the plot size for those plots using a fixed-radius design. It is populated using a value inversely related to the tree size for plots using a variable-radius design. The SUBP prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.31 SUBP_TPAREMV_UNADJ_SL_FOREST

Trees with DIA ≥ 5.0 inches - unadjusted trees per acre per year for removals for the sawtimber estimation type on forest land. Unadjusted trees per acre per year for removals (trees with DIA ≥ 5.0 inches) on forest land for the sawtimber estimation type. This value must be adjusted using the stratum adjustment factors stored in the POP_STRATUM table.

Note: This column is populated with a constant value based on the plot size for those plots using a fixed-radius design. It is populated using a value inversely related to the tree size for plots using a variable-radius design. The SUBP prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.32 SUBP_TPAMORT_UNADJ_SL_FOREST

Trees with DIA ≥ 5.0 inches - unadjusted trees per acre per year for mortality for the sawtimber estimation type on forest land. Unadjusted trees per acre per year for mortality (trees with DIA ≥ 5.0 inches) on forest land for the sawtimber estimation type. This value must be adjusted using the stratum adjustment factors stored in the POP_STRATUM table.

Note: This column is populated with a constant value based on the plot size for those plots using a fixed-radius design. It is populated using a value inversely related to the tree size for plots using a variable-radius design. The SUBP prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.33 MICR_COMPONENT_AL_TIMBER

Trees with DIA ≥ 1.0 inch - growth component for the all live estimation type on timberland. Growth component (trees with DIA ≥ 1.0 inch) on timberland for the all live estimation type. See [MICR_COMPONENT_AL_FOREST](#) description for codes.

Note: The MICR prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.34 MICR_SUBPTYP_GRM_AL_TIMBER

Trees with DIA ≥ 1.0 inch - plot type for GRM for the all live estimation type on timberland. The plot type for growth, removals, and mortality (GRM) (trees with DIA ≥ 1.0 inch) on timberland for the all live estimation type. This plot type is used during estimation to locate the appropriate stratum adjustment factor. See [SUBPTYP_BEGIN](#) description for codes.

Note: The MICR prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.35 MICR_TPAGROW_UNADJ_AL_TIMBER

Trees with DIA ≥ 1.0 inch - unadjusted trees per acre for growth for the all live estimation type on timberland. Unadjusted trees per acre for growth (trees with DIA ≥ 1.0 inch) on timberland for the all live estimation type. This value must be adjusted using the stratum adjustment factors stored in the POP_STRATUM table.

Note: This column is populated with a constant value based on the plot size for those plots using a fixed-radius design. It is populated using a value inversely related to the tree size for plots using a variable-radius design. The MICR prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.36 MICR_TPAREMV_UNADJ_AL_TIMBER

Trees with DIA ≥ 1.0 inch - unadjusted trees per acre per year for removals for the all live estimation type on timberland. Unadjusted trees per acre per year for removals (trees with DIA ≥ 1.0 inch) on timberland for the all live estimation type. This value must be adjusted using the stratum adjustment factors stored in the POP_STRATUM table.

Note: This column is populated with a constant value based on the plot size for those plots using a fixed-radius design. It is populated using a value inversely related to the tree size for plots using a variable-radius design. The MICR prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.37 MICR_TPAMORT_UNADJ_AL_TIMBER

Trees with DIA ≥ 1.0 inch - unadjusted trees per acre per year for mortality for the all live estimation type on timberland. Unadjusted trees per acre per year for mortality (trees with DIA ≥ 1.0 inch) on timberland for the all live estimation type. This value must be adjusted using the stratum adjustment factors stored in the POP_STRATUM table.

Note: This column is populated with a constant value based on the plot size for those plots using a fixed-radius design. It is populated using a value inversely related to the tree size for plots using a variable-radius design. The MICR prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.38 SUBP_COMPONENT_AL_TIMBER

Trees with DIA ≥ 5.0 inches - growth component for the all live estimation type on timberland. Growth component (trees with DIA ≥ 5.0 inches) on timberland for the all live estimation type. See [MICR_COMPONENT_AL_FOREST](#) description for codes.

Note: The SUBP prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.39 **SUBP_SUBPTYP_GRM_AL_TIMBER**

Trees with DIA ≥ 5.0 inches - plot type for GRM for the all live estimation type on timberland. The plot type for growth, removals, and mortality (GRM) (trees with DIA ≥ 5.0 inches) on timberland for the all live estimation type. This plot type is used during estimation to locate the appropriate stratum adjustment factor. See [SUBPTYP_BEGIN](#) description for codes.

Note: The SUBP prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.40 **SUBP_TPAGROW_UNADJ_AL_TIMBER**

Trees with DIA ≥ 5.0 inches - unadjusted trees per acre for growth for the all live estimation type on timberland. Unadjusted trees per acre for growth (trees with DIA ≥ 5.0 inches) on timberland for the all live estimation type. This value must be adjusted using the stratum adjustment factors stored in the POP_STRATUM table.

Note: This column is populated with a constant value based on the plot size for those plots using a fixed-radius design. It is populated using a value inversely related to the tree size for plots using a variable-radius design. The SUBP prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.41 **SUBP_TPAREMV_UNADJ_AL_TIMBER**

Trees with DIA ≥ 5.0 inches - unadjusted trees per acre per year for removals for the all live estimation type on timberland. Unadjusted trees per acre per year for removals (trees with DIA ≥ 5.0 inches) on timberland for the all live estimation type. This value must be adjusted using the stratum adjustment factors stored in the POP_STRATUM table.

Note: This column is populated with a constant value based on the plot size for those plots using a fixed-radius design. It is populated using a value inversely related to the tree size for plots using a variable-radius design. The SUBP prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.42 **SUBP_TPAMORT_UNADJ_AL_TIMBER**

Trees with DIA ≥ 5.0 inches - unadjusted trees per acre per year for mortality for the all live estimation type on timberland. Unadjusted trees per acre per year for mortality (trees with DIA ≥ 5.0) on timberland for the all live estimation type. This value must be adjusted using the stratum adjustment factors stored in the POP_STRATUM table.

Note: This column is populated with a constant value based on the plot size for those plots using a fixed-radius design. It is populated using a value inversely related to the tree size for plots using a variable-radius design. The SUBP prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.43 **SUBP_COMPONENT_GS_TIMBER**

Trees with DIA ≥ 5.0 inches - growth component for the growing-stock estimation type on timberland. Growth component (trees with DIA ≥ 5.0 inches) on timberland for the growing-stock estimation type.

Note: The SUBP prefix on the column name does not relate to the plot size. See [MICR_COMPONENT_AL_FOREST](#) description for codes.

3.3.44 **SUBP_SUBPTYP_GRM_GS_TIMBER**

Trees with DIA ≥ 5.0 inches - plot type for GRM for the growing-stock estimation type on timberland. The plot type for growth, removals, and mortality (GRM) (trees with DIA ≥ 5.0 inches) on timberland for the growing-stock estimation type. This plot type is used during estimation to locate the appropriate stratum adjustment factor. See [SUBPTYP_BEGIN](#) description for codes.

Note: The SUBP prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.45 **SUBP_TPAGROW_UNADJ_GS_TIMBER**

Trees with DIA ≥ 5.0 inches - unadjusted trees per acre for growth for the growing-stock estimation type on timberland. Unadjusted trees per acre for growth (trees with DIA ≥ 5.0 inches) on timberland for the growing-stock estimation type. This value must be adjusted using the stratum adjustment factors stored in the POP_STRATUM table.

Note: This column is populated with a constant value based on the plot size for those plots using a fixed-radius design. It is populated using a value inversely related to the tree size for plots using a variable-radius design. The SUBP prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.46 **SUBP_TPAREMV_UNADJ_GS_TIMBER**

Trees with DIA ≥ 5.0 inches - unadjusted trees per acre per year for removals for the growing-stock estimation type on timberland. Unadjusted trees per acre per year for removals (trees with DIA ≥ 5.0 inches) on timberland for the growing-stock estimation type. This value must be adjusted using the stratum adjustment factors stored in the POP_STRATUM table.

Note: This column is populated with a constant value based on the plot size for those plots using a fixed-radius design. It is populated using a value inversely related to the tree size for plots using a variable-radius design. The SUBP prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.47 **SUBP_TPAMORT_UNADJ_GS_TIMBER**

Trees with DIA ≥ 5.0 inches - unadjusted trees per acre per year for mortality for the growing-stock estimation type on timberland. Unadjusted trees per acre per year for mortality (trees with DIA ≥ 5.0 inches) on timberland for the growing-stock estimation type. This value must be adjusted using the stratum adjustment factors stored in the POP_STRATUM table.

Note: The SUBP prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.48 **SUBP_COMPONENT_SL_TIMBER**

Trees with DIA ≥ 5.0 inches - growth component for the sawtimber estimation type on timberland. Growth component (trees with DIA ≥ 5.0 inches) on timberland for the sawtimber estimation type. See [MICR_COMPONENT_AL_FOREST](#) description for codes.

Note: The SUBP prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.49 **SUBP_SUBPTYP_GRM_SL_TIMBER**

Trees with DIA ≥ 5.0 inches - plot type for GRM for the sawtimber estimation type on timberland. The plot type for growth, removals, and mortality (GRM) (trees with DIA ≥ 5.0 inches) on timberland for the sawtimber estimation type. This plot type is used during estimation to locate the appropriate stratum adjustment factor. See [SUBPTYP_BEGIN](#) description for codes.

Note: The SUBP prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.50 **SUBP_TPAGROW_UNADJ_SL_TIMBER**

Trees with DIA ≥ 5.0 inches - unadjusted trees per acre for growth for the sawtimber estimation type on timberland. Unadjusted trees per acre for growth (trees with DIA ≥ 5.0 inches) on timberland for the sawtimber estimation type. This value must be adjusted using the stratum adjustment factors stored in the POP_STRATUM table.

Note: This column is populated with a constant value based on the plot size for those plots using a fixed-radius design. It is populated using a value inversely related to the tree size for plots using a variable-radius design. The SUBP prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.51 **SUBP_TPAREMV_UNADJ_SL_TIMBER**

Trees with DIA ≥ 5.0 inches - unadjusted trees per acre per year for removals for the sawtimber estimation type on timberland. Unadjusted trees per acre per year for removals (trees with DIA ≥ 5.0 inches) on timberland for the sawtimber estimation type. This value must be adjusted using the stratum adjustment factors stored in the POP_STRATUM table.

Note: This column is populated with a constant value based on the plot size for those plots using a fixed-radius design. It is populated using a value inversely related to the tree size for plots using a variable-radius design. The SUBP prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.52 **SUBP_TPAMORT_UNADJ_SL_TIMBER**

Trees with DIA ≥ 5.0 inches - unadjusted trees per acre per year for mortality for the sawtimber estimation type on timberland. Unadjusted trees per acre per year for mortality (trees with DIA ≥ 5.0 inches) on timberland for the sawtimber estimation type. This value must be adjusted using the stratum adjustment factors stored in the POP_STRATUM table.

Note: This column is populated with a constant value based on the plot size for those plots using a fixed-radius design. It is populated using a value inversely related to the tree size for plots using a variable-radius design. The SUBP prefix on the column name does not relate to the plot size, but rather to the threshold at which a given estimate can be made.

3.3.53 GROWTSAL_FOREST

Net annual sound cubic-foot total-stem growth of a live tree for the all live estimation type on forest land. The net change in sound cubic-foot total-stem wood volume (TREE.VOLTSSND) per year of the tree (for trees on remeasured plots, $(V_2 - V_1)/(T_2 - T_1)$) where 1 and 2 denote the past and current measurement, respectively; V is volume; T indicates date of measurement; and $T_2 - T_1 = \text{PLOT.REMPER}$). Because this value is net growth, it may be a negative number. Negative growth values are usually due to mortality ($V_2 = 0$) but can also occur on live trees that have a net loss in volume because of damage, rot, broken top, or other causes. To expand to a per acre value, multiply by SUBP_TPAGROW_UNADJ_AL_FOREST.

3.3.54 GROWCFAL_FOREST

Net annual sound cubic-foot stem wood growth of a live tree for the all live estimation type on forest land. The net change in sound cubic-foot stem wood volume (TREE.VOLCFSND) per year of the tree (for trees on remeasured plots, $(V_2 - V_1)/(T_2 - T_1)$) where 1 and 2 denote the past and current measurement, respectively; V is volume; T indicates date of measurement; and $T_2 - T_1 = \text{PLOT.REMPER}$). Because this value is net growth, it may be a negative number. Negative growth values are usually due to mortality ($V_2 = 0$) but can also occur on live trees that have a net loss in volume because of damage, rot, broken top, or other causes. To expand to a per acre value, multiply by SUBP_TPAGROW_UNADJ_AL_FOREST.

3.3.55 GROWCFGGS_FOREST

Net annual merchantable cubic-foot stem wood growth of a growing-stock tree on forest land. The net change in merchantable cubic-foot stem wood volume (TREE.VOLCFNET) per year of the tree (for trees on remeasured plots, $(V_2 - V_1)/(T_2 - T_1)$). Because this value is net growth, it may be a negative number. Negative growth values are usually due to mortality ($V_2 = 0$) but can also occur on live trees that have a net loss in volume because of damage, rot, broken top, or other causes. To expand to a per acre value, multiply by SUBP_TPAGROW_UNADJ_GS_FOREST.

3.3.56 GROWBFSL_FOREST

Net annual merchantable board-foot wood growth of a sawtimber tree on forest land. The net change in merchantable board-foot (TREE.VOLBFNET, International 1/4-inch Rule) wood volume per year of the tree (for trees on remeasured plots, $(V_2 - V_1)/(T_2 - T_1)$). Because this value is net growth, it may be a negative number. Negative growth values are usually due to mortality ($V_2 = 0$) but can also occur on live trees that have a net loss in volume because of damage, rot, broken top, or other causes. To expand to a per acre value, multiply by SUBP_TPAGROW_UNADJ_SL_FOREST.

3.3.57 REMVTSAL_FOREST

Sound cubic-foot total-stem wood volume of a live tree for removal purposes for the all live estimation type on forest land. The sound cubic-foot total-stem wood volume (TREE.VOLTSSND) of the tree at the time of removal. To obtain estimates of annual per acre removals, multiply by SUBP_TPAREMV_UNADJ_AL_FOREST.

3.3.58 REMVCFAL_FOREST

Sound cubic-foot stem wood volume of a live tree for removal purposes for the all live estimation type on forest land. The sound cubic-foot stem wood volume (TREE.VOLCFSND) of the tree at the time of removal. To obtain estimates of annual per acre removals, multiply by SUBP_TPAREMV_UNADJ_AL_FOREST.

3.3.59 REMVCFGS_FOREST

Merchantable cubic-foot stem wood volume of a growing-stock tree for removal purposes on forest land. The merchantable cubic-foot stem wood volume (TREE.VOLCFNET) of the tree at the time of removal. To obtain estimates of annual per acre removals, multiply by SUBP_TPAREMV_UNADJ_GS_FOREST.

3.3.60 REMVBFSL_FOREST

Merchantable board-foot wood volume of a sawtimber tree for removal purposes on forest land. The merchantable board-foot (TREE.VOLBFNET, International 1/4-inch Rule) wood volume of the tree at the time of removal. To obtain estimates of annual per acre removals, multiply by SUBP_TPAREMV_UNADJ_SL_FOREST.

3.3.61 MORTTSAL_FOREST

Sound cubic-foot total-stem wood volume of a tree for mortality purposes for the all live estimation type on forest land. The sound cubic-foot total-stem wood volume (TREE.VOLTSSND) of the tree at the time of mortality. To obtain estimates of annual per acre mortality, multiply by SUBP_TPAMORT_UNADJ_AL_FOREST.

3.3.62 MORTCFAL_FOREST

Sound cubic-foot stem wood volume of a tree for mortality purposes for the all live estimation type on forest land. The sound cubic-foot stem wood volume (TREE.VOLCFSND) of the tree at the time of mortality. To obtain estimates of annual per acre mortality, multiply by SUBP_TPAMORT_UNADJ_AL_FOREST.

3.3.63 MORTCFGPS_FOREST

Merchantable cubic-foot stem wood volume of a growing-stock tree for mortality purposes on forest land. The merchantable cubic-foot stem wood volume (TREE.VOLCFNET) of the tree at the time of mortality. To obtain estimates of annual per acre mortality, multiply by SUBP_TPAMORT_UNADJ_GS_FOREST.

3.3.64 MORTBFSL_FOREST

Merchantable board-foot wood volume of a sawtimber tree for mortality purposes on forest land. The merchantable board-foot (TREE.VOLBFNET, International 1/4-inch Rule) wood volume of the tree at the time of mortality. To obtain estimates of annual per acre mortality, multiply by SUBP_TPAMORT_UNADJ_SL_FOREST.

3.3.65 GROWTSAL_TIMBER

Net annual sound cubic-foot total-stem wood growth of a live tree for the all live estimation type on timberland. The net change in sound cubic-foot total-stem wood volume (TREE.VOLTSSND) per year of the tree (for trees on remeasured plots, $(V2 - V1)/(T2 - T1)$). Because this value is net growth, it may be a negative number. Negative growth values are usually due to mortality ($V2 = 0$) but can also occur on live trees that have a net loss in volume because of damage, rot, broken top, or other causes. To expand to a per acre value, multiply by SUBP_TPAGROW_UNADJ_AL_TIMBER.

3.3.66 GROWCFAL_TIMBER

Net annual sound cubic-foot stem wood growth of a live tree for the all live estimation type on timberland. The net change in sound cubic-foot stem wood volume (TREE.VOLCFSND) per year of the tree (for trees on remeasured plots, $(V2 - V1)/(T2 - T1)$). Because this value is net growth, it may be a negative number. Negative growth values are usually due to mortality ($V2 = 0$) but can also occur on live trees that have a

net loss in volume because of damage, rot, broken top, or other causes. To expand to a per acre value, multiply by SUBP_TPAGROW_UNADJ_AL_TIMBER.

3.3.67 GROWCFGs_TIMBER

Net annual merchantable cubic-foot stem wood growth of a growing-stock tree on timberland. The net change in merchantable cubic-foot stem wood volume (TREE.VOLCFNET per year of the tree (for trees on remeasured plots, $(V2 - V1)/(T2 - T1)$). Because this value is net growth, it may be a negative number. Negative growth values are usually due to mortality ($V2 = 0$) but can also occur on live trees that have a net loss in volume because of damage, rot, broken top, or other causes. To expand to a per acre value, multiply by SUBP_TPAGROW_UNADJ_GS_TIMBER.

3.3.68 GROWBFSL_TIMBER

Net annual merchantable board-foot wood growth of a sawtimber tree on timberland. The net change in merchantable board-foot (TREE.VOLBFNET, International 1/4-inch Rule) wood volume per year of the tree (for trees on remeasured plots, $(V2 - V1)/(T2 - T1)$). Because this value is net growth, it may be a negative number. Negative growth values are usually due to mortality ($V2 = 0$) but can also occur on live trees that have a net loss in volume because of damage, rot, broken top, or other causes. To expand to a per acre value, multiply by SUBP_TPAGROW_UNADJ_SL_TIMBER.

3.3.69 REMVTSAL_TIMBER

Sound cubic-foot total-stem wood volume of a live tree for removal purposes for the all live estimation type on timberland. The sound cubic-foot total-stem wood volume (TREE.VOLTSSND) of the tree at the time of the removal. To obtain estimates of annual per acre removals, multiply by SUBP_TPAREMV_UNADJ_AL_TIMBER.

3.3.70 REMVCFAL_TIMBER

Sound cubic-foot stem wood volume of a live tree for removal purposes for the all live estimation type on timberland. The sound cubic-foot stem wood volume (TREE.VOLCFNSND) of the tree at the time of the removal. To obtain estimates of annual per acre removals, multiply by SUBP_TPAREMV_UNADJ_AL_TIMBER.

3.3.71 REMVCFGs_TIMBER

Merchantable cubic-foot stem wood volume of a growing-stock tree for removal purposes on timberland. The merchantable cubic-foot stem wood volume (TREE.VOLCFNET of the tree at the time of removal. To obtain estimates of annual per acre removals, multiply by SUBP_TPAREMV_UNADJ_GS_TIMBER.

3.3.72 REMVBFSL_TIMBER

Merchantable board-foot wood volume of a sawtimber tree for removal purposes on timberland. The merchantable board-foot (TREE.VOLBFNET, International 1/4-inch Rule) wood volume of the tree at the time of removal. To obtain estimates of annual per acre removals, multiply by SUBP_TPAREMV_UNADJ_SL_TIMBER.

3.3.73 MORTTSAL_TIMBER

Sound cubic-foot total-stem wood volume of a tree for mortality purposes for the all live estimation type on timberland. The sound cubic-foot total-stem wood volume (TREE.VOLTSSND) of the tree at the time of mortality. To obtain estimates of annual per acre mortality, multiply by SUBP_TPAMORT_UNADJ_AL_TIMBER.

3.3.74 MORTCFAL_TIMBER

Sound cubic-foot stem wood volume of a tree for mortality purposes for the all live estimation type on timberland. The sound cubic-foot stem wood volume (TREE.[VOLCFSND](#)) of the tree at the time of mortality. To obtain estimates of annual per acre mortality, multiply by SUBP_TPAMORT_UNADJ_AL_TIMBER.

3.3.75 MORTCFGs_TIMBER

Merchantable cubic-foot stem wood volume of a growing-stock tree for mortality purposes on timberland. The merchantable cubic-foot stem wood volume (TREE.[VOLCFNET](#)) of the tree at the time of mortality. To obtain estimates of annual per acre mortality, multiply by SUBP_TPAMORT_UNADJ_GS_TIMBER.

3.3.76 MORTBFSL_TIMBER

Merchantable board-foot wood volume of a sawtimber tree for mortality purposes on timberland. The merchantable board-foot (TREE.[VOLBFNET](#), International 1/4-inch Rule) volume of the tree at the time of mortality. To obtain estimates of annual per acre mortality, multiply by SUBP_TPAMORT_UNADJ_SL_TIMBER.

3.3.77 CREATED_BY

Created by. See SURVEY.[CREATED_BY](#) description for definition.

3.3.78 CREATED_DATE

Created date. See SURVEY.[CREATED_DATE](#) description for definition.

3.3.79 CREATED_IN_INSTANCE

Created in instance. See SURVEY.[CREATED_IN_INSTANCE](#) description for definition.

3.3.80 MODIFIED_BY

Modified by. See SURVEY.[MODIFIED_BY](#) description for definition.

3.3.81 MODIFIED_DATE

Modified date. See SURVEY.[MODIFIED_DATE](#) description for definition.

3.3.82 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.[MODIFIED_IN_INSTANCE](#) description for definition.

3.4 Tree Growth, Removal, and Mortality Threshold Table

(Oracle table name: TREE_GRM_THRESHOLD)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
3.4.1	TRE_CN	Tree sequence number	VARCHAR2(34)
3.4.2	PREV_TRE_CN	Previous tree sequence number	VARCHAR2(34)
3.4.3	PLT_CN	Plot sequence number	VARCHAR2(34)
3.4.4	STATECD	State code	NUMBER(2)
3.4.5	THRESHOLD_TYPE	Threshold type	VARCHAR2(10)
3.4.6	SUBPTYP	Plot type code	NUMBER(1)
3.4.7	SPCD	Species code	NUMBER(4)
3.4.8	STATUSCD	Status code	NUMBER(2)
3.4.9	DIA	Threshold diameter	NUMBER(5,2)
3.4.10	HT	Total height	NUMBER(3)
3.4.11	ACTUALHT	Actual height	NUMBER(3)
3.4.12	CR	Compacted crown ratio	NUMBER(3)
3.4.13	STANDING_DEAD_CD	Standing dead code	NUMBER(2)
3.4.14	DIAHTCD	Diameter height code	NUMBER(1)
3.4.15	CULL	Rotten and missing cull	NUMBER(3)
3.4.16	ROUGHCULL	Rough cull	NUMBER(3)
3.4.17	CULLFORM	Form Cull	NUMBER(3)
3.4.18	CULLMSTOP	Missing top cull	NUMBER(3)
3.4.19	DECAYCD	Decay class code	NUMBER(2)
3.4.20	TREECLCD	Tree class code	NUMBER(2)
3.4.21	HTDMP	Height to diameter measurement point	NUMBER(3,1)
3.4.22	WDLDSTEM	Woodland tree species stem count	NUMBER(3)
3.4.23	STDORGCD	Stand origin code	NUMBER(2)
3.4.24	SITREE	Calculated site index	NUMBER(3)
3.4.25	BALIVE	Basal area per acre of live trees	NUMBER(9,4)
3.4.26	VOLTSGRS	Gross cubic-foot total-stem wood volume at the threshold	NUMBER(13,6)
3.4.27	VOLTSGRS_BARK	Gross cubic-foot total-stem bark volume at the threshold	NUMBER(13,6)
3.4.28	VOLTSSND	Sound cubic-foot total-stem wood volume at the threshold	NUMBER(13,6)
3.4.29	VOLTSSND_BARK	Sound cubic-foot total-stem bark volume at the threshold	NUMBER(13,6)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
3.4.30	VOLCFGRS_STUMP	Gross cubic-foot stump wood volume at the threshold	NUMBER(13,6)
3.4.31	VOLCFGRS_STUMP_BARK	Gross cubic-foot stump bark volume at the threshold	NUMBER(13,6)
3.4.32	VOLCFSND_STUMP	Sound cubic-foot stump wood volume at the threshold	NUMBER(13,6)
3.4.33	VOLCFSND_STUMP_BARK	Sound cubic-foot stump bark volume at the threshold	NUMBER(13,6)
3.4.34	VOLCFGRS	Gross cubic-foot stem wood volume at the threshold	NUMBER(13,6)
3.4.35	VOLCFGRS_BARK	Gross cubic-foot stem bark volume at the threshold	NUMBER(13,6)
3.4.36	VOLCFGRS_TOP	Gross cubic-foot stem-top wood volume at the threshold	NUMBER(13,6)
3.4.37	VOLCFGRS_TOP_BARK	Gross cubic-foot stem-top bark volume at the threshold	NUMBER(13,6)
3.4.38	VOLCFSND	Sound cubic-foot stem wood volume at the threshold	NUMBER(13,6)
3.4.39	VOLCFSND_BARK	Sound cubic-foot stem bark volume at the threshold	NUMBER(13,6)
3.4.40	VOLCFSND_TOP	Sound cubic-foot stem-top wood volume at the threshold	NUMBER(13,6)
3.4.41	VOLCFSND_TOP_BARK	Sound cubic-foot stem-top bark volume at the threshold	NUMBER(13,6)
3.4.42	VOLCFNET	Net cubic-foot stem wood volume at the threshold	NUMBER(13,6)
3.4.43	VOLCFNET_BARK	Net cubic-foot stem bark volume at the threshold	NUMBER(13,6)
3.4.44	VOLCSGRS	Gross cubic-foot wood volume in the sawlog portion of a sawtimber tree at the threshold	NUMBER(13,6)
3.4.45	VOLCSGRS_BARK	Gross cubic-foot bark volume in the sawlog portion of a sawtimber tree at the threshold	NUMBER(13,6)
3.4.46	VOLCSSND	Sound cubic-foot wood volume in the sawlog portion of a sawtimber tree at the threshold	NUMBER(13,6)
3.4.47	VOLCSSND_BARK	Sound cubic-foot bark volume in the sawlog portion of a sawtimber tree at the threshold	NUMBER(13,6)
3.4.48	VOLCSNET	Net cubic-foot wood volume in the sawlog portion of a sawtimber tree at the threshold	NUMBER(13,6)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
3.4.49	VOLCSNET_BARK	Net cubic-foot bark volume in the sawlog portion of a sawtimber tree at the threshold	NUMBER(13,6)
3.4.50	VOLBFGRS	Gross board-foot wood volume in the sawlog portion of a sawtimber tree at the threshold	NUMBER(13,6)
3.4.51	VOLBFNET	Net board-foot wood volume in the sawlog portion of a sawtimber tree at the threshold	NUMBER(13,6)
3.4.52	VOLBSGRS	Gross board-foot wood volume in the sawlog portion of a sawtimber tree at the threshold (Scribner Rule)	NUMBER(13,6)
3.4.53	VOLBSNET	Net board-foot wood volume in the sawlog portion of a sawtimber tree at the threshold (Scribner Rule)	NUMBER(13,6)
3.4.54	DRYBIO_STEM	Dry biomass of wood in the total stem at the threshold	NUMBER(13,6)
3.4.55	DRYBIO_STEM_BARK	Dry biomass of bark in the total stem at the threshold	NUMBER(13,6)
3.4.56	DRYBIO_STUMP	Dry biomass of wood in the stump at the threshold	NUMBER(13, 6)
3.4.57	DRYBIO_STUMP_BARK	Dry biomass of bark in the stump at the threshold	NUMBER(13,6)
3.4.58	DRYBIO_BOLE	Dry biomass of wood in the merchantable bole at the threshold	NUMBER(13,6)
3.4.59	DRYBIO_BOLE_BARK	Dry biomass of bark in the merchantable bole at the threshold	NUMBER(13,6)
3.4.60	DRYBIO_BRANCH	Dry biomass of branches at the threshold	NUMBER(13,6)
3.4.61	DRYBIO_FOLIAGE	Dry biomass of foliage at the threshold	NUMBER(13,6)
3.4.62	DRYBIO_AG	Aboveground dry biomass of wood and bark at the threshold	NUMBER(13,6)
3.4.63	DRYBIO_BG	Belowground dry biomass at the threshold	NUMBER(13,6)
3.4.64	CARBON_AG	Aboveground carbon of wood and bark at the threshold	NUMBER(13,6)
3.4.65	CARBON_BG	Belowground carbon at the threshold	NUMBER(13,6)
3.4.66	DRYBIO_SAWLOG	Dry biomass of wood in the sawlog portion of a sawtimber tree at the threshold	NUMBER(13,6)
3.4.67	DRYBIO_SAWLOG_BARK	Dry biomass of bark in the sawlog portion of a sawtimber tree at the threshold	NUMBER(13,6)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
3.4.68	CREATED_BY	Created by	VARCHAR2(30)
3.4.69	CREATED_DATE	Created date	DATE
3.4.70	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
3.4.71	MODIFIED_BY	Modified by	VARCHAR2(30)
3.4.72	MODIFIED_DATE	Modified date	DATE
3.4.73	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	TRE_CN, THRESHOLD_TYPE	N/A	TRE_GRM_THRESHS_PK
Foreign	TRE_CN	TREE_GRM_THRESHOLD to TREE	TRE_GRM_THRESH_FK

This table stores information about ingrowth trees at specific tree threshold sizes. An ingrowth tree was not present at T1, but grew across a minimum quality and/or size threshold between inventories. This table does not include a record for every remeasurement tree, only ingrowth trees that require threshold values. Threshold estimates are computed for trees that grow across one or more thresholds during the remeasurement period (see [THRESHOLD_TYPE](#)). The information in this table is used to compute growth, removal, and mortality (GRM) estimates on ingrowth trees. The current structure of the table supports estimates of volume as well as biomass.

3.4.1 **TRE_CN**

Tree sequence number. Foreign key linking the tree GRM threshold record to the T2 tree record.

3.4.2 **PREV_TRE_CN**

Previous tree sequence number. Foreign key linking the tree GRM threshold record to the T1 tree record, if one exists. It can be blank (null) in some cases.

3.4.3 **PLT_CN**

Plot sequence number. Foreign key linking the tree GRM threshold record to the plot record.

3.4.4 **STATECD**

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

3.4.5 **THRESHOLD_TYPE**

Threshold type. A code indicating the threshold type. Threshold types correspond with the tree-size thresholds recognized by FIA.

Codes: THRESHOLD_TYPE

Code	Description
Microplot	Tree at the 1-inch size threshold.
Subplot	Tree at the 5-inch size threshold.
Sawlog	Tree at the sawtimber threshold (9 inches for softwoods, 11 inches for hardwoods).

3.4.6 SUBPTYP

Plot type code. A code indicating the plot type used for the tree estimates in the TREE_GRM_THRESHOLD table. See TREE_GRM_MIDPT.[SUBPTYP](#) description for codes.

3.4.7 SPCD

Species code. The FIA tree species code at T2, which may be different from the species code at T1. Refer to [appendix F](#) for codes.

3.4.8 STATUSCD

Status code. The value used for the tree estimates in the TREE_GRM_THRESHOLD table. See TREE.[STATUSCD](#) description for definition.

3.4.9 DIA

Threshold diameter. The threshold diameter, in inches, used for the tree estimates in the TREE_GRM_THRESHOLD table.[DIAHTCD](#) See TREE.[DIA](#) for details about how DIA is measured.

3.4.10 HT

Total height. The value used for the tree estimates in the TREE_GRM_THRESHOLD table. See TREE.[HT](#) description for definition.

3.4.11 ACTUALHT

Actual height. The value used for the tree estimates in the TREE_GRM_THRESHOLD table. See TREE.[ACTUALHT](#) description for definition.

3.4.12 CR

Compacted crown ratio. The value used for the tree estimates in the TREE_GRM_THRESHOLD table. See TREE.[CR](#) description for definition.

3.4.13 STANDING_DEAD_CD

Standing dead code. The value used for the tree estimates in the TREE_GRM_THRESHOLD table. See TREE.[STANDING_DEAD_CD](#) description for definition.

3.4.14 DIAHTCD

Diameter height code. The value used for the tree estimates in the TREE_GRM_THRESHOLD table. See TREE.[DIAHTCD](#) description for definition.

3.4.15 CULL

Rotten and missing cull. The value used for the tree estimates in the TREE_GRM_THRESHOLD table. See TREE.[CULL](#) description for definition.

3.4.16 ROUGHCULL

Rough cull. The value used for the tree estimates in the TREE_GRM_THRESHOLD table. See TREE.[ROUGHCULL](#) description for definition.

3.4.17 CULLFORM

Form cull. The value used for the tree estimates in the TREE_GRM_THRESHOLD table. See TREE.[CULLFORM](#) description for definition.

3.4.18 CULLMSTOP

Missing top cull. The value used for the tree estimates in the TREE_GRM_THRESHOLD table. See TREE.[CULLMSTOP](#) description for definition.

3.4.19 DECAYCD

Decay class code. The value used for the tree estimates in the TREE_GRM_THRESHOLD table. See TREE.[DECAYCD](#) description for definition.

3.4.20 TREECLCD

Tree class code. The value used for the estimates in the TREE_GRM_THRESHOLD table. See the TREE.[TREECLCD](#) description for codes.

3.4.21 HTDMP

Height to diameter measurement point. The value used for the tree estimates in the TREE_GRM_THRESHOLD table. See TREE.[HTDMP](#) description for definition.

3.4.22 WDLDSTEM

Woodland tree species stem count. The value used for the tree estimates in the TREE_GRM_THRESHOLD table. See TREE.[WDLDSTEM](#) description for definition.

3.4.23 STDORGCD

Stand origin code. The value used for the tree estimates in the TREE_GRM_THRESHOLD table. See COND.[STDORGCD](#) description for definition.

3.4.24 SITREE

Calculated site index. The value used for the tree estimates in the TREE_GRM_THRESHOLD table. See TREE.[SITREE](#) description for definition.

3.4.25 BALIVE

Basal area per acre of live trees. The value used for the tree estimates in the TREE_GRM_THRESHOLD table. See COND.[BALIVE](#) description for definition.

3.4.26 VOLTSGRS

Gross cubic-foot total-stem wood volume at the threshold. See TREE.[VOLTSGRS](#) description for definition.

3.4.27 VOLTSGRS_BARK

Gross cubic-foot total-stem bark volume at the threshold. See TREE.[VOLTSGRS_BARK](#) description for definition.

3.4.28 VOLTSSND

Sound cubic-foot total-stem wood volume at the threshold. See TREE.VOLTSSND description for definition.

3.4.29 VOLTSSND_BARK

Sound cubic-foot total-stem bark volume at the threshold. See TREE.VOLTSSND_BARK description for definition.

3.4.30 VOLCFGRS_STUMP

Gross cubic-foot stump wood volume at the threshold. See TREE.VOLCFGRS_STUMP description for definition.

3.4.31 VOLCFGRS_STUMP_BARK

Gross cubic-foot stump bark volume at the threshold. See TREE.VOLCFGRS_STUMP_BARK description for definition.

3.4.32 VOLCFSND_STUMP

Sound cubic-foot stump wood volume at the threshold. See TREE.VOLCFSND_STUMP description for definition.

3.4.33 VOLCFSND_STUMP_BARK

Sound cubic-foot stump bark volume at the threshold. See TREE.VOLCFSND_STUMP_BARK description for definition.

3.4.34 VOLCFGRS

Gross cubic-foot stem wood volume at the threshold. See TREE.VOLCFGRS description for definition.

3.4.35 VOLCFGRS_BARK

Gross cubic-foot stem bark volume at the threshold. See TREE.VOLCFGRS_BARK description for definition.

3.4.36 VOLCFGRS_TOP

Gross cubic-foot stem-top wood volume at the threshold. See TREE.VOLCFGRS_TOP description for definition.

3.4.37 VOLCFGRS_TOP_BARK

Gross cubic-foot stem-top bark volume at the threshold. See TREE.VOLCFGRS_TOP_BARK description for definition.

3.4.38 VOLCFSND

Sound cubic-foot stem wood volume at the threshold. See the TREE.VOLCFSND description for definition.

3.4.39 VOLCFSND_BARK

Sound cubic-foot stem bark volume at the threshold. See TREE.VOLCFSND_BARK description for definition.

3.4.40 VOLCFSND_TOP

Sound cubic-foot stem-top wood volume at the threshold. See TREE.[VOLCFSND_TOP](#) description for definition.

3.4.41 VOLCFSND_TOP_BARK

Sound cubic-foot stem-top bark volume at the threshold. See TREE.[VOLCFSND_TOP_BARK](#) description for definition.

3.4.42 VOLCFNET

Net cubic-foot stem wood volume at the threshold. See the TREE.[VOLCFNET](#) description for definition.

3.4.43 VOLCFNET_BARK

Net cubic-foot stem bark volume at the threshold. See TREE.[VOLCFNET_BARK](#) description for definition.

3.4.44 VOLCSGRS

Gross cubic-foot wood volume in the sawlog portion of a sawtimber tree at the threshold. See TREE.[VOLCSGRS](#) description for definition.

3.4.45 VOLCSGRS_BARK

Gross cubic-foot bark volume in the sawlog portion of a sawtimber tree at the threshold. See TREE.[VOLCSGRS_BARK](#) description for definition.

3.4.46 VOLCSSND

Sound cubic-foot wood volume in the sawlog portion of a sawtimber tree at the threshold. See TREE.[VOLCSSND](#) description for definition.

3.4.47 VOLCSSND_BARK

Sound cubic-foot bark volume in the sawlog portion of a sawtimber tree at the threshold. See TREE.[VOLCSSND_BARK](#) description for definition.

3.4.48 VOLCSNET

Net cubic-foot wood volume in the sawlog portion of a sawtimber tree at the threshold. See the TREE.[VOLCSNET](#) description for definition.

3.4.49 VOLCSNET_BARK

Net cubic-foot bark volume in the sawlog portion of a sawtimber tree at the threshold. See TREE.[VOLCSNET_BARK](#) description for definition.

3.4.50 VOLBFGRS

Gross board-foot wood volume in the sawlog portion of a sawtimber tree at the threshold. See TREE.[VOLBFGRS](#) description for definition.

3.4.51 VOLBFNET

Net board-foot wood volume in the sawlog portion of a sawtimber tree at the threshold. See the TREE.[VOLBFNET](#) description for definition.

3.4.52 VOLBSGRS

Gross board-foot wood volume in the sawlog portion of a sawtimber tree at the threshold (Scribner Rule). See TREE.[VOLBSGRS](#) description for definition.

3.4.53 VOLBSNET

Net board-foot wood volume in the sawlog portion of a sawtimber tree at the threshold (Scribner Rule). See TREE.VOLBSNET description for definition.

3.4.54 DRYBIO_STEM

Dry biomass of wood in the total stem at the threshold. See TREE.DRYBIO_STEM description for definition.

3.4.55 DRYBIO_STEM_BARK

Dry biomass of bark in the total stem at the threshold. See TREE.DRYBIO_STEM_BARK description for definition.

3.4.56 DRYBIO_STUMP

Dry biomass of wood in the stump at the threshold. See the TREE.DRYBIO_STUMP description for definition.

3.4.57 DRYBIO_STUMP_BARK

Dry biomass of bark in the stump at the threshold. See TREE.DRYBIO_STUMP_BARK description for definition.

3.4.58 DRYBIO_BOLE

Dry biomass of wood in the merchantable bole at the threshold. See the TREE.DRYBIO_BOLE description for definition.

3.4.59 DRYBIO_BOLE_BARK

Dry biomass of bark in the merchantable bole at the threshold. See TREE.DRYBIO_BOLE_BARK description for definition.

3.4.60 DRYBIO_BRANCH

Dry biomass of branches at the threshold. See TREE.DRYBIO_BRANCH description for definition.

3.4.61 DRYBIO_FOLIAGE

Dry biomass of foliage at the threshold. See TREE.DRYBIO_FOLIAGE description for definition.

3.4.62 DRYBIO_AG

Aboveground dry biomass of wood and bark at the threshold. See the TREE.DRYBIO_AG description for definition.

3.4.63 DRYBIO_BG

Belowground dry biomass at the threshold. See the TREE.DRYBIO_BG description for definition.

3.4.64 CARBON_AG

Aboveground carbon of wood and bark at the threshold. See TREE.CARBON_AG description for definition.

3.4.65 CARBON_BG

Belowground carbon at the threshold. See TREE.CARBON_BG description for definition.

3.4.66 DRYBIO_SAWLOG

Dry biomass of wood in the sawlog portion of a sawtimber tree at the threshold. See TREE.[DRYBIO_SAWLOG](#) description for definition.

3.4.67 DRYBIO_SAWLOG_BARK

Dry biomass of bark in the sawlog portion of a sawtimber tree at the threshold. See TREE.[DRYBIO_SAWLOG_BARK](#) description for definition.

3.4.68 CREATED_BY

Created by. See SURVEY.[CREATED_BY](#) description for definition.

3.4.69 CREATED_DATE

Created date. See SURVEY.[CREATED_DATE](#) description for definition.

3.4.70 CREATED_IN_INSTANCE

Created in instance. See SURVEY.[CREATED_IN_INSTANCE](#) description for definition.

3.4.71 MODIFIED_BY

Modified by. See SURVEY.[MODIFIED_BY](#) description for definition.

3.4.72 MODIFIED_DATE

Modified date. See SURVEY.[MODIFIED_DATE](#) description for definition.

3.4.73 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.[MODIFIED_IN_INSTANCE](#) description for definition.

3.5 Tree Growth, Removal, and Mortality Midpoint Table

(Oracle table name: TREE_GRM_MIDPT)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
3.5.1	TRE_CN	Tree sequence number	VARCHAR2(34)
3.5.2	PREV_TRE_CN	Previous tree sequence number	VARCHAR2(34)
3.5.3	PLT_CN	Plot sequence number	VARCHAR2(34)
3.5.4	STATECD	State code	NUMBER(2)
3.5.5	SUBPTYP	Plot type code	NUMBER(1)
3.5.6	SPCD	Species code	NUMBER(4)
3.5.7	STATUSCD	Status code	NUMBER(2)
3.5.8	DIA	Midpoint diameter	NUMBER(5,2)
3.5.9	HT	Total height	NUMBER(3)
3.5.10	ACTUALHT	Actual height	NUMBER(3)
3.5.11	CR	Compacted crown ratio	NUMBER(3)
3.5.12	STANDING_DEAD_CD	Standing dead code	NUMBER(2)
3.5.13	DIAHTCD	Diameter height code	NUMBER(1)
3.5.14	CULL	Rotten and missing cull	NUMBER(3)
3.5.15	ROUGHCULL	Rough cull	NUMBER(3)
3.5.16	CULLFORM	Form cull	NUMBER(3)
3.5.17	CULLMSTOP	Missing top cull	NUMBER(3)
3.5.18	DECAYCD	Decay class code	NUMBER(2)
3.5.19	TREECLCD	Tree class code	NUMBER(2)
3.5.20	HTDMP	Height to diameter measurement point	NUMBER(3,1)
3.5.21	WDLDSTEM	Woodland tree species stem count	NUMBER(3)
3.5.22	STDORGCD	Stand origin code	NUMBER(2)
3.5.23	SITREE	Calculated site index	NUMBER(3)
3.5.24	BALIVE	Basal area per acre of live trees	NUMBER(9,4)
3.5.25	VOLTSGRS	Gross cubic-foot total-stem wood volume at the midpoint	NUMBER(13,6)
3.5.26	VOLTSGRS_BARK	Gross cubic-foot total-stem bark volume at the midpoint	NUMBER(13,6)
3.5.27	VOLTSSND	Sound cubic-foot total-stem wood volume at the midpoint	NUMBER(13,6)
3.5.28	VOLTSSND_BARK	Sound cubic-foot total-stem bark volume at the midpoint	NUMBER(13,6)
3.5.29	VOLCFGRS_STUMP	Gross cubic-foot stump wood volume at the midpoint	NUMBER(13,6)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
3.5.30	VOLCFGRS_STUMP_BARK	Gross cubic-foot stump bark volume at the midpoint	NUMBER(13,6)
3.5.31	VOLCFSND_STUMP	Sound cubic-foot stump wood volume at the midpoint	NUMBER(13,6)
3.5.32	VOLCFSND_STUMP_BARK	Sound cubic-foot stump bark volume at the midpoint	NUMBER(13,6)
3.5.33	VOLCFGRS	Gross cubic-foot stem wood volume at the midpoint	NUMBER(13,6)
3.5.34	VOLCFGRS_BARK	Gross cubic-foot stem bark volume at the midpoint	NUMBER(13,6)
3.5.35	VOLCFGRS_TOP	Gross cubic-foot stem-top wood volume at the midpoint	NUMBER(13,6)
3.5.36	VOLCFGRS_TOP_BARK	Gross cubic-foot stem-top bark volume at the midpoint	NUMBER(13,6)
3.5.37	VOLCFSND	Sound cubic-foot stem wood volume at the midpoint	NUMBER(13,6)
3.5.38	VOLCFSND_BARK	Sound cubic-foot stem bark volume at the midpoint	NUMBER(13,6)
3.5.39	VOLCFSND_TOP	Sound cubic-foot stem-top wood volume at the midpoint	NUMBER(13,6)
3.5.40	VOLCFSND_TOP_BARK	Sound cubic-foot stem-top bark volume at the midpoint	NUMBER(13,6)
3.5.41	VOLCFNET	Net cubic-foot stem wood volume at the midpoint	NUMBER(13, 6)
3.5.42	VOLCFNET_BARK	Net cubic-foot stem bark volume at the midpoint	NUMBER(13,6)
3.5.43	VOLCSGRS	Gross cubic-foot wood volume in the sawlog portion of a sawtimber tree at the midpoint	NUMBER(13,6)
3.5.44	VOLCSGRS_BARK	Gross cubic-foot bark volume in the sawlog portion of a sawtimber tree at the midpoint	NUMBER(13,6)
3.5.45	VOLCSSND	Sound cubic-foot wood volume in the sawlog portion of a sawtimber tree at the midpoint	NUMBER(13,6)
3.5.46	VOLCSSND_BARK	Sound cubic-foot bark volume in the sawlog portion of a sawtimber tree at the midpoint	NUMBER(13,6)
3.5.47	VOLCSNET	Net cubic-foot wood volume in the sawlog portion of a sawtimber tree at the midpoint	NUMBER(13,6)
3.5.48	VOLCSNET_BARK	Net cubic-foot bark volume in the sawlog portion of a sawtimber tree at the midpoint	NUMBER(13,6)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
3.5.49	VOLBFGRS	Gross board-foot wood volume in the sawlog portion of a sawtimber tree at the midpoint	NUMBER(13,6)
3.5.50	VOLBFNET	Net board-foot wood volume in the sawlog portion of a sawtimber tree at the midpoint	NUMBER(13,6)
3.5.51	VOLBSGRS	Gross board-foot wood volume in the sawlog portion of a sawtimber tree at the midpoint (Scribner Rule)	NUMBER(13,6)
3.5.52	VOLBSNET	Net board-foot wood volume in the sawlog portion of a sawtimber tree at the midpoint (Scribner Rule)	NUMBER(13, 6)
3.5.53	DRYBIO_STEM	Dry biomass of wood in the total stem at the midpoint	NUMBER(13,6)
3.5.54	DRYBIO_STEM_BARK	Dry biomass of bark in the total stem at the midpoint	NUMBER(13,6)
3.5.55	DRYBIO_STUMP	Dry biomass of wood in the stump at the midpoint	NUMBER(13,6)
3.5.56	DRYBIO_STUMP_BARK	Dry biomass of bark in the stump at the midpoint	NUMBER(13,6)
3.5.57	DRYBIO_BOLE	Dry biomass of wood in the merchantable bole at the midpoint	NUMBER(13,6)
3.5.58	DRYBIO_BOLE_BARK	Dry biomass of bark in the merchantable bole at the midpoint	NUMBER(13,6)
3.5.59	DRYBIO_BRANCH	Dry biomass of branches at the midpoint	NUMBER(13,6)
3.5.60	DRYBIO_FOLIAGE	Dry biomass of foliage at the midpoint	NUMBER(13,6)
3.5.61	DRYBIO_AG	Aboveground dry biomass of wood and bark at the midpoint	NUMBER(13,6)
3.5.62	DRYBIO_BG	Belowground dry biomass at the midpoint	NUMBER(13,6)
3.5.63	CARBON_AG	Aboveground carbon of wood and bark at the midpoint	NUMBER(13,6)
3.5.64	CARBON_BG	Belowground carbon at the midpoint	NUMBER(13,6)
3.5.65	DRYBIO_SAWLOG	Dry biomass of wood in the sawlog portion of a sawtimber tree at the midpoint	NUMBER(13,6)
3.5.66	DRYBIO_SAWLOG_BARK	Dry biomass of bark in the sawlog portion of a sawtimber tree at the midpoint	NUMBER(13,6)
3.5.67	CREATED_BY	Created by	VARCHAR2(30)
3.5.68	CREATED_DATE	Created date	DATE
3.5.69	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
3.5.70	MODIFIED_BY	Modified by	VARCHAR2(30)
3.5.71	MODIFIED_DATE	Modified date	DATE
3.5.72	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	TRE_CN	N/A	TRE_GRM_MIDPT_PK
Foreign	TRE_CN	TREE_GRM_MIDPT to TREE	TRE_GRM_MIDPT_FK

This table stores information about a remeasurement tree at the midpoint. The midpoint is the point in time exactly between the time 1 (T1, most recent past measurement) and time 2 (T2, current) measurement dates. This table does not include a record for every remeasurement tree, but only those where midpoint values are required. Midpoint estimates are computed for trees that experience mortality, removal, or land use diversion or reversion. The information in this table is used to compute growth, removal, and mortality (GRM) estimates on remeasurement trees. This table includes a single record per tree. The current structure of the table supports estimates of volume as well as biomass.

3.5.1 TRE_CN

Tree sequence number. Foreign key linking the tree GRM midpoint record to the T2 tree record.

3.5.2 PREV_TRE_CN

Previous tree sequence number. Foreign key linking the GRM midpoint record to the T1 tree record, if one exists. It can be blank (null) in some cases. For example, an ingrowth tree would not have a T1 record.

3.5.3 PLT_CN

Plot sequence number. Foreign key linking the tree GRM midpoint record to the plot record.

3.5.4 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

3.5.5 SUBPTYP

Plot type code. A code indicating the plot type used for the tree estimates in TREE_GRM_MIDPT table.

Codes: SUBPTYP

Code	Description
0	Undetermined. Assigned in cases where there is no T1 tree record, and the modeled tree grows across either the microplot-to-subplot threshold, or the subplot-to-macropot threshold.
1	Subplot.

Code	Description
2	Microplot.
3	Macroplot.

3.5.6 SPCD

Species code. The FIA tree species code at T2, which may be different from the species code at T1. Refer to [appendix F](#) for codes.

3.5.7 STATUSCD

Status code. The value used for the tree estimates in the TREE_GRM_MIDPT table. See TREE.STATUSCD description for definition.

3.5.8 DIA

Midpoint diameter. The estimated midpoint diameter used for the tree estimates in the TREE_GRM_MIDPT table. See TREE.DIA description for definition.

3.5.9 HT

Total height. The value used for the tree estimates in the TREE_GRM_MIDPT table. See TREE.HT description for definition.

3.5.10 ACTUALHT

Actual height. The value used for the tree estimates in the TREE_GRM_MIDPT table. See TREE.ACTUALHT description for definition.

3.5.11 CR

Compacted crown ratio. The value used for the tree estimates in the TREE_GRM_MIDPT table. See TREE.CR description for definition.

3.5.12 STANDING_DEAD_CD

Standing dead code. The value used for the tree estimates in the TREE_GRM_MIDPT table. See TREE.STANDING_DEAD_CD description for definition.

3.5.13 DIAHTCD

Diameter height code. The value for the tree estimates in the TREE_GRM_MIDPT table. See TREE.DIAHTCD description for definition.

3.5.14 CULL

Rotten and missing cull. The value used for the tree estimates in the TREE_GRM_MIDPT table. See TREE.CULL description for definition.

3.5.15 ROUGHCULL

Rough cull. The value used for the tree estimates in the TREE_GRM_MIDPT table. See TREE.ROUGHCULL description for definition.

3.5.16 CULLFORM

Form cull. The value used for the tree estimates in the TREE_GRM_MIDPT table. See TREE.CULLFORM description for definition.

3.5.17 CULLMSTOP

Missing top cull. The value used for the tree estimates in the TREE_GRM_MIDPT table. See TREE.CULLMSTOP description for definition.

3.5.18 DECAYCD

Decay class code. The value used for the tree estimates in the TREE_GRM_MIDPT table. See TREE.DECAYCD description for definition.

3.5.19 TREECLCD

Tree class code. The value used for the tree estimates in the TREE_GRM_MIDPT table. See TREE.TREECLCD description for definition.

3.5.20 HTDMP

Height to diameter measurement point. The value used for the tree estimates in the TREE_GRM_MIDPT table. See TREE.HTDMP description for definition.

3.5.21 WDLDSTEM

Woodland tree species stem count. The value used for the tree estimates in the TREE_GRM_MIDPT table. See TREE.WDLDSTEM description for definition.

3.5.22 STDORGCD

Stand origin code. The value used for the tree estimates in the TREE_GRM_MIDPT table. See COND.STDORGCD description for definition.

3.5.23 SITREE

Calculated site index. The value used for the tree estimates in the TREE_GRM_MIDPT table. See TREE.SITREE description for definition.

3.5.24 BALIVE

Basal area per acre of live trees. The value used for the tree estimates in the TREE_GRM_MIDPT table. See COND.BALIVE description for definition.

3.5.25 VOLTSGRS

Gross cubic-foot total-stem wood volume at the midpoint. See TREE.VOLTSGRS description for definition.

3.5.26 VOLTSGRS_BARK

Gross cubic-foot total-stem bark volume at the midpoint. See TREE.VOLTSGRS_BARK description for definition.

3.5.27 VOLTSSND

Sound cubic-foot total-stem wood volume at the midpoint. See TREE.VOLTSSND description for definition.

3.5.28 VOLTSSND_BARK

Sound cubic-foot total-stem bark volume at the midpoint. See TREE.VOLTSSND_BARK description for definition.

3.5.29 VOLCFGRS_STUMP

Gross cubic-foot stump wood volume at the midpoint. See TREE.[VOLCFGRS_STUMP](#) description for definition.

3.5.30 VOLCFGRS_STUMP_BARK

Gross cubic-foot stump bark volume at the midpoint. See TREE.[VOLCFGRS_STUMP_BARK](#) description for definition.

3.5.31 VOLCFSND_STUMP

Sound cubic-foot stump wood volume at the midpoint. See TREE.[VOLCFSND_STUMP](#) description for definition.

3.5.32 VOLCFSND_STUMP_BARK

Sound cubic-foot stump bark volume at the midpoint. See TREE.[VOLCFSND_STUMP_BARK](#) description for definition.

3.5.33 VOLCFGRS

Gross cubic-foot stem wood volume at the midpoint. See TREE.[VOLCFGRS](#) description for definition.

3.5.34 VOLCFGRS_BARK

Gross cubic-foot stem bark volume at the midpoint. See TREE.[VOLCFGRS_BARK](#) description for definition.

3.5.35 VOLCFGRS_TOP

Gross cubic-foot stem-top wood volume at the midpoint. See TREE.[VOLCFGRS_TOP](#) description for definition.

3.5.36 VOLCFGRS_TOP_BARK

Gross cubic-foot stem-top bark volume at the midpoint. See TREE.[VOLCFGRS_TOP_BARK](#) description for definition.

3.5.37 VOLCFSND

Sound cubic-foot stem wood volume at the midpoint. See TREE.[VOLCFSND](#) description for definition.

3.5.38 VOLCFSND_BARK

Sound cubic-foot stem bark volume at the midpoint. See TREE.[VOLCFSND_BARK](#) description for definition.

3.5.39 VOLCFSND_TOP

Sound cubic-foot stem-top wood volume at the midpoint. See TREE.[VOLCFSND_TOP](#) description for definition.

3.5.40 VOLCFSND_TOP_BARK

Sound cubic-foot stem-top bark volume at the midpoint. See TREE.[VOLCFSND_TOP_BARK](#) description for definition.

3.5.41 VOLCFNET

Net cubic-foot stem wood volume at the midpoint. See TREE.VOLCFNET description for definition.

3.5.42 VOLCFNET_BARK

Net cubic-foot stem bark volume at the midpoint. See TREE.VOLCFNET_BARK description for definition.

3.5.43 VOLCSGRS

Gross cubic-foot wood volume in the sawlog portion of a sawtimber tree at the midpoint. See TREE.VOLCSGRS description for definition.

3.5.44 VOLCSGRS_BARK

Gross cubic-foot bark volume in the sawlog portion of a sawtimber tree at the midpoint. See TREE.VOLCSGRS_BARK description for definition.

3.5.45 VOLCSSND

Sound cubic-foot wood volume in the sawlog portion of a sawtimber tree at the midpoint. See TREE.VOLCSSND description for definition.

3.5.46 VOLCSSND_BARK

Sound cubic-foot bark volume in the sawlog portion of a sawtimber tree at the midpoint. See TREE.VOLCSSND_BARK description for definition.

3.5.47 VOLCSNET

Net cubic-foot wood volume in the sawlog portion of a sawtimber tree at the midpoint. See TREE.VOLCSNET description for definition.

3.5.48 VOLCSNET_BARK

Net cubic-foot bark volume in the sawlog portion of a sawtimber tree at the midpoint. See TREE.VOLCSNET_BARK description for definition.

3.5.49 VOLBFGRS

Gross board-foot wood volume in the sawlog portion of a sawtimber tree at the midpoint. See TREE.VOLBFGRS description for definition.

3.5.50 VOLBFNET

Net board-foot wood volume in the sawlog portion of a sawtimber tree at the midpoint. See TREE.VOLBFNET description for definition.

3.5.51 VOLBSGRS

Gross board-foot wood volume in the sawlog portion of a sawtimber tree at the midpoint (Scribner Rule). See TREE.VOLBSGRS description for definition.

3.5.52 VOLBSNET

Net board-foot wood volume in the sawlog portion of a sawtimber tree at the midpoint (Scribner Rule). See TREE.VOLBSNET description for definition.

3.5.53 DRYBIO_STEM

Dry biomass of wood in the total stem at the midpoint. See TREE.DRYBIO_STEM description for definition.

3.5.54 DRYBIO_STEM_BARK

Dry biomass of bark in the total stem at the midpoint. See TREE.DRYBIO_STEM_BARK description for definition.

3.5.55 DRYBIO_STUMP

Dry biomass wood in the stump at the midpoint. See TREE.DRYBIO_STUMP description for definition.

3.5.56 DRYBIO_STUMP_BARK

Dry biomass of bark in the stump at the midpoint. See TREE.DRYBIO_STUMP_BARK description for definition.

3.5.57 DRYBIO_BOLE

Dry biomass of wood in the merchantable bole at the midpoint. See TREE.DRYBIO_BOLE description for definition.

3.5.58 DRYBIO_BOLE_BARK

Dry biomass of bark in the merchantable bole at the midpoint. See TREE.DRYBIO_BOLE_BARK description for definition.

3.5.59 DRYBIO_BRANCH

Dry biomass of branches at the midpoint. See TREE.DRYBIO_BRANCH description for definition.

3.5.60 DRYBIO_FOLIAGE

Dry biomass of foliage at the midpoint. See TREE.DRYBIO_FOLIAGE description for definition.

3.5.61 DRYBIO_AG

Aboveground dry biomass of wood and bark at the midpoint. See TREE.DRYBIO_AG description for definition.

3.5.62 DRYBIO_BG

Belowground dry biomass at the midpoint. See TREE.DRYBIO_BG description for definition.

3.5.63 CARBON_AG

Aboveground carbon of wood and bark at the midpoint. See TREE.CARBON_AG description for definition.

3.5.64 CARBON_BG

Belowground carbon at the midpoint. See TREE.CARBON_BG description for definition.

3.5.65 DRYBIO_SAWLOG

Dry biomass of wood in the sawlog portion of a sawtimber tree at the midpoint. See TREE.DRYBIO_SAWLOG description for definition.

3.5.66 DRYBIO_SAWLOG_BARK

Dry biomass of bark in the sawlog portion of a sawtimber tree at the midpoint. See TREE.DRYBIO_SAWLOG_BARK description for definition.

3.5.67 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

3.5.68 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

3.5.69 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

3.5.70 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

3.5.71 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

3.5.72 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

3.6 Tree Growth, Removal, and Mortality Begin Table

(Oracle table name: TREE_GRM_BEGIN)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
3.6.1	TRE_CN	Tree sequence number	VARCHAR2(34)
3.6.2	PREV_TRE_CN	Previous tree sequence number	VARCHAR2(34)
3.6.3	PLT_CN	Plot sequence number	VARCHAR2(34)
3.6.4	STATECD	State code	NUMBER(2)
3.6.5	SUBPTYP	Plot type code	NUMBER(1)
3.6.6	SPCD	Species code	NUMBER(4)
3.6.7	STATUSCD	Status code	NUMBER(2)
3.6.8	DIA	Diameter at T1	NUMBER(5,2)
3.6.9	HT	Total height	NUMBER(3)
3.6.10	ACTUALHT	Actual height	NUMBER(3)
3.6.11	CR	Compacted crown ratio	NUMBER(3)
3.6.12	STANDING_DEAD_CD	Standing dead code	NUMBER(2)
3.6.13	DIAHTCD	Diameter height code	NUMBER(1)
3.6.14	CULL	Rotten and missing cull	NUMBER(3)
3.6.15	ROUGHCULL	Rough cull	NUMBER(3)
3.6.16	CULLFORM	Form Cull	NUMBER(3)
3.6.17	CULLMSTOP	Missing top cull	NUMBER(3)
3.6.18	DECAYCD	Decay class code	NUMBER(2)
3.6.19	TREECLCD	Tree class code	NUMBER(2)
3.6.20	HTDMP	Height to diameter measurement point	NUMBER(3,1)
3.6.21	WDLDSTEM	Woodland tree species stem count	NUMBER(3)
3.6.22	STDORGCD	Stand origin code	NUMBER(2)
3.6.23	SITREE	Calculated site index	NUMBER(3)
3.6.24	BALIVE	Basal area per acre of live trees	NUMBER(9,4)
3.6.25	VOLTSGRS	Gross cubic-foot total-stem wood volume at T1	NUMBER(13,6)
3.6.26	VOLTSGRS_BARK	Gross cubic-foot total-stem bark volume at T1	NUMBER(13,6)
3.6.27	VOLTSSND	Sound cubic-foot total-stem wood volume at T1	NUMBER(13,6)
3.6.28	VOLTSSND_BARK	Sound cubic-foot total-stem bark volume at T1	NUMBER(13,6)
3.6.29	VOLCFGRS_STUMP	Gross cubic-foot stump wood volume at T1	NUMBER(13,6)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
3.6.30	VOLCFGRS_STUMP_BARK	Gross cubic-foot stump bark volume at T1	NUMBER(13,6)
3.6.31	VOLCFSND_STUMP	Sound cubic-foot stump wood volume at T1	NUMBER(13,6)
3.6.32	VOLCFSND_STUMP_BARK	Sound cubic-foot stump bark volume at T1	NUMBER(13,6)
3.6.33	VOLCFGRS	Gross cubic-foot stem wood volume at T1	NUMBER(13,6)
3.6.34	VOLCFGRS_BARK	Gross cubic-foot stem bark volume at T1	NUMBER(13,6)
3.6.35	VOLCFGRS_TOP	Gross cubic-foot stem-top wood volume at T1	NUMBER(13,6)
3.6.36	VOLCFGRS_TOP_BARK	Gross cubic-foot stem-top bark volume at T1	NUMBER(13,6)
3.6.37	VOLCFSND	Sound cubic-foot stem wood volume at T1	NUMBER(13,6)
3.6.38	VOLCFSND_BARK	Sound cubic-foot stem bark volume at T1	NUMBER(13,6)
3.6.39	VOLCFSND_TOP	Sound cubic-foot stem-top wood volume at T1	NUMBER(13,6)
3.6.40	VOLCFSND_TOP_BARK	Sound cubic-foot stem-top bark volume at T1	NUMBER(13,6)
3.6.41	VOLCFNET	Net cubic-foot stem wood volume at T1	NUMBER(13,6)
3.6.42	VOLCFNET_BARK	Net cubic-foot stem bark volume at T1	NUMBER(13,6)
3.6.43	VOLCSGRS	Gross cubic-foot wood volume in the sawlog portion of a sawtimber tree at T1	NUMBER(13,6)
3.6.44	VOLCSGRS_BARK	Gross cubic-foot bark volume in the sawlog portion of a sawtimber tree at T1	NUMBER(13,6)
3.6.45	VOLCSSND	Sound cubic-foot wood volume in the sawlog portion of a sawtimber tree at T1	NUMBER(13,6)
3.6.46	VOLCSSND_BARK	Sound cubic-foot bark volume in the sawlog portion of a sawtimber tree at T1	NUMBER(13,6)
3.6.47	VOLCSNET	Net cubic-foot wood volume in the sawlog portion of a sawtimber tree at T1	NUMBER(13,6)
3.6.48	VOLCSNET_BARK	Net cubic-foot bark volume in the sawlog portion of a sawtimber tree at T1	NUMBER(13,6)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
3.6.49	VOLBFGRS	Gross board-foot wood volume in the sawlog portion of a sawtimber tree at T1	NUMBER(13,6)
3.6.50	VOLBFNET	Net board-foot wood volume in the sawlog portion of a sawtimber tree at T1	NUMBER(13,6)
3.6.51	VOLBSGRS	Gross board-foot wood volume in the sawlog portion of a sawtimber tree at T1 (Scribner Rule)	NUMBER(13,6)
3.6.52	VOLBSNET	Net board-foot wood volume in the sawlog portion of a sawtimber tree at T1 (Scribner Rule)	NUMBER(13,6)
3.6.53	DRYBIO_STEM	Dry biomass of wood in the total stem at T1	NUMBER(13,6)
3.6.54	DRYBIO_STEM_BARK	Dry biomass of bark in the total stem at T1	NUMBER(13,6)
3.6.55	DRYBIO_STUMP	Dry biomass of wood in the stump at T1	NUMBER(13,6)
3.6.56	DRYBIO_STUMP_BARK	Dry biomass of bark in the stump at T1	NUMBER(13,6)
3.6.57	DRYBIO_BOLE	Dry biomass of wood in the merchantable bole at T1	NUMBER(13,6)
3.6.58	DRYBIO_BOLE_BARK	Dry biomass of bark in the merchantable bole at T1	NUMBER(13,6)
3.6.59	DRYBIO_BRANCH	Dry biomass of branches at T1	NUMBER(13,6)
3.6.60	DRYBIO_FOLIAGE	Dry biomass of foliage at T1	NUMBER(13,6)
3.6.61	DRYBIO_AG	Aboveground dry biomass of wood and bark at T1	NUMBER(13,6)
3.6.62	DRYBIO_BG	Belowground dry biomass at T1	NUMBER(13,6)
3.6.63	CARBON_AG	Aboveground carbon of wood and bark at T1	NUMBER(13,6)
3.6.64	CARBON_BG	Belowground carbon at T1	NUMBER(13,6)
3.6.65	DRYBIO_SAWLOG	Dry biomass of wood in the sawlog portion of a sawtimber tree at T1	NUMBER(13,6)
3.6.66	DRYBIO_SAWLOG_BARK	Dry biomass of bark in the sawlog portion of a sawtimber tree at T1	NUMBER(13,6)
3.6.67	CREATED_BY	Created by	VARCHAR2(30)
3.6.68	CREATED_DATE	Created date	DATE
3.6.69	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
3.6.70	MODIFIED_BY	Modified by	VARCHAR2(30)
3.6.71	MODIFIED_DATE	Modified date	DATE
3.6.72	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	TRE_CN	N/A	TRE_GRM_BGN_PK
Foreign	TRE_CN	TREE_GRM_BEGIN to TREE	TRE_GRM_BGN_FK

The information in this table is used to compute net growth, removal, and mortality (GRM) estimates on remeasurement trees. This table stores information about a remeasurement tree at the beginning of the remeasurement period (also called time 1 [T1, most recent past measurement]) in cases where values have been recalculated. This table does not include a record for all T1 trees, but only those trees that have recalculated T1 values. T1 values are recalculated during the GRM process for various reasons including movement of the diameter measurement point or disagreement in the species identification between the T2 (current) and T1 field crews. This table includes a single record per tree. The current structure of the table supports estimates of volume as well as biomass.

3.6.1 TRE_CN

Tree sequence number. Foreign key linking the tree GRM begin record to the T2 tree record.

3.6.2 PREV_TRE_CN

Previous tree sequence number. Foreign key linking the tree GRM begin record to T1 tree record.

3.6.3 PLT_CN

Plot sequence number. Foreign key linking the tree GRM begin record to the plot record.

3.6.4 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

3.6.5 SUBPTYP

Plot type code. A code indicating the plot type used for the tree estimates in the TREE_GRM_BEGIN table.

Codes: SUBPTYP

Code	Description
0	Undetermined. Assigned in cases where there is no T1 tree record, and the modeled tree grows across either the microplot-to-subplot threshold, or the subplot-to-macroplot threshold.
1	Subplot.
2	Microplot.
3	Macroplot.

3.6.6 SPCD

Species code. The FIA tree species code at T2, which may be different from the species code at T1. Refer to [appendix F](#) for codes.

3.6.7 STATUSCD

Status code. The value used for the tree estimates in the TREE_GRM_BEGIN table. See TREE.STATUSCD description for definition.

3.6.8 DIA

Diameter at T1. The estimated T1 diameter used for the tree estimates in the TREE_GRM_BEGIN table. See TREE.DIA description for definition.

3.6.9 HT

Total height. The value used for the tree estimates in the TREE_GRM_BEGIN table. See TREE.HT description for definition.

3.6.10 ACTUALHT

Actual height. The value used for the tree estimates in the TREE_GRM_BEGIN table. See TREE.ACTUALHT description for definition.

3.6.11 CR

Compacted crown ratio. The value used for the tree estimates in the TREE_GRM_BEGIN table. See TREE.CR description for definition.

3.6.12 STANDING_DEAD_CD

Standing dead code. The value used for the tree estimates in the TREE_GRM_BEGIN table. See TREE.STANDING_DEAD_CD description for definition.

3.6.13 DIAHTCD

Diameter height code. The value used for the tree estimates in the TREE_GRM_BEGIN table. See TREE.DIAHTCD description for definition.

3.6.14 CULL

Rotten and missing cull. The value used for the tree estimates in the TREE_GRM_BEGIN table. See TREE.CULL description for definition.

3.6.15 ROUGHCULL

Rough cull. The value used for the tree estimates in the TREE_GRM_BEGIN table. See TREE.ROUGHcull description for definition.

3.6.16 CULLFORM

Form cull. The value used for the tree estimates in the TREE_GRM_BEGIN table. See TREE.CULLFORM description for definition.

3.6.17 CULLMSTOP

Missing top cull. The value used for the tree estimates in the TREE_GRM_BEGIN table. See TREE.CULLMSTOP description for definition.

3.6.18 DECAYCD

Decay class code. The value used for the tree estimates in the TREE_GRM_BEGIN table. See TREE.DECAYCD description for definition.

3.6.19 TREECLCD

Tree class code. The value used for the tree estimates in the TREE_GRM_BEGIN table. See TREE.TREECLCD description for definition.

3.6.20 HTDMP

Height to diameter measurement point. The value used for the tree estimates in the TREE_GRM_BEGIN table. See TREE.HTDMP description for definition.

3.6.21 WDLDSTEM

Woodland tree species stem count. The value used for the tree estimates in the TREE_GRM_BEGIN table. See TREE.WDLDSTEM description for definition.

3.6.22 STDORGCD

Stand origin code. The value used for the tree estimates in the TREE_GRM_BEGIN table. See COND.STDORGCD description for definition.

3.6.23 SITREE

Calculated site index. The value used for the tree estimates in the TREE_GRM_BEGIN table. See TREE.SITREE description for definition.

3.6.24 BALIVE

Basal area per acre of live trees. The value used for the tree estimates in the TREE_GRM_BEGIN table. See COND.BALIVE description for definition.

3.6.25 VOLTSGRS

Gross cubic-foot total-stem wood volume at T1. See TREE.VOLTSGRS description for definition.

3.6.26 VOLTSGRS_BARK

Gross cubic-foot total-stem bark volume at T1. See TREE.VOLTSGRS_BARK description for definition.

3.6.27 VOLTSSND

Sound cubic-foot total-stem wood volume at T1. See TREE.VOLTSSND description for definition.

3.6.28 VOLTSSND_BARK

Sound cubic-foot total-stem bark volume at T1. See TREE.VOLTSSND_BARK description for definition.

3.6.29 VOLCFGGRS_STUMP

Gross cubic-foot stump wood volume at T1. See TREE.VOLCFGGRS_STUMP description for definition.

3.6.30 VOLCFGGRS_STUMP_BARK

Gross cubic-foot stump bark volume at T1. See TREE.VOLCFGGRS_STUMP_BARK description for definition.

3.6.31 VOLCFSND_STUMP

Sound cubic-foot stump wood volume at T1. See TREE.VOLCFSND_STUMP description for definition.

3.6.32 VOLCFSND_STUMP_BARK

Sound cubic-foot stump bark volume at T1. See TREE.VOLCFSND_STUMP_BARK description for definition.

3.6.33 VOLCFGRS

Gross cubic-foot stem wood volume at T1. See TREE.VOLCFGRS description for definition.

3.6.34 VOLCFGRS_BARK

Gross cubic-foot stem bark volume at T1. See TREE.VOLCFGRS_BARK description for definition.

3.6.35 VOLCFGRS_TOP

Gross cubic-foot stem-top wood volume at T1. See TREE.VOLCFGRS_TOP description for definition.

3.6.36 VOLCFGRS_TOP_BARK

Gross cubic-foot stem-top bark volume at T1. See TREE.VOLCFGRS_TOP_BARK description for definition.

3.6.37 VOLCFSND

Sound cubic-foot stem wood volume at T1. See the TREE.VOLCFSND description for definition.

3.6.38 VOLCFSND_BARK

Sound cubic-foot stem bark volume at T1. See TREE.VOLCFSND_BARK description for definition.

3.6.39 VOLCFSND_TOP

Sound cubic-foot stem-top wood volume at T1. See TREE.VOLCFSND_TOP description for definition.

3.6.40 VOLCFSND_TOP_BARK

Sound cubic-foot stem-top bark volume at T1. See TREE.VOLCFSND_TOP_BARK description for definition.

3.6.41 VOLCFNET

Net cubic-foot stem wood volume at T1. See the TREE.VOLCFNET description for definition.

3.6.42 VOLCFNET_BARK

Net cubic-foot stem bark volume at T1. See TREE.VOLCFNET_BARK description for definition.

3.6.43 VOLCSGRS

Gross cubic-foot wood volume in the sawlog portion of a sawtimber tree at T1. See TREE.[VOLCSGRS](#) description for definition.

3.6.44 VOLCSGRS_BARK

Gross cubic-foot bark volume in the sawlog portion of a sawtimber tree at T1. See TREE.[VOLCSGRS_BARK](#) description for definition.

3.6.45 VOLCSSND

Sound cubic-foot wood volume in the sawlog portion of a sawtimber tree at T1. See TREE.[VOLCSSND](#) description for definition.

3.6.46 VOLCSSND_BARK

Sound cubic-foot bark volume in the sawlog portion of a sawtimber tree at T1. See TREE.[VOLCSSND_BARK](#) description for definition.

3.6.47 VOLCSNET

Net cubic-foot wood volume in the sawlog portion of a sawtimber tree at T1. See the TREE.[VOLCSNET](#) description for definition.

3.6.48 VOLCSNET_BARK

Net cubic-foot bark volume in the sawlog portion of a sawtimber tree at T1. See TREE.[VOLCSNET_BARK](#) description for definition.

3.6.49 VOLBFGRS

Gross board-foot wood volume in the sawlog portion of a sawtimber tree at T1. See TREE.[VOLBFGRS](#) description for definition.

3.6.50 VOLBFNET

Net board-foot wood volume in the sawlog portion of a sawtimber tree at T1. See the TREE.[VOLBFNET](#) description for definition.

3.6.51 VOLBSGRS

Gross board-foot wood volume in the sawlog portion of a sawtimber tree at T1 (Scribner Rule). See TREE.[VOLBSGRS](#) description for definition.

3.6.52 VOLBSNET

Net board-foot wood volume in the sawlog portion of a sawtimber tree at T1 (Scribner Rule). See TREE.[VOLBSNET](#) description for the definition.

3.6.53 DRYBIO_STEM

Dry biomass of wood in the total stem at T1. See TREE.[DRYBIO_STEM](#) description for definition.

3.6.54 DRYBIO_STEM_BARK

Dry biomass of bark in the total stem at T1. See TREE.[DRYBIO_STEM_BARK](#) description for definition.

3.6.55 DRYBIO_STUMP

Dry biomass of wood in the tree stump at T1. See the TREE.DRYBIO_STUMP description for definition.

3.6.56 DRYBIO_STUMP_BARK

Dry biomass of bark in the stump at T1. See TREE.DRYBIO_STUMP_BARK description for definition.

3.6.57 DRYBIO_BOLE

Dry biomass of wood in the merchantable bole at T1. See the TREE.DRYBIO_BOLE description for definition.

3.6.58 DRYBIO_BOLE_BARK

Dry biomass of bark in the merchantable bole at T1. See TREE.DRYBIO_BOLE_BARK description for definition.

3.6.59 DRYBIO_BRANCH

Dry biomass of branches at T1. See TREE.DRYBIO_BRANCH description for definition.

3.6.60 DRYBIO_FOLIAGE

Dry biomass of foliage at T1. See TREE.DRYBIO_FOLIAGE description for definition.

3.6.61 DRYBIO_AG

Aboveground dry biomass of wood and bark at T1. See the TREE.DRYBIO_AG description for definition.

3.6.62 DRYBIO_BG

Belowground dry biomass at T1. See the TREE.DRYBIO_BG description for definition.

3.6.63 CARBON_AG

Aboveground carbon of wood and bark at T1. See TREE.CARBON_AG description for definition.

3.6.64 CARBON_BG

Belowground carbon at T1. See TREE.CARBON_BG description for definition.

3.6.65 DRYBIO_SAWLOG

Dry biomass of wood in the sawlog portion of a sawtimber tree at T1. See the TREE.DRYBIO_SAWLOG description for definition.

3.6.66 DRYBIO_SAWLOG_BARK

Dry biomass of bark in the sawlog portion of a sawtimber tree at T1. See TREE.DRYBIO_SAWLOG_BARK description for definition.

3.6.67 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

3.6.68 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

3.6.69 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

3.6.70 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

3.6.71 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

3.6.72 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

3.7 Tree Growth, Removal, and Mortality Estimation Table

(Oracle table name: TREE_GRM_ESTN)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
3.7.1	CN	Sequence number	VARCHAR2(34)
3.7.2	STATECD	State code	NUMBER
3.7.3	INVYR	Inventory year	NUMBER(4)
3.7.4	PLT_CN	Plot sequence number	VARCHAR2(34)
3.7.5	TRE_CN	Tree sequence number	VARCHAR2(34)
3.7.6	LAND_BASIS	Land basis for estimate	VARCHAR2(10)
3.7.7	ESTIMATE	Base attribute that is being estimated	VARCHAR2(20)
3.7.8	ESTN_TYPE	Estimation type of the tree	VARCHAR2(10)
3.7.9	ESTN_UNITS	Estimation unit of measurement	VARCHAR2(3)
3.7.10	COMPONENT	Growth component type	VARCHAR2(15)
3.7.11	SUBTYP_GRM	Subplot type used for GRM estimation	NUMBER(1)
3.7.12	REMPER	Remeasurement period	NUMBER(3,1)
3.7.13	TPAGROW_UNADJ	Growth trees per acre unadjusted	NUMBER(11,6)
3.7.14	TPAREMV_UNADJ	Removal trees per acre per year unadjusted	NUMBER(11,6)
3.7.15	TPAMORT_UNADJ	Mortality trees per acre per year unadjusted	NUMBER(11,6)
3.7.16	ANN_NET_GROWTH	Average annual net growth estimate	NUMBER(13,6)
3.7.17	REMOVALS	Removal estimate	NUMBER(13,6)
3.7.18	MORTALITY	Mortality estimate	NUMBER(13,6)
3.7.19	EST_BEGIN	Beginning estimate	NUMBER(13,6)
3.7.20	EST_BEGIN_RECALC	Recalculated beginning estimate	VARCHAR2(1)
3.7.21	EST_END	Ending estimate	NUMBER(13,6)
3.7.22	EST_MIDPT	Midpoint estimate	NUMBER(13,6)
3.7.23	EST_THRESHOLD	Threshold estimate	NUMBER(13,6)
3.7.24	DIA_BEGIN	Beginning diameter	NUMBER(5,2)
3.7.25	DIA_BEGIN_RECALC	Recalculated diameter	VARCHAR2(1)
3.7.26	DIA_END	Ending diameter	NUMBER(5,2)
3.7.27	DIA_MIDPT	Midpoint diameter	NUMBER(5,2)
3.7.28	DIA_THRESHOLD	Threshold diameter	NUMBER(5,2)
3.7.29	G_S	Survivor growth	NUMBER(13,6)
3.7.30	I	Ingrowth	NUMBER(13,6)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
3.7.31	G_I	Growth on ingrowth	NUMBER(13,6)
3.7.32	M	Mortality	NUMBER(13,6)
3.7.33	G_M	Mortality growth	NUMBER(13,6)
3.7.34	C	Cut	NUMBER(13,6)
3.7.35	G_C	Cut growth	NUMBER(13,6)
3.7.36	R	Reversion	NUMBER(13,6)
3.7.37	G_R	Reversion growth	NUMBER(13,6)
3.7.38	D	Diversion	NUMBER(13,6)
3.7.39	G_D	Diversion growth	NUMBER(13,6)
3.7.40	CD	Cull decrement	NUMBER(13,6)
3.7.41	G_CD	Cull decrement growth	NUMBER(13,6)
3.7.42	CI	Cull increment	NUMBER(13,6)
3.7.43	G_CI	Cull increment growth	NUMBER(13,6)
3.7.44	CREATED_BY	Created by	VARCHAR2(30)
3.7.45	CREATED_DATE	Created date	DATE
3.7.46	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
3.7.47	MODIFIED_BY	Modified by	VARCHAR2(30)
3.7.48	MODIFIED_DATE	Modified date	DATE
3.7.49	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	TGE_PK
Unique	TRE_CN, LAND_BASIS, ESTIMATE, ESTN_TYPE, ESTN_UNITS	N/A	TGE_UK
Foreign	PLT_CN	TREE_GRM_ESTN to PLOT	TGE_PLT_FK
Foreign	TRE_CN	TREE_GRM_ESTN to TREE	TGE_TRE_FK

This table stores information used to compute net growth, removal, and mortality (GRM) estimates on remeasurement tree records. This includes the detailed land basis, component, estimation type, estimation units, as well as the begin, end, and mid-point diameters and the begin, end, and mid-point estimates. In addition, the standard net growth, removal, and mortality estimates are included, as well as estimates for each individual growth component. Users should note that this table usually includes multiple records for each remeasurement tree. For volume estimates, there are generally three records storing estimates for each estimation type (all live, growing stock, sawlog) for each land basis (forest land or timberland). However, if the estimation type is not applicable to the tree (e.g., the tree is not growing-stock form or is not sawlog size), then there could be only one record for each land basis (all live). Currently, this table only stores GRM estimates for volume.

3.7.1 CN

Sequence number. A unique sequence number used to identify a tree GRM estimation record.

3.7.2 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

3.7.3 INVYR

Inventory year. See SURVEY.[INVYR](#) description for definition.

3.7.4 PLT_CN

Plot sequence number. Foreign key linking the GRM tree estimation record to the plot record.

3.7.5 TRE_CN

Tree sequence number. Foreign key linking the GRM tree estimation record to the tree record.

3.7.6 LAND_BASIS

Land basis for estimate. An attribute that categorizes estimates by the land-based domain of interest.

Note: Starting with PLOT.[MANUAL](#) ≥6.0, code descriptions have been modified to match FIA's new definition for accessible forest land and nonforest land. The current wording of "at least 10 percent canopy cover" replaces older wording of "at least 10 percent stocked" as the qualifying criterion in classification. This criterion applies to any tally tree species, including woodland tree species.

Codes: LAND_BASIS

Code	Description
FORESTLAND	Land that has at least 10 percent canopy cover by live tally trees of any size or has had at least 10 percent canopy cover of live tally species in the past, based on the presence of stumps, snags, or other evidence. To qualify, the area must be at least 1.0 acre in size and 120.0 feet wide. Forest land includes transition zones, such as areas between forest and nonforest lands that meet the minimal tree canopy cover and forest areas adjacent to urban and built-up lands. Roadside, streamside, and shelterbelt strips of trees must have a width of at least 120 feet and continuous length of at least 363 feet to qualify as forest land. Unimproved roads and trails, streams, and clearings in forest areas are classified as forest if they are less than 120 feet wide or less than an acre in size. Tree-covered areas in agricultural production settings, such as fruit orchards, or tree-covered areas in urban settings, such as city parks, are not considered forest land.
TIMBERLAND	Forest land that is producing or capable of producing 20 cubic feet per acre or more per year of wood at culmination of mean annual increment (MAI). Timberland excludes reserved forest lands.

3.7.7 ESTIMATE

Base attribute that is being estimated. A descriptor for the base attribute that is being estimated.

3.7.8 ESTN_TYPE

Estimation type of the tree. A code indicating whether the estimation record is for all live, growing-stock, or sawlog trees.

Codes: ESTN_TYPE

Code	Description
AL	All live.
GS	Growing stock.
SL	Sawlog.

3.7.9 ESTN_UNITS

Estimation unit of measurement. A code indicating the unit of measurement for the estimation record.

Codes: ESTN_UNITS

Code	Description
BF	Board feet.
CF	Cubic feet.

3.7.10 COMPONENT

Growth component type. A code indicating the type of change that occurred on the tree between the previous and the current field observations.

Codes: COMPONENT

Code	Description
CUT0	Tree was killed due to harvesting activity by T2 ((TREE.STATUSCD = 3) or (TREE.STATUSCD = 2 and TREE.AGENTCD = 80)). Applicable only in periodic-to-periodic, periodic-to-annual, and modeled GRM estimates.
CUT1	Tree was previously in estimate (T1) and was killed due to harvesting activity by T2 ((TREE.STATUSCD = 3) or (TREE.STATUSCD = 2 and TREE.AGENTCD = 80)).
CUT2	Tree grew across minimum threshold diameter for the estimate since T1 and was killed due to harvesting activity by T2 ((TREE.STATUSCD = 3) or (TREE.STATUSCD = 2 and TREE.AGENTCD = 80)).
INGROWTH	Tree grew across minimum threshold diameter for the estimate since T1. For example, a sapling grows across the 5-inch diameter threshold becoming ingrowth on the subplot.
MORTALITY0	Tree died of natural causes by T2 (TREE.AGENTCD <> 80). Applicable only in periodic-to-periodic, periodic-to-annual, and modeled GRM estimates.
MORTALITY1	Tree was previously in estimate (T1) and died of natural causes by T2 (TREE.AGENTCD <> 80).
MORTALITY2	Tree grew across minimum threshold diameter for the estimate since T1 and died of natural causes by T2 (TREE.AGENTCD <> 80).

Code	Description
NOT USED	Tree was either live or dead at T1 and has no status at T2.
SURVIVOR	Tree has remained live and in the estimate from T1 through T2.
UNKNOWN	Tree lacks information required to classify component usually due to procedural changes.
REVERSION1	Tree grew across minimum threshold diameter for the estimate by the midpoint of the measurement interval and the condition reverted to the land basis by T2.
REVERSION2	Tree grew across minimum threshold diameter for the estimate after the midpoint of the measurement interval and the condition reverted to the land basis by T2.
DIVERSION0	Tree was removed from the estimate by something other than harvesting activity by T2 (not (TREE.STATUSCD= 3) and not (TREE.STATUSCD = 2 and TREE.AGENTCD = 80)). Applicable only in periodic-to-periodic, periodic-to-annual, and modeled GRM estimates.
DIVERSION1	Tree was previously in estimate (T1) and the condition diverted from the land basis by T2 (not (TREE.STATUSCD= 3) and not (TREE.STATUSCD = 2 and TREE.AGENTCD = 80)).
DIVERSION2	Tree grew across minimum threshold diameter for the estimate since T1 and the condition diverted from the land basis by T2 (not (TREE.STATUSCD= 3) and not (TREE.STATUSCD = 2 and TREE.AGENTCD = 80)).
CULLINCR	Not used at this time.
CULLDECR	Not used at this time.
N/A - A2A	Component of change is not defined or does not exist. Applicable only in annual-to-annual GRM estimates.
N/A - A2A SOON	Component of change is not defined or does not exist. Applicable only in annual-to-annual GRM estimates.
N/A - MODELED	Component of change is not defined or does not exist. Applicable only in annual-to-annual GRM estimates.
N/A - P2A	Component of change is not defined or does not exist. Applicable only in periodic-to-annual GRM estimates.
N/A - P2P	Component of change is not defined or does not exist. Applicable only in periodic-to-periodic GRM estimates.
N/A - PERIODIC	Component of change is not defined or does not exist. Applicable only in periodic-to-periodic GRM estimates.

3.7.11 SUBTYP_GRM

Subplot type used for GRM estimation. A code indicating what plot type is used for assigning the tree per acre value, and which population adjustment factor is used for GRM estimates.

Codes: SUBTYP_GRM

Code	Description
1	Subplot.
2	Microplot.
3	Macroplot.

3.7.12 REMPER

Remeasurement period. The number of years between measurements for remeasured plots to the nearest 0.1 year. This attribute is blank (null) for new plots or remeasured plots that are not used for growth, removals, or mortality estimates.

3.7.13 TPAGROW_UNADJ

Growth trees per acre unadjusted. The number of growth trees per acre that the sample tree theoretically represents based on the sample design. For fixed-radius plots taken with the mapped plot design (PLOT.DESIGNCD = 1), TPAGROW_UNADJ is set to a constant derived from the plot size. Variable-radius plots were often used in earlier inventories, so the value in TPAGROW_UNADJ decreases as the tree diameter increases. This attribute will be blank (null) if the tree does not contribute to growth estimates. Based on the procedures described in Bechtold and Patterson (2005), this attribute must be adjusted using factors stored in the POP_STRATUM table to derive population estimates. Examples of estimating population totals are shown in [The Forest Inventory and Analysis Database: Population Estimation User Guide](#).

3.7.14 TPAREMV_UNADJ

Removal trees per acre per year unadjusted. The number of removal trees per acre per year that the sample tree theoretically represents based on the sample design. For fixed-radius plots taken with the mapped plot design (PLOT.DESIGNCD = 1), TPAREMV_UNADJ is set to a constant derived from the plot size divided by PLOT.REMPER. Variable-radius plots were often used in earlier inventories, so the value in TPAREMV_UNADJ decreases as the tree diameter increases. This attribute will be blank (null) if the tree does not contribute to removals estimates. Based on the procedures described in Bechtold and Patterson (2005), this attribute must be adjusted using factors stored in the POP_STRATUM table to derive population estimates. Examples of estimating population totals are shown in [The Forest Inventory and Analysis Database: Population Estimation User Guide](#).

3.7.15 TPAMORT_UNADJ

Mortality trees per acre per year unadjusted. The number of mortality trees per acre per year that the sample tree theoretically represents based on the sample design. For fixed-radius plots taken with the mapped plot design (PLOT.DESIGNCD = 1), TPAMORT_UNADJ is set to a constant derived from the plot size divided by PLOT.REMPER. Variable-radius plots were often used in earlier inventories, so the value in TPAMORT_UNADJ decreases as the tree diameter increases. This attribute will be blank (null) if the tree does not contribute to mortality estimates. Based on the procedures described in Bechtold and Patterson (2005), this attribute must be adjusted using factors stored in the POP_STRATUM table to derive population estimates. Examples of estimating population totals are shown in [The Forest Inventory and Analysis Database: Population Estimation User Guide](#).

3.7.16 ANN_NET_GROWTH

Average annual net growth estimate. The net change in the estimate per year of this tree. Because this value is net growth, it may be a negative number. Negative values are usually due to mortality but can also occur on live trees that have a net loss because of damage, rot, broken top, or other causes. To expand to a per acre value, multiply by TPAGROW_UNADJ.

3.7.17 REMOVALS

Removal estimate. The trees that were cut, utilized or not, and trees removed from the land basis (diversion) between time 1 and time 2. The estimate is calculated for the mid-point of the measurement interval.

3.7.18 MORTALITY

Mortality estimate. The trees that died between time 1 and time 2. The estimate is calculated for the mid-point of the measurement interval.

3.7.19 EST_BEGIN

Beginning estimate. Estimate derived from original field observations at time 1, modeled time 1 values for missing trees (TREE.RECONILECD 3 or 4), or recomputed time 1 variables.

3.7.20 EST_BEGIN_RECALC

Recalculated beginning estimate. A code indicating when EST_BEGIN is different (i.e., recalculated) from the time 1 estimate for the purpose of calculating growth. EST_BEGIN is recalculated when any of the follow occur:

- TREE.DIACHECK = 2 at time 2
- TREE.SPCD observed at time 1 <> TREE.SPCD observed at time 2
- TREE.STATUSCD = 2 and TREE.STANDING_DEAD_CD = 1 at time 1 but TREE.STATUSCD = 1 at time 2
- TREE.TREECLCD = 3 or 4 at time 1 but TREE.TREECLCD = 2 at time 2

Codes: EST_BEGIN_RECALC

Code	Description
Y	EST_BEGIN is recalculated.
N	EST_BEGIN is from time 1 field observations or derived from modeled time 1 values for missing trees.

3.7.21 EST_END

Ending estimate. Estimate at time 2.

3.7.22 EST_MIDPT

Midpoint estimate. Estimate at midpoint of measurement interval. Only calculated for removal and mortality trees.

3.7.23 EST_THRESHOLD

Threshold estimate. Estimate at threshold size.

3.7.24 DIA_BEGIN

Beginning diameter. Diameter from original field observations at time 1, modeled time 1 diameter for missing trees (TREE.RECONILECD 3 or 4), or recomputed time 1 diameter based on time 2 observations (see [DIA_BEGIN_RECALC](#)).

3.7.25 DIA_BEGIN_RECALC

Recalculated diameter. A code indicating when DIA_BEGIN is different (i.e., recalculated) from the time 1 diameter for the purpose of calculating growth. DIA_BEGIN is recalculated when TREE.DIACHECK = 2 and time 2.

Codes: DIA_BEGIN_RECALC

Code	Description
Y	DIA_BEGIN is recalculated.
N	DIA_BEGIN is from time 1 field diameter or derived from modeled time 1 diameter for missing trees.

3.7.26 DIA_END

Ending diameter. Diameter at time 2.

3.7.27 DIA_MIDPT

Midpoint diameter. Diameter at midpoint of measurement interval.

3.7.28 DIA_THRESHOLD

Threshold diameter. Diameter at threshold size.

3.7.29 G_S

Survivor growth. The growth on trees tallied at time 1 that survive until time 2.

3.7.30 I

Ingrowth. The estimate of trees at the time that they grow across the diameter threshold between time 1 and time 2. This term also includes trees that subsequently die (i.e., ingrowth mortality), are cut (i.e., ingrowth cut), or diverted to nonforest (i.e., ingrowth diversion); as well as trees that achieve the threshold after an area reverts to a forest land use (i.e., reversion ingrowth).

3.7.31 G_I

Growth on ingrowth. The growth of trees between the time they grow across the diameter threshold and time 2.

3.7.32 M

Mortality. The estimate of trees that die from natural causes between time 1 and time 2. The estimate is based on tree size at the midpoint of the measurement interval (includes mortality growth).

3.7.33 G_M

Mortality growth. The growth of trees that died from natural causes between time 1 and the midpoint of the measurement interval. This term also includes the subsequent growth on ingrowth trees that achieve the diameter threshold prior to mortality.

3.7.34 C

Cut. The estimate of trees cut between time 1 and time 2. The estimate is based on tree size at the midpoint of the measurement interval (includes cut growth). Trees felled or killed in conjunction with a harvest or silvicultural operation (whether they are utilized or

not) are included, but trees on land diverted from forest to nonforest (diversions) are excluded.

3.7.35 G_C

Cut growth. The growth of cut trees between time 1 and the midpoint of the measurement interval. This term also includes the growth on ingrowth trees that achieve the diameter threshold prior to being cut.

3.7.36 R

Reversion. The estimate of trees on land that reverts from a nonforest land use to a forest land use or land that reverts from any source to timberland between time 1 and time 2. The estimate is based on tree size at the midpoint of the measurement interval.

3.7.37 G_R

Reversion growth. The growth of reversion trees from the midpoint of the measurement interval to time 2. This term also includes the growth on ingrowth trees that achieve the diameter threshold after reversion.

3.7.38 D

Diversion. The estimate of trees on forest land diverted to nonforest, or timberland diverted to reserved forest land and other unproductive forest land, whether the tree is utilized or not, between time 1 and time 2. The estimate is based on tree size at the midpoint of the measurement interval (includes diversion growth).

3.7.39 G_D

Diversion growth. The growth of diversion trees from time 1 to the midpoint of the measurement interval. This term also includes the growth on ingrowth trees that achieve the diameter threshold prior to diversion.

3.7.40 CD

Cull decrement. (*core optional*) The net gain in the growing-stock component due to reclassification of cull trees to growing-stock trees between two surveys (i.e., the estimate of trees that were given a cull code at time 1, but reclassified with a growing-stock code at time 2). The estimate is based on tree size at the midpoint of the measurement interval.

3.7.41 G_CD

Cull decrement growth. (*core optional*) The growth from the midpoint of the measurement interval to time 2 on trees that were cull at time 1, but growing-stock at time 2.

3.7.42 CI

Cull increment. (*core optional*) The net reduction in the growing-stock component due to reclassification of growing-stock trees to cull trees between two surveys (i.e., the estimate of trees that were given a growing-stock code at time 1, but reclassified with a cull code at time 2). The estimate is based on tree size at the midpoint of the measurement interval (includes cull increment growth).

3.7.43 G_CI

Cull increment growth. (*core optional*) The growth to the midpoint of the measurement interval between time 1 and 2 of trees that were given a growing-stock code at time 1, but reclassified with a cull code at time 2.

3.7.44 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

3.7.45 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

3.7.46 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

3.7.47 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

3.7.48 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

3.7.49 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

3.8 Begin and End Table

(Oracle table name: BEGINEND)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
3.8.1	ONEORTWO	One or two	NUMBER
3.8.2	CREATED_BY	Created by	VARCHAR2(30)
3.8.3	CREATED_DATE	Created date	DATE
3.8.4	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
3.8.5	MODIFIED_BY	Modified by	VARCHAR2(30)
3.8.6	MODIFIED_DATE	Modified date	DATE
3.8.7	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Unique	ONEORTWO	N/A	BE_UK

3.8.1 ONEORTWO

One or two. A counter to establish how many times to access a tree record in the TREE_GRM_ESTN table. Possible values of ONEORTWO are 1 and 2. This attribute is used when calculating net growth accounting estimates. It should not be used when summarizing net growth attributes stored in the TREE table (i.e., when not summarizing by the accounting temporal basis). The first time the record is accessed, TREE_GRM_ESTN.EST_BEGIN is acquired along with the classification attribute value at time 1. The second time the record is accessed, TREE_GRM_ESTN.EST_END is acquired along with the classification attribute value at time 2. If TREE_GRM_ESTN.EST_END is null, then TREE_GRM_ESTN.EST_MIDPT is substituted. See [The Forest Inventory and Analysis Database: Population Estimation User Guide](#) for examples of use.

3.8.2 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

3.8.3 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

3.8.4 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

3.8.5 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

3.8.6 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

3.8.7 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

3.9 Seedling Table

(Oracle table name: SEEDLING)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
3.9.1	CN	Sequence number	VARCHAR2(34)
3.9.2	PLT_CN	Plot sequence number	VARCHAR2(34)
3.9.3	INVYR	Inventory year	NUMBER(4)
3.9.4	STATECD	State code	NUMBER(4)
3.9.5	UNITCD	Survey unit code	NUMBER(2)
3.9.6	COUNTYCD	County code	NUMBER(3)
3.9.7	PLOT	Plot number	NUMBER(5)
3.9.8	SUBP	Subplot number	NUMBER(3)
3.9.9	CONDID	Condition class number	NUMBER(1)
3.9.10	SPCD	Species code	NUMBER
3.9.11	SPGRPCD	Species group code	NUMBER(2)
3.9.12	STOCKING	Tree stocking	NUMBER(7,4)
3.9.13	TREECOUNT	Tree count for seedlings	NUMBER(3)
3.9.14	TOTAGE	Total age	NUMBER(3)
3.9.15	CREATED_BY	Created by	VARCHAR2(30)
3.9.16	CREATED_DATE	Created date	DATE
3.9.17	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
3.9.18	MODIFIED_BY	Modified by	VARCHAR2(30)
3.9.19	MODIFIED_DATE	Modified date	DATE
3.9.20	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)
3.9.21	TREECOUNT_CALC	Tree count used in calculations	NUMBER
3.9.22	TPA_UNADJ	Trees per acre unadjusted	NUMBER(11,6)
3.9.23	CYCLE	Inventory cycle number	NUMBER(2)
3.9.24	SUBCYCLE	Inventory subcycle number	NUMBER(2)
3.9.25	DAMAGE_AGENT_CD1_SRS	Damage agent code 1 (Caribbean Islands), Southern Research Station	NUMBER(5)
3.9.26	PCT_AFFECTED_DAMAGE_AGENT1_SRS	Percent affected by damage agent 1 (Caribbean Islands), Southern Research Station	NUMBER(3)
3.9.27	DAMAGE_AGENT_CD2_SRS	Damage agent code 2 (Caribbean Islands), Southern Research Station	NUMBER(5)
3.9.28	PCT_AFFECTED_DAMAGE_AGENT2_SRS	Percent affected by damage agent 2 (Caribbean Islands), Southern Research Station	NUMBER(3)
3.9.29	DAMAGE_AGENT_CD3_SRS	Damage agent code 3 (Caribbean Islands), Southern Research Station	NUMBER(5)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
3.9.30	PCT_AFFECTED_DAMAGE_AGENT3_SRS	Percent affected by damage agent 3 (Caribbean Islands), Southern Research Station	NUMBER(3)
3.9.31	AGECD_RMRS	Seedling age code, Rocky Mountain Research Station	NUMBER(1)
3.9.32	COUNTCHKCD_RMRS	Seedling count check code, Rocky Mountain Research Station	NUMBER(1)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	SDL_PK
Unique	PLT_CN, SUBP, CONDID, SPCD	N/A	SDL_UK
Natural	STATECD, INVYR, UNITCD, COUNTYCD, PLOT, SUBP, CONDID, SPCD	N/A	SDL_NAT_I
Foreign	PLT_CN	SEEDLING to PLOT	SDL_PLT_FK

Seedling data collection overview - When PLOT.MANUAL <2.0, the national *core* procedure was to record the actual seedling count up to six seedlings and then record 6+ if at least six seedlings were present. However, the following regions collected the actual seedling count when PLOT.MANUAL <2.0: Rocky Mountain Research Station (RMRS) and North Central Research Station (NCRS). If PLOT.MANUAL <2.0 and TREECOUNT is blank (null), then a value of 6 in TREECOUNT_CALC represents 6 or more seedlings. In the past, seedlings were often tallied in FIA inventories only to the extent necessary to determine if some minimum number were present, which means that seedlings were often under-reported. **Note:** The SEEDLING record may not exist for some periodic inventories.

3.9.1 CN

Sequence number. A unique sequence number used to identify a seedling record.

3.9.2 PLT_CN

Plot sequence number. Foreign key linking the seedling record to the plot record.

3.9.3 INVYR

Inventory year. See SURVEY.[INVYR](#) description for definition.

3.9.4 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

3.9.5 UNITCD

Survey unit code. Forest Inventory and Analysis survey unit identification number. Survey units are usually groups of counties within each State. For periodic inventories, survey units may be made up of lands of particular owners. Refer to [appendix B](#) for codes.

3.9.6 COUNTYCD

County code. The identification number for a county, parish, watershed, borough, or similar governmental unit in a State. FIPS codes from the Bureau of the Census are used. Refer to [appendix B](#) for codes.

Note: Summarizing data by county is not recommended for Alaska datasets. For assistance with analyses for Alaska, please consult the PNWRS analyst contact listed in [table 1-1](#).

3.9.7 PLOT

Plot number. An identifier for a plot. Along with STATECD, INVYR, UNITCD, COUNTYCD and/or some other combinations of variables, PLOT may be used to uniquely identify a plot.

3.9.8 SUBP

Subplot number. The number assigned to the subplot. The national plot design (PLOT.DESIGNCD = 1) has subplot number values of 1 through 4. Other plot designs have various subplot number values. See PLOT.DESIGNCD and [appendix G](#) for information about plot designs. For more explanation about SUBP, contact the appropriate FIA work unit ([table 1-1](#)).

3.9.9 CONDID

Condition class number. The unique identifying number assigned to a condition on which the seedling(s) is located, and is defined in the COND table. See COND.CONDID for details on the attributes which delineate a condition.

3.9.10 SPCD

Species code. An FIA species code identifying the tree species of the seedling count. Refer to [appendix F](#) for codes.

3.9.11 SPGRPCD

Species group code. A code assigned to each tree species in order to group them for reporting purposes. Codes and their associated names (see REF_SPECIES_GROUP.NAME) are shown in [appendix E](#). Refer to [appendix F](#) for individual tree species and corresponding species group codes.

3.9.12 STOCKING

Tree stocking. The stocking value, in percent, assigned to each count of seedlings, by species. Stocking values are computed using several specific species equations that were developed from normal yield tables and stocking charts. The stocking of seedling count records is used to calculate COND.GSSTK, COND.GSSTKCD, COND.ALSTK, and COND.ALSTKCD on the condition record.

3.9.13 TREETCOUNT

Tree count for seedlings. The number of live seedlings (DIA <1.0 inch) present on the microplot by species and condition class. To qualify for counting, conifer seedlings must be at least 6 inches tall and hardwood seedlings must be at least 12 inches tall. When PLOT.MANUAL <2.0, the national core procedure was to record the actual seedling count up to six seedlings and then record 6+ if at least six seedlings were present. However, the following regions collected the actual seedling count when PLOT.MANUAL <2.0: Rocky Mountain Research Station (RMRS) and North Central Research Station (NCRS). If

PLOT.MANUAL <2.0 and TREECOUNT is blank (null), then a value of 6 in TREECOUNT_CALC represents 6 or more seedlings.

3.9.14 TOTAGE

Total age. The seedling's total age. Total age is collected for a subset of seedling count records, using one representative seedling for the species. The age is obtained by counting the terminal bud scars or the whorls of branches and may be used in the stand age calculation. Only populated by certain FIA work units (SURVEY.RSCD = 22) and is blank (null) when it is not collected.

3.9.15 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

3.9.16 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

3.9.17 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

3.9.18 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

3.9.19 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

3.9.20 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

3.9.21 TREECOUNT_CALC

Tree count used in calculations. This attribute is set either to COUNTCD, which was dropped in FIADB version 2.1, or TREECOUNT. When PLOT.MANUAL <2.0, the national core procedure was to record the actual seedling count up to six seedlings and then record 6+ if at least six seedlings were present. However, the following regions collected the actual seedling count when PLOT.MANUAL <2.0: Rocky Mountain Research Station (RMRS) and North Central Research Station (NCRS). If PLOT.MANUAL <2.0 and TREECOUNT is blank (null), then a value of 6 in TREECOUNT_CALC represents 6 or more seedlings.

3.9.22 TPA_UNADJ

Trees per acre unadjusted. The number of seedlings per acre that the seedling count theoretically represents based on the sample design. For fixed-radius plots taken with the mapped plot design (PLOT.DESIGNCD = 1), TPA_UNADJ equals 74.965282 times the number of seedlings counted. For plots taken with other sample designs, this attribute may be blank (null). Based on the procedures described in Bechtold and Patterson (2005), this attribute can be adjusted using factors stored in the POP_STRATUM table to derive population estimates. Examples of estimating population totals are shown in [The Forest Inventory and Analysis Database: Population Estimation User Guide](#).

3.9.23 CYCLE

Inventory cycle number. See SURVEY.CYCLE description for definition.

3.9.24 SUBCYCLE

Inventory subcycle number. See SURVEY.SUBCYCLE description for definition.

3.9.25 DAMAGE_AGENT_CD1_SRS

Damage agent code 1 (Caribbean Islands), Southern Research Station. A code indicating the first damage agent observed when inspecting the tree from bottom to top (roots, bole, branches, foliage). Up to three damage agents can be recorded (DAMAGE_AGENT_CD1_SRS, DAMAGE_AGENT_CD2_SRS, DAMAGE_AGENT_CD3_SRS). If more than one agent is observed, the most threatening one is listed first where agents threatening survival are listed first and agents threatening wood quality second. The codes used for damage agents come from the January 2012 Pest Trend Impact Plot System (PTIPS) list from the Forest Health Assessment and Applied Sciences Team (FHAAST) that has been modified to meet FIA's needs. See [appendix H](#) for the complete list of codes. Only populated by certain FIA work units (SURVEY.RSCD = 33) for the [Caribbean Islands](#).

3.9.26 PCT_AFFECTED_DAMAGE_AGENT1_SRS

Percent affected by damage agent 1 (Caribbean Islands), Southern Research Station. The percent of seedlings on the microplot, by species and condition, which are affected by DAMAGE_AGENT_CD1_SRS. Only populated by certain FIA work units (SURVEY.RSCD = 33) for the [Caribbean Islands](#).

3.9.27 DAMAGE_AGENT_CD2_SRS

Damage agent code 2 (Caribbean Islands), Southern Research Station. See [DAMAGE_AGENT_CD1_SRS](#).

3.9.28 PCT_AFFECTED_DAMAGE_AGENT2_SRS

Percent affected by damage agent 2 (Caribbean Islands), Southern Research Station. The percent of seedlings on the microplot, by species and condition, which are affected by DAMAGE_AGENT_CD2_SRS.

3.9.29 DAMAGE_AGENT_CD3_SRS

Damage agent code 3 (Caribbean Islands), Southern Research Station. See [DAMAGE_AGENT_CD1_SRS](#).

3.9.30 PCT_AFFECTED_DAMAGE_AGENT3_SRS

Percent affected by damage agent 3 (Caribbean Islands), Southern Research Station. The percent of seedlings on the microplot, by species and condition, which are affected by DAMAGE_AGENT_CD3_SRS.

3.9.31 AGECD_RMRS

Seedling age code, Rocky Mountain Research Station. A code used in the field indicating which seedling counts require total age information to be collected. Only populated by certain FIA work units (SURVEY.RSCD = 22).

Codes: AGECD_RMRS

Code	Description
0	Do not collect age information for this seedling count.
1	Collect total age information for this seedling count.

3.9.32 COUNTCHKCD_RMRS

Seedling count check code, Rocky Mountain Research Station. A code indicating if the seedling count was estimated. Only populated by certain FIA work units (SURVEY.RSCD = 22).

Codes: COUNTCHKCD_RMRS

Code	Description
0	Seedlings counted accurately.
1	Seedling count estimated.

3.10 Site Tree Table

(Oracle table name: SITETREE)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
3.10.1	CN	Sequence number	VARCHAR2(34)
3.10.2	PLT_CN	Plot sequence number	VARCHAR2(34)
3.10.3	PREV_SIT_CN	Previous site tree sequence number	VARCHAR2(34)
3.10.4	INVYR	Inventory year	NUMBER(4)
3.10.5	STATECD	State code	NUMBER(4)
3.10.6	UNITCD	Survey unit code	NUMBER(2)
3.10.7	COUNTYCD	County code	NUMBER(3)
3.10.8	PLOT	Plot number	NUMBER(5)
3.10.9	CONDID	Condition class number	NUMBER(1)
3.10.10	TREE	Site tree number	NUMBER(9)
3.10.11	SPCD	Species code	NUMBER
3.10.12	DIA	Diameter	NUMBER(5,2)
3.10.13	HT	Total height	NUMBER(3)
3.10.14	AGEDIA	Tree age at diameter	NUMBER(3)
3.10.15	SPGRPCD	Species group code	NUMBER(2)
3.10.16	SITREE	Site index for the tree	NUMBER(3)
3.10.17	SIBASE	Site index base age	NUMBER(3)
3.10.18	SUBP	Subplot number	NUMBER(3)
3.10.19	AZIMUTH	Azimuth	NUMBER(3)
3.10.20	DIST	Horizontal distance	NUMBER(4,1)
3.10.21	METHOD	Site tree method code	NUMBER(2)
3.10.22	SITREE_EST	Estimated site index for the tree	NUMBER(3)
3.10.23	VALIDCD	Validity code	NUMBER(1)
3.10.24	CREATED_BY	Created by	VARCHAR2(30)
3.10.25	CREATED_DATE	Created date	DATE
3.10.26	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
3.10.27	MODIFIED_BY	Modified by	VARCHAR2(30)
3.10.28	MODIFIED_DATE	Modified date	DATE
3.10.29	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)
3.10.30	CYCLE	Inventory cycle number	NUMBER(2)
3.10.31	SUBCYCLE	Inventory subcycle number	NUMBER(2)
3.10.32	AGECHKCD_RMRS	Radial growth and tree age check code, Rocky Mountain Research Station	NUMBER(1)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
3.10.33	AGE_DETERMINATION_METHOD_P_NWRS	Age determination method, Pacific Northwest Research Station	NUMBER(1)
3.10.34	CCLCD_RMRS	Crown class code, Rocky Mountain Research Station	NUMBER(1)
3.10.35	DAMAGE_AGENT_CD1_RMRS	Damage agent code 1, Rocky Mountain Research Station	NUMBER(5)
3.10.36	DAMAGE_AGENT_CD2_RMRS	Damage agent code 2, Rocky Mountain Research Station	NUMBER(5)
3.10.37	DAMAGE_AGENT_CD3_RMRS	Damage agent code 3, Rocky Mountain Research Station	NUMBER(5)
3.10.38	SIBASE_AGE_PNWRS	Site index equation base age, Pacific Northwest Research Station	NUMBER(3)
3.10.39	SITETRCD_RMRS	Site tree code, Rocky Mountain Research Station	NUMBER(1)
3.10.40	SITE_AGE_TREE_STATUS_PNWRS	Site age tree status, Pacific Northwest Research Station	VARCHAR2(1)
3.10.41	SITE_AGE_TREE_TYPE_PNWRS	Site age tree type, Pacific Northwest Research Station	NUMBER(1)
3.10.42	SITE_TREE_METHOD_PNWRS	Site tree selection method, Pacific Northwest Research Station	VARCHAR2(1)
3.10.43	SITREE_EQU_NO_PNWRS	Site index equation number, Pacific Northwest Research Station	NUMBER(3)
3.10.44	TREECLCD_RMRS	Tree class code, Rocky Mountain Research Station	NUMBER(2)
3.10.45	TREE_ACT_RMRS	Actual tree number, Rocky Mountain Research Station	NUMBER(3)
3.10.46	YEAR_AGE_TAKEN	Year age taken	NUMBER(4)
3.10.47	SIEQN_REF_CD	Site index equation reference code	VARCHAR2(10)
3.10.48	SITREE_FVS	Site index for the tree, used by the Forest Vegetation Simulator	NUMBER(3)
3.10.49	SIBASE_FVS	Site index base age used by the Forest Vegetation Simulator	NUMBER(3)
3.10.50	SIEQN_REF_CD_FVS	Site index equation reference code used by the Forest Vegetation Simulator	VARCHAR2(10)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	SIT_PK
Unique	PLT_CN, CONDID, TREE	N/A	SIT_UK
Natural	STATECD, INVYR, UNITCD, COUNTYCD, PLOT, CONDID, TREE	N/A	SIT_NAT_I

Key Type	Column(s) order	Tables to link	Abbreviated notation
Foreign	PLT_CN, CONDID	SITETREE to COND	SIT_CND_FK
Foreign	PLT_CN	SITETREE to PLOT	SIT_PLT_FK

Note: The SITETREE record may not exist for some periodic inventory data.

3.10.1 CN

Sequence number. A unique sequence number used to identify a site tree record.

3.10.2 PLT_CN

Plot sequence number. Foreign key linking the site tree record to the plot record.

3.10.3 PREV_SIT_CN

Previous site tree sequence number. Foreign key linking the site tree to the previous inventory's site tree record for this tree. Only populated for site trees remeasured from a previous annual inventory.

3.10.4 INVYR

Inventory year. See SURVEY.[INVYR](#) description for definition.

3.10.5 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

3.10.6 UNITCD

Survey unit code. Forest Inventory and Analysis survey unit identification number. Survey units are usually groups of counties within each State. For periodic inventories, survey units may be made up of lands of particular owners. Refer to [appendix B](#) for codes.

3.10.7 COUNTYCD

County code. The identification number for a county, parish, watershed, borough, or similar governmental unit in a State. FIPS codes from the Bureau of the Census are used. Refer to [appendix B](#) for codes.

Note: Summarizing data by county is not recommended for Alaska datasets. For assistance with analyses for Alaska, please consult the PNWRS analyst contact listed in [table 1-1](#).

3.10.8 PLOT

Plot number. An identifier for a plot. Along with STATECD, INVYR, UNITCD, COUNTYCD and/or some other combinations of variables, PLOT may be used to uniquely identify a plot.

3.10.9 CON DID

Condition class number. The unique identifying number assigned to a condition for which the site tree is measured, and is defined in the COND table. See COND.[CONDID](#) for details on the attributes which delineate a condition.

3.10.10 TREE

Site tree number. A number used to uniquely identify a site tree on a condition for a plot visit. For tallied site trees, this number is not necessarily the same as the actual tally tree number that is used to uniquely identify the tree on the subplot. Site tree numbers are not permanent, and the number can be used for a different site tree on a subsequent plot visit.

3.10.11 SPCD

Species code. A standard tree species code. Refer to [appendix F](#) for codes.

3.10.12 DIA

Diameter. The diameter, in inches, of the tree at the point of diameter measurement (d.b.h.).

3.10.13 HT

Total height. The total length (height) of the site tree, in feet, from the ground to the top of the main stem.

3.10.14 AGEDIA

Tree age at diameter. Age, in years, of tree at the point of diameter measurement (d.b.h.). Age is determined by an increment sample.

3.10.15 SPGRPCD

Species group code. A code assigned to each tree species in order to group them for reporting purposes. Codes and their associated names (see `REF_SPECIES_GROUP.NAME`) are shown in [appendix E](#). Refer to [appendix F](#) for individual tree species and corresponding species group codes.

3.10.16 SITREE

Site index for the tree. Site index is calculated for dominant and co-dominant trees using one of several methods (see [The method for determining the site index.](#)). It is expressed as height in feet that the tree is expected to attain at a base or reference age (see [SIBASE](#)). Most commonly, site index is calculated using a family of curves that show site index as a function of total length and either breast-height age or total age. The height-intercept (or growth-intercept) method is commonly used for young trees or species that produce conspicuous annual branch whorls; using this method, site index is calculated with the height growth attained for a short period (usually 3 to 5 years) after the tree has reached breast height. Neither age nor total length determination are necessary when using the height-intercept method; therefore, one or more of those variables may be null for a site tree on which the height-intercept method was used.

3.10.17 SIBASE

Site index base age. The base age (sometimes called reference age), in years, of the site index curves used to derive site index. Base age is specific to a given family of site index curves, and is usually set close to the common rotation age or the age of culmination of mean annual increment for a species. The most commonly used base ages are 25, 50, 80, and 100 years. It is possible for a given species to have different sets of site index curves in different geographic regions, and each set of curves may use a different base age.

3.10.18 SUBP

Subplot number. (*core optional*) The number assigned to the subplot. The national plot design (PLOT.DESIGNCD = 1) has subplot number values of 1 through 4. Other plot designs have various subplot number values. See PLOT.DESIGNCD and [appendix G](#) for information about plot designs. For more explanation about SUBP, contact the appropriate FIA work unit ([table 1-1](#)).

3.10.19 AZIMUTH

Azimuth. (*core optional*) This attribute now available from the [FIA Spatial Data Services \(SDS\)](#) group by following the instructions provided at <https://www.fs.usda.gov/research/programs/fia/sds>.

3.10.20 DIST

Horizontal distance. (*core optional*) This attribute now available from the [FIA Spatial Data Services \(SDS\)](#) group by following the instructions provided at <https://www.fs.usda.gov/research/programs/fia/sds>.

3.10.21 METHOD

Site tree method code. The method for determining the site index.

Codes: METHOD

Code	Description
1	Tree measurements (length, age, etc.) collected during this inventory.
2	Tree measurements (length, age, etc.) collected during a previous inventory.
3	Site index estimated either in the field or office.
4	Site index determined by the height-intercept method during this inventory.

3.10.22 SITREE_EST

Estimated site index for the tree. The estimated site index or the site index determined by the height-intercept method.

3.10.23 VALIDCD

Validity code. A code indicating if this site tree provided a valid result from the site index computation. Some trees collected by the field crew yield a negative value from the equation due to their age, height or diameter being outside the range of values for which the equation was developed. Computational results for trees that fail are not used to estimate the site index or site productivity class for the condition. If the site calculation for this tree was successful, this attribute is set to 1.

Codes: VALIDCD

Code	Description
0	Tree failed in site index calculations.
1	Tree was successful in site index calculations.

3.10.24 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

3.10.25 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

3.10.26 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

3.10.27 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

3.10.28 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

3.10.29 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

3.10.30 CYCLE

Inventory cycle number. See SURVEY.CYCLE description for definition.

3.10.31 SUBCYCLE

Inventory subcycle number. See SURVEY.SUBCYCLE description for definition.

3.10.32 AGECHKCD_RMRS

Radial growth and tree age check code, Rocky Mountain Research Station. A code indicating the method used to obtain radial growth and tree age. Only populated by certain FIA work units (SURVEY.RSCD = 22).

Note: Code 3 was added starting with PLOT.MANUAL = 6.0.

Codes: AGECHKCD_RMRS

Code	Description
0	<ul style="list-style-type: none"> Age/radial growth measured directly from core. Age/radial growth calculated from remeasurement data (same tree).
1	<ul style="list-style-type: none"> Age/radial growth was estimated due to rot. Age/radial growth was estimated because rings were difficult to count (old suppressed trees). Age was estimated because the increment bore could not reach to tree center.
2	<ul style="list-style-type: none"> Age/radial growth was calculated from a similar remeasure tree (same species and diameter class). Age/radial growth was based on a similar tree off the subplot.
3	<ul style="list-style-type: none"> Age measured from a collected tree core (for cores collected and sent into the office for aging).

3.10.33 AGE_DETERMINATION_METHOD_PNWRS

Age determination method, Pacific Northwest Research Station. A code indicating how the site tree age was determined in the field. Age is extrapolated for trees that are too large to reach the pith with an increment borer. Only populated by certain FIA work units (SURVEY.RSCD = 27).

Codes: AGE_DETERMINATION_METHOD_PNWRS

Code	Description
0	Bored age.
1	Extrapolated age.

3.10.34 CCLCD_RMRS

Crown class code, Rocky Mountain Research Station. A code indicating the amount of sunlight received and the crown position of the tree within the canopy. Only populated by certain FIA work units (SURVEY.RSCD = 22).

Codes: CCLCD_RMRS

Code	Description
1	Open grown - Trees with crowns that have received full light from above and from all sides throughout all or most of their life, particularly during early development.
2	Dominant - Trees with crowns extending above the general level of the canopy and receiving full light from above and partly from the sides; larger than the average trees in the stand, and with crowns well developed, but possibly somewhat crowded on the sides.
3	Codominant - Trees with crowns forming part of the general level of the canopy cover and receiving full light from above, but comparatively little from the side. Usually with medium crowns more or less crowded on the sides.
4	Intermediate - Trees shorter than those in the preceding two classes, with crowns either below or extending into the canopy formed by the dominant and codominant trees, receiving little direct light from above, and none from the sides; usually with small crowns very crowded on the sides.
5	Overtopped - Trees with crowns entirely below the general canopy level and receiving no direct light either from above or the sides.

3.10.35 DAMAGE_AGENT_CD1_RMRS

Damage agent code 1, Rocky Mountain Research Station. A code indicating the first damage agent recorded by the field crew when inspecting the tree from bottom to top (roots, bole, branches, foliage). Up to three damage agents can be recorded per tree (DAMAGE_AGENT_CD1_RMRS, DAMAGE_AGENT_CD2_RMRS, and DAMAGE_AGENT_CD3_RMRS). Damage agents are not necessarily recorded in order of severity.

The codes used for damage agents come from the January 2012 Pest Trend Impact Plot System (PTIPS) list from the Forest Health Assessment & Applied Sciences Team (FHAAST) that has been modified to meet FIA's needs.

See TREE.DAMAGE_AGENT_CD1 for general agent codes. See [appendix H](#) for the complete list of codes. Only populated by certain FIA work units (SURVEY.RSCD = 22).

3.10.36 DAMAGE_AGENT_CD2_RMRS

Damage agent code 2, Rocky Mountain Research Station. See [DAMAGE_AGENT_CD1_RMRS](#). Only populated by certain FIA work units (SURVEY.RSCD = 22).

3.10.37 DAMAGE_AGENT_CD3_RMRS

Damage agent code 3, Rocky Mountain Research Station. See [DAMAGE_AGENT_CD1_RMRS](#). Only populated by certain FIA work units (SURVEY.RSCD = 22).

3.10.38 SIBASE_AGE_PNWRS

Site index equation base age, Pacific Northwest Research Station. A code indicating the range that is used to define the acceptable site index values. Only populated by certain FIA work units (SURVEY.RSCD = 26, 27).

Codes: **SIBASE_AGE_PNWRS**

Code	Description
50	50 year base age, site index should be within 20.
100	100 year base age, site index should be within 30.

3.10.39 SITETRCD_RMRS

Site tree code, Rocky Mountain Research Station. A code indicating if the site tree is considered to be suitable or unsuitable. When suitable site trees are not available, the field crew may select an unsuitable site tree. Site trees are a measure of site productivity expressed by the height to age relationship of dominant and codominant trees. Site trees are not collected for woodland conditions. The requirements for classification are as follows:

Suitable site trees:

- Live sound tree.
- 5.0 inches in diameter (at breast height) or larger.
- Open grown, dominant, or codominant throughout most of its life.
- Minimum of 35 years (d.b.h. age) for softwoods or minimum of 45 years (d.b.h. age) for hardwoods.
- Under rotation age (80 years for aspen and paper birch, 120 years for all other timber species).
- Undamaged top (not dead or broken).
- Vigorous, having an uncompacted crown ratio of at least 50 percent, if possible, and having the best height/age ratio of all the trees on the site.

Unsuitable site trees:

- Relicts.
- Over rotation age but less than 200 years (d.b.h. age).
- Rough trees (i.e., not growing stock).

Only populated by certain FIA work units (SURVEY.RSCD = 22).

Codes: SITETRCD_RMRS

Code	Description
1	Suitable site tree.
2	Unsuitable site tree.

3.10.40 SITE_AGE_TREE_STATUS_PNWRS

Site age tree status, Pacific Northwest Research Station. A code indicating the site tree status. Only populated by certain FIA work units (SURVEY.RSCD = 26, 27).

Codes: SITE_AGE_TREE_STATUS_PNWRS

Code	Description
N	New site tree (copied from previous inventory and updated, copied from current tree tally, or entered manually as non-tally site tree).
O	Old site tree (downloaded from previous plot visit).
I	Invalid "old" site tree (only to be used for procedural differences or previous crew selection error or if better stand representative site trees are now available).

3.10.41 SITE_AGE_TREE_TYPE_PNWRS

Site age tree type, Pacific Northwest Research Station. A code indicating whether the tree represents site, age, or a combination of site and age. Only populated by certain FIA work units (SURVEY.RSCD = 26, 27).

Codes: SITE_AGE_TREE_TYPE_PNWRS

Code	Description
1	Site tree.
2	Age tree.
3	Site and age tree.

3.10.42 SITE_TREE_METHOD_PNWRS

Site tree selection method, Pacific Northwest Research Station. A code indicating the method used to select site trees. Only populated by certain FIA work units (SURVEY.RSCD = 26, 27). Not populated for [Pacific Islands](#).

Codes: SITE_AGE_TREE_TYPE_PNWRS

Code	Description
K	Kings.
P	Primary.
M	California mixed conifer.

3.10.43 SITREE_EQU_NO_PNWRS

Site index equation number, Pacific Northwest Research Station. A number that identifies the site index equation used by the portable data recorder in the field to calculate site index. Refer to Hanson and others (2002) for further detail on site index

equations and equation number assignments used by the FIA program for the Pacific Northwest Research Station or contact the PNWRS FIA work unit for further detail ([table 1-1](#)). Only populated by certain FIA work units (SURVEY.RSCD = 26, 27).

3.10.44 TREECLCD_RMRS

Tree class code, Rocky Mountain Research Station. A code indicating the general quality of the tree. Only populated by certain FIA work units (SURVEY.RSCD = 22).

Codes: TREECLCD_RMRS

Code	Description
1	Sound-live timber species - All live timber trees (species with diameter measured at breast height) that meet minimum merchantability standards. In general, these trees have at least one solid 8-foot section, are reasonably free of form defect on the merchantable bole, and at least 34 percent or more of the volume is merchantable. Excludes rough or rotten cull timber trees.
3	Rough-live timber species - All live trees that do not now, or prospectively, have at least one solid 8-foot section, reasonably free of form defect on the merchantable bole, or have 67 percent or more of the merchantable volume cull; and more than half of this cull is due to sound dead wood cubic-foot loss or severe form defect volume loss.

3.10.45 TREE_ACT_RMRS

Actual tree number, Rocky Mountain Research Station. For tallied site trees, this value is the actual tree number used to uniquely identify the tally tree on the subplot. For nontallied site trees, this column may be blank (null) or have a value of 0 recorded. Only populated by certain FIA work units (SURVEY.RSCD = 22).

3.10.46 YEAR_AGE_TAKEN

Year age taken. The year that a tree core was collected and initial age recorded. Only populated by certain FIA work units (SURVEY.RSCD = 27).

3.10.47 SIEQN_REF_CD

Site index equation reference code. See COND_SIEQN_REF_CD description for definition.

3.10.48 SITREE_FVS

Site index for the tree, used by the Forest Vegetation Simulator. This is similar to SITREE, but is computed using the equation required by, and species allowed by, the Forest Vegetation Simulator. Unlike SITREE, however, alternative methods, such as growth intercept, are not used to compute this value. The equation used to compute this variable is referenced in SIEQN_REF_CD_FVS. Site index values in SITREE_FVS are used to determine COND.SICONF_FVS, which is primarily used when exporting FIA data for use in FVS. This attribute is blank (null) when no site index data are available.

3.10.49 SIBASE_FVS

Site index base age used by the Forest Vegetation Simulator. The base age (sometimes called reference age), in years, of the site index curves used to derive site index. Base age is specific to a given family of site index curves, and is usually set close to the common rotation age or the age of culmination of mean annual increment for a species. The most commonly used base ages are 25, 50, 80, and 100 years. It is possible for a given species

to have different sets of site index curves in different geographic regions, and each set of curves may use a different base age.

Note: For a given geographic location, FVS variants may require the use of site index equations that were developed using a different base age than used by the site index equations used in standard FIA compilation procedures. Because of the historical development of FIA procedures and FVS growth models, the two systems have differences in the base ages that are used.

3.10.50 SIEQN_REF_CD_FVS

Site index equation reference code used by the Forest Vegetation Simulator. See COND_SIEQN_REF_CD_FVS description for definition.

Section revision: 04.2024

Chapter 4: Database Tables - Invasive Species; Understory Vegetation

Chapter Contents:

Section	Database table	Oracle table name
4.1	Invasive Subplot Species Table	INVASIVE_SUBPLOT_SPP
4.2	Phase 2 Vegetation Subplot Species Table	P2VEG_SUBPLOT_SPP
4.3	Phase 2 Vegetation Subplot Structure Table	P2VEG_SUBP_STRUCTURE

Definitions for database tables:

For further detail and examples, refer to the Overview (chapter 1).

Keys Presented with the Tables

Key type	Definition
Primary	A single column in a table whose values uniquely identify each row in an Oracle table.
Unique	Multiple columns in a table whose values uniquely identify each row in an Oracle table. There can be one and only one row for each unique key value.
Natural	A type of unique key made from existing attributes in the table. It is stored as an index in this database.
Foreign	A column in a table that is used as a link to a matching column in another Oracle table.

Oracle Data Types

Oracle data type	Definition
DATE	A data type that stores the date.
NUMBER	A data type that contains only numbers, positive or negative, with a floating-decimal point.
NUMBER(SIZE, D)	A data type that contains only numbers up to a specified maximum size. The maximum size (<i>and optional fixed-decimal point</i>) is specified by the value(s) listed in the parentheses.
VARCHAR2(SIZE)	A data type that contains alphanumeric data (numbers and/or characters) up to a specified maximum size.

4.1 Invasive Subplot Species Table

(Oracle table name: INVASIVE_SUBPLOT_SPP)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
4.1.1	CN	Sequence number	VARCHAR2(34)
4.1.2	PLT_CN	Plot sequence number	VARCHAR2(34)
4.1.3	INVYR	Inventory year	NUMBER(4)
4.1.4	STATECD	State code	NUMBER(4)
4.1.5	UNITCD	Survey unit code	NUMBER(2)
4.1.6	COUNTYCD	County code	NUMBER(3)
4.1.7	PLOT	Plot number	NUMBER
4.1.8	SUBP	Subplot number	NUMBER
4.1.9	CONDID	Condition class number	NUMBER(1)
4.1.10	VEG_FLDSPCD	Vegetation field species code	VARCHAR2(10)
4.1.11	UNIQUE_SP_NBR	Unique species number	NUMBER(2)
4.1.12	VEG_SPCD	Vegetation species code	VARCHAR2(10)
4.1.13	COVER_PCT	Cover percent	NUMBER(3)
4.1.14	CREATED_BY	Created by	VARCHAR2(30)
4.1.15	CREATED_DATE	Created date	DATE
4.1.16	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
4.1.17	MODIFIED_BY	Modified by	VARCHAR2(30)
4.1.18	MODIFIED_DATE	Modified date	DATE
4.1.19	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)
4.1.20	CYCLE	Inventory cycle number	NUMBER(2)
4.1.21	SUBCYCLE	Inventory subcycle number	NUMBER(2)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	ISS_PK
Unique	PLT_CN, VEG_FLDSPCD, UNIQUE_SP_NBR, SUBP, CONDID	N/A	ISS_UK
Foreign	PLT_CN	INVASIVE_SUBPLOT_SPP to PLOT	ISS_PLT_FK
Foreign	PLT_CN, SUBP, CONDID	INVASIVE_SUBPLOT_SPP to SUBP_COND	ISS_SCD_FK

FIA identifies species and other taxonomic ranks for plants using symbols (SYMBOL) as assigned by NRCS (Natural Resources Conservation Service) for the [PLANTS database](#) (<https://plants.usda.gov>) on a periodic basis. The most recent NRCS download for the FIA program was September 15, 2017.

4.1.1 CN

Sequence number. A unique sequence number used to identify an invasive subplot species record.

4.1.2 PLT_CN

Plot sequence number. Foreign key linking the invasive subplot species record to the plot record for this location.

4.1.3 INVYR

Inventory year. See SURVEY.[INVYR](#) description for definition.

4.1.4 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

4.1.5 UNITCD

Survey unit code. Forest Inventory and Analysis survey unit identification number. Survey units are usually groups of counties within each State. Refer to [appendix B](#) for codes.

4.1.6 COUNTYCD

County code. The identification number for a county, parish, watershed, borough, or similar governmental unit in a State. FIPS codes from the Bureau of the Census are used. Refer to [appendix B](#) for codes.

Note: Summarizing data by county is not recommended for Alaska datasets. For assistance with analyses for Alaska, please consult the PNWRS analyst contact listed in [table 1-1](#).

4.1.7 PLOT

Plot number. An identifier for a plot. Along with STATECD, INVYR, UNITCD, COUNTYCD and/or some other combinations of variables, PLOT may be used to uniquely identify a plot.

4.1.8 SUBP

Subplot number. The number assigned to the subplot where the invasive species is located. The national plot design (PLOT.DESIGNCD = 1) has subplot number values of 1 through 4.

Codes: SUBP

Code	Description
1	Center subplot.
2	North subplot.
3	Southeast subplot.
4	Southwest subplot.

4.1.9 CONDID

Condition class number. The unique identifying number assigned to a condition on which the invasive species is located, and is defined in the COND table. See COND.[CONDID](#) for details on the attributes which delineate a condition.

4.1.10 VEG_FLDSPCD

Vegetation field species code. Species code assigned by the field crew, conforming to the NRCS PLANTS database.

4.1.11 UNIQUE_SP_NBR

Unique species number. A unique number assigned to each invasive species encountered on the plot.

4.1.12 VEG_SPCD

Vegetation species code. A code indicating each sampled vascular invasive plant species found rooted in or overhanging the sampled condition of the subplot at any height. Species codes are the standardized codes in the NRCS PLANTS database.

4.1.13 COVER_PCT

Cover percent. For each species recorded, the canopy cover present on the subplot condition to the nearest 1 percent. Canopy cover is based on a vertically projected polygon described by the outline of the foliage, ignoring any normal spaces occurring between the leaves of plants (Daubenmire 1959), and ignoring overlap among multiple layers of a species. For each species, cover can never exceed 100 percent.

Note: Cover is always recorded as a percent of the full subplot area, even if the condition that was assessed did not cover the full subplot. Canopy cover for species is assigned to the dominant layer.

4.1.14 CREATED_BY

Created by. See SURVEY.[CREATED_BY](#) description for definition.

4.1.15 CREATED_DATE

Created date. See SURVEY.[CREATED_DATE](#) description for definition.

4.1.16 CREATED_IN_INSTANCE

Created in instance. See SURVEY.[CREATED_IN_INSTANCE](#) description for definition.

4.1.17 MODIFIED_BY

Modified by. See SURVEY.[MODIFIED_BY](#) description for definition.

4.1.18 MODIFIED_DATE

Modified date. See SURVEY.[MODIFIED_DATE](#) description for definition.

4.1.19 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.[MODIFIED_IN_INSTANCE](#) description for definition.

4.1.20 CYCLE

Inventory cycle number. See SURVEY.[CYCLE](#) description for definition.

4.1.21 SUBCYCLE

Inventory subcycle number. See SURVEY.[SUBCYCLE](#) description for definition.

4.2 Phase 2 Vegetation Subplot Species Table

(Oracle table name: P2VEG_SUBPLOT_SPP)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
4.2.1	CN	Sequence number	VARCHAR2(34)
4.2.2	PLT_CN	Plot sequence number	VARCHAR2(34)
4.2.3	INVYR	Inventory year	NUMBER(4)
4.2.4	STATECD	State code	NUMBER(4)
4.2.5	UNITCD	Survey unit code	NUMBER(2)
4.2.6	COUNTYCD	County code	NUMBER(3)
4.2.7	PLOT	Plot number	NUMBER
4.2.8	SUBP	Subplot number	NUMBER
4.2.9	CONDID	Condition class number	NUMBER(1)
4.2.10	VEG_FLDSPCD	Vegetation field species code	VARCHAR2(10)
4.2.11	UNIQUE_SP_NBR	Unique species number	NUMBER(2)
4.2.12	VEG_SPCD	Vegetation species code	VARCHAR2(10)
4.2.13	GROWTH_HABIT_CD	Growth habit code (species growth habit)	VARCHAR2(2)
4.2.14	LAYER	Layer (species vegetation layer)	NUMBER(1)
4.2.15	COVER_PCT	Cover percent (species canopy cover)	NUMBER(3)
4.2.16	CREATED_BY	Created by	VARCHAR2(30)
4.2.17	CREATED_DATE	Created date	DATE
4.2.18	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
4.2.19	MODIFIED_BY	Modified by	VARCHAR2(30)
4.2.20	MODIFIED_DATE	Modified date	DATE
4.2.21	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)
4.2.22	CYCLE	Inventory cycle number	NUMBER(2)
4.2.23	SUBCYCLE	Inventory subcycle number	NUMBER(2)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	P2VSSP_PK
Unique	PLT_CN, VEG_FLDSPCD, UNIQUE_SP_NBR, SUBP, CONDID	N/A	P2VSSP_UK
Foreign	PLT_CN	P2VEG_SUBPLOT_SPP to PLOT	P2VSSP_PLT_FK
Foreign	PLT_CN, SUBP, CONDID	P2VEG_SUBPLOT_SPP to SUBP_COND	P2VSSP_SCD_FK

FIA identifies species and other taxonomic ranks for plants using symbols (SYMBOL) as assigned by NRCS (Natural Resources Conservation Service) for the [PLANTS database](#) (<https://plants.usda.gov>) on a periodic basis. The most recent NRCS download for the FIA program was September 15, 2017.

4.2.1 CN

Sequence number. A unique sequence number used to identify a Phase 2 (P2) vegetation subplot species record.

4.2.2 PLT_CN

Plot sequence number. Foreign key linking the Phase 2 (P2) vegetation subplot species record to the plot record for this location.

4.2.3 INVYR

Inventory year. See SURVEY.[INVYR](#) description for definition.

4.2.4 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

4.2.5 UNITCD

Survey unit code. Forest Inventory and Analysis survey unit identification number. Survey units are usually groups of counties within each State. Refer to [appendix B](#) for codes.

4.2.6 COUNTYCD

County code. The identification number for a county, parish, watershed, borough, or similar governmental unit in a State. FIPS codes from the Bureau of the Census are used. Refer to [appendix B](#) for codes.

Note: Summarizing data by county is not recommended for Alaska datasets. For assistance with analyses for Alaska, please consult the PNWRS analyst contact listed in [table 1-1](#).

4.2.7 PLOT

Plot number. An identifier for a plot. Along with STATECD, INVYR, UNITCD, COUNTYCD and/or some other combinations of variables, PLOT may be used to uniquely identify a plot.

4.2.8 SUBP

Subplot number. The number assigned to the subplot. The national plot design (PLOT.DESIGNCD = 1) has subplot values of 1 through 4.

Codes: SUBP

Code	Description
1	Center subplot.
2	North subplot.
3	Southeast subplot.
4	Southwest subplot.

4.2.9 CONDID

Condition class number. The unique identifying number assigned to a condition on which the vegetation species is located, and is defined in the COND table. See COND.[CONDID](#) for details on the attributes which delineate a condition.

4.2.10 VEG_FLDSPCD

Vegetation field species code. The species code assigned by the field crew, conforming to the NRCS PLANTS database.

4.2.11 UNIQUE_SP_NBR

Unique species number. A unique number indicating each unidentified species encountered on the plot. This attribute identifies the number of species occurrences within each NRCS genus or unknown code. For example, two unidentifiable CAREX species would be entered as two separate records with differing unique species numbers to show that they are not the same species.

4.2.12 VEG_SPCD

Vegetation species code. A code indicating each sampled vascular plant species found rooted in or overhanging the sampled condition of the subplot at any height. Species codes are the standardized codes in the NRCS PLANTS database.

4.2.13 GROWTH_HABIT_CD

Growth habit code (species growth habit). A code indicating the growth habit of the species. Tally tree species are always recorded as trees, even when they exhibited a shrub-like growth habit. If a species had more than one growth habit on the same accessible condition in a subplot, the most prevalent one was recorded; however, both tree habits (SD and LT) could be coded for the same species if PLOT.P2VEG_SAMPLING_LEVEL_DETAIL_CD = 3 and the species was found in both size classes. A species may be recorded with a different growth habit on a different subplot condition on the same plot. P2VEG_SUBPLOT_SPP.GROWTH_HABIT_CD is not to be confused with P2VEG_SUBP_STRUCTURE.GROWTH_HABIT_CD. The codes are similar, but not exactly the same.

Codes: GROWTH_HABIT_CD

Code	Description
SD	Seedlings and Saplings: Small trees less than 5 inches d.b.h. or d.r.c., including tally and non-tally tree species. Seedlings of any length are included (i.e., no minimum). Up to four species are recorded if individual species total aerial canopy cover is at least 3% on the subplot and within the GROWTH_HABIT_CD.
SH	Shrubs/Subshrubs/Woody Vines: Woody, multiple-stemmed plants of any size, subshrubs (low-growing shrubs under 1.5 feet tall at maturity), and woody vines. Most cacti are included in this category. Subshrub species are usually included in this category. However, there are many species that can exhibit either subshrub or forb/herb growth habits. Each FIA region will develop a list of common species that can exhibit either growth habits (according to the NRCS PLANTS database) with regional guidance as to which growth habit the species should normally be assigned, while still allowing species assignments to different growth habits when the species is obviously present in a different growth habit. Up to four species are recorded if individual species total aerial canopy cover is at least 3% on the subplot and within the GROWTH_HABIT_CD.

Code	Description
FB	Forbs: Herbaceous, broad-leaved plants; includes non-woody-vines, ferns (does not include mosses and cryptobiotic crusts). Up to four species are recorded if individual species total aerial canopy cover is at least 3% on the subplot and within the GROWTH_HABIT_CD.
GR	Graminoids: Grasses and grass-like plants (includes rushes and sedges). Up to four species are recorded if individual species total aerial canopy cover is at least 3% on the subplot and within the GROWTH_HABIT_CD.
LT	Large Trees: Large trees greater than or equal to 5 inches d.b.h. or d.r.c. For PLOT.P2VEG_SAMPLING_LEVEL_DETAIL_CD = 2, only non-tally tree species are included; for PLOT.P2VEG_SAMPLING_LEVEL_DETAIL_CD = 3, tally and non-tally tree species are included. Up to four species of large trees (d.b.h. or d.r.c. at least 5 inches) are recorded if individual species aerial canopy cover is at least 3% on the subplot and within the GROWTH_HABIT_CD.

Codes: GROWTH_HABIT_CD (additional codes for PNWRS, SURVEY.RSCD = 26, 27) LAYER

Code	Description
ST	Seedlings: Small trees <1 inch d.b.h. or d.r.c. Populated for PLOT.MANUAL <5.0.
TR	Trees - Alaska 2005: All trees, regardless of size. Populated for Alaska 2005 Wilderness data category. For more information, contact the PNWRS Analyst Contact (see table 1-1).

4.2.14 LAYER

Layer (species vegetation layer). A code indicating the vertical layer in which the plant species was found. If a species occurs in more than one layer, the layer where most of the species canopy cover is recorded.

Codes: LAYER

Code	Description
1	0 to 2.0 feet.
2	2.1 to 6.0 feet.
3	6.1 to 16.0 feet.
4	Greater than 16 feet.

4.2.15 COVER_PCT

Cover percent (species canopy cover). For each species recorded, the canopy cover present on the subplot condition to the nearest 1 percent. Canopy cover is based on a vertically projected polygon described by the outline of the foliage, ignoring any normal spaces occurring between the leaves of plants (Daubenmire 1959), and ignoring overlap among multiple layers of a species. For each species, cover can never exceed 100 percent.

Note: Cover is always recorded as a percent of the full subplot area, even if the condition that was assessed did not cover the full subplot. Canopy cover for species is assigned to the dominant layer.

4.2.16 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

4.2.17 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

4.2.18 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

4.2.19 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

4.2.20 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

4.2.21 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

4.2.22 CYCLE

Inventory cycle number. See SURVEY.CYCLE description for definition.

4.2.23 SUBCYCLE

Inventory subcycle number. See SURVEY.SUBCYCLE description for definition.

4.3 Phase 2 Vegetation Subplot Structure Table

(Oracle table name: P2VEG_SUBP_STRUCTURE)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
4.3.1	CN	Sequence number	VARCHAR2(34)
4.3.2	PLT_CN	Plot sequence number	VARCHAR2(34)
4.3.3	STATECD	State code	NUMBER(4)
4.3.4	UNITCD	Survey unit code	NUMBER(2)
4.3.5	COUNTYCD	County code	NUMBER(3)
4.3.6	PLOT	Plot number	NUMBER
4.3.7	INVYR	Inventory year	NUMBER(4)
4.3.8	SUBP	Subplot number	NUMBER
4.3.9	CONDID	Condition class number	NUMBER(1)
4.3.10	GROWTH_HABIT_CD	Growth habit code (vegetation structure growth habit)	VARCHAR2(2)
4.3.11	LAYER	Layer (layer distribution of growth habits)	NUMBER(1)
4.3.12	COVER_PCT	Cover percent (canopy cover percent)	NUMBER(3)
4.3.13	CREATED_BY	Created by	VARCHAR2(30)
4.3.14	CREATED_DATE	Created date	DATE
4.3.15	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
4.3.16	MODIFIED_BY	Modified by	VARCHAR2(30)
4.3.17	MODIFIED_DATE	Modified date	DATE
4.3.18	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)
4.3.19	CYCLE	Inventory cycle number	NUMBER(2)
4.3.20	SUBCYCLE	Inventory subcycle number	NUMBER(2)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	P2VSS_PK
Unique	PLT_CN, SUBP, CONDID, GROWTH_HABIT_CD, LAYER	N/A	P2VSS_UK
Unique	STATECD, COUNTYCD, PLOT, INVYR, SUBP, CONDID, GROWTH_HABIT_CD, LAYER	N/A	P2VSS_UK2
Unique	STATECD, CYCLE, SUBCYCLE, COUNTYCD, PLOT, SUBP, CONDID, GROWTH_HABIT_CD, LAYER	N/A	P2VSS_UK3

Key Type	Column(s) order	Tables to link	Abbreviated notation
Foreign	PLT_CN	P2VEG_SUBP_STRUCTURE to PLOT	P2VSS_PLT_FK
Foreign	PLT_CN, SUBP, CONDID	P2VEG_SUBP_STRUCTURE to SUBP_COND	P2VSS_SCD_FK

4.3.1 CN

Sequence number. A unique sequence number used to identify a Phase 2 (P2) vegetation subplot structure record.

4.3.2 PLT_CN

Plot sequence number. Foreign key linking the Phase 2 (P2) vegetation subplot structure record to the plot record for this location.

4.3.3 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

4.3.4 UNITCD

Survey unit code. Forest Inventory and Analysis survey unit identification number. Survey units are usually groups of counties within each State. Refer to [appendix B](#) for codes.

4.3.5 COUNTYCD

County code. The identification number for a county, parish, watershed, borough, or similar governmental unit in a State. FIPS codes from the Bureau of the Census are used. Refer to [appendix B](#) for codes.

Note: Summarizing data by county is not recommended for Alaska datasets. For assistance with analyses for Alaska, please consult the PNWRS analyst contact listed in [table 1-1](#).

4.3.6 PLOT

Plot number. An identifier for a plot. Along with STATECD, INVYR, UNITCD, COUNTYCD and/or some other combinations of variables, PLOT may be used to uniquely identify a plot.

4.3.7 INVYR

Inventory year. See SURVEY.[INVYR](#) description for definition.

4.3.8 SUBP

Subplot number. The number assigned to the subplot. The national plot design (PLOT.DESIGNCD = 1) has subplot number values of 1 through 4.

Codes: SUBP

Code	Description
1	Center subplot.
2	North subplot.

Code	Description
3	Southeast subplot.
4	Southwest subplot.

4.3.9 CONDID

Condition class number. The unique identifying number assigned to a condition that exists on the subplot, and is defined in the COND table. See COND.CONDID for details on the attributes which delineate a condition.

4.3.10 GROWTH_HABIT_CD

Growth habit code (vegetation structure growth habit). Vegetation structure growth habit based on species and appearance of plants on the subplot condition. The tree species listed on the [FIA Master Tree Species List](https://usfs-public.app.box.com/v/FIA-TreeSpeciesList) (refer to Public Box folder available at web address: <https://usfs-public.app.box.com/v/FIA-TreeSpeciesList>), after taking into account the Island, Mainland, and Phase 3 / Phase 3 (P2/P3) Sub-lists, are recorded as a tally tree species growth habit (TT), even if the species grows as a shrub in some environments. Woody plants not listed on the Master Tree Species List or those on the exclusion list for the area the plot is located in may have a tree growth habit in some environments, and these are recorded as non-tally tree species (NT). If the growth habit is shrub in another environment, that species is recorded as a shrub (SH).

Note: P2VEG_SUBP_STRUCTURE.GROWTH_HABIT_CD is not to be confused with P2VEG_SUBPLOT_SPP.GROWTH_HABIT_CD. The codes are similar, but not exactly the same.

Codes: GROWTH_HABIT_CD

Code	Description
TT	Tally Tree Species: All <i>core</i> tree species and any <i>core optional</i> tree species selected by a particular FIA work unit. Only tree species on the FIA Master Tree Species List (or those listed as a hybrid, variety, or subspecies) are included, after taking into account the Island, Mainland, and P2/P3 Sub-lists. Any plant of that species is included, regardless of its shape and regardless of whether it was tallied on the subplot or microplot during tree tally. Seedlings (any length, no minimum), saplings, and mature plants are included.
NT	Non-tally Tree Species: Tree species not on a particular FIA work unit's tree tally list that are woody plants with a single well-defined, dominant main stem, not supported by other vegetation or structures (not vines), and which are, or are expected to become, greater than 13 feet in height after taking into account the Island, Mainland , and P2/P3 BDSSub-lists. Seedlings (any length, no minimum), saplings, and mature plants are included.
SH	Shrubs/Subshrubs/Woody Vines: Woody, multiple-stemmed plants of any size, subshrubs (low-growing shrubs under 1.5 feet tall at maturity), and woody vines. Most cacti are included in this category.
FB	Forbs: Herbaceous, broad-leaved plants; includes non-woody-vines, ferns (does not include mosses and cryptobiotic crusts).

Code	Description
GR	Graminoids: Grasses and grass-like plants (includes rushes and sedges).
DS	Dead pinyon species shrubs: Dead pinyon species shrubs and dead portions of live pinyon species shrubs for the following field-recorded forest types: Rocky Mountain juniper (COND.FLDTYPCD = 182), juniper woodland (COND.FLDTYPCD = 184), pinyon-juniper woodland (COND.FLDTYPCD = 185), and western juniper (COND.FLDTYPCD = 369). Refer to appendix D for forest type descriptions. Only populated by certain FIA work units (SURVEY.RSCD = 22).

Codes: **GROWTH_HABIT_CD** (additional codes for PNWRS, SURVEY.RSCD = 26, 27)

Code	Description
AL	All vegetation: Populated for PLOT.MANUAL <5.0.
MO	Moss/bryophytes: Nonvascular, terrestrial green plant, including mosses, hornworts, and liverworts. Only populated for Pacific Islands .
SL	Bare soil: Mineral material that, when viewed from above, is not over-topped by grass, forbs, shrubs, or seedlings. It is also not covered by duff, litter, cowpies, woody debris, moss or other material. Sand, stones, and bedrock are not considered bare soil. Populated for PLOT.MANUAL <5.0.
SS	Newly sprouted shrub cover: Cover of newly sprouted shrubs after fire. Only populated for PNWRS Fire Effects and Recovery Study (FERS) plots. For more information, contact the PNWRS Analyst Contact (see table 1-1).
ST	Seedlings: Small trees <1 inch d.b.h.or d.r.c. Populated for PLOT.MANUAL <5.0.

4.3.11 LAYER

Layer (layer distribution of growth habits). A code indicating the vertical layer distribution of growth habits. Canopy cover for growth forms is distributed between layers.

Codes: **LAYER**

Code	Description
1	0 to 2.0 feet.
2	2.1 to 6.0 feet.
3	6.1 to 16.0 feet.
4	Greater than 16 feet.
5	Aerial: Canopy cover for all layers.

4.3.12 COVER_PCT

Cover percent (canopy cover percent). The canopy cover percent for each combination of growth habit and layer. Canopy cover is based on a vertically projected polygon described by the outline of the foliage, ignoring any normal spaces occurring between the leaves of plants (Daubenmire 1959), and ignoring overlap among multiple layers of a species. For each species, cover can never exceed 100 percent.

Note: Cover is always recorded as a percent of the full subplot area, even if the condition that was assessed did not cover the full subplot.

4.3.13 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

4.3.14 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

4.3.15 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

4.3.16 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

4.3.17 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

4.3.18 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

4.3.19 CYCLE

Inventory cycle number. See SURVEY.CYCLE description for definition.

4.3.20 SUBCYCLE

Inventory subcycle number. See SURVEY.SUBCYCLE description for definition.

Section revision: 04.2024

Chapter 5: Database Tables - Down Woody Material

Chapter Contents:

Section	Database table	Oracle table name
5.1	Down Woody Material Visit Table	DWM_VISIT
5.2	Down Woody Material Coarse Woody Debris Table	DWM_COARSE_WOODY_DEBRIS
5.3	Down Woody Material Duff, Litter, Fuel Table	DWM_DUFF_LITTER_FUEL
5.4	Down Woody Material Fine Woody Debris Table	DWM_FINE_WOODY_DEBRIS
5.5	Down Woody Material Microplot Fuel Table	DWM_MICROPLOT_FUEL
5.6	Down Woody Material Residual Pile Table	DWM_RESIDUAL_PILE
5.7	Down Woody Material Transect Segment Table	DWM_TRANSECT_SEGMENT
5.8	Condition Down Woody Material Calculation Table	COND_DWM_CALC

Definitions for database tables:

For further detail and examples, refer to the Overview (chapter 1).

Keys Presented with the Tables

Key type	Definition
Primary	A single column in a table whose values uniquely identify each row in an Oracle table.
Unique	Multiple columns in a table whose values uniquely identify each row in an Oracle table. There can be one and only one row for each unique key value.
Natural	A type of unique key made from existing attributes in the table. It is stored as an index in this database.
Foreign	A column in a table that is used as a link to a matching column in another Oracle table.

Oracle Data Types

Oracle data type	Definition
DATE	A data type that stores the date.
NUMBER	A data type that contains only numbers, positive or negative, with a floating-decimal point.
NUMBER(SIZE, D)	A data type that contains only numbers up to a specified maximum size. The maximum size (<i>and optional fixed-decimal point</i>) is specified by the value(s) listed in the parentheses.
VARCHAR2(SIZE)	A data type that contains alphanumeric data (numbers and/or characters) up to a specified maximum size.

5.1 Down Woody Material Visit Table

(Oracle table name: DWM_VISIT)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
5.1.1	CN	Sequence number	VARCHAR2(34)
5.1.2	PLT_CN	Plot sequence number	VARCHAR2(34)
5.1.3	INVYR	Inventory year	NUMBER(4)
5.1.4	STATECD	State code	NUMBER(4)
5.1.5	COUNTYCD	County code	NUMBER(3)
5.1.6	PLOT	Plot number	NUMBER(5)
5.1.7	MEASDAY	Measurement day	NUMBER(2)
5.1.8	MEASMON	Measurement month	NUMBER(2)
5.1.9	MEASYEAR	Measurement year	NUMBER(4)
5.1.10	QASTATCD	Quality assurance status code	NUMBER(1)
5.1.11	CRWTYPED	Crew type code	NUMBER(1)
5.1.12	SMPKNDCD	Sample kind code	NUMBER(2)
5.1.13	CREATED_BY	Created by	VARCHAR2(30)
5.1.14	CREATED_DATE	Created date	DATE
5.1.15	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
5.1.16	MODIFIED_BY	Modified by	VARCHAR2(30)
5.1.17	MODIFIED_DATE	Modified date	DATE
5.1.18	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)
5.1.19	CWD_SAMPLE_METHOD	Coarse woody debris sample method	VARCHAR2(6)
5.1.20	FWD_SAMPLE_METHOD	Fine woody debris sample method	VARCHAR2(6)
5.1.21	MICR_SAMPLE_METHOD	Microplot sample method	VARCHAR2(6)
5.1.22	DLF_SAMPLE_METHOD	Duff, litter, fuelbed sample method	VARCHAR2(6)
5.1.23	PILE_SAMPLE_METHOD	Pile sample method	VARCHAR2(6)
5.1.24	DWM_SAMPLING_STATUS_CD	DWM sampling status code	NUMBER(1)
5.1.25	DWM_NBR_SUBP	DWM number of subplots	NUMBER(1)
5.1.26	DWM_NBR_SUBP_TRANSECT	DWM number of transects on subplot	NUMBER(1)
5.1.27	DWM_SUBPLIST	DWM subplot list	NUMBER(4)
5.1.28	DWM_TRANSECT_LENGTH	DWM transect length	NUMBER(4,1)
5.1.29	QA_STATUS	Quality assurance status	NUMBER(1)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	DVT_PK
Unique	PLT_CN	N/A	DVT_UK
Natural	STATECD, INVYR, COUNTYCD, PLOT	N/A	DVT_NAT_I
Foreign	PLT_CN	DWM_VISIT to PLOT	DVT_PLT_FK

5.1.1 CN

Sequence number. A unique sequence number used to identify a down woody material visit record.

5.1.2 PLT_CN

Plot sequence number. Foreign key linking the down woody material visit record to the plot record.

5.1.3 INVYR

Inventory year. See SURVEY.[INVYR](#) description for definition.

5.1.4 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each state. Refer to [appendix B](#).

5.1.5 COUNTYCD

County code. The identification number for a county, parish, watershed, borough, or similar governmental unit in a state. FIPS codes from the Bureau of the Census are used. Refer to [appendix B](#).

Note: Summarizing data by county is not recommended for Alaska datasets. For assistance with analyses for Alaska, please consult the PNWRS analyst contact listed in [table 1-1](#).

5.1.6 PLOT

Plot number. An identifier for a plot. Along with STATECD, INVYR, and COUNTYCD, PLOT may be used to uniquely identify a plot.

5.1.7 MEASDAY

Measurement day. The day on which the plot was completed.

5.1.8 MEASMON

Measurement month. The month in which the plot was completed.

Codes: MEASMON

Code	Description
1	January.
2	February.
3	March.

Code	Description
4	April.
5	May.
6	June.
7	July.
8	August.
9	September.
10	October.
11	November.
12	December.

5.1.9 MEASYEAR

Measurement year. The year in which the plot was completed. MEASYEAR may differ from INVYR.

5.1.10 QASTATCD

Quality assurance status code. A code indicating the type of plot data collected. Production plots have QASTATCD = 1 or 7.

Codes: QASTATCD

Code	Description
1	Standard production plot.
2	Cold check.
3	Reference plot (off grid).
4	Training/practice plot (off grid).
5	Botched plot file (disregard during data processing).
6	Blind check.
7	Hot check - This is the same as a standard production plot but the measurement is taken under the supervision of a quality assurance crew.

5.1.11 CRWTPYPCD

Crew type code. A code identifying the type of crew measuring the plot.

Codes: CRWTPYPCD

Code	Description
1	Standard field crew.
2	QA crew (any QA crew member present collecting data).

5.1.12 SMPKNDCC

Sample kind code. A code indicating the type of plot installation.

Codes: SMPKNDCC

Code	Description
0	Periodic inventory plot.
1	Initial installation of a national design plot.
2	Remeasurement of previously installed national design plot.
3	Replacement of previously installed national design plot.
4	Modeled periodic inventory plot (Northeast and North Central only).

5.1.13 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

5.1.14 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

5.1.15 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

5.1.16 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

5.1.17 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

5.1.18 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

5.1.19 CWD_SAMPLE_METHOD

Coarse woody debris sample method. A code indicating the sampling protocol used to collect coarse woody debris data.

Codes: CWD_SAMPLE_METHOD

Code	Description	Distance measurement
0	CWD not sampled.	Not applicable.
1	National P3 protocol. Three 24-foot transects on all subplots.	Slope.
2	PNWRS P2 protocol. Two 58.9-foot transects per subplot.	Slope.
3	PNWRS P2 and National P3 protocols overlaid. One 24-foot and two 58.9-foot transects per subplot.	Slope.
4	PNWRS juniper protocol.	Slope.
5	PNWRS P2 protocol. Two 24-foot transects per subplot.	Slope.
6	National P2 protocol, base option.	Horizontal.
7	National P2 protocol, wildlife option.	Horizontal.
8	National P2 protocol, rapid assessment option.	Horizontal.

Code	Description	Distance measurement
9	National P3 protocol. Two 24-foot transects per subplot.	Slope.
10	RMRS P2 protocol. Three 120-foot transects per plot.	Slope.
11	SRS P2 protocol. One 48-foot transect only on subplot 1 (random orientation).	Horizontal.
12	PNWRS P2 protocol, transition wildlife. Two 24-foot transects per subplot.	Horizontal.
13	PNWRS P2 protocol for National Forest System, transition wildlife. Two 24 foot transects per subplot.	Horizontal.
14	National P2 protocol, wildlife for National Forest System. Two 24-foot transects per subplot.	Horizontal.
15	PNWRS periodic protocol. Three 55.6-foot transects per subplot.	Horizontal.
16	PNWRS periodic protocol. Three 55.8-foot transects per subplot.	Horizontal.
17	National P2 and P3 protocol (2001). Three 58.9-foot transects per subplot.	Horizontal.

5.1.20 FWD_SAMPLE_METHOD

Fine woody debris sample method. A code indicating the sampling protocol used to collect fine woody debris data.

Codes: FWD_SAMPLE_METHOD

Code	Description	Distance measurement
0	FWD not sampled.	Not applicable.
1	National P2 and P3 protocol. One 10-foot transect for small and medium FWD and one 20-foot transect for large FWD per subplot.	Slope.
2	National P2 and P3 protocol. One 6-foot transect for small and medium FWD and one 10-foot transect for large FWD per subplot.	Slope.
3	National P2 protocol (all options). One 6-foot transect for small and medium FWD and one 10-foot transect for large FWD per subplot.	Horizontal.
4	SRS P2 protocol. One 6-foot transect for small and medium FWD, and one 10-foot transect for large FWD on subplot 1.	Slope.
5	RMRS P2 protocol. One 6-foot transect for small and medium FWD and one 10-foot transect for large FWD on each of subplots 2, 3 and 4.	Slope.

5.1.21 MICR_SAMPLE_METHOD

Microplot sample method. A code indicating the sampling protocol used to collect microplot fuels data.

Note: Starting with PLOT.MANUAL = 5.1, DWM sampling on microplots was discontinued.

Codes: MICR_SAMPLE_METHOD

Code	Description	Distance measurement
0	Microplot fuel not sampled.	Not applicable.
1	National P2 and P3 protocol. Percent cover in 10% classes of fuels on all forested conditions combined on the microplot. Fuel classes were live shrubs, dead shrubs, live herbs, dead herbs, litter.	Horizontal.
2	RMRS P2 protocol. No microplot fuels sampled.	Not applicable.
3	SRS P2 protocol. Percent cover in 10% classes and height of fuels on 6-foot transect on subplot 1. Fuel classes were shrubs and herbs, live and dead combined.	Slope.

5.1.22 DLF_SAMPLE_METHOD

Duff, litter, fuelbed sample method. A code indicating the sampling protocol used to collect duff, litter, and fuelbed data.

Codes: DLF_SAMPLE_METHOD

Code	Description	Distance measurement
0	Duff, litter, fuel not sampled.	Not applicable.
1	National P3 protocol. Sampled at 2 points (14 and 24 feet) along each transect with average recorded.	Slope.
2	National P3 protocol. Sampled at a point located 24 feet along each transect.	Slope.
3	National P2 protocol (all options). Sampled at a point 24 feet along each transect.	Horizontal.
4	RMRS P2 protocol. One duff and litter point sampled at a point 24 feet along each transect on subplots 2, 3, and 4.	Horizontal.
5	SRS P2 protocol. Duff and litter points sampled at 2 points (0 and 48 feet) along a transect on subplot 1.	Horizontal.

5.1.23 PILE_SAMPLE_METHOD

Pile sample method. A code indicating the sampling protocol used to collect residue pile data.

Codes: PILE_SAMPLE_METHOD

Code	Description	Distance measurement
0	Piles not sampled.	Not applicable.
1	PNWRS P2 protocol. Pile measured if center located within the 58.9-foot macroplot radius.	Horizontal.
2	National P3 protocol. Pile measured if center located within the 24-foot subplot radius.	Horizontal.
3	National P2 protocol (all options). Pile measured if it intersects the transect (see DWM_VISIT.DWM_TRANSECT_LENGTH for length of transect).	Horizontal.

Code	Description	Distance measurement
4	Pile is on 58.9-foot transect.	Horizontal.
5	Pile measured if center located within the 58.9-foot transect conditions were mapped only on the 24-foot subplot.	Horizontal.

5.1.24 DWM_SAMPLING_STATUS_CD

DWM sampling status code. A code indicating the type of National P2 DWM data collected.

Codes: DWM_SAMPLING_STATUS_CD

Code	Description
0	Not sampled for National P2 DWM.
1	BASE sampling option; includes DWM attributes needed to estimate volume, biomass, and carbon of down wood on land conditions sampled with the National P2 DWM protocol.
2	Wildlife/Ecological sampling option; includes BASE attributes along with other attributes needed to estimate components of wildlife habitats or ecological functions collected on land conditions sampled with National P2 DWM protocol.
3	Rapid assessment sampling option; includes BASE attributes along with other optional attributes selected for individual situations on land conditions sampled under National P2 DWM protocol.

5.1.25 DWM_NBR_SUBP

DWM number of subplots. The number of subplots on which National P2 DWM data were collected: 1, 2, 3, or 4.

5.1.26 DWM_NBR_SUBP_TRANSECT

DWM number of transects on subplot. The number of transects per subplot on which National P2 DWM data were collected: 1, 2, or 3.

5.1.27 DWM_SUBPLIST

DWM subplot list. The list of subplots on which National P2 DWM data were collected. The list is a concatenation of the four subplots. Subplots not included are coded as 0. For example, if National P2 DWM data are collected on subplots 1, 2, and 3, then DWM_SUBPLIST = 1230.

5.1.28 DWM_TRANSECT_LENGTH

DWM transect length. The length of National P2 DWM transects in feet. Values must be between 24.0 and 58.9 feet.

5.1.29 QA_STATUS

Quality assurance status. A code indicating the type of plot data collected. Production plots have QA_STATUS = 1 or 7. Codes 2-6 indicate additional quality assurance data. May not be populated for some FIA work units when PLOT.MANUAL <1.0.

Note: QASTATCD and QA_STATUS both reside in this table and have the same description and codes. QASTATCD is a remnant from the Forest Health Monitoring and Phase 3 data collection files, and is retained in this table for continuity with older data.

Codes: QA_STATUS

Code	Description
1	Standard production plot.
2	Cold check.
3	Reference plot (off grid).
4	Training/practice plot (off grid).
5	Botched plot file (disregard during data processing).
6	Blind check.
7	Hot check - This is the same as a standard production plot but the measurement is taken under the supervision of a quality assurance crew.

5.2 Down Woody Material Coarse Woody Debris Table

(Oracle table name: DWM_COARSE_WOODY_DEBRIS)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
5.2.1	CN	Sequence number	VARCHAR2(34)
5.2.2	PLT_CN	Plot sequence number	VARCHAR2(34)
5.2.3	INVYR	Inventory year	NUMBER(4)
5.2.4	STATECD	State code	NUMBER(4)
5.2.5	COUNTYCD	County code	NUMBER(3)
5.2.6	PLOT	Plot number	NUMBER(5)
5.2.7	SUBP	Subplot number	NUMBER(1)
5.2.8	TRANSECT	Transect	NUMBER(3)
5.2.9	CWDID	Coarse woody debris piece (log) number	NUMBER
5.2.10	MEASYEAR	Measurement year	NUMBER(4)
5.2.11	CONDID	Condition class number	NUMBER(1)
5.2.12	SLOPDIST	Slope distance	NUMBER
5.2.13	HORIZ_DIST	Horizontal distance	NUMBER
5.2.14	SPCD	Species code	NUMBER
5.2.15	DECAYCD	Decay class code	NUMBER(1)
5.2.16	TRANSdia	Transect diameter	NUMBER(3)
5.2.17	SMALLdia	Small diameter	NUMBER(3)
5.2.18	LARGEDIA	Large diameter	NUMBER(3)
5.2.19	LENGTH	Length of the piece	NUMBER(3)
5.2.20	HOLLOWCD	Hollow code	VARCHAR2(1)
5.2.21	CWDHSTCD	Coarse woody debris history code	NUMBER(1)
5.2.22	VOLCF	Gross cubic-foot volume of the piece	NUMBER
5.2.23	DRYBIO	Dry biomass of the piece	NUMBER
5.2.24	CARBON	Carbon weight of the piece	NUMBER
5.2.25	COVER_PCT	Percent cover represented by each coarse woody debris piece	NUMBER
5.2.26	LPA_UNADJ	Number of logs (pieces) per acre, unadjusted	NUMBER
5.2.27	LPA_PLOT	Number of logs (pieces) per acre on the plot, unadjusted	NUMBER
5.2.28	LPA_COND	Number of logs (pieces) per acre in the condition, unadjusted	NUMBER
5.2.29	LPA_UNADJ_RGN	Number of logs (pieces) per acre, unadjusted, regional protocol	NUMBER

Subsection	Column name (attribute)	Descriptive name	Oracle data type
5.2.30	LPA_PLOT_RGN	Number of logs (pieces) per acre on the plot, unadjusted, regional protocol	NUMBER
5.2.31	LPA_COND_RGN	Number of logs (pieces) per acre in the condition, unadjusted, regional protocol	NUMBER
5.2.32	COVER_PCT_RGN	Percent cover, represented by each coarse woody debris piece, regional protocol	NUMBER
5.2.33	CHARRED_CD	Charred by fire code	NUMBER(1)
5.2.34	ORNTCD_PNWRS	Orientation code, Pacific Northwest Research Station	VARCHAR2(1)
5.2.35	CREATED_BY	Created by	VARCHAR2(30)
5.2.36	CREATED_DATE	Created date	DATE
5.2.37	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
5.2.38	MODIFIED_BY	Modified by	VARCHAR2(30)
5.2.39	MODIFIED_DATE	Modified date	DATE
5.2.40	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)
5.2.41	CWD_SAMPLE_METHOD	Coarse woody debris sample method	VARCHAR2(6)
5.2.42	HOLLOW_DIA	Hollow diameter at the point of intersection	NUMBER(3)
5.2.43	HORIZ_DIST_CD	Horizontal distance code	NUMBER(1)
5.2.44	INCLINATION	Piece inclination	NUMBER(2)
5.2.45	LARGE_END_DIA_CLASS	Large end diameter class code	NUMBER(1)
5.2.46	LENGTH_CD	Coarse woody debris length code	NUMBER(1)
5.2.47	VOLCF_AC_UNADJ	Gross cubic-foot volume per acre based on target plot transect length, unadjusted	NUMBER
5.2.48	VOLCF_AC_PLOT	Gross cubic-foot volume per acre based on plot transect length actually measured, unadjusted	NUMBER
5.2.49	VOLCF_AC_COND	Gross cubic-foot volume per acre based on condition transect length actually measured, unadjusted	NUMBER
5.2.50	DRYBIO_AC_UNADJ	Dry biomass per acre based on target plot transect length, unadjusted	NUMBER
5.2.51	DRYBIO_AC_PLOT	Dry biomass per acre based on plot transect length actually measured, unadjusted	NUMBER

Subsection	Column name (attribute)	Descriptive name	Oracle data type
5.2.52	DRYBIO_AC_COND	Dry biomass per acre based on condition transect length actually measured, unadjusted	NUMBER
5.2.53	CARBON_AC_UNADJ	Carbon per acre based on target plot transect length, unadjusted	NUMBER
5.2.54	CARBON_AC_PLOT	Carbon per acre based on plot transect length actually measured, unadjusted	NUMBER
5.2.55	CARBON_AC_COND	Carbon per acre based on condition transect length actually measured, unadjusted	NUMBER

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	DCW_PK
Unique	PLT_CN, TRANSECT, SUBP, CWDID	N/A	DCW_UK
Natural	STATECD, INVYR, COUNTYCD, PLOT, TRANSECT, SUBP, CWDID	N/A	DCW_NAT_I

5.2.1 CN

Sequence number. A unique sequence number used to identify a down woody material coarse woody debris (CWD) record.

5.2.2 PLT_CN

Plot sequence number. Foreign key linking the down woody material coarse woody debris record to the plot record.

5.2.3 INVYR

Inventory year. See SURVEY.[INVYR](#) description for definition.

5.2.4 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

5.2.5 COUNTYCD

County code. The identification number for a county, parish, watershed, borough, or similar governmental unit in a State. FIPS codes from the Bureau of the Census are used. Refer to [appendix B](#).

Note: Summarizing data by county is not recommended for Alaska datasets. For assistance with analyses for Alaska, please consult the PNWRS analyst contact listed in [table 1-1](#).

5.2.6 PLOT

Plot number. An identifier for a plot. Along with STATECD, INVYR, UNITCD, COUNTYCD and/or some other combination of attributes, PLOT may be used to uniquely identify a plot.

5.2.7 SUBP

Subplot number. A code indicating the number assigned to the subplot. The national plot design (PLOT.DESIGNCD = 1) has subplot number values of 1 through 4. Other plot designs have various subplot number values. See PLOT.DESIGNCD and [appendix G](#) for information about plot designs. For more explanation about SUBP, contact the appropriate FIA work unit ([table 1-1](#)).

5.2.8 TRANSECT

Transect. The azimuth, in degrees, of the transect on which coarse woody debris was sampled, extending out from subplot center.

5.2.9 CWDID

Coarse woody debris piece (log) number. A number that uniquely identifies each piece that was tallied along one transect.

5.2.10 MEASYEAR

Measurement year. The year in which the plot was completed. MEASYEAR may differ from INVYR.

5.2.11 CONDID

Condition class number. The unique identifying number assigned to the condition where the piece was sampled. See COND.[CONDID](#) for details on the attributes which delineate a condition.

5.2.12 SLOPDIST

Slope distance. The slope distance, in feet, between the subplot center and the point where the transect intersects the longitudinal center of the piece.

5.2.13 HORIZ_DIST

Horizontal distance. The horizontal distance, in feet, between subplot center and the point where the transect intersects the longitudinal center of the piece.

5.2.14 SPCD

Species code. An FIA tree species code. Refer to [appendix F](#) for codes. If the piece is the woody stem of a shrub, a code of 001 is recorded.

5.2.15 DECAYCD

Decay class code. A code indicating the stage of decay that predominates along the recorded total length of the piece. DECAYCD is used to reduce biomass based on ratios stored in the REF_SPECIES table.

Note: Pieces within decay class 5 must still resemble a log; the pieces must be ≥ 5.0 inches in diameter, ≥ 5.0 inches from the surface of the ground, and at least 3.0 feet long.

Codes: DECAYCD

Decay class	Structural integrity	Texture of rotten portions	Color of wood	Invasive roots	Branches and twigs
1	Sound, freshly fallen, intact logs.	Intact, no rot; conks of stem decay absent.	Original color.	Absent.	If branches are present, fine twigs are still attached and have tight bark.
2	Sound.	Mostly intact; sapwood partly soft (starting to decay) but can't be pulled apart by hand.	Original color.	Absent.	If branches are present, many fine twigs are gone and remaining fine twigs have peeling bark.
3	Heartwood sound; piece supports its own weight.	Hard, large pieces; sapwood can be pulled apart by hand or sapwood absent.	Reddish-brown or original color.	Sapwood only.	Branch stubs will not pull out.
4	Heartwood rotten; piece does not support its own weight, but maintains its shape.	Soft, small blocky pieces; a metal pin can be pushed into heartwood.	Reddish or light brown.	Throughout.	Branch stubs pull out.
5	None; piece no longer maintains its shape, it spreads out on ground.	Soft; powdery when dry.	Red-brown to dark brown.	Throughout.	Branch stubs and pitch pockets have usually rotted down.

5.2.16 TRANSDIA

Transect diameter. The diameter, in inches, at the point where the longitudinal center of the piece intersects the transect.

5.2.17 SMALLDIA

Small diameter. The diameter, in inches, at the small end of the piece, or at the point where the piece tapers down to 3 inches. If the small end is splintered or decomposing, the diameter is measured at a point that best represents the overall volume of the piece.

5.2.18 LARGEDIA

Large diameter. The diameter, in inches, at the large end of the piece, or at the point just above the root collar. If the end is splintered or decomposing, the diameter is measured at a point that best represents the overall volume of the piece.

5.2.19 LENGTH

Length of the piece. Length, in feet, of the piece, measured between the small- and large-end diameters, or if the piece is decay class 5, between the physical ends of the piece.

5.2.20 HOLLOWCD

Hollow code. A code indicating whether or not the piece is hollow. If the piece has a cavity that extends at least 2 feet along the central longitudinal axis and the diameter of the cavity entrance is at least $\frac{1}{4}$ of the diameter at the end of the piece, it is classified as hollow.

Codes: HOLLOWCD

Code	Description
Y	The piece is hollow.
N	The piece is not hollow.

5.2.21 CWDHSTCD

Coarse woody debris history code. A code indicating whether or not the piece is on the ground as a result of harvesting operations or as a result of natural circumstances.

Codes: CWDHSTCD

Code	Description
1	CWD piece is on the ground as a result of natural causes.
2	CWD piece is on the ground as a result of major recent harvest activity (≤ 15 yrs old).
3	CWD piece is on the ground as a result of older harvest activity (> 15 yrs old).
4	CWD piece is on the ground as a result of an incidental harvest (such as firewood cutting).
5	Exact reason unknown.

5.2.22 VOLCF

Gross cubic-foot volume of the piece. The gross volume, in cubic feet, estimated for the piece, based on length and either the small- and large-end diameter or just the transect diameter. This is a per piece value and must be multiplied by one of the logs per acre (LPA) to obtain per acre information.

5.2.23 DRYBIO

Dry biomass of the piece. The oven-dry biomass, in pounds, estimated for the piece, adjusted for the degree of decomposition based on DEACYCD. This is a per piece value and must be multiplied by one of the logs per acre (LPA) to obtain per acre information.

5.2.24 CARBON

Carbon weight of the piece. The weight of carbon, in pounds, estimated for the piece, adjusted for the degree of decomposition based on DEACYCD. This is a per piece value and must be multiplied by one of the logs per acre (LPA) to obtain per acre information.

5.2.25 COVER_PCT

Percent cover represented by each coarse woody debris piece. An estimate of the percent of the condition area covered by the piece.

5.2.26 LPA_UNADJ

Number of logs (pieces) per acre, unadjusted. This estimate is the number of logs per acre the individual piece represents. The estimate is based on the target transect length (COND_DWM_CALC.CWD_TL_UNADJ), which is the total length of transect that could

potentially be installed on the plot, before adjustment for partially nonsampled plots in the stratum. This attribute is used to calculate population estimates and not to derive estimates for one condition or individual plot. It should be summed for a condition or plot, adjusted by the factor ADJ_FACTOR_CWD stored in the POP_STRATUM table, and then expanded by the acres in POP_STRATUM.EXPNS to produce population totals for number of CWD logs in an area of interest (e.g., State). It is important to select the appropriate EVALID and use the LPA column associated with that evaluation (see [LPA_UNADJ_RGN](#)).

5.2.27 LPA_PLOT

Number of logs (pieces) per acre on the plot, unadjusted. This estimate is the number of logs per acre the individual piece represents on the plot. The estimate is based on the actual length of transect installed and sampled on the plot. This attribute is useful for analysis projects that involve modeling, mapping, or classifying individual plot locations, and is not adjusted or used to develop population estimates. It is important to select the appropriate EVALID and use the LPA column associated with that evaluation (see [LPA_PLOT_RGN](#)).

5.2.28 LPA_COND

Number of logs (pieces) per acre in the condition, unadjusted. This estimate is the number of logs per acre the individual piece represents on one condition on the plot. The estimate is based on the actual length of transect installed and sampled on that condition. This attribute is useful for analysis projects that involve modeling, mapping, or classifying individual conditions within a plot, and is not adjusted or used to develop population estimates. It is important to select the appropriate EVALID and use the LPA column associated with that evaluation (see [LPA_COND_RGN](#)).

5.2.29 LPA_UNADJ_RGN

Number of logs (pieces) per acre, unadjusted, regional protocol. This estimate is the number of logs per acre the individual piece represents when sampled using a regional protocol that differs from the national *core* design. The estimate is based on the target transect length (COND_DWM_CALC.CWD_TL_UNADJ), which is the total length of transect that could potentially be installed on the plot using the regional sampling protocol, before adjustment for partially nonsampled plots in the stratum. This attribute is used to calculate population estimates and not to derive estimates for one condition or individual plot. It should be summed for a condition or plot, adjusted by the factor ADJ_FACTOR_CWD stored in the POP_STRATUM table, and then expanded by the acres in POP_STRATUM.EXPNS to produce population totals for number of CWD logs in an area of interest (e.g., State). This column will be populated for all plots sampled with a regional protocol, where transect length and configuration differ from the *core* design. When regional protocols and *core* designs are overlaid, those pieces that fall only on the *core* design will have null in this field (e.g., this column contains data for RSCD = 26, where a regional protocol was used to sample all Phase 2 plots in the inventory). Contact FIA work units ([table 1-1](#)) for information on regional sampling protocol. It is important to select the appropriate EVALID and use the LPA column associated with that evaluation (see [LPA_UNADJ](#)).

5.2.30 LPA_PLOT_RGN

Number of logs (pieces) per acre on the plot, unadjusted, regional protocol. This estimate is the number of logs per acre the individual piece represents on the plot when sampled using a regional protocol that differs from the national *core* design. The estimate is based on the actual length of transect installed and sampled on the plot. This attribute

is useful for analysis projects that involve modeling, mapping, or classifying individual plot locations, and is not adjusted or used to develop population estimates. This column will be populated for all plots sampled with a regional protocol, where transect length and configuration differ from the *core* design. When regional protocols and *core* designs are overlaid, those pieces that fall only on the *core* design will have null in this field (e.g., this column contains data for RSCD = 26, where a regional protocol was used to sample all Phase 2 plots in the inventory). Contact FIA work units ([table 1-1](#)) for information on regional sampling protocol. It is important to select the appropriate EVALID and use the LPA column associated with that evaluation (see [LPA_PLOT](#)).

5.2.31 LPA_COND_RGN

Number of logs (pieces) per acre in the condition, unadjusted, regional protocol. This estimate is the number of logs per acre the individual piece represents on one condition on the plot when sampled using a regional protocol that differs from the national *core* design. The estimate is based on the actual length of transect installed and sampled on that condition. This attribute is useful for analysis projects that involve modeling, mapping, or classifying individual conditions within a plot, and is not adjusted or used to develop population estimates. This column will be populated for all plots sampled with a regional protocol, where transect length and configuration differ from the *core* design. When regional protocols and *core* designs are overlaid, those pieces that fall only on the *core* design will have null in this field (e.g., this column contains data for RSCD = 26, where a regional protocol was used to sample all Phase 2 plots in the inventory). Contact FIA work units ([table 1-1](#)) for information on regional sampling protocol. It is important to select the appropriate EVALID and use the LPA column associated with that evaluation (see [LPA_COND](#)).

5.2.32 COVER_PCT_RGN

Percent cover, represented by each coarse woody debris piece, regional protocol. An estimate of the percent of the condition area covered by the piece, when sampled using a regional protocol.

5.2.33 CHARRED_CD

Charred by fire code. A code indicating the percentage of the piece's surface that has been charred by fire. This attribute was required by some regional protocols and is optional for the National P2 DWM protocol. CHARRED_CD replaces CHRCRD_PNWRS; the code sets are the same.

Codes: CHARRED_CD

Code	Description
0	None of the piece is charred by fire.
1	Up to 1/3 of the piece is charred by fire.
2	1/3 to 2/3 of the piece is charred by fire.
3	2/3 or more of the piece is charred by fire.

5.2.34 ORNTCD_PNWRS

Orientation code, Pacific Northwest Research Station. A code indicating the orientation of the piece on the slope. Data collected for field guide (PLOT.MANUAL) versions 1.4-1.7 (INVYR = 2000-2004).

Codes: ORNTCD_PNWRS

Code	Description
A	Across - Piece is oriented between vertical and horizontal.
F	Flat - Piece is on flat ground (<10% slope).
H	Horizontal - Piece is oriented within 15 degrees of the contour.
V	Vertical - Piece is oriented within 15 degrees of perpendicular to the contour.

5.2.35 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

5.2.36 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

5.2.37 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

5.2.38 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

5.2.39 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

5.2.40 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

5.2.41 CWD_SAMPLE_METHOD

Coarse woody debris sample method. A code indicating the sampling protocol used to collect coarse woody debris data.

Codes: CWD_SAMPLE_METHOD

Code	Description	Transect distance measurement
0	CWD not sampled.	Not applicable.
1	National P3 protocol. Three 24-foot transects on all subplots.	Slope.
2	PNWRS P2 protocol. Two 58.9-foot transects per subplot.	Slope.
3	PNWRS P2 and National P3 protocols overlaid. One 24-foot and two 58.9-foot transects per subplot.	Slope.
4	PNWRS juniper protocol.	Slope.
5	PNWRS P2 protocol. Two 24-foot transects per subplot.	Slope.
6	National P2 protocol, base option.	Horizontal.
7	National P2 protocol, wildlife option.	Horizontal.
8	National P2 protocol, rapid assessment option.	Horizontal.
9	National P3 protocol. Two 24-foot transects per subplot.	Slope.
10	RMRS P2 protocol. Three 120-foot transects per plot.	Slope.

Code	Description	Transect distance measurement
11	SRS P2 protocol. One 48-foot transect only on subplot 1 (random orientation).	Horizontal.
12	PNWRS P2 protocol, transition wildlife. Two 24-foot transects per subplot.	Horizontal.
13	PNWRS P2 protocol for National Forest System, transition wildlife. Two 24-foot transects per subplot.	Horizontal.
14	National P2 protocol, wildlife for National Forest System. Two 24-foot transects per subplot.	Horizontal.
15	PNWRS periodic protocol. Three 55.6-foot transects per subplot.	Horizontal.
16	PNWRS periodic protocol. Three 55.8-foot transects per subplot.	Horizontal.
17	National P2 and P3 protocol (2001). Three 58.9-foot transects per subplot.	Horizontal.

5.2.42 HOLLOW_DIA

Hollow diameter at the point of intersection. The diameter of the hollow portion of a piece at the point of intersection with the transect, measured in inches. Required for all options of the National P2 DWM protocol.

5.2.43 HORIZ_DIST_CD

Horizontal distance code. A code indicating if a piece intersects the transect on the subplot or macroplot. Required for all options of the National P2 DWM protocol.

Codes: HORIZ_DIST_CD

Code	Description
1	Central longitudinal axis of piece intersects the transect on the subplot (≤ 24.0 horizontal feet).
2	Central longitudinal axis of piece intersects the transect on the macroplot (24.1-58.9 horizontal feet).

5.2.44 INCLINATION

Piece inclination. (*core optional*) The inclination of the piece from horizontal measured in degrees (0 to 90). This is an optional measurement and might not be populated on every record.

5.2.45 LARGE_END_DIA_CLASS

Large end diameter class code. (*core optional*) A code indicating the diameter class of the large end of a piece of coarse woody debris. This is an optional measurement and might not be populated on every record.

Codes: LARGE_END_DIA_CLASS

Code	Description
1	3.0 to 4.9 inches.
2	5.0 to 8.9 inches.
3	9.0 to 14.9 inches.
4	15.0 to 20.9 inches.
5	21.0 to 39.9 inches.
6	40.0+ inches.

5.2.46 LENGTH_CD

Coarse woody debris length code. A code indicating the length class of the piece. Codes identify whether the piece is between 0.5 feet and less than 3.0 feet in length, or greater than or equal to 3.0 feet. This is used to correctly filter pieces when combining plots from different protocols. Older protocols only measured pieces ≥ 3.0 feet in length.

Codes: LENGTH_CD

Code	Description
1	CWD piece length is ≥ 3.0 feet.
2	CWD piece length is >0.5 feet and <3.0 feet.

5.2.47 VOLCF_AC_UNADJ

Gross cubic-foot volume per acre based on target plot transect length, unadjusted. This estimate is the gross cubic-foot volume per acre the individual piece represents. The estimate is based on the target transect length (COND_DWM_CALC.CWD_TL_UNADJ), which is the total length of transect that could potentially be installed on the plot, before adjustment for partially nonsampled plots in the stratum. This attribute is used to calculate population estimates and not to derive estimates for one condition or individual plot. It should be summed for a condition or plot, adjusted by the factor ADJ_FACTOR_CWD stored in the POP_STRATUM table, and then expanded by the acres in POP_STRATUM.EXPNS to produce population totals for gross cubic-foot volume of CWD logs in an area of interest (e.g., State).

5.2.48 VOLCF_AC_PLOT

Gross cubic-foot volume per acre based on plot transect length actually measured, unadjusted. This estimate is the gross cubic-foot volume per acre the individual piece represents on the plot. The estimate is based on the actual length of transect installed and sampled on the plot. This attribute is useful for analysis projects that involve modeling, mapping, or classifying individual plot locations, and is not adjusted or used to develop population estimates.

5.2.49 VOLCF_AC_COND

Gross cubic-foot volume per acre based on condition transect length actually measured, unadjusted. This estimate is the gross cubic-foot volume per acre the individual piece represents on one condition on the plot. The estimate is based on the actual length of transect installed and sampled on that condition. This attribute is useful

for analysis projects that involve modeling, mapping, or classifying individual conditions within a plot, and is not adjusted or used to develop population estimates.

5.2.50 DRYBIO_AC_UNADJ

Dry biomass per acre based on target plot transect length, unadjusted. This estimate is the oven-dry weight of biomass, in pounds per acre, that the individual piece represents. The estimate is based on the target transect length (COND_DWM_CALC.CWD_TL_UNADJ), which is the total length of transect that could potentially be installed on the plot, before adjustment for partially nonsampled plots in the stratum. This attribute is used to calculate population estimates and not to derive estimates for one condition or individual plot. It should be summed for a condition or plot, adjusted by the factor ADJ_FACTOR_CWD stored in the POP_STRATUM table, and then expanded by the acres in POP_STRATUM.EXPNS to produce population totals for biomass of CWD logs in an area of interest (e.g., State).

5.2.51 DRYBIO_AC_PLOT

Dry biomass per acre based on plot transect length actually measured, unadjusted. This estimate is the oven-dry weight of biomass, in pounds per acre, that the individual piece represents on the plot. The estimate is based on the actual length of transect installed and sampled on the plot. This attribute is useful for analysis projects that involve modeling, mapping, or classifying individual plot locations, and is not adjusted or used to develop population estimates.

5.2.52 DRYBIO_AC_COND

Dry biomass per acre based on condition transect length actually measured, unadjusted. This estimate is the oven-dry weight of biomass, in pounds per acre, that the individual piece represents on one condition on the plot. The estimate is based on the actual length of transect installed and sampled on that condition. This attribute is useful for analysis projects that involve modeling, mapping, or classifying individual conditions within a plot, and is not adjusted or used to develop population estimates.

5.2.53 CARBON_AC_UNADJ

Carbon per acre based on target plot transect length, unadjusted. This estimate is the weight of carbon, in pounds per acre, that the individual piece represents. The estimate is based on the target transect length (COND_DWM_CALC.CWD_TL_UNADJ), which is the total length of transect that could potentially be installed on the plot, before adjustment for partially nonsampled plots in the stratum. This attribute is used to calculate population estimates and not to derive estimates for one condition or individual plot. It should be summed for a condition or plot, adjusted by the factor ADJ_FACTOR_CWD stored in the POP_STRATUM table, and then expanded by the acres in POP_STRATUM.EXPNS to produce population totals for carbon of CWD logs in an area of interest (e.g., State).

5.2.54 CARBON_AC_PLOT

Carbon per acre based on plot transect length actually measured, unadjusted. This estimate is the weight of carbon, in pounds per acre, that the individual piece represents on the plot. The estimate is based on the actual length of transect installed and sampled on the plot. This attribute is useful for analysis projects that involve modeling, mapping, or classifying individual plot locations, and is not adjusted or used to develop population estimates.

5.2.55 CARBON_AC_COND

Carbon per acre based on condition transect length actually measured, unadjusted.

This estimate is the weight of carbon, in pounds per acre, that the individual piece represents on one condition on the plot. The estimate is based on the actual length of transect installed and sampled on that condition. This attribute is useful for analysis projects that involve modeling, mapping, or classifying individual conditions within a plot, and is not adjusted or used to develop population estimates.

5.3 Down Woody Material Duff, Litter, Fuel Table

(Oracle table name: DWM_DUFF_LITTER_FUEL)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
5.3.1	CN	Sequence number	VARCHAR2(34)
5.3.2	PLT_CN	Plot sequence number	VARCHAR2(34)
5.3.3	INVYR	Inventory year	NUMBER(4)
5.3.4	STATECD	State code	NUMBER(4)
5.3.5	COUNTYCD	County code	NUMBER(3)
5.3.6	PLOT	Plot number	NUMBER(5)
5.3.7	TRANSECT	Transect	NUMBER(3)
5.3.8	SUBP	Subplot number	NUMBER(1)
5.3.9	SMPLOCCD	Sample location code	NUMBER(1)
5.3.10	MEASYEAR	Measurement year	NUMBER(4)
5.3.11	CONDID	Condition class number	NUMBER(1)
5.3.12	DUFFDEP	Duff depth	NUMBER
5.3.13	LITTDEP	Litter depth	NUMBER
5.3.14	FUELDEP	Fuelbed depth	NUMBER
5.3.15	CREATED_BY	Created by	VARCHAR2(30)
5.3.16	CREATED_DATE	Created date	DATE
5.3.17	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
5.3.18	MODIFIED_BY	Modified by	VARCHAR2(30)
5.3.19	MODIFIED_DATE	Modified date	DATE
5.3.20	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)
5.3.21	DLF_SAMPLE_METHOD	Duff, litter, fuelbed sample method	VARCHAR2(6)
5.3.22	DUFF_METHOD	Duff measurement method	NUMBER(1)
5.3.23	DUFF_NONSAMPLE_REASN_CD	Duff nonsampled reason code	NUMBER(2)
5.3.24	LITTER_METHOD	Litter measurement method	NUMBER(1)
5.3.25	LITTER_NONSAMPLE_REASN_CD	Litter nonsampled reason code	NUMBER(2)
5.3.26	FUELBED_METHOD	Fuelbed measurement method	NUMBER(1)
5.3.27	FUELBED_NONSAMPLE_REASN_CD	Fuelbed nonsampled reason code	NUMBER(2)
5.3.28	DL_STATUS_CD	Duff and litter sample status code	NUMBER(1)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	DDL_PK

Key Type	Column(s) order	Tables to link	Abbreviated notation
Unique	PLT_CN, TRANSECT, SUBP, SMPLOCCD	N/A	DDL_UK
Natural	STATECD, INVYR, COUNTYCD, PLOT, TRANSECT, SUBP, SMPLOCCD	N/A	DDL_NAT_I

5.3.1 CN

Sequence number. A unique sequence number used to identify a down woody material duff, litter, fuel record.

5.3.2 PLT_CN

Plot sequence number. Foreign key linking the down woody material duff, litter, fuel record to the plot record.

5.3.3 INVYR

Inventory year. See SURVEY.[INVYR](#) description for definition.

5.3.4 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

5.3.5 COUNTYCD

County code. The identification number for a county, parish, watershed, borough, or similar governmental unit in a State. FIPS codes from the Bureau of the Census are used. Refer to [appendix B](#).

Note: Summarizing data by county is not recommended for Alaska datasets. For assistance with analyses for Alaska, please consult the PNWRS analyst contact listed in [table 1-1](#).

5.3.6 PLOT

Plot number. An identifier for a plot. Along with STATECD, INVYR, UNITCD, COUNTYCD and/or some other combination of attributes, PLOT may be used to uniquely identify a plot.

5.3.7 TRANSECT

Transect. The azimuth, in degrees, of the transect on which duff, litter, and/or fuel were sampled, extending out from subplot center.

5.3.8 SUBP

Subplot number. A code indicating the number assigned to the subplot. The national plot design (PLOT.DESIGNCD = 1) has subplot number values of 1 through 4. Other plot designs have various subplot number values. See PLOT.[DESIGNCD](#) and [appendix G](#) for information about plot designs. For more explanation about SUBP, contact the appropriate FIA work unit ([table 1-1](#)).

5.3.9 SMPLOCCD

Sample location code. A code indicating the location along the transect where duff, litter, and fuelbed samples were taken. One transect is sampled on each subplot. Prior to 2002,

there were 2 sample locations on the transect (at 14 and 24 feet). Starting in 2002, there is only 1 sample location on the transect (at 24 feet).

Codes: SMPLOCCD

Code	Description
1	Duff, litter, and fuelbed sampled at 14 feet.
2	Duff, litter, and fuelbed sampled at 24 feet.

5.3.10 MEASYEAR

Measurement year. The year in which the plot was completed. MEASYEAR may differ from INVYR.

5.3.11 CON DID

Condition class number. The unique identifying number assigned to the condition where the duff/litter/fuel measurement(s) was taken. See COND.[CONDID](#) for details on the attributes which delineate a condition.

5.3.12 DUFFDEP

Duff depth. Depth of duff layer to the nearest 0.1 inch. The measurement is taken at an exact point on the transect (see [SMPLOCCD](#) for location; see [TRANSECT](#) for azimuth; see [DLF_SAMPLE_METHOD](#) to determine if the measurement was taken at slope or horizontal distance). Duff is the layer just below litter. It consists of decomposing leaves and other organic material. There are no recognizable plant parts; the duff layer is usually dark decomposed organic matter. When moss is present, the top of the duff layer is just below the green portion of the moss. The bottom of this layer is the point where mineral soil begins. To use these data, calculate an average depth for the condition.

5.3.13 LITTDEP

Litter depth. Depth of litter layer to the nearest 0.1 inch. The measurement is taken at an exact point on the transect (see [SMPLOCCD](#) for location; see [TRANSECT](#) for azimuth; see [DLF_SAMPLE_METHOD](#) to determine if the measurement was taken at slope or horizontal distance). Litter is the layer of freshly fallen leaves, needles, twigs (<0.25 inch in diameter), cones, detached bark chunks, dead moss, dead lichens, detached small chunks of rotted wood, dead herbaceous stems, and flower parts (detached and not upright). Litter is the loose plant material found on the top surface of the forest floor. Little decomposition has begun in this layer. To use these data, calculate an average depth for the condition.

5.3.14 FUELDEP

Fuelbed depth. Depth of the fuelbed to the nearest 0.1 foot. The measurement is taken at an exact point on the transect (see [SMPLOCCD](#) for location; see [TRANSECT](#) for azimuth; see [DLF_SAMPLE_METHOD](#) to determine if the measurement was taken at slope or horizontal distance). The fuelbed is the accumulated mass of dead, woody material on the surface of the forest floor. It begins at the top of the duff layer, and includes litter, FWD, CWD, and dead woody shrubs. In this definition, the fuelbed does not include dead hanging branches from standing trees. To use these data, calculate an average depth for the condition.

5.3.15 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

5.3.16 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

5.3.17 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

5.3.18 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

5.3.19 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

5.3.20 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

5.3.21 DLF_SAMPLE_METHOD

Duff, litter, fuelbed sample method. A code indicating the sampling protocol used to collect duff, litter, and fuelbed data.

Codes: DLF_SAMPLE_METHOD

Code	Description	Distance measurement
0	Duff, litter, fuelbed not sampled.	Not applicable.
1	National P3 protocol. Sampled at 2 points (14 and 24 feet) along each transect with average recorded.	Slope.
2	National P3 protocol. Sampled at a point located 24 feet along each transect.	Slope.
3	National P2 protocol (all options). Sampled at a point 24 feet along each transect.	Horizontal.
4	RMRS P2 protocol. One duff and litter point sampled at a point 24 feet along each transect on subplots 2, 3, and 4.	Horizontal.
5	SRS P2 protocol. Duff and litter points sampled at 2 points (0 and 48 feet) along a transect on subplot 1.	Horizontal.

5.3.22 DUFF_METHOD

Duff measurement method. A code indicating the measurement of duff depth.

Codes: DUFF_METHOD

Code	Description
NULL	Not included in protocol.
0	Included in protocol but not sampled.
1	Measured.
2	Estimated.
3	Measured up to maximum depth.

5.3.23 DUFF_NONSAMPLE_REASN_CD

Duff nonsampled reason code. A code indicating the reason duff depth was not measured.

Codes: DUFF_NONSAMPLE_REASN_CD

Code	Description
04	Time limitation.
05	Lost data.
10	Other - The point was not measured (for example, snow/water covering sample point, or some other obstruction prevented measurement).

5.3.24 LITTER_METHOD

Litter measurement method. A code indicating the measurement of litter depth.

Codes: LITTER_METHOD

Code	Description
NULL	Not included in protocol.
0	Included in protocol but not sampled.
1	Measured.
2	Estimated.
3	Measured up to maximum depth.

5.3.25 LITTER_NONSAMPLE_REASN_CD

Litter nonsampled reason code. A code indicating the reason litter depth was not measured.

Codes: LITTER_NONSAMPLE_REASN_CD

Code	Description
04	Time limitation.
05	Lost data.
10	Other - The point was not measured (for example, snow/water covering sample point, or some other obstruction prevented measurement).

5.3.26 FUELBED_METHOD

Fuelbed measurement method. A code indicating the measurement of fuelbed depth.

Codes: FUELBED_METHOD

Code	Description
NULL	Not included in protocol.
0	Included in protocol but not sampled.
1	Measured.
2	Estimated.
3	Measured up to maximum depth.

5.3.27 FUELBED_NONSAMPLE_REASN_CD

Fuelbed nonsampled reason code. A code indicating the reason fuelbed depth was not measured.

FUELBED_NONSAMPLE_REASN_CD

Code	Description
04	Time limitation.
05	Lost data.
10	Other - The point was not measured (for example, snow/water covering sample point, or some other obstruction prevented measurement).

5.3.28 DL_STATUS_CD

Duff and litter sample status code. A code indicating the sample status for duff and litter depth on the transect. If the measurement point is on a sampled condition, but the duff/litter depth is not measurable (e.g., due to snow), a value of 0 is recorded for this attribute. If the measurement point is on a sampled condition, but the DUFFDEP and LITTDEP = 0, a value of 1 is recorded for this attribute.

Note: This attribute is set to a value of 1 for noncensus water conditions (COND.COND_STATUS_CD = 3) and nonsampled nonforest conditions (COND.NF_COND_STATUS_CD = 5).

Codes: DL_STATUS_CD

Code	Description
0	Duff and litter point not sampled.
1	Duff and litter point sampled.

5.4 Down Woody Material Fine Woody Debris Table

(Oracle table name: DWM_FINE_WOODY_DEBRIS)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
5.4.1	CN	Sequence number	VARCHAR2(34)
5.4.2	PLT_CN	Plot sequence number	VARCHAR2(34)
5.4.3	INVYR	Inventory year	NUMBER(4)
5.4.4	STATECD	State code	NUMBER(4)
5.4.5	COUNTYCD	County code	NUMBER(3)
5.4.6	PLOT	Plot number	NUMBER(5)
5.4.7	TRANSECT	Transect	NUMBER(3)
5.4.8	SUBP	Subplot number	NUMBER(1)
5.4.9	CONDID	Condition class number	NUMBER(1)
5.4.10	MEASYEAR	Measurement year	NUMBER(4)
5.4.11	SMALLCT	Small-size class count	NUMBER(3)
5.4.12	MEDIUMCT	Medium-size class count	NUMBER(3)
5.4.13	LARGECT	Large-size class count	NUMBER(3)
5.4.14	RSNCTCD	Reason count code	NUMBER(1)
5.4.15	PILESCD	Piles code	NUMBER(1)
5.4.16	SMALL_TL_COND	Small-size class transect length in condition	NUMBER
5.4.17	SMALL_TL_PLOT	Small-size class transect length on plot	NUMBER
5.4.18	SMALL_TL_UNADJ	Small-size class transect length on plot, unadjusted	NUMBER
5.4.19	MEDIUM_TL_COND	Medium-size class transect length in condition	NUMBER
5.4.20	MEDIUM_TL_PLOT	Medium-size class transect length on plot	NUMBER
5.4.21	MEDIUM_TL_UNADJ	Medium-size class transect length on plot, unadjusted	NUMBER
5.4.22	LARGE_TL_COND	Large-size class transect length in condition	NUMBER
5.4.23	LARGE_TL_PLOT	Large-size class transect length on plot	NUMBER
5.4.24	LARGE_TL_UNADJ	Large-size class transect length on plot, unadjusted	NUMBER
5.4.25	CREATED_BY	Created by	VARCHAR2(30)
5.4.26	CREATED_DATE	Created date	DATE
5.4.27	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
5.4.28	MODIFIED_BY	Modified by	VARCHAR2(30)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
5.4.29	MODIFIED_DATE	Modified date	DATE
5.4.30	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)
5.4.31	FWD_STATUS_CD	Fine woody debris sample status	NUMBER(1)
5.4.32	FWD_NONSAMPLE_REASN_CD	Fine woody debris nonsampled reason code	NUMBER(2)
5.4.33	FWD_SAMPLE_METHOD	Fine woody debris sample method	VARCHAR2(6)
5.4.34	SLOPE	Transect percent slope	NUMBER(3)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	DFW_PK
Unique	PLT_CN, TRANSECT, SUBP, CONDID	N/A	DFW_UK
Natural	STATECD, INVYR, COUNTYCD, PLOT, TRANSECT, SUBP, CONDID	N/A	DFW_NAT_I

5.4.1 CN

Sequence number. A unique sequence number used to identify a down woody material fine woody debris (FWD) record.

5.4.2 PLT_CN

Plot sequence number. Foreign key linking the down woody material fine woody debris record to the plot record.

5.4.3 INVYR

Inventory year. See SURVEY.INVYR description for definition.

5.4.4 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

5.4.5 COUNTYCD

County code. The identification number for a county, parish, watershed, borough, or similar governmental unit in a State. FIPS codes from the Bureau of the Census are used. Refer to [appendix B](#).

Note: Summarizing data by county is not recommended for Alaska datasets. For assistance with analyses for Alaska, please consult the PNWRS analyst contact listed in [table 1-1](#).

5.4.6 PLOT

Plot number. An identifier for a plot. Along with STATECD, INVYR, UNITCD, COUNTYCD and/or some other combination of attributes, PLOT may be used to uniquely identify a plot.

5.4.7 TRANSECT

Transect. The azimuth, in degrees, of the transect on which fine woody debris was sampled, extending out from subplot center.

5.4.8 SUBP

Subplot number. A code indicating the number assigned to the subplot. The national plot design (PLOT.DESIGNCD = 1) has subplot number values of 1 through 4. Other plot designs have various subplot number values. See PLOT.DESIGNCD and [appendix G](#) for information about plot designs. For more explanation about SUBP, contact the appropriate FIA work unit ([table 1-1](#)).

5.4.9 CONDID

Condition class number. The unique identifying number assigned to the condition where the fine woody debris (FWD) was sampled. See COND.[CONDID](#) for details on the attributes which delineate a condition.

5.4.10 MEASYEAR

Measurement year. The year in which the plot was completed. MEASYEAR may differ from INVYR.

5.4.11 SMALLCT

Small-size class count. The number of pieces of 1-hr fuels counted in the small-size class (0.01- to 0.24-inch diameter) in one condition along the transect segment on the plot specified in the sample design to measure small-size class FWD. Individual pieces are tallied up to 50, then ocularly estimated over a tally of 50.

5.4.12 MEDIUMCT

Medium-size class count. The number of pieces of 10-hr fuels counted in the medium-size class (0.25- to 0.9-inch diameter) in one condition along the transect segment on the plot specified in the sample design to measure medium-size class FWD. Individual pieces are tallied up to 50, then ocularly estimated over a tally of 50.

5.4.13 LARGECT

Large-size class count. The number of pieces of 100-hr fuels counted in the large-size class (1.0- to 2.9-inch diameter) in one condition along the transect segment on the plot specified in the sample design to measure large-size class FWD. Individual pieces are tallied up to 20, then ocularly estimated over a tally of 20.

5.4.14 RSNCTCD

Reason count code. A code indicating the reason that SMALLCT, MEDIUMCT, or LARGECT has more than 100 pieces tallied.

Codes: RSNCTCD

Code	Description
0	FWD is not unusually high (<100).
1	High count is due to an overall high density of FWD across the transect.
2	Wood rat's nest located on transect.
3	Tree or shrub laying across transect.
4	Other reason.

5.4.15 PILESCD

Piles code. A code indicating whether a residue pile intersects the FWD transect segment. If the code is 1 (Yes), then FWD is not sampled.

Codes: PILESCD

Code	Description
0	No pile is present on the transect. FWD was sampled.
1	Yes, a pile is present on the transect. FWD was not sampled.

5.4.16 SMALL_TL_COND

Small-size class transect length in condition. Sum of the transect segment lengths, in feet, that were installed to measure small-sized FWD in one condition on the plot.

5.4.17 SMALL_TL_PLOT

Small-size class transect length on plot. Sum of the transect segment lengths, in feet, that were installed to measure small-sized FWD on the plot. This total length includes all sampled conditions, excluding hazardous or access denied conditions.

5.4.18 SMALL_TL_UNADJ

Small-size class transect length on plot, unadjusted. Sum of all transect segment lengths, in feet, on the plot that were specified in the sample design to measure small-sized FWD. Includes transects in all conditions, sampled and nonsampled. This value must be adjusted using POP_STRATUM.ADJ_FACTOR_FWD_SM to derive population estimates.

5.4.19 MEDIUM_TL_COND

Medium-size class transect length in condition. Sum of transect segment lengths, in feet, that were installed to measure medium-sized FWD in one condition on the plot.

5.4.20 MEDIUM_TL_PLOT

Medium-size class transect length on plot. Sum of transect segment lengths, in feet, that were installed to measure medium-sized FWD on the plot. This total length includes segments in all sampled conditions, excluding hazardous or access denied conditions.

5.4.21 MEDIUM_TL_UNADJ

Medium-size class transect length on plot, unadjusted. Sum of all transect segment lengths, in feet, on the plot that were specified in the sample design to measure medium-sized FWD. Includes transects in all conditions, sampled and nonsampled. This value must be adjusted using POP_STRATUM.ADJ_FACTOR_FWD_SM to derive population estimates.

5.4.22 LARGE_TL_COND

Large-size class transect length in condition. Sum of transect segment lengths, in feet, that were installed to measure large-sized FWD in one condition on the plot.

5.4.23 LARGE_TL_PLOT

Large-size class transect length on plot. Sum of transect segment lengths, in feet, that were installed to measure large-sized FWD on the entire plot. This total length includes segments in all sampled conditions, excluding hazardous or access denied conditions.

5.4.24 LARGE_TL_UNADJ

Large-size class transect length on plot, unadjusted. Sum of all transect segment lengths, in feet, that were installed to measure large-sized FWD on the entire plot. Includes transects in all conditions, sampled and nonsampled. This value must be adjusted using POP_STRATUM.ADJ_FACTOR_FWD_LG to derive population estimates.

5.4.25 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

5.4.26 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

5.4.27 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

5.4.28 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

5.4.29 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

5.4.30 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

5.4.31 FWD_STATUS_CD

Fine woody debris sample status. A code indicating the sampling status of the fine woody debris transect segment.

Codes: FWD_STATUS_CD

Code	Description
0	FWD transect segment not sampled.
1	FWD transect segment sampled.

5.4.32 FWD_NONSAMPLE_REASN_CD

Fine woody debris nonsampled reason code. A code indicating the reason fine woody debris was not measured.

Codes: FWD_NONSAMPLE_REASN_CD

Code	Description
04	Time limitation.
05	Lost data.
10	Other - The point was not measured (for example, snow/water covering transect segment, or some other obstruction prevented measurement).

5.4.33 FWD_SAMPLE_METHOD

Fine woody debris sample method. A code indicating the sampling protocol used to collect fine woody debris data.

Codes: FWD_SAMPLE_METHOD

Code	Description	Transect distance measurement
0	FWD not sampled.	Not applicable.
1	National P2 and P3 protocol. One 10-foot transect for small and medium FWD and one 20-foot transect for large FWD per subplot.	Slope.
2	National P2 and P3 protocol. One 6-foot transect for small and medium FWD and one 10-foot transect for large FWD per subplot.	Slope.
3	National P2 protocol (all options). One 6-foot transect for small and medium FWD and one 10-foot transect for large FWD per subplot.	Horizontal.
4	SRS P2 protocol. One 6-foot transect for small and medium FWD, and one 10-foot transect for large FWD on subplot 1.	Slope.
5	RMRS P2 protocol. One 6-foot transect for small and medium FWD and one 10-foot transect for large FWD on each of subplots 2, 3, and 4.	Slope.

5.4.34 SLOPE

Transect percent slope. The average percent slope of the transect within the condition class being sampled. Slope ranges from 0 to 155 percent.

5.5 Down Woody Material Microplot Fuel Table

(Oracle table name: DWM_MICROPLOT_FUEL)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
5.5.1	CN	Sequence number	VARCHAR2(34)
5.5.2	PLT_CN	Plot sequence number	VARCHAR2(34)
5.5.3	INVYR	Inventory year	NUMBER(4)
5.5.4	STATECD	State code	NUMBER(4)
5.5.5	COUNTYCD	County code	NUMBER(3)
5.5.6	PLOT	Plot number	NUMBER(5)
5.5.7	SUBP	Subplot number	NUMBER(1)
5.5.8	MEASYEAR	Measurement year	NUMBER(4)
5.5.9	LVSHRBCD	Live shrub code	NUMBER(2)
5.5.10	DSHRBCD	Dead shrub code	NUMBER(2)
5.5.11	LVHRBCD	Live herb code	NUMBER(2)
5.5.12	DHRBCD	Dead herb code	NUMBER(2)
5.5.13	LITTERCD	Litter code	NUMBER
5.5.14	LVSHRBHT	Live shrub height	NUMBER
5.5.15	DSHRBHT	Dead shrub height	NUMBER
5.5.16	LVHRBHT	Live herb height	NUMBER
5.5.17	DHRBHT	Dead herb height	NUMBER
5.5.18	CREATED_BY	Created by	VARCHAR2(30)
5.5.19	CREATED_DATE	Created date	DATE
5.5.20	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
5.5.21	MODIFIED_BY	Modified by	VARCHAR2(30)
5.5.22	MODIFIED_DATE	Modified date	DATE
5.5.23	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)
5.5.24	MICR_SAMPLE_METHOD	Microplot sample method	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	DMF_PK
Unique	PLT_CN, SUBP	N/A	DMF_UK
Natural	STATECD, INVYR, COUNTYCD, PLOT, SUBP	N/A	DMF_NAT_I

5.5.1 CN

Sequence number. A unique sequence number used to identify a down woody material microplot fuel record.

5.5.2 PLT_CN

Plot sequence number. Foreign key linking the down woody material micropot fuel record to the plot record.

5.5.3 INVYR

Inventory year. See SURVEY.[INVYR](#) description for definition.

5.5.4 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

5.5.5 COUNTYCD

County code. The identification number for a county, parish, watershed, borough, or similar governmental unit in a State. FIPS codes from the Bureau of the Census are used. Refer to [appendix B](#).

Note: Summarizing data by county is not recommended for Alaska datasets. For assistance with analyses for Alaska, please consult the PNWRS analyst contact listed in [table 1-1](#).

5.5.6 PLOT

Plot number. An identifier for a plot. Along with STATECD, INVYR, UNITCD, COUNTYCD and/or some other combination of attributes, PLOT may be used to uniquely identify a plot.

5.5.7 SUBP

Subplot number. A code indicating the number assigned to the subplot. The national plot design (PLOT.DESIGNCD = 1) has subplot number values of 1 through 4. Other plot designs have various subplot number values. See PLOT.[DESIGNCD](#) and [appendix G](#) for information about plot designs. For more explanation about SUBP, contact the appropriate FIA work unit ([table 1-1](#)).

5.5.8 MEASYEAR

Measurement year. The year in which the plot was completed. MEASYEAR may differ from INVYR.

5.5.9 LVSHRBCD

Live shrub code. A cover class code indicating the percent cover of the forested micropot area covered with live shrubs.

Codes: LVSHRBCD

Code	Description
00	Absent
01	Trace (<1% cover)
10	1-10%
20	11-20%
30	21-30%
40	31-40%
50	41-50%

Code	Description
60	51-60%
70	61-70%
80	71-80%
90	81-90%
99	91-100%

5.5.10 DSHRBCD

Dead shrub code. A cover class code indicating the percent cover of the forested microplot area covered with dead shrubs and dead branches attached to live shrubs if visible from above.

Codes: DSHRBCD

Code	Description
00	Absent
01	Trace (<1% cover)
10	1-10%
20	11-20%
30	21-30%
40	31-40%
50	41-50%
60	51-60%
70	61-70%
80	71-80%
90	81-90%
99	91-100%

5.5.11 LVHRBCD

Live herb code. A cover class code indicating the percent cover of the forested microplot area covered with live herbaceous plants.

Codes: LVHRBCD

Code	Description
00	Absent
01	Trace (<1% cover)
10	1-10%
20	11-20%
30	21-30%
40	31-40%
50	41-50%
60	51-60%
70	61-70%

Code	Description
80	71-80%
90	81-90%
99	91-100%

5.5.12 DHRBCD

Dead herb code. A cover class code indicating the percent cover of the forested micropot area covered with dead herbaceous plants and dead leaves attached to live plants if visible from above.

Codes: DHRBCD

Code	Description
00	Absent
01	Trace (<1% cover)
10	1-10%
20	11-20%
30	21-30%
40	31-40%
50	41-50%
60	51-60%
70	61-70%
80	71-80%
90	81-90%
99	91-100%

5.5.13 LITTERCD

Litter code. A cover class code indicating the percent cover of the forested micropot area covered with litter. Litter is the layer of freshly fallen leaves, twigs, dead moss, dead lichens, and other fine particles of organic matter found on the surface of the forest floor. Decomposition is minimal.

Codes: LITTERCD

Code	Description
00	Absent
01	Trace (<1% cover)
10	1-10%
20	11-20%
30	21-30%
40	31-40%
50	41-50%
60	51-60%
70	61-70%

Code	Description
80	71-80%
90	81-90%
99	91-100%

5.5.14 LVSHRBHT

Live shrub height. Indicates the height of the tallest live shrub to the nearest 0.1 foot. Heights <6 feet are measured and heights \geq 6 feet are estimated.

5.5.15 DSHRBHT

Dead shrub height. Indicates the height of the tallest dead shrub to the nearest 0.1 foot. Heights <6 feet are measured and heights \geq 6 feet are estimated.

5.5.16 LVHRBHT

Live herb height. Indicates the height (at the tallest point) of the live herbaceous layer to the nearest 0.1 foot. Maximum height is 6 feet.

5.5.17 DHRBHT

Dead herb height. Indicates the height (at the tallest point) of the dead herbaceous layer to the nearest 0.1 foot. Maximum height is 6 feet.

5.5.18 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

5.5.19 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

5.5.20 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

5.5.21 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

5.5.22 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

5.5.23 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

5.5.24 MICR_SAMPLE_METHOD

Microplot sample method. A code indicating the sampling protocol used to collect microplot fuels data.

Note: Starting with PLOT.MANUAL = 5.1, DWM sampling on microplots was discontinued.

Codes: MICR_SAMPLE_METHOD

Code	Description	Distance measurement
0	Microplot fuel not sampled.	Not applicable.
1	National P2 and P3 protocol. Percent cover in 10% classes of fuels on all forested conditions combined on the microplot. Fuel classes were: live shrubs, dead shrubs, live herbs, dead herbs, litter.	Horizontal.
2	RMRS P2 protocol. No microplot fuels sampled.	Not applicable.
3	SRS P2 protocol. Percent cover in 10% classes and height of fuels on 6-foot transect on subplot 1. Fuel classes were shrubs and herbs, live and dead combined.	Slope.

5.6 Down Woody Material Residual Pile Table

(Oracle table name: DWM_RESIDUALPILE)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
5.6.1	CN	Sequence number	VARCHAR2(34)
5.6.2	PLT_CN	Plot sequence number	VARCHAR2(34)
5.6.3	INVYR	Inventory year	NUMBER(4)
5.6.4	STATECD	State code	NUMBER(4)
5.6.5	COUNTYCD	County code	NUMBER(3)
5.6.6	PLOT	Plot number	NUMBER(5)
5.6.7	SUBP	Subplot number	NUMBER(1)
5.6.8	PILE	Pile number	NUMBER
5.6.9	MEASYEAR	Measurement year	NUMBER(4)
5.6.10	CONDID	Condition class number	NUMBER(1)
5.6.11	SHAPECD	Shape code	NUMBER(1)
5.6.12	AZIMUTH	Azimuth	NUMBER(3)
5.6.13	DENSITY	Density	NUMBER(2)
5.6.14	HEIGHT1	Height first measurement	NUMBER(2)
5.6.15	WIDTH1	Width first measurement	NUMBER(2)
5.6.16	LENGTH1	Length first measurement	NUMBER(2)
5.6.17	HEIGHT2	Height second measurement	NUMBER(2)
5.6.18	WIDTH2	Width second measurement	NUMBER(2)
5.6.19	LENGTH2	Length second measurement	NUMBER(2)
5.6.20	VOLCF	Gross cubic-foot volume of the residual pile	NUMBER
5.6.21	DRYBIO	Dry biomass of the residual pile	NUMBER
5.6.22	CARBON	Carbon weight of the residual pile	NUMBER
5.6.23	PPA_UNADJ	Piles per acre, unadjusted, for population estimates	NUMBER
5.6.24	PPA_PLOT	Piles per acre, unadjusted, for plot estimates	NUMBER
5.6.25	PPA_COND	Piles per acre, unadjusted, for condition estimates	NUMBER
5.6.26	CREATED_BY	Created by	VARCHAR2(30)
5.6.27	CREATED_DATE	Created date	DATE
5.6.28	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
5.6.29	MODIFIED_BY	Modified by	VARCHAR2(30)
5.6.30	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)
5.6.31	MODIFIED_DATE	Modified date	DATE

Subsection	Column name (attribute)	Descriptive name	Oracle data type
5.6.32	COMPHT	Compacted height of the residual pile	NUMBER(2)
5.6.33	DECAYCD	Decay class code of the residual pile	NUMBER(1)
5.6.34	HORIZ_BEGNDIST	Beginning horizontal distance of the residual pile	NUMBER(3,1)
5.6.35	HORIZ_ENDDIST	Ending horizontal distance of the residual pile	NUMBER(3,1)
5.6.36	PILE_SAMPLE_METHOD	Pile sample method	VARCHAR2(6)
5.6.37	SPCD	Species code for the residual pile	NUMBER(4)
5.6.38	TRANSECT	Transect	NUMBER(3)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	DRP_PK
Unique	PLT_CN, SUBP, TRANSECT, PILE	N/A	DRP_UK
Natural	STATECD, INVYR, COUNTYCD, PLOT, SUBP, PILE	N/A	DRP_NAT_I

5.6.1 CN

Sequence number. A unique sequence number used to identify a down woody material residual pile record.

5.6.2 PLT_CN

Plot sequence number. Foreign key linking the down woody material residual pile record to the plot record.

5.6.3 INVYR

Inventory year. See SURVEY.INVYR description for definition.

5.6.4 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

5.6.5 COUNTYCD

County code. The identification number for a county, parish, watershed, borough, or similar governmental unit in a State. FIPS codes from the Bureau of the Census are used. Refer to [appendix B](#).

Note: Summarizing data by county is not recommended for Alaska datasets. For assistance with analyses for Alaska, please consult the PNWRS analyst contact listed in [table 1-1](#).

5.6.6 PLOT

Plot number. An identifier for a plot. Along with STATECD, INVYR, UNITCD, COUNTYCD and/or some other combination of attributes, PLOT may be used to uniquely identify a plot.

5.6.7 SUBP

Subplot number. A code indicating the number assigned to the subplot. The national plot design (PLOT.DESIGNCD = 1) has subplot number values of 1 through 4. Other plot designs have various subplot number values. See PLOT.DESIGNCD and [appendix G](#) for information about plot designs. For more explanation about SUBP, contact the appropriate FIA work unit ([table 1-1](#)).

5.6.8 PILE

Pile number. A number that uniquely identifies each pile tallied on a subplot.

5.6.9 MEASYEAR

Measurement year. The year in which the plot was completed. MEASYEAR may differ from INVYR.

5.6.10 CONDID

Condition class number. The unique identifying number assigned to the condition where the pile center is located. See COND.[CONDID](#) for details on the attributes that delineate a condition.

5.6.11 SHAPECD

Shape code. A code indicating the shape of the pile. The type of shape is used to select an equation to estimate pile cubic volume. See figure 5-1 below.

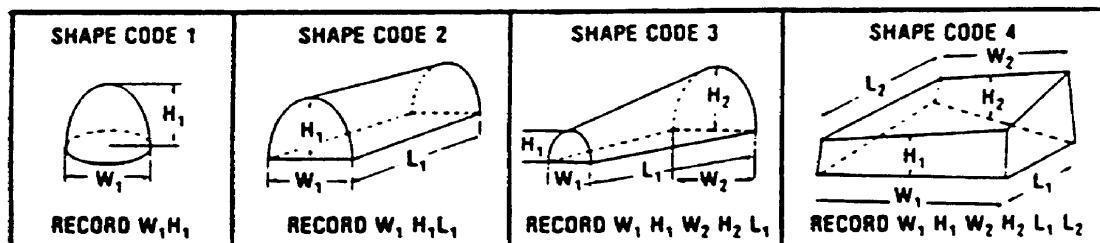


Figure 5-1: PILE SHAPE codes (Hardy 1996). Figure 14-12 from the [Forest Inventory and Analysis National Core Field Guide](#) (Phase 3, version 3.0).

Codes: SHAPECD

Code	Description
1	Paraboloids.
2	Half-cylinder.
3	Half-frustum of cone.
4	Irregular solid.

5.6.12 AZIMUTH

Azimuth. The azimuth, to the nearest degree, from the subplot center to the pile. This azimuth centers on the pile so that it can be relocated. Due north is recorded as 360 degrees.

5.6.13 DENSITY

Density. A code indicating the percent of the pile that consists of woody material ≥ 3 inches. Air, soil, rock, and live plants are not included in the estimate. Estimated to the nearest 10 percent.

Codes: DENSITY

Code	Description
00	Absent
01	Trace (<1% cover)
10	1-10%
20	11-20%
30	21-30%
40	31-40%
50	41-50%
60	51-60%
70	61-70%
80	71-80%
90	81-90%
99	91-100%

5.6.14 HEIGHT1

Height first measurement. The estimated height, in feet, of either end of the pile. Pile HEIGHT1 may equal pile HEIGHT2. See figure 5-1 under [SHAPECD](#).

5.6.15 WIDTH1

Width first measurement. The estimated width, in feet, of the side of HEIGHT1. Pile WIDTH1 may equal pile WIDTH2. See figure 5-1 under [SHAPECD](#).

5.6.16 LENGTH1

Length first measurement. The estimated length, in feet, of either side of the pile. Pile LENGTH1 may equal pile LENGTH2. See figure 5-1 under [SHAPECD](#).

5.6.17 HEIGHT2

Height second measurement. The estimated height, in feet, of either end of the pile. Pile HEIGHT1 may equal pile HEIGHT2. See figure 5-1 under [SHAPECD](#).

5.6.18 WIDTH2

Width second measurement. The estimated width, in feet, of the side of HEIGHT2. Pile WIDTH1 may equal pile WIDTH2. See figure 5-1 under [SHAPECD](#).

5.6.19 LENGTH2

Length second measurement. The length, in feet, of either side of the pile. Pile LENGTH1 may equal pile LENGTH2. See figure 5-1 under [SHAPECD](#).

5.6.20 VOLCF

Gross cubic-foot volume of the residual pile. The gross volume, in cubic feet, of the pile, calculated with equations based on shape code and pile dimensions. This is an individual pile value and must be multiplied by one of the piles per acre (PPA) columns to obtain per acre information.

5.6.21 DRYBIO

Dry biomass of the residual pile. The oven-dry weight, in pounds, estimated for the pile. This is an individual pile value and must be multiplied by one of the piles per acre (PPA) columns to obtain per acre information.

5.6.22 CARBON

Carbon weight of the residual pile. The weight of carbon, in pounds, estimated for the pile. This is an individual pile value and must be multiplied by one of the piles per acre (PPA) columns to obtain per acre information.

5.6.23 PPA_UNADJ

Piles per acre, unadjusted, for population estimates. The number of piles per acre that the pile represents before adjustment for partially nonsampled plots in the stratum. The estimate must be adjusted using factors stored on the POP_STRATUM table to derive population estimates.

Note: A per acre estimate of the pile is calculated by multiplying PPA_UNADJ and any pile attribute of interest (e.g., DRYBIO).

5.6.24 PPA_PLOT

Piles per acre, unadjusted, for plot estimates. The number of piles per acre that the pile represents on the individual plot. This estimate is based on the condition area actually sampled on the plot; therefore, it excludes access denied or hazardous conditions. It is used to expand pile attributes for plot-level analyses, where it is important to have an estimate for an individual plot location. This PPA is never adjusted and is not used to derive population estimates.

5.6.25 PPA_COND

Piles per acre, unadjusted, for condition estimates. The number of piles per acre that the pile represents on one condition on the plot. This estimate is based on the condition area actually sampled on the plot, therefore excludes access denied or hazardous conditions. It is used to expand pile attributes for condition-level analyses, where it is important to have an estimate for an individual condition. This PPA is never adjusted and is not used to derive population estimates.

5.6.26 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

5.6.27 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

5.6.28 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

5.6.29 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

5.6.30 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

5.6.31 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

5.6.32 COMPHT

Compacted height of the residual pile. The average height of a pile of woody debris in feet, visually compacted to exclude air, debris, and pieces less than 3 inches at the point of intersection with the transect. Populated for all options of the National P2 DWM protocol.

5.6.33 DECAYCD

Decay class code of the residual pile. A code indicating the predominant decay class of the pile. Populated for all options of the National P2 DWM protocol.

Codes: DECAYCD

Decay class	Structural integrity	Texture of rotten portions	Color of wood	Invading roots	Branches and twigs
1	Sound, freshly fallen, intact logs.	Intact, no rot; conks of stem decay absent.	Original color.	Absent.	If branches are present, fine twigs are still attached and have tight bark.
2	Sound.	Mostly intact; sapwood partly soft (starting to decay) but can't be pulled apart by hand.	Original color.	Absent.	If branches are present, many fine twigs are gone and remaining fine twigs have peeling bark.
3	Heartwood sound; piece supports its own weight.	Hard, large pieces; sapwood can be pulled apart by hand or sapwood absent.	Reddish-brown or original color.	Sapwood only.	Branch stubs will not pull out.
4	Heartwood rotten; piece does not support its own weight, but maintains its shape.	Soft, small blocky pieces; a metal pin can be pushed into heartwood.	Reddish or light brown.	Throughout.	Branch stubs pull out.
5	None; piece no longer maintains its shape, it spreads out on ground.	Soft; powdery when dry.	Red-brown to dark brown.	Throughout.	Branch stubs and pitch pockets have usually rotted down.

5.6.34 HORIZ_BEGNDIST

Beginning horizontal distance of the residual pile. The horizontal length of the transect in feet from subplot center to the beginning of the pile where pieces cannot be tallied individually. Populated for all options of the National P2 DWM protocol.

5.6.35 HORIZ_ENDDIST

Ending horizontal distance of the residual pile. The horizontal length of the transect in feet from subplot center to the end of the pile where pieces can be tallied individually again.

5.6.36 PILE_SAMPLE_METHOD

Pile sample method. A code indicating the sampling protocol used to collect residue pile data.

Codes: PILE_SAMPLE_METHOD

Code	Description	Distance measurement
0	Piles not sampled.	Not applicable.
1	PNWRS P2 protocol. Pile measured if center located within the 58.9-foot macroplot radius.	Horizontal.
2	National P3 protocol. Pile measured if center located within the 24-foot subplot radius.	Horizontal.
3	National P2 protocol (all options). Pile measured if it intersects the transect (see DWM_VISIT.DWM_TRANSECT_LENGTH for length of transect).	Horizontal.

5.6.37 SPCD

Species code for the residual pile. A code indicating the predominant species, or species group, of pieces in the pile. If it was not possible to determine the species, or if there was a mixture of species, the genus or hardwood/softwood was recorded.

5.6.38 TRANSECT

Transect. The azimuth, in degrees, of the transect on which the pile was sampled, extending out from subplot center.

5.7 Down Woody Material Transect Segment Table

(Oracle table name: DWM_TRANSECT_SEGMENT)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
5.7.1	CN	Sequence number	VARCHAR2(34)
5.7.2	PLT_CN	Plot sequence number	VARCHAR2(34)
5.7.3	INVYR	Inventory year	NUMBER(4)
5.7.4	STATECD	State code	NUMBER(4)
5.7.5	COUNTYCD	County code	NUMBER(3)
5.7.6	PLOT	Plot number	NUMBER(5)
5.7.7	SUBP	Subplot number	NUMBER(1)
5.7.8	TRANSECT	Transect	NUMBER(3)
5.7.9	SEGMENT	Segment number	NUMBER(1)
5.7.10	MEASYEAR	Measurement year	NUMBER(4)
5.7.11	CONDID	Condition class number	NUMBER(1)
5.7.12	SLOPE_BEGNDIST	Beginning slope distance of the transect segment	NUMBER
5.7.13	SLOPE_ENDDIST	Ending slope distance of the transect segment	NUMBER
5.7.14	SLOPE	Transect percent slope	NUMBER(3)
5.7.15	HORIZ_LENGTH	Horizontal length of the transect segment	NUMBER
5.7.16	HORIZ_BEGNDIST	Beginning horizontal distance of the transect segment	NUMBER
5.7.17	HORIZ_ENDDIST	Ending horizontal distance of the transect segment	NUMBER
5.7.18	CREATED_BY	Created by	VARCHAR2(30)
5.7.19	CREATED_DATE	Created date	DATE
5.7.20	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
5.7.21	MODIFIED_BY	Modified by	VARCHAR2(30)
5.7.22	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)
5.7.23	MODIFIED_DATE	Modified date	DATE
5.7.24	SEGMENT_STATUS_CD	Segment sample status code	NUMBER(1)
5.7.25	SEGMENT_NONSAMPLE_REASON_CD	Segment nonsampled reason code	NUMBER(2)
5.7.26	TRANSECT_LENGTH	Transect length	NUMBER(4,1)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	DTS_PK
Unique	PLT_CN, SUBP, TRANSECT, SEGMENT	N/A	DTS_UK
Natural	STATECD, INVYR, COUNTYCD, PLOT, SUBP, TRANSECT, SEGMENT	N/A	DTS_NAT_I

5.7.1 CN

Sequence number. A unique sequence number used to identify a down woody material transect segment record.

5.7.2 PLT_CN

Plot sequence number. Foreign key linking the down woody material transect segment record to the plot record.

5.7.3 INVYR

Inventory year. See SURVEY.[INVYR](#) description for definition.

5.7.4 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

5.7.5 COUNTYCD

County code. The identification number for a county, parish, watershed, borough, or similar governmental unit in a State. FIPS codes from the Bureau of the Census are used. Refer to [appendix B](#).

Note: Summarizing data by county is not recommended for Alaska datasets. For assistance with analyses for Alaska, please consult the PNWRS analyst contact listed in [table 1-1](#).

5.7.6 PLOT

Plot number. An identifier for a plot. Along with STATECD, INVYR, UNITCD, COUNTYCD and/or some other combination of attributes, PLOT may be used to uniquely identify a plot.

5.7.7 SUBP

Subplot number. A code indicating the number assigned to the subplot. The national plot design (PLOT.DESIGNCD = 1) has subplot number values of 1 through 4. Other plot designs have various subplot number values. See PLOT.[DESIGNCD](#) and [appendix G](#) for information about plot designs. For more explanation about SUBP, contact the appropriate FIA work unit ([table 1-1](#)).

5.7.8 TRANSECT

Transect. The azimuth, in degrees, of the transect, extending out from subplot center.

5.7.9 SEGMENT

Segment number. A number identifying a segment on the transect within one condition, recorded sequentially from subplot center out to the end of the transect. Each condition is given a segment number as it is encountered and mapped along the transect. A segment is a continuous length of line within one condition. Segment number 8 is an office generated segment, indicating field crews did not actually measure or install the segment. Most often, this is for entire subplots that are nonsampled nonforest land.

5.7.10 MEASYEAR

Measurement year. The year in which the plot was completed. MEASYEAR may differ from INVYR.

5.7.11 CONDID

Condition class number. The unique identifying number assigned to the condition where the transect segment is located. See COND.[CONDID](#) for details on the attributes which delineate a condition.

5.7.12 SLOPE_BEGNDIST

Beginning slope distance of the transect segment. The location on the transect where the segment begins, in slope distance in feet. A segment is a continuous length of line within one condition. The beginning distance is the point on the transect line where the condition class changes and a new segment begins. If the beginning distance is zero, this is the start of the transect at subplot center. Each segment has a beginning and ending distance recorded as slope distance in the field, measured from the subplot center.

5.7.13 SLOPE_ENDDIST

Ending slope distance of the transect segment. The location on the transect where the segment ends, in slope distance in feet. A segment is a continuous length of line within one condition. The ending distance is the point on the transect line where the condition class of the current segment changes, or the point where the transect ends on the subplot. Each segment has a beginning and ending distance recorded as slope distance in the field, measured from the subplot center.

5.7.14 SLOPE

Transect percent slope. The average percent slope of the transect within the condition class being sampled. Slope ranges from 0 to 155 percent.

5.7.15 HORIZ_LENGTH

Horizontal length of the transect segment. The horizontal length of the individual transect segment in feet.

5.7.16 HORIZ_BEGNDIST

Beginning horizontal distance of the transect segment. The location on the transect where the segment begins, in horizontal distance in feet. A segment is a continuous length of line within one condition. The beginning distance is the point on the transect line where the condition class changes and a new segment begins. If the beginning distance is zero, this is the start of the transect at subplot center. Each segment has a beginning and

ending distance recorded as slope distance in the field, which is then converted to horizontal distance.

5.7.17 HORIZ_ENDDIST

Ending horizontal distance of the transect segment. The location on the transect where the segment ends, in horizontal distance in feet. A segment is a continuous length of line within one condition. The ending distance is the point on the transect line where the condition class of the current segment changes, or the point where the transect ends on the subplot. Each segment has a beginning and ending distance recorded as slope distance in the field, which is then converted to horizontal distance.

5.7.18 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

5.7.19 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

5.7.20 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

5.7.21 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

5.7.22 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

5.7.23 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

5.7.24 SEGMENT_STATUS_CD

Segment sample status code. A code indicating the sampling status of the transect segment. Populated for all options of the National P2 DWM protocol.

Codes: SEGMENT_STATUS_CD

Code	Description
0	Transect segment not sampled.
1	Transect segment sampled.

5.7.25 SEGMENT_NONSAMPLE_REASON_CD

Segment nonsampled reason code. A code indicating the reason DWM measurement was not conducted on a transect segment.

Codes: SEGMENT_NONSAMPLE_REASON_CD

Code	Description
04	Time limitation.
05	Lost data.
10	Other - The transect segment was not measured (for example, snow/water covering transect segment, or some other obstruction prevented measurement).

5.7.26 TRANSECT_LENGTH

Transect length. The target length of the full transect, in horizontal distance in feet. This is an office-generated value.

5.8 Condition Down Woody Material Calculation Table

(Oracle table name: COND_DWM_CALC)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
5.8.1	CN	Sequence number	VARCHAR2(34)
5.8.2	STATECD	State code	NUMBER(4)
5.8.3	COUNTYCD	County code	NUMBER(3)
5.8.4	PLOT	Plot number	NUMBER
5.8.5	MEASYEAR	Measurement year	NUMBER(4)
5.8.6	INVYR	Inventory year	NUMBER(4)
5.8.7	CONDID	Condition class number	NUMBER(1)
5.8.8	EVALID	Evaluation identifier	NUMBER(6)
5.8.9	PLT_CN	Plot sequence number	VARCHAR2(34)
5.8.10	CND_CN	Condition sequence number	VARCHAR2(34)
5.8.11	STRATUM_CN	Stratum sequence number	VARCHAR2(34)
5.8.12	PHASE	Phase	VARCHAR2(3)
5.8.13	CONDPROP_CWD	Proportion of coarse woody debris transects in the condition	NUMBER(13,12)
5.8.14	CONDPROP_FWD_SM	Proportion of fine woody debris transects used to sample small-sized pieces in the condition	NUMBER(13,12)
5.8.15	CONDPROP_FWD_MD	Proportion of fine woody debris transects used to sample medium-sized pieces in the condition	NUMBER(13,12)
5.8.16	CONDPROP_FWD_LG	Proportion of fine woody debris transects used to sample large-sized pieces in the condition	NUMBER(13,12)
5.8.17	CONDPROP_DUFF	Proportion of sample points used to measure duff, litter, and fuelbed in the condition	NUMBER(13,12)
5.8.18	CWD_TL_COND	Coarse woody debris transect length in the condition	NUMBER(13,10)
5.8.19	CWD_TL_UNADJ	Coarse woody debris transect length, unadjusted	NUMBER(13,10)
5.8.20	CWD_TL_ADJ	Coarse woody debris transect length, adjusted	NUMBER(13,10)
5.8.21	CWD_LPA_COND	Number of coarse woody debris logs (pieces) per acre in the condition	NUMBER
5.8.22	CWD_LPA_UNADJ	Number of coarse woody debris logs (pieces) per acre, unadjusted	NUMBER

Subsection	Column name (attribute)	Descriptive name	Oracle data type
5.8.23	CWD_LPA_ADJ	Number of coarse woody debris logs (pieces) per acre, adjusted	NUMBER
5.8.24	CWD_VOLCF_COND	Coarse woody debris cubic-foot volume per acre in the condition	NUMBER
5.8.25	CWD_VOLCF_UNADJ	Coarse woody debris cubic-foot volume per acre, unadjusted	NUMBER
5.8.26	CWD_VOLCF_ADJ	Coarse woody debris cubic-foot volume per acre, adjusted	NUMBER
5.8.27	CWD_DRYBIO_COND	Coarse woody debris biomass per acre in the condition	NUMBER
5.8.28	CWD_DRYBIO_UNADJ	Coarse woody debris biomass per acre, unadjusted	NUMBER
5.8.29	CWD_DRYBIO_ADJ	Coarse woody debris biomass per acre, adjusted	NUMBER
5.8.30	CWD_CARBON_COND	Coarse woody debris carbon density in the condition	NUMBER
5.8.31	CWD_CARBON_UNADJ	Coarse woody debris carbon density, unadjusted	NUMBER
5.8.32	CWD_CARBON_ADJ	Coarse woody debris carbon density, adjusted	NUMBER
5.8.33	FWD_SM_TL_COND	Small-size class fine woody debris transect length in the condition	NUMBER(13,10)
5.8.34	FWD_SM_TL_UNADJ	Small-size class fine woody debris transect length, unadjusted	NUMBER(13,10)
5.8.35	FWD_SM_TL_ADJ	Small-size class fine woody debris transect length, adjusted	NUMBER(13,10)
5.8.36	FWD_SM_CNT_COND	Small-size class fine woody debris pieces count in the condition	NUMBER
5.8.37	FWD_SM_VOLCF_COND	Small-size class fine woody debris cubic-foot volume per acre in the condition	NUMBER
5.8.38	FWD_SM_VOLCF_UNADJ	Small-size class fine woody debris cubic-foot volume per acre, unadjusted	NUMBER
5.8.39	FWD_SM_VOLCF_ADJ	Small-size class fine woody debris cubic-foot volume per acre, adjusted	NUMBER
5.8.40	FWD_SM_DRYBIO_COND	Small-size class fine woody debris biomass per acre in the condition	NUMBER
5.8.41	FWD_SM_DRYBIO_UNADJ	Small-size class fine woody debris biomass per acre, unadjusted	NUMBER
5.8.42	FWD_SM_DRYBIO_ADJ	Small-size class fine woody debris biomass per acre, adjusted	NUMBER
5.8.43	FWD_SM_CARBON_COND	Small-size class fine woody debris carbon density in the condition	NUMBER

Subsection	Column name (attribute)	Descriptive name	Oracle data type
5.8.44	FWD_SM_CARBON_UNADJ	Small-size class fine woody debris carbon density, unadjusted	NUMBER
5.8.45	FWD_SM_CARBON_ADJ	Small-size class fine woody debris carbon density, adjusted	NUMBER
5.8.46	FWD_MD_TL_COND	Medium-size class fine woody debris transect length in the condition	NUMBER(13,10)
5.8.47	FWD_MD_TL_UNADJ	Medium-size class fine woody debris transect length, unadjusted	NUMBER(13,10)
5.8.48	FWD_MD_TL_ADJ	Medium-size class fine woody debris transect length, adjusted	NUMBER(13,10)
5.8.49	FWD_MD_CNT_COND	Medium-size class fine woody debris pieces count in the condition	NUMBER
5.8.50	FWD_MD_VOLCF_COND	Medium-size class fine woody debris cubic-foot volume per acre in the condition	NUMBER
5.8.51	FWD_MD_VOLCF_UNADJ	Medium-size class fine woody debris cubic-foot volume per acre, unadjusted	NUMBER
5.8.52	FWD_MD_VOLCF_ADJ	Medium-size class fine woody debris cubic-foot volume per acre, adjusted	NUMBER
5.8.53	FWD_MD_DRYBIO_COND	Medium-size class fine woody debris biomass per acre in the condition	NUMBER
5.8.54	FWD_MD_DRYBIO_UNADJ	Medium-size class fine woody debris biomass per acre, unadjusted	NUMBER
5.8.55	FWD_MD_DRYBIO_ADJ	Medium-size class fine woody debris biomass per acre, adjusted	NUMBER
5.8.56	FWD_MD_CARBON_COND	Medium-size class fine woody debris carbon density in the condition	NUMBER
5.8.57	FWD_MD_CARBON_UNADJ	Medium-size class fine woody debris carbon density, unadjusted	NUMBER
5.8.58	FWD_MD_CARBON_ADJ	Medium-size class fine woody debris carbon density, adjusted	NUMBER
5.8.59	FWD_LG_TL_COND	Large-size class fine woody debris transect length in the condition	NUMBER(13,10)
5.8.60	FWD_LG_TL_UNADJ	Large-size class fine woody debris transect length, unadjusted	NUMBER(13,10)
5.8.61	FWD_LG_TL_ADJ	Large-size class fine woody debris transect length, adjusted	NUMBER(13,10)
5.8.62	FWD_LG_CNT_COND	Large-size class fine woody debris pieces count in the condition	NUMBER
5.8.63	FWD_LG_VOLCF_COND	Large-size class fine woody debris cubic-foot volume per acre in the condition	NUMBER

Subsection	Column name (attribute)	Descriptive name	Oracle data type
5.8.64	FWD_LG_VOLCF_UNADJ	Large-size class fine woody debris cubic-foot volume per acre, unadjusted	NUMBER
5.8.65	FWD_LG_VOLCF_ADJ	Large-size class fine woody debris cubic-foot volume per acre, adjusted	NUMBER
5.8.66	FWD_LG_DRYBIO_COND	Large-size class fine woody debris biomass per acre in the condition	NUMBER
5.8.67	FWD_LG_DRYBIO_UNADJ	Large-size class fine woody debris biomass per acre, unadjusted	NUMBER
5.8.68	FWD_LG_DRYBIO_ADJ	Large-size class fine woody debris biomass per acre, adjusted	NUMBER
5.8.69	FWD_LG_CARBON_COND	Large-size class fine woody debris carbon density in the condition	NUMBER
5.8.70	FWD_LG_CARBON_UNADJ	Large-size class fine woody debris carbon density, unadjusted	NUMBER
5.8.71	FWD_LG_CARBON_ADJ	Large-size class fine woody debris carbon density, adjusted	NUMBER
5.8.72	PILE_SAMPLE_AREA_COND	Condition area sampled for piles	NUMBER(13,12)
5.8.73	PILE_SAMPLE_AREA_UNADJ	Plot area sampled for piles in all conditions, unadjusted	NUMBER(13,12)
5.8.74	PILE_SAMPLE_AREA_ADJ	Plot area sampled for piles in all conditions, adjusted	NUMBER(13,12)
5.8.75	PILE_VOLCF_COND	Cubic-foot volume per acre of piles in the condition	NUMBER
5.8.76	PILE_VOLCF_UNADJ	Cubic-foot volume per acre of piles, unadjusted	NUMBER
5.8.77	PILE_VOLCF_ADJ	Cubic-foot volume per acre of piles, adjusted	NUMBER
5.8.78	PILE_DRYBIO_COND	Biomass per acre of piles in the condition	NUMBER
5.8.79	PILE_DRYBIO_UNADJ	Biomass per acre of piles, unadjusted	NUMBER
5.8.80	PILE_DRYBIO_ADJ	Biomass per acre of piles, adjusted	NUMBER
5.8.81	PILE_CARBON_COND	Carbon density of piles in the condition	NUMBER
5.8.82	PILE_CARBON_UNADJ	Carbon density of piles, unadjusted	NUMBER
5.8.83	PILE_CARBON_ADJ	Carbon density of piles, adjusted	NUMBER
5.8.84	FUEL_DEPTH	Average fuelbed depth in the condition	NUMBER
5.8.85	FUEL_BIOMASS	Average fuelbed biomass per acre in the condition	NUMBER
5.8.86	FUEL_CARBON	Average fuelbed carbon density in the condition	NUMBER

Subsection	Column name (attribute)	Descriptive name	Oracle data type
5.8.87	DUFF_DEPTH	Average duff depth in the condition	NUMBER
5.8.88	DUFF_BIOMASS	Average duff biomass per acre in the condition	NUMBER
5.8.89	DUFF_CARBON	Average duff carbon density in the condition	NUMBER
5.8.90	LITTER_DEPTH	Average litter depth in the condition	NUMBER
5.8.91	LITTER_BIOMASS	Average litter biomass per acre in the condition	NUMBER
5.8.92	LITTER_CARBON	Average litter carbon density in the condition	NUMBER
5.8.93	DUFF_TC_COND	Number of duff, litter, and fuelbed sampling points in the condition	NUMBER(14,12)
5.8.94	DUFF_TC_UNADJ	Number of duff, litter, and fuelbed sampling points on the entire plot, unadjusted	NUMBER(14,12)
5.8.95	DUFF_TC_ADJ	Number of duff, litter, and fuelbed sampling points on the entire plot, adjusted	NUMBER(14,12)
5.8.96	AVG_WOOD_DENSITY	Average wood density	NUMBER(12,10)
5.8.97	CREATED_BY	Created by	VARCHAR2(30)
5.8.98	CREATED_DATE	Created date	DATE
5.8.99	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
5.8.100	MODIFIED_BY	Modified by	VARCHAR2(30)
5.8.101	MODIFIED_DATE	Modified date	DATE
5.8.102	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)
5.8.103	CYCLE	Inventory cycle number	NUMBER(2)
5.8.104	SUBCYCLE	Inventory subcycle number	NUMBER(2)
5.8.105	UNITCD	Survey unit code	NUMBER(2)
5.8.106	RSCD	Region or station code	NUMBER(2)
5.8.107	PILE_TL_COND	Piles transect length in the condition	NUMBER(13,10)
5.8.108	PILE_TL_UNADJ	Piles transect length, unadjusted	NUMBER(13,10)
5.8.109	PILE_TL_ADJ	Piles transect length, adjusted	NUMBER(13,10)
5.8.110	CONDPROP_PILE	Proportion of piles plot area or transect lengths in the condition	NUMBER(13,12)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	CDC_PK
Unique	PLT_CN, CONDID, EVALID, RSCD	N/A	CDC_UK
Unique	STATECD, COUNTYCD, PLOT, INVYR, CONDID, EVALID, RSCD	N/A	CDC_UK2

Key Type	Column(s) order	Tables to link	Abbreviated notation
Unique	STATECD, CYCLE, SUBCYCLE, COUNTYCD, PLOT, CONDID, VALIDID, RSCD	N/A	CDC_UK3
Foreign	CND_CN	COND_DWM_CALC to COND	CDC_CND_FK
Foreign	PLT_CN	COND_DWM_CALC to PLOT	CDC_PLT_FK
Foreign	STRATUM_CN	COND_DWM_CALC to POP_STRATUM	CDC_PSM_FK

The size classes for fine woody debris (FWD) are as follows:

- Small-size class – pieces must be 0.01- to 0.24-inch in diameter and located on a transect segment length on the plot specified in the sample design to measure small-size FWD.
- Medium-size class – pieces must be 0.25- to 0.09-inch in diameter and located on a transect segment length on the plot specified in the sample design to measure medium-size FWD.
- Large-size class – pieces must be 1.0- to 2.9-inches in diameter and located on a transect segment length on the plot specified in the sample design to measure large-size FWD.

5.8.1 CN

Sequence number. A unique sequence number used to identify a condition down woody material calculation record.

5.8.2 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

5.8.3 COUNTYCD

County code. The identification number for a county, parish, watershed, borough, or similar governmental unit in a State. FIPS codes from the Bureau of the Census are used. Refer to [appendix B](#).

Note: Summarizing data by county is not recommended for Alaska datasets. For assistance with analyses for Alaska, please consult the PNWRS analyst contact listed in [table 1-1](#).

5.8.4 PLOT

Plot number. An identifier for a plot. Along with STATECD, INVYR, UNITCD, COUNTYCD and/or some other combination of variables, PLOT may be used to uniquely identify a plot.

5.8.5 MEASYEAR

Measurement year. The year in which the plot was completed. MEASYEAR may differ from INVYR.

5.8.6 INVYR

Inventory year. See SURVEY.[INVYR](#) description for definition.

5.8.7 CONDID

Condition class number. The unique identifying number assigned to a condition on a plot. See COND.[CONDID](#) for details on the attributes which delineate a condition.

5.8.8 EVALID

Evaluation identifier. See POP_EVAL.[EVALID](#) description for definition.

5.8.9 PLT_CN

Plot sequence number. Foreign key linking the condition down woody material calculation record to the plot record.

5.8.10 CND_CN

Condition sequence number. Foreign key linking the condition down woody material calculation record to the condition record for this location.

5.8.11 STRATUM_CN

Stratum sequence number. Foreign key linking the condition down woody material calculation record to the population stratum record.

5.8.12 PHASE

Phase. A code indicating the plot design for DWM measurements. Only populated for certain FIA work units (SURVEY.RSCD = 26, 27).

Codes: PHASE

Code	Description
P2	Phase 2 plot design.
P3	Phase 3 plot design.
P23	Phase 2 and phase 3 plot (both designs co-located).

5.8.13 CONDPROP_CWD

Proportion of coarse woody debris transects in the condition. A proportion developed by summing the CWD transect lengths in one condition and dividing that by the total unadjusted CWD transect length on the plot (CWD_TL_COND/CWD_TL_UNADJ).

5.8.14 CONDPROP_FWD_SM

Proportion of fine woody debris transects used to sample small-sized pieces in the condition. A proportion developed by summing the FWD transect lengths in one condition and dividing that by the total unadjusted FWD transect length on the plot (FWD_SM_TL_COND/FWD_SM_TL_UNADJ).

5.8.15 CONDPROP_FWD_MD

Proportion of fine woody debris transects used to sample medium-sized pieces in the condition. A proportion developed by summing the FWD transect lengths in one condition and dividing that by the total unadjusted FWD transect length on the plot (FWD_MD_TL_COND/FWD_MD_TL_UNADJ).

5.8.16 CONDPROP_FWD_LG

Proportion of fine woody debris transects used to sample large-sized pieces in the condition. A proportion developed by summing the FWD transect lengths in one condition and dividing that by the total unadjusted FWD transect length on the plot (FWD_LG_TL_COND/FWD_LG_TL_UNADJ).

5.8.17 CONDPROP_DUFF

Proportion of sample points used to measure duff, litter, and fuelbed in the condition. A proportion developed by summing the number of sample points in one condition and dividing that by the total number of points on the plot (DUFF_TC_COND/DUFF_TC_UNADJ).

5.8.18 CWD_TL_COND

Coarse woody debris transect length in the condition. The sum of all transect lengths, in feet, in one condition on a plot. This total length is used to calculate per-acre estimates of volume, biomass, carbon, and number of logs for CWD in the condition. CWD attribute columns that end with a '_COND' suffix use this length in the estimation equation.

5.8.19 CWD_TL_UNADJ

Coarse woody debris transect length, unadjusted. The sum of all transect lengths, in feet, in all conditions on a plot, as specified by the sampling design. CWD_TL_UNADJ (target transect length) is the maximum length of transect line that would be installed for CWD on each subplot across all conditions (forest, nonforest, sampled, nonsampled) on the plot, before adjustment for partially nonsampled plots in the stratum. This attribute is used in equations to calculate the unadjusted per-acre attributes of CWD, which are columns that end with an '_UNADJ' suffix.

5.8.20 CWD_TL_ADJ

Coarse woody debris transect length, adjusted. The sum of all transect lengths, in feet, in all conditions on a plot, as specified by the sampling design, CWD_TL_ADJ (adjusted target transect length) is the maximum length of transect line that would be installed on each subplot across all conditions (forest, nonforest, sampled, nonsampled) on the plot, after adjustment for partially nonsampled plots in the stratum. This attribute is used in equations to calculate the adjusted per-acre attributes of CWD, which are columns that end with an '_ADJ' suffix.

5.8.21 CWD_LPA_COND

Number of coarse woody debris logs (pieces) per acre in the condition. The sum of logs per acre from all pieces tallied in one condition on a plot, based on transects installed in that condition. This attribute is useful for analysis projects that involve modeling, mapping, or classifying individual conditions within a plot.

Note: Because this attribute describes one condition on a plot, it is not used to develop population estimates and is never adjusted. When multiple conditions exist on a plot and one estimate is needed for the plot location (e.g., for a GIS analysis), the plot estimate must be based on the sum of transect lengths from all sampled conditions of interest. For example, an estimate for all forested conditions on the plot would require that CWD_LPA_COND be multiplied by CWD_TL_COND / (sum of CWD_TL_COND on forest conditions) and then summed to the plot level.

5.8.22 CWD_LPA_UNADJ

Number of coarse woody debris logs (pieces) per acre, unadjusted. The sum of logs per acre from all CWD pieces tallied in one condition on a plot, before adjustment for partially nonsampled plots in the stratum. It is based on the target transect length (CWD_TL_UNADJ), which is the total length of transect that could potentially be installed on the plot. This attribute is used to calculate population estimates and not to derive estimates for one condition or individual plot. It must be adjusted by the factor ADJ_FACTOR_CWD stored in the POP_STRATUM table and then expanded by the acres in POP_STRATUM.EXPNS to produce population totals for number of CWD logs.

5.8.23 CWD_LPA_ADJ

Number of coarse woody debris logs (pieces) per acre, adjusted. The sum of logs per acre from all CWD pieces tallied in one condition on a plot, after adjustment for partially nonsampled plots in the stratum. It is based on the adjusted target transect length (CWD_TL_ADJ), which is the total length of transect that could potentially be installed on the plot. This attribute is used to calculate population estimates and not to derive estimates for one condition or individual plots. For ease of use, this attribute has been adjusted by the factor ADJ_FACTOR_CWD stored in the POP_STRATUM table. To expand per acre values to population totals for number of CWD logs, multiply by the acres in POP_STRATUM.EXPNS.

5.8.24 CWD_VOLCF_COND

Coarse woody debris cubic-foot volume per acre in the condition. The sum of gross volume, in cubic feet per acre, from all CWD pieces tallied in one condition on a plot, based on transects installed in that condition. This attribute is useful for analysis projects that involve modeling, mapping, or classifying individual conditions within a plot.

Note: Because this attribute describes one condition on a plot, it is not used to develop population estimates and is never adjusted. When multiple conditions exist on a plot and one estimate is needed for the plot location (e.g., for a GIS analysis), the plot estimate must be based on the sum of transect lengths from all sampled conditions of interest. For example, an estimate for all forested conditions on the plot would require that CWD_VOLCF_COND be multiplied by CWD_TL_COND / (sum of CWD_TL_COND on forest conditions) and then summed to the plot level.

5.8.25 CWD_VOLCF_UNADJ

Coarse woody debris cubic-foot volume per acre, unadjusted. The sum of gross volume, in cubic feet per acre, from all CWD pieces tallied in one condition on a plot, before adjustment for partially nonsampled plots in the stratum. This attribute is based on the target transect length (CWD_TL_UNADJ), and is used to calculate population estimates and not used to derive estimates for one condition or individual plot. It must be adjusted by the factor ADJ_FACTOR_CWD stored in the POP_STRATUM table and then expanded by the acres in POP_STRATUM.EXPNS to produce population totals for gross cubic volume of CWD.

5.8.26 CWD_VOLCF_ADJ

Coarse woody debris cubic-foot volume per acre, adjusted. The sum of gross volume on a plot, in cubic feet per acre, from all CWD pieces tallied in one condition, after adjustment for partially nonsampled plots in the stratum. This attribute is based on the adjusted target transect length (CWD_TL_ADJ), and is used to calculate population estimates and not to derive estimates for one condition or individual plot. For ease of use,

this attribute has been adjusted by the factor ADJ_FACTOR_CWD stored in the POP_STRATUM table. To expand per acre values to population totals for gross cubic volume of CWD, multiply by the acres in POP_STRATUM.EXPNS.

5.8.27 CWD_DRYBIO_COND

Coarse woody debris biomass per acre in the condition. The sum of biomass, in oven-dry pounds per acre, from all CWD pieces tallied in one condition on a plot, based on transects installed in that condition. This attribute is useful for analysis projects that involve modeling, mapping, or classifying individual conditions within a plot.

Note: Because this attribute describes one condition on a plot, it is not used to develop population estimates and is never adjusted. When multiple conditions exist on a plot and one estimate is needed for the plot location (e.g., for a GIS analysis), the plot estimate must be based on the sum of transect lengths from all sampled conditions of interest. For example, an estimate for all forested conditions on the plot would require that CWD_DRYBIO_COND be multiplied by CWD_TL_COND / (sum of CWD_TL_COND on forest conditions) and then summed to the plot level.

5.8.28 CWD_DRYBIO_UNADJ

Coarse woody debris biomass per acre, unadjusted. The sum of biomass, in oven-dry pounds per acre, from all CWD pieces tallied in one condition on a plot, before adjustment for partially nonsampled plots in the stratum. This attribute is based on the target transect length (CWD_TL_UNADJ), and is used to calculate population estimates and not used to derive estimates for one condition or individual plot. It must be adjusted by the factor ADJ_FACTOR_CWD stored in the POP_STRATUM table and then expanded by the acres in POP_STRATUM.EXPNS to produce population totals for dry biomass of CWD.

5.8.29 CWD_DRYBIO_ADJ

Coarse woody debris biomass per acre, adjusted. The sum of biomass, in oven-dry pounds per acre, from all CWD pieces tallied in one condition on a plot, after adjustment for partially nonsampled plots in the stratum. This attribute is based on the adjusted target transect length (CWD_TL_ADJ), and is used to calculate population estimates and not used to derive estimates for one condition or individual plot. For ease of use, this attribute has been adjusted by the factor ADJ_FACTOR_CWD stored in the POP_STRATUM table. To expand per acre values to population totals for dry biomass of CWD, multiply by the acres in POP_STRATUM.EXPNS.

5.8.30 CWD_CARBON_COND

Coarse woody debris carbon density in the condition. The sum of carbon, in pounds per acre, from all CWD pieces tallied in one condition on a plot, based on transects installed in that condition. This attribute is useful for analysis projects that involve modeling, mapping, or classifying individual conditions within a plot.

Note: Because this attribute describes one condition on a plot, it is not used to develop population estimates and is never adjusted. When multiple conditions exist on a plot and one estimate is needed for the plot location (e.g., for a GIS analysis), the plot estimate must be based on the sum of transect lengths from all sampled conditions of interest. For example, an estimate for all forested conditions on the plot would require that CWD_CARBON_COND be multiplied by CWD_TL_COND / (sum of CWD_TL_COND on forest conditions) and then summed to the plot level.

5.8.31 CWD_CARBON_UNADJ

Coarse woody debris carbon density, unadjusted. The sum of carbon, in pounds per acre, from all CWD pieces tallied in one condition on a plot, before adjustment for partially nonsampled plots in the stratum. This attribute is based on the target transect length (CWD_TL_UNADJ), and is used to calculate population estimates and not used to derive estimates for one condition or individual plot. It must be adjusted by the factor ADJ_FACTOR_CWD stored in the POP_STRATUM table and then expanded by the acres in POP_STRATUM.EXPNS to produce population totals for carbon mass of CWD.

5.8.32 CWD_CARBON_ADJ

Coarse woody debris carbon density, adjusted. The sum of carbon, in pounds per acre, from all CWD pieces tallied in one condition on a plot, after adjustment for partially nonsampled plots in the stratum. This attribute is based on the adjusted target transect length (CWD_TL_ADJ), and is used to calculate population estimates and not used to derive estimates for one condition or individual plot. For ease of use, this attribute has been adjusted by the factor ADJ_FACTOR_CWD stored in the POP_STRATUM table. To expand per acre values to population totals for carbon mass of CWD, multiply by the acres in POP_STRATUM.EXPNS.

5.8.33 FWD_SM_TL_COND

Small-size class fine woody debris transect length in the condition. The sum of all transect lengths, in feet, in one condition on the plot. This total length is used to calculate per-acre estimates of volume, biomass, and carbon for small-size class FWD in the condition. Attribute columns that end with a '_COND' suffix use this length in the estimation equation.

5.8.34 FWD_SM_TL_UNADJ

Small-size class fine woody debris transect length, unadjusted. The sum of all transect lengths, in feet, in all conditions on a plot, as specified by the sampling design. FWD_SM_TL_UNADJ (target transect length) is the maximum length of transect line that would be installed for small-size class FWD on each subplot across all conditions (forest, nonforest, sampled, nonsampled) on the plot, before adjustment for partially nonsampled plots in the stratum. This attribute is used in equations to calculate the unadjusted per-acre attributes of small-size class FWD, which are columns that end with an '_UNADJ' suffix.

5.8.35 FWD_SM_TL_ADJ

Small-size class fine woody debris transect length, adjusted. The sum of all transect lengths, in feet, in all conditions on a plot, as specified by the sampling design. FWD_SM_TL_ADJ (adjusted target transect length) is the maximum length of transect line that would be installed for small-size class FWD on each subplot across all conditions (forest, nonforest, sampled, nonsampled) on a plot, after adjustment for partially nonsampled plots in the stratum. This attribute is used in equations to calculate the adjusted per-acre attributes of small-size class FWD, which are columns that end with an '_ADJ' suffix.

5.8.36 FWD_SM_CNT_COND

Small-size class fine woody debris pieces count in the condition. The total number of small-size class FWD pieces on all transects in one condition on a plot.

5.8.37 FWD_SM_VOLCF_COND

Small-size class fine woody debris cubic-foot volume per acre in the condition. The sum of volume, in cubic feet per acre, of small-size class FWD tallied in one condition on a plot, based on transects installed in that condition. This attribute is useful for analysis projects that involve modeling, mapping, or classifying individual conditions within a plot.

Note: Because this attribute describes one condition on a plot, it is not used to develop population estimates and is never adjusted. When multiple conditions exist on a plot and one estimate is needed for the plot location (e.g., for a GIS analysis), the plot estimate must be based on the sum of transect lengths from all sampled conditions of interest.

5.8.38 FWD_SM_VOLCF_UNADJ

Small-size class fine woody debris cubic-foot volume per acre, unadjusted. The sum of volume, in cubic feet per acre, of small-size class FWD pieces tallied in one condition on a plot, before adjustment for partially nonsampled plots in the stratum. This attribute is based on the target transect length (FWD_SM_TL_UNADJ) and is used to calculate population totals and not to derive estimates for one condition or individual plot. It must be adjusted by the factor ADJ_FACTOR_FWD_SM stored in the POP_STRATUM table and then expanded by the acres in POP_STRATUM.EXPNS before producing population estimates for cubic volume of small-size class FWD.

5.8.39 FWD_SM_VOLCF_ADJ

Small-size class fine woody debris cubic-foot volume per acre, adjusted. The sum of volume, in cubic feet per acre, of small-size class FWD pieces tallied in one condition on a plot, after adjustment for partially nonsampled plots in the stratum. This attribute is based on the adjusted target transect length (FWD_SM_TL_ADJ) and is used to calculate population totals and not to derive estimates for one condition or individual plot. For ease of use, this attribute has been adjusted by the factor ADJ_FACTOR_FWD_SM stored in the POP_STRATUM table. To expand per acre values to population totals for cubic volume of small-size class FWD, multiply by the acres in POP_STRATUM.EXPNS.

5.8.40 FWD_SM_DRYBIO_COND

Small-size class fine woody debris biomass per acre in the condition. The sum of biomass, in oven-dry pounds per acre, of small-size class FWD tallied in one condition on a plot, based on transects installed in that condition. This attribute is useful for analysis projects that involve modeling, mapping, or classifying individual conditions within a plot.

Note: Because this attribute describes one condition on a plot, it is not used to develop population estimates and is never adjusted. When multiple conditions exist on a plot and one estimate is needed for the plot location (e.g., for a GIS analysis), the plot estimate must be based on the sum of transect lengths from all sampled conditions of interest.

5.8.41 FWD_SM_DRYBIO_UNADJ

Small-size class fine woody debris biomass per acre, unadjusted. The sum of biomass, in oven-dry pounds per acre, of small-size class FWD pieces tallied in one condition on a plot, before adjustment for partially nonsampled plots in the stratum. This attribute is based on the target transect length (FWD_SM_TL_UNADJ) and is used to calculate population totals and not used to derive estimates for one condition or individual plot. It must be adjusted by the factor ADJ_FACTOR_FWD_SM stored in the POP_STRATUM table and then expanded by the acres in POP_STRATUM.EXPNS before producing population estimates for dry biomass of small-size class FWD.

5.8.42 FWD_SM_DRYBIO_ADJ

Small-size class fine woody debris biomass per acre, adjusted. The sum of biomass, in oven-dry pounds per acre, of small-size class FWD pieces tallied in one condition on a plot, after adjustment for partially nonsampled plots in the stratum. This attribute is based on the adjusted target transect length (FWD_SM_TL_ADJ) and is used to calculate population totals and not used to derive estimates for one condition or individual plot. For ease of use, this attribute has been adjusted by the factor ADJ_FACTOR_FWD_SM stored in the POP_STRATUM table. To expand per acre values to population totals for dry biomass of small-size class FWD, multiply by the acres in POP_STRATUM.EXPNS.

5.8.43 FWD_SM_CARBON_COND

Small-size class fine woody debris carbon density in the condition. The sum of carbon, in pounds per acre, of small-size class FWD tallied in one condition on a plot, based on transects installed in that condition. This attribute is useful for analysis projects that involve modeling, mapping, or classifying individual conditions within a plot.

Note: Because this attribute describes one condition on a plot, it is not used to develop population estimates and is never adjusted. When multiple conditions exist on a plot and one estimate is needed for the plot location (e.g., for a GIS analysis), the plot estimate must be based on the sum of transect lengths from all sampled conditions of interest.

5.8.44 FWD_SM_CARBON_UNADJ

Small-size class fine woody debris carbon density, unadjusted. The sum of carbon, in pounds per acre, of small-size class FWD pieces tallied in one condition on a plot, before adjustment for partially nonsampled plots in the stratum. This attribute is based on the target transect length (FWD_SM_TL_UNADJ) and is used to calculate population totals and not used to derive estimates for one condition or individual plot. It must be adjusted by the factor ADJ_FACTOR_FWD_SM stored in the POP_STRATUM table and then expanded by the acres in POP_STRATUM.EXPNS before producing population estimates for carbon mass of small-size class FWD.

5.8.45 FWD_SM_CARBON_ADJ

Small-size class fine woody debris carbon density, adjusted. The sum of carbon, in pounds per acre, of small-size class FWD pieces tallied in one condition on a plot, after adjustment for partially nonsampled plots in the stratum. This attribute is based on the adjusted target transect length (FWD_SM_TL_ADJ) and is used to calculate population totals and not used to derive estimates for one condition or individual plot. For ease of use, this attribute has been adjusted by the factor ADJ_FACTOR_FWD_SM stored in the POP_STRATUM table. To expand per acre values to population totals for carbon mass of small-size class FWD, multiply by the acres in POP_STRATUM.EXPNS.

5.8.46 FWD_MD_TL_COND

Medium-size class fine woody debris transect length in the condition. The sum of all transect lengths, in feet, in one condition on a plot. This total length is used to calculate per-acre estimates of volume, biomass, and carbon for medium-size class FWD in the condition. Attribute columns that end with a '_COND' suffix use this length in the estimation equation.

5.8.47 FWD_MD_TL_UNADJ

Medium-size class fine woody debris transect length, unadjusted. The sum of all transect lengths, in feet, in all conditions on a plot, as specified by the sampling design.

FWD_MD_TL_UNADJ (target transect length) is the maximum length of transect line that would be installed for medium-size class FWD on each subplot across all conditions (forest, nonforest, sampled, nonsampled) on the plot, before adjustment for partially nonsampled plots in the stratum. This attribute is used in equations to calculate the unadjusted per-acre attributes of medium-size class FWD, which are columns that end with an '_UNADJ' suffix.

5.8.48 FWD_MD_TL_ADJ

Medium-size class fine woody debris transect length, adjusted. The sum of all transect lengths, in feet, in all conditions on a plot, as specified by the sampling design.

FWD_MD_TL_ADJ (adjusted target transect length) is the maximum length of transect line that would be installed for medium-size class FWD on each subplot across all conditions (forest, nonforest, sampled, nonsampled) on the plot, after adjustment for partially nonsampled plots in the stratum. This attribute is used in equations to calculate the adjusted per-acre attributes of medium-size class FWD, which are columns that end with an '_ADJ' suffix.

5.8.49 FWD_MD_CNT_COND

Medium-size class fine woody debris pieces count in the condition. The total number of medium-size class FWD pieces on all transects in one condition on a plot.

5.8.50 FWD_MD_VOLCF_COND

Medium-size class fine woody debris cubic-foot volume per acre in the condition. The sum of volume, in cubic feet per acre, of medium-size class FWD tallied in one condition on a plot, based on transects installed in that condition. This attribute is useful for analysis projects that involve modeling, mapping, or classifying individual conditions within a plot.

Note: Because this attribute describes one condition on a plot, it is not used to develop population estimates and is never adjusted. When multiple conditions exist on a plot and one estimate is needed for the plot location (e.g., for a GIS analysis), the plot estimate must be based on the sum of transect lengths from all sampled conditions of interest.

5.8.51 FWD_MD_VOLCF_UNADJ

Medium-size class fine woody debris cubic-foot volume per acre, unadjusted. The sum of volume, in cubic feet per acre, of medium-size class FWD pieces tallied in one condition on a plot, before adjustment for partially nonsampled plots in the stratum. This attribute is based on the target transect length (FWD_MD_TL_UNADJ) and is used to calculate population totals and not used to derive estimates for one condition or individual plot. It must be adjusted by the factor ADJ_FACTOR_FWD_SM stored in the POP_STRATUM table and then expanded by the acres in POP_STRATUM.EXPNS before producing population estimates for cubic volume of medium-size class FWD.

5.8.52 FWD_MD_VOLCF_ADJ

Medium-size class fine woody debris cubic-foot volume per acre, adjusted. The sum of volume, in cubic feet per acre, of medium-size class FWD pieces tallied in one condition on a plot, after adjustment for partially nonsampled plots in the stratum. This attribute is based on the adjusted target transect length (FWD_MD_TL_ADJ) and is used to calculate population totals and not used to derive estimates for one condition or individual plot. For ease of use, this attribute has been adjusted by the factor ADJ_FACTOR_FWD_SM stored in the POP_STRATUM table. To expand per acre values to population totals for cubic volume of medium-size class FWD, multiply by the acres in POP_STRATUM.EXPNS.

5.8.53 FWD_MD_DRYBIO_COND

Medium-size class fine woody debris biomass per acre in the condition. The sum of biomass, in oven-dry pounds per acre, of medium-size class FWD tallied in one condition on a plot, based on transects installed in that condition. This attribute is useful for analysis projects that involve modeling, mapping, or classifying individual conditions within a plot.

Note: Because this attribute describes one condition on a plot, it is not used to develop population estimates and is never adjusted. When multiple conditions exist on a plot and one estimate is needed for the plot location (e.g., for a GIS analysis), the plot estimate must be based on the sum of transect lengths from all sampled conditions of interest.

5.8.54 FWD_MD_DRYBIO_UNADJ

Medium-size class fine woody debris biomass per acre, unadjusted. The sum of biomass, in oven-dry pounds per acre, of medium-size class FWD pieces tallied in one condition on a plot, before adjustment for partially nonsampled plots in the stratum. This attribute is based on the target transect length (FWD_MD_TL_UNADJ) and is used to calculate population totals and not used to derive estimates for one condition or individual plot. It must be adjusted by the factor ADJ_FACTOR_FWD_SM stored in the POP_STRATUM table and then expanded by the acres in POP_STRATUM.EXPNS before producing population estimates for dry biomass of medium-size class FWD.

5.8.55 FWD_MD_DRYBIO_ADJ

Medium-size class fine woody debris biomass per acre, adjusted. The sum of biomass, in oven-dry pounds per acre, of medium-size class FWD pieces tallied in one condition on a plot, after adjustment for partially nonsampled plots in the stratum. This attribute is based on the adjusted target transect length (FWD_MD_TL_ADJ) and is used to calculate population totals and not used to derive estimates for one condition or individual plot. For ease of use, this attribute has been adjusted by the factor ADJ_FACTOR_FWD_SM stored in the POP_STRATUM table. To expand per acre values to population totals for dry biomass of medium-size class FWD, multiply by the acres in POP_STRATUM.EXPNS.

5.8.56 FWD_MD_CARBON_COND

Medium-size class fine woody debris carbon density in the condition. The sum of carbon, in pounds per acre, of medium-size class FWD tallied in one condition on a plot, based on transects installed in that condition. This attribute is useful for analysis projects that involve modeling, mapping, or classifying individual conditions within a plot.

Note: Because this attribute describes one condition on a plot, it is not used to develop population estimates and is never adjusted. When multiple conditions exist on a plot and one estimate is needed for the plot location (e.g., for a GIS analysis), the plot estimate must be based on the sum of transect lengths from all sampled conditions of interest.

5.8.57 FWD_MD_CARBON_UNADJ

Medium-size class fine woody debris carbon density, unadjusted. The sum of carbon, in pounds per acre, of medium-size class FWD pieces tallied in one condition on a plot, before adjustment for partially nonsampled plots in the stratum. This attribute is based on the target transect length (FWD_MD_TL_UNADJ) and is used to calculate population totals and not used to derive estimates for one condition or individual plot. It must be adjusted by the factor ADJ_FACTOR_FWD_SM stored in the POP_STRATUM table and then expanded by the acres in POP_STRATUM.EXPNS before producing population estimates for carbon mass of medium-size class FWD.

5.8.58 FWD_MD_CARBON_ADJ

Medium-size class fine woody debris carbon density, adjusted. The sum of carbon, in pounds per acre, of medium-size class FWD pieces tallied in one condition on a plot, after adjustment for partially nonsampled plots in the stratum. This attribute is based on the adjusted target transect length (FWD_MD_TL_ADJ) and is used to calculate population totals and not used to derive estimates for one condition or individual plot. For ease of use, this attribute has been adjusted by the factor ADJ_FACTOR_FWD_SM stored in the POP_STRATUM table. To expand per acre values to population totals for carbon mass of medium-size class FWD, multiply by the acres in POP_STRATUM.EXPNS.

5.8.59 FWD_LG_TL_COND

Large-size class fine woody debris transect length in the condition. The sum of all transect lengths, in feet, in one condition on a plot. This total length is used to calculate per-acre estimates of volume, biomass, and carbon for large-size class FWD in the condition. Attribute columns that end with a '_COND' suffix use this length in the estimation equation.

5.8.60 FWD_LG_TL_UNADJ

Large-size class fine woody debris transect length, unadjusted. The sum of all transect lengths, in feet, in all conditions on a plot, as specified by the sampling design. FWD_LG_TL_UNADJ (target transect length) is the maximum length of transect line that would be installed for large-size class FWD on each subplot across all conditions (forest, nonforest, sampled, nonsampled) on the plot, before adjustment for partially nonsampled plots in the stratum. This attribute is used in equations to calculate the unadjusted per-acre attributes of large-size class FWD, which are columns that end with an '_UNADJ' suffix.

5.8.61 FWD_LG_TL_ADJ

Large-size class fine woody debris transect length, adjusted. The sum of all transect lengths, in feet, in all conditions on a plot, as specified by the sampling design. FWD_LG_TL_ADJ (adjusted target transect length) is the maximum length of transect line that could be installed for large-size class FWD on each subplot across all conditions (forest, nonforest, sampled, nonsampled) on the plot, after adjustment for partially nonsampled plots in the stratum. This attribute is used in equations to calculate the adjusted per-acre attributes of large-size class FWD, which are columns that end with an '_ADJ' suffix.

5.8.62 FWD_LG_CNT_COND

Large-size class fine woody debris pieces count in the condition. The total number of large-size class FWD pieces on all transects in one condition on a plot.

5.8.63 FWD_LG_VOLCF_COND

Large-size class fine woody debris cubic-foot volume per acre in the condition. The sum of volume, in cubic feet per acre, of large-size class FWD tallied in one condition on a plot, based on transects installed in that condition. This attribute is useful for analysis projects that involve modeling, mapping, or classifying individual conditions within a plot.

Note: Because this attribute describes one condition on a plot, it is not used to develop population estimates and is never adjusted. When multiple conditions exist on a plot and one estimate is needed for the plot location (e.g., for a GIS analysis), the plot estimate must be based on the sum of transect lengths from all sampled conditions of interest.

5.8.64 FWD_LG_VOLCF_UNADJ

Large-size class fine woody debris cubic-foot volume per acre, unadjusted. The sum of volume, in cubic feet per acre, of large-size class FWD pieces tallied in one condition on a plot, before adjustment for partially nonsampled plots in the stratum. This attribute is based on the target transect length (FWD_LG_TL_UNADJ) and is used to calculate population totals and not used to derive estimates for one condition or individual plot. It must be adjusted by the factor ADJ_FACTOR_FWD_LG stored in the POP_STRATUM table and then expanded by the acres in POP_STRATUM.EXPNS before producing population estimates for cubic volume of large-size class FWD.

5.8.65 FWD_LG_VOLCF_ADJ

Large-size class fine woody debris cubic-foot volume per acre, adjusted. The sum of volume, in cubic feet per acre, of large-size class FWD pieces tallied in one condition on a plot, after adjustment for partially nonsampled plots in the stratum. This attribute is based on the adjusted target transect length (FWD_LG_TL_ADJ) and is used to calculate population totals and not used to derive estimates for one condition or individual plot. For ease of use, this attribute has been adjusted by the factor ADJ_FACTOR_FWD_LG stored in the POP_STRATUM table. To expand per acre values to population totals for cubic volume of large-size class FWD, multiply by the acres in POP_STRATUM.EXPNS.

5.8.66 FWD_LG_DRYBIO_COND

Large-size class fine woody debris biomass per acre in the condition. The sum of biomass, in oven-dry pounds per acre, of large-size class FWD tallied in one condition on a plot, based on transects installed in that condition. This attribute is useful for analysis projects that involve modeling, mapping, or classifying individual conditions within a plot.

Note: Because this attribute describes one condition on a plot, it is not used to develop population estimates and is never adjusted. When multiple conditions exist on a plot and one estimate is needed for the plot location (e.g., for a GIS analysis), the plot estimate must be based on the sum of transect lengths from all sampled conditions of interest.

5.8.67 FWD_LG_DRYBIO_UNADJ

Large-size class fine woody debris biomass per acre, unadjusted. The sum of biomass, in oven-dry pounds per acre, of large-size class FWD pieces tallied in one condition on a plot, before adjustment for partially nonsampled plots in the stratum. This attribute is based on the target transect length (FWD_LG_TL_UNADJ) and is used to calculate population totals and not used to derive estimates for one condition or individual plot. It must be adjusted by the factor ADJ_FACTOR_FWD_LG stored in the POP_STRATUM table and then expanded by the acres in POP_STRATUM.EXPNS before producing population estimates for dry biomass of large-size class FWD.

5.8.68 FWD_LG_DRYBIO_ADJ

Large-size class fine woody debris biomass per acre, adjusted. The sum of biomass, in oven-dry pounds per acre, of large-size class FWD pieces tallied in one condition on a plot, after adjustment for partially nonsampled plots in the stratum. This attribute is based on the adjusted target transect length (FWD_LG_TL_ADJ) and is used to calculate population totals and not used to derive estimates for one condition or individual plot. For ease of use, this attribute has been adjusted by the factor ADJ_FACTOR_FWD_LG stored in the POP_STRATUM table. To expand per acre values to population totals for dry biomass of large-size class FWD, multiply by the acres in POP_STRATUM.EXPNS.

5.8.69 FWD_LG_CARBON_COND

Large-size class fine woody debris carbon density in the condition. The sum of carbon, in pounds per acre, of large-size class FWD tallied in one condition on a plot, based on transects installed in that condition. This attribute is useful for analysis projects that involve modeling, mapping, or classifying individual conditions within a plot.

Note: Because this attribute describes one condition on a plot, it is not used to develop population estimates and is never adjusted. When multiple conditions exist on a plot and one estimate is needed for the plot location (e.g., for a GIS analysis), the plot estimate must be based on the sum of transect lengths from all sampled conditions of interest.

5.8.70 FWD_LG_CARBON_UNADJ

Large-size class fine woody debris carbon density, unadjusted. The sum of carbon, in pounds per acre, of large-size class FWD pieces tallied in one condition on a plot, before adjustment for partially nonsampled plots in the stratum. This attribute is based on the target transect length (FWD_LG_TL_UNADJ) and is used to calculate population totals and not used to derive estimates for one condition or individual plot. It must be adjusted by the factor ADJ_FACTOR_FWD_LG stored in the POP_STRATUM table and then expanded by the acres in POP_STRATUM.EXPNS before producing population estimates for carbon mass of large-size class FWD.

5.8.71 FWD_LG_CARBON_ADJ

Large-size class fine woody debris carbon density, adjusted. The sum of carbon, in pounds per acre, of large-size class FWD pieces tallied in one condition on a plot, after adjustment for partially nonsampled plots in the stratum. This attribute is based on the adjusted target transect length (FWD_LG_TL_ADJ) and is used to calculate population totals and not used to derive estimates for one condition or individual plot. For ease of use, this attribute has been adjusted by the factor ADJ_FACTOR_FWD_LG stored in the POP_STRATUM table. To expand per acre values to population totals for carbon mass of large-size class FWD, multiply by the acres in POP_STRATUM.EXPNS.

5.8.72 PILE_SAMPLE_AREA_COND

Condition area sampled for piles. The area, in acres, of the condition where piles are sampled. The area of the condition on each subplot or macroplot is summed across the plot.

5.8.73 PILE_SAMPLE_AREA_UNADJ

Plot area sampled for piles in all conditions, unadjusted. The sum of the area, in acres, of all subplots or macroplots specified in the sampling design. If the macroplot was sampled (COND.PLOT_BASIS = MACR), this value would be 1 because each macroplot is 0.25 acre. If the subplot was sampled (COND.PLOT_BASIS = SUBP), this value would be about 0.166 because each subplot is 0.0415 acres.

5.8.74 PILE_SAMPLE_AREA_ADJ

Plot area sampled for piles in all conditions, adjusted. The sum of the area, in acres, of all subplots or macroplots specified in the sampling design, adjusted for partially nonsampled plots in the stratum. This column has been adjusted by either ADJ_FACTOR_MACR or ADJ_FACTOR_SUBP stored in the POP_STRATUM table.

5.8.75 PILE_VOLCF_COND

Cubic-foot volume per acre of piles in the condition. The sum of volume, in cubic feet per acre, of piles in the condition. This per-acre value is used when conducting a condition-level analysis on individual plots and is not used to produce population estimates.

5.8.76 PILE_VOLCF_UNADJ

Cubic-foot volume per acre of piles, unadjusted. The sum of volume, in cubic feet per acre, of piles tallied in one condition on the plot, and unadjusted for partially nonsampled plots in the stratum. This attribute must be adjusted by either ADJ_FACTOR_MACR or ADJ_FACTOR_SUBP stored in the POP_STRATUM table before producing population estimates for cubic volume of piles.

5.8.77 PILE_VOLCF_ADJ

Cubic-foot volume per acre of piles, adjusted. The sum of volume, in cubic feet per acre, of piles tallied in one condition on the plot, and adjusted for partially nonsampled plots in the stratum. This attribute has been adjusted by either ADJ_FACTOR_MACR or ADJ_FACTOR_SUBP stored in the POP_STRATUM table and can be used to produce population estimates for cubic volume of piles.

5.8.78 PILE_DRYBIO_COND

Biomass per acre of piles in the condition. The sum of biomass, in oven-dry pounds per acre, of piles tallied in one condition on the plot, weighted by the condition proportion. This per-acre value is used when conducting a condition-level analysis on individual plots and is not used to produce population estimates.

5.8.79 PILE_DRYBIO_UNADJ

Biomass per acre of piles, unadjusted. The sum of biomass, in oven-dry pounds per acre, of piles tallied in one condition on the plot, and unadjusted for partially nonsampled plots in the stratum. This attribute must be adjusted by either ADJ_FACTOR_MACR or ADJ_FACTOR_SUBP stored in the POP_STRATUM table before producing population estimates for dry biomass of piles.

5.8.80 PILE_DRYBIO_ADJ

Biomass per acre of piles, adjusted. The sum of biomass, in oven-dry pounds per acre, of piles tallied in one condition on the plot, and adjusted for partially nonsampled plots in the stratum. This attribute has been adjusted by either ADJ_FACTOR_MACR or ADJ_FACTOR_SUBP stored in the POP_STRATUM table and can be used to produce population estimates for dry biomass of piles.

5.8.81 PILE_CARBON_COND

Carbon density of piles in the condition. The sum of carbon, in pounds per acre, of piles tallied in one condition on the plot, weighted by the condition proportion. This per-acre value is used when conducting a condition-level analysis on individual plots and is not used to produce population estimates.

5.8.82 PILE_CARBON_UNADJ

Carbon density of piles, unadjusted. The sum of carbon, in pounds per acre, of piles tallied in one condition on the plot, and unadjusted for partially nonsampled plots in the stratum. This attribute must be adjusted by either ADJ_FACTOR_MACR or

ADJ_FACTOR_SUBP stored in the POP_STRATUM table before producing population estimates for carbon mass of piles.

5.8.83 PILE_CARBON_ADJ

Carbon density of piles, adjusted. The sum of carbon, in pounds per acre, of piles tallied in one condition on the plot, and adjusted for partially nonsampled plots in the stratum. This attribute has been adjusted by either ADJ_FACTOR_MACR or ADJ_FACTOR_SUBP stored in the POP_STRATUM table before producing population estimates for carbon mass of piles.

5.8.84 FUEL_DEPTH

Average fuelbed depth in the condition. The average depth, in feet, of the fuelbed in the condition on the plot. Fuelbed depth extends from the start of the litter layer to the highest piece of woody debris found at the sample point. The depth is measured at the 24-foot location of each transect on the subplot. All sample depths collected in one condition are averaged. The column is null if no sample points land in the condition.

5.8.85 FUELBIOMASS

Average fuelbed biomass per acre in the condition. The average biomass, in oven-dry pounds per acre, of the fuelbed in the condition on the plot.

5.8.86 FUEL_CARBON

Average fuelbed carbon density in the condition. The average carbon, in pounds per acre, of the fuelbed in the condition on the plot.

5.8.87 DUFF_DEPTH

Average duff depth in the condition. The average depth, in inches, of duff in the condition on the plot. Duff depth is measured at the 24-foot location of each transect on the subplot. All sample depths collected in one condition are averaged. The column is null if no sample points land in the condition.

5.8.88 DUFF_BIOMASS

Average duff biomass per acre in the condition. The average biomass, in oven-dry pounds per acre, of duff in the condition on the plot.

5.8.89 DUFF_CARBON

Average duff carbon density in the condition. The average carbon, in pounds per acre, of duff in the condition on the plot.

5.8.90 LITTER_DEPTH

Average litter depth in the condition. The average depth, in inches, of litter in the condition on the plot. Litter depth is measured at the 24-foot location of each transect on the subplot. All sample depths collected in one condition are averaged. The column is null if no sample points land in the condition.

5.8.91 LITTER_BIOMASS

Average litter biomass per acre in the condition. The average biomass, in oven-dry pounds per acre, of litter in the condition on the plot.

5.8.92 LITTER_CARBON

Average litter carbon density in the condition. The average carbon, in pounds per acre, of litter in the condition on the plot.

5.8.93 DUFF_TC_COND

Number of duff, litter, and fuelbed sampling points in the condition. The number of sampling points measured within one condition. This count is used to estimate an average for biomass or carbon of duff, litter, or fuelbed in one condition on the plot. Depth is measured at the 24-foot location on each transect.

5.8.94 DUFF_TC_UNADJ

Number of duff, litter, and fuelbed sampling points on the entire plot, unadjusted. The number of sampling points on the plot (including unmeasured), as specified by the sample design, before adjustment for partially nonsampled plots in the stratum. This count is used to estimate an average for biomass or carbon of duff, litter, or fuelbed on the plot. Depth is measured at the 24-foot location on each transect.

5.8.95 DUFF_TC_ADJ

Number of duff, litter, and fuelbed sampling points on the entire plot, adjusted. The number of sampling points on the plot (including unmeasured), as specified by the sample design, after adjustment for partially nonsampled plots in the stratum. This count is used to estimate an average for biomass or carbon of duff, litter, or fuelbed on the plot. Depth is measured at the 24-foot location on each transect.

5.8.96 AVG_WOOD_DENSITY

Average wood density. Average dry wood density, in pounds per cubic foot, computed by summing density of all live trees of known species weighted by cubic-foot volume. This value is only used to estimate biomass of FWD where species is not recorded.

5.8.97 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

5.8.98 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

5.8.99 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

5.8.100 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

5.8.101 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

5.8.102 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

5.8.103 CYCLE

Inventory cycle number. See SURVEY.CYCLE description for definition.

5.8.104 SUBCYCLE

Inventory subcycle number. See SURVEY.[SUBCYCLE](#) description for definition.

5.8.105 UNITCD

Survey unit code. Forest Inventory and Analysis survey unit identification number. Survey units are usually groups of counties within each State. For periodic inventories, survey units may be made up of lands of particular owners. Refer to [appendix B](#) for codes.

5.8.106 RSCD

Region or Station code. See SURVEY.[RSCD](#) description for definition.

5.8.107 PILE_TL_COND

Piles transect length in the condition. The sum of all transect lengths, in feet, in one condition on a plot. This total length is used to calculate per-acre estimates of volume, biomass, and carbon for piles in the condition. Piles attribute columns that end with a '_COND' suffix use this length in the estimation equation.

5.8.108 PILE_TL_UNADJ

Piles transect length, unadjusted. The sum of all transect lengths, in feet, in all conditions on a plot, as specified by the sampling design. PILE_TL_UNADJ (target transect length) is the maximum length of transect line that would be installed for piles on all subplots across all conditions (forest, nonforest, sampled, nonsampled) on the plot, before adjustment for partially nonsampled plots in the stratum. This attribute is used in equations to calculate the unadjusted per-acre attributes of piles, which are columns That end with an '_UNADJ' suffix.

5.8.109 PILE_TL_ADJ

Piles transect length, adjusted. The sum of all transect lengths, in feet, in all conditions on a plot, as specified by the sampling design. PILE_TL_ADJ (adjusted target transect length) is the maximum length of transect line that would be installed on all subplots across all conditions (forest, nonforest, sampled, nonsampled) on the plot, after adjustment for partially nonsampled plot in the stratum. This attribute is used in equations to calculate the adjusted per-acre attributes of piles, which are columns that end with an '_ADJ' suffix.

5.8.110 CONDPROP_PILE

Proportion of piles plot area or transect lengths in the condition. A proportion developed by summing the piles plot area or transect length in one condition and dividing that by the total unadjusted piles plot area or transect length on the plot (PLOT_TL_COND/PILE_TL_UNADJ).

Section revision: 01.2024

Chapter 6: Database Tables - Northern Research Station (NRS) Tree Regeneration Indicator

Chapter Contents:

Section	Database table	Oracle table name
6.1	Plot Regeneration Table	PLOT_REGEN
6.2	Subplot Regeneration Table	SUBPLOT_REGEN
6.3	Seedling Regeneration Table	SEEDLING_REGEN

In 2012, the Northern Research Station (SURVEY.RSCD = 23, 24) implemented a new protocol, Tree Seedling Regeneration, on a subset of the P2 grid (P2 plus) to estimate regeneration success (McWilliams and others 2012). The protocol includes counts of seedlings at least 2 inches in length and an assessment of browse impact on the plot. These data, in combination with the P2 Vegetation and Invasive Plants data, can be used to provide information about the expected future forest composition and the adequacy of the forest to sustain its native composition.

Definitions for database tables:

For further detail and examples, refer to the Overview (chapter 1).

Keys Presented with the Tables

Key type	Definition
Primary	A single column in a table whose values uniquely identify each row in an Oracle table.
Unique	Multiple columns in a table whose values uniquely identify each row in an Oracle table. There can be one and only one row for each unique key value.
Natural	A type of unique key made from existing attributes in the table. It is stored as an index in this database.
Foreign	A column in a table that is used as a link to a matching column in another Oracle table.

Oracle Data Types

Oracle data type	Definition
DATE	A data type that stores the date.
NUMBER	A data type that contains only numbers, positive or negative, with a floating-decimal point.
NUMBER(SIZE, D)	A data type that contains only numbers up to a specified maximum size. The maximum size (<i>and optional fixed-decimal point</i>) is specified by the value(s) listed in the parentheses.
VARCHAR2(SIZE)	A data type that contains alphanumeric data (numbers and/or characters) up to a specified maximum size.

6.1 Plot Regeneration Table

(Oracle table name: PLOT_REGEN)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
6.1.1	CN	Sequence number	VARCHAR2(34)
6.1.2	PLT_CN	Plot sequence number	VARCHAR2(34)
6.1.3	INVYR	Inventory year	NUMBER(4)
6.1.4	STATECD	State code	NUMBER(4)
6.1.5	UNITCD	Survey unit code	NUMBER(2)
6.1.6	COUNTYCD	County code	NUMBER(3)
6.1.7	PLOT	Plot number	NUMBER(5)
6.1.8	BROWSE_IMPACT	Browse impact	NUMBER(1)
6.1.9	CREATED_BY	Created by	VARCHAR2(30)
6.1.10	CREATED_DATE	Created date	DATE
6.1.11	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
6.1.12	MODIFIED_BY	Modified by	VARCHAR2(30)
6.1.13	MODIFIED_DATE	Modified date	DATE
6.1.14	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)
6.1.15	CYCLE	Inventory cycle number	NUMBER(2)
6.1.16	SUBCYCLE	Inventory subcycle number	NUMBER(2)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	PLTREGEN_PK
Unique	STATECD, COUNTYCD, PLOT, INVYR	N/A	PLTREGEN_UK1
Unique	STATECD, COUNTYCD, PLOT, CYCLE, SUBCYCLE	N/A	PLTREGEN_UK2
Foreign	PLT_CN	PLTREGEN to PLOT	PLTREGEN_PLT_FK

6.1.1 CN

Sequence number. A unique sequence number used to identify a plot regeneration record.

6.1.2 PLT_CN

Plot sequence number. Foreign key linking the plot regeneration record to the plot record for this location.

6.1.3 INVYR

Inventory year. See SURVEY.INVYR description for definition.

6.1.4 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

6.1.5 UNITCD

Survey unit code. Forest Inventory and Analysis survey unit identification number. Survey units are usually groups of counties within each State. For periodic inventories, survey units may be made up of lands of particular owners. Refer to [appendix B](#) for codes.

6.1.6 COUNTYCD

County code. The identification number for a county, parish, watershed, borough, or similar governmental unit in a State. FIPS codes from the Bureau of the Census are used. Refer to [appendix B](#) for codes.

Note: Summarizing data by county is not recommended for Alaska datasets. For assistance with analyses for Alaska, please consult the PNWRS analyst contact listed in [table 1-1](#).

6.1.7 PLOT

Plot number. An identifier for a plot. Along with STATECD, INVYR, UNITCD, COUNTYCD and/or some other combinations of variables, PLOT may be used to uniquely identify a plot.

6.1.8 BROWSE_IMPACT

Browse impact. A code designating the amount of animal browse pressure exerted on the regeneration of the accessible forest area within the four subplots. Pressure may be due to browse by deer, elk, feral hogs, livestock, moose, and other wildlife.

Codes: BROWSE_IMPACT

Code	Description
1	Very low - plot is inside a well-maintained exclosure.
2	Low - no browsing observed, vigorous seedling(s) present (no exclosure present).
3	Medium - browsing evidence observed but not common, seedlings common.
4	High - browsing evidence common OR seedlings are rare.
5	Very high - browsing evidence omnipresent OR forest floor bare, severe browse line.

6.1.9 CREATED_BY

Created by. See SURVEY.[CREATED_BY](#) description for definition.

6.1.10 CREATED_DATE

Created date. See SURVEY.[CREATED_DATE](#) description for definition.

6.1.11 CREATED_IN_INSTANCE

Created in instance. See SURVEY.[CREATED_IN_INSTANCE](#) description for definition.

6.1.12 MODIFIED_BY

Modified by. See SURVEY.[MODIFIED_BY](#) description for definition.

6.1.13 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

6.1.14 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

6.1.15 CYCLE

Inventory cycle number. See SURVEY.CYCLE description for definition.

6.1.16 SUBCYCLE

Inventory subcycle number. See SURVEY.SUBCYCLE description for definition.

6.2 Subplot Regeneration Table

(Oracle table name: SUBPLOT_REGEN)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
6.2.1	CN	Sequence number	VARCHAR2(34)
6.2.2	PLT_CN	Plot sequence number	VARCHAR2(34)
6.2.3	SBP_CN	Subplot sequence number	VARCHAR2(34)
6.2.4	INVYR	Inventory year	NUMBER(4)
6.2.5	STATECD	State code	NUMBER(4)
6.2.6	UNITCD	Survey unit code	NUMBER(2)
6.2.7	COUNTYCD	County code	NUMBER(3)
6.2.8	PLOT	Plot number	NUMBER(5)
6.2.9	SUBP	Subplot number	NUMBER(2)
6.2.10	REGEN_SUBP_STATUS_CD	Regeneration subplot status code	NUMBER(1)
6.2.11	REGEN_NONSAMPLE_REASON_CD	Regeneration nonsampled reason code	NUMBER(2)
6.2.12	SUBPLOT_SITE_LIMITATIONS	Subplot site limitations	NUMBER(1)
6.2.13	MICROPLOT_SITE_LIMITATIONS	Microplot site limitations	NUMBER(1)
6.2.14	CREATED_BY	Created by	VARCHAR2(30)
6.2.15	CREATED_DATE	Created date	DATE
6.2.16	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
6.2.17	MODIFIED_BY	Modified by	VARCHAR2(30)
6.2.18	MODIFIED_DATE	Modified date	DATE
6.2.19	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)
6.2.20	CYCLE	Inventory cycle number	NUMBER(2)
6.2.21	SUBCYCLE	Inventory subcycle number	NUMBER(2)
6.2.22	REGEN_MICR_STATUS_CD	Regeneration microplot status code	NUMBER (1)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	SBPREGEN_PK
Unique	STATECD, COUNTYCD, PLOT, SUBP, INVYR	N/A	SBPREGEN_UK
Foreign	PLT_CN	SUBPLOT_REGEN to PLOT	SBPREGEN_PLT_FK
Foreign	SBP_CN	SUBPLOT_REGEN to SUBPLOT	SBPREGEN_SBP_FK

6.2.1 CN

Sequence number. A unique sequence number used to identify a subplot regeneration record.

6.2.2 PLT_CN

Plot sequence number. Foreign key linking the subplot regeneration record to the plot record for this location.

6.2.3 SBP_CN

Subplot sequence number. Foreign key linking the subplot regeneration record to the subplot record for this location.

6.2.4 INVYR

Inventory year. See SURVEY.[INVYR](#) description for definition.

6.2.5 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

6.2.6 UNITCD

Survey unit code. Forest Inventory and Analysis survey unit identification number. Survey units are usually groups of counties within each State. For periodic inventories, survey units may be made up of lands of particular owners. Refer to [appendix B](#) for codes.

6.2.7 COUNTYCD

County code. The identification number for a county, parish, watershed, borough, or similar governmental unit in a State. FIPS codes from the Bureau of the Census are used. Refer to [appendix B](#) for codes.

Note: Summarizing data by county is not recommended for Alaska datasets. For assistance with analyses for Alaska, please consult the PNWRS analyst contact listed in [table 1-1](#).

6.2.8 PLOT

Plot number. An identifier for a plot. Along with STATECD, INVYR, UNITCD, COUNTYCD and/or some other combinations of variables, PLOT may be used to uniquely identify a plot.

6.2.9 SUBP

Subplot number. The number assigned to the subplot where subplot regeneration data were collected.

Codes: SUBP

Code	Description
1	Center subplot.
2	North subplot.
3	Southeast subplot.
4	Southwest subplot.

6.2.10 REGEN_SUBP_STATUS_CD

Regeneration subplot status code. A code indicating whether or not the subplot was sampled for advanced regeneration. This attribute was retired starting with INVYR = 2015. Data for all years are now populated in REGEN_MICR_STATUS_CD.

Note: For INVYR <2015, the field guide referenced the sampling unit as the subplot even though seedlings are and have only been counted on the microplots.

Codes: REGEN_SUBP_STATUS_CD

Code	Description
1	Subplot sampled for advanced regeneration.
2	Subplot not sampled for advanced regeneration.

6.2.11 REGEN_NONSAMPLE_REASN_CD

Regeneration nonsampled reason code. A code indicating the reason a microplot was not sampled for advanced regeneration.

Codes: REGEN_NONSAMPLE_REASN_CD

Code	Description
10	Other (e.g., snow or water covering vegetation).

6.2.12 SUBPLOT_SITE_LIMITATIONS

Subplot site limitations. A code indicating if the site has a limitation on at least 30 percent of the accessible forest area of the subplot that would inhibit or preclude the presence of regenerating seedlings. This attribute was retired starting with INVYR = 2015. Note: For INVYR <2015, the field guide referenced the sampling unit as the subplot even though seedlings are and have only been counted on the microplots.

Codes: SUBPLOT_SITE_LIMITATIONS

Code	Description
1	No site limitation.
2	Rocky surface with little or no soil.
3	Water-saturated soils (during the growing season).

6.2.13 MICROPLOT_SITE_LIMITATIONS

Microplot site limitations. A code indicating if the site has a limitation on at least 30 percent of the accessible forest area of the microplot that would inhibit or preclude the presence of regenerating seedlings.

Codes: MICROPLOT_SITE_LIMITATIONS

Code	Description
1	No site limitation.
2	Rocky surface with little or no soil.
3	Water-saturated soil (during the growing season).
4	Thick duff layer (in excess of 2 inches thick).

6.2.14 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

6.2.15 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

6.2.16 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

6.2.17 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

6.2.18 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

6.2.19 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

6.2.20 CYCLE

Inventory cycle number. See SURVEY.CYCLE description for definition.

6.2.21 SUBCYCLE

Inventory subcycle number. See SURVEY.SUBCYCLE description for definition.

6.2.22 REGEN_MICR_STATUS_CD

Regeneration microplot status code. A code indicating whether the microplot was sampled for advanced regeneration. Based on the procedures described in Bechtold and Patterson (2005), POP_STRATUM.ADJ_FACTOR_REGEN_MICR should be applied when making population estimates. This compensates for any nonsampled microplots or cases where the sampling status is ambiguous (codes 3 through 9).

Codes: REGEN_MICR_STATUS_CD

Code	Description
1	Advance regeneration sampled - accessible forest land condition present on the microplot.
2	Advance regeneration sampled - no accessible forest land condition present on the microplot.
3	Advance regeneration nonsampled - accessible forest land condition present on the microplot, but advance regeneration variables cannot be assessed (<i>core</i> SEEDLING.TREECOUNT is still measured).
4	Advance regeneration nonsampled - QA/QC did not measure subplot/microplot for tree/sapling/seedling data (PLOT.QA_STATUS = 2-5 only).
5	Nonsampled - subplot not sampled (SUBPLOT.SUBP_STATUS_CD = 3).
9	Advance regeneration sample status is ambiguous - collected under earlier, more general definition; refer to REGEN_SUBP_STATUS_CD.

6.3 Seedling Regeneration Table

(Oracle table name: SEEDLING_REGEN)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
6.3.1	CN	Sequence number	VARCHAR2(34)
6.3.2	PLT_CN	Plot sequence number	VARCHAR2(34)
6.3.3	CND_CN	Condition sequence number	VARCHAR2(34)
6.3.4	SCD_CN	Subplot condition sequence number	VARCHAR2(34)
6.3.5	INVYR	Inventory year	NUMBER(4)
6.3.6	STATECD	State code	NUMBER(4)
6.3.7	UNITCD	Survey unit code	NUMBER(2)
6.3.8	COUNTYCD	County code	NUMBER(3)
6.3.9	PLOT	Plot number	NUMBER(5)
6.3.10	SUBP	Subplot number	NUMBER(1)
6.3.11	CONDID	Condition class number	NUMBER(1)
6.3.12	SPCD	Species code	NUMBER
6.3.13	SPGRPCD	Species group code	NUMBER(2)
6.3.14	SEEDLING_SOURCE_CD	Seedling source code	VARCHAR2(2)
6.3.15	LENGTH_CLASS_CD	Length class code	NUMBER(1)
6.3.16	SEEDLINGCOUNT	Count of qualifying seedlings	NUMBER(3)
6.3.17	CREATED_BY	Created by	VARCHAR2(30)
6.3.18	CREATED_DATE	Created date	DATE
6.3.19	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
6.3.20	MODIFIED_BY	Modified by	VARCHAR2(30)
6.3.21	MODIFIED_DATE	Modified date	DATE
6.3.22	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)
6.3.23	CYCLE	Inventory cycle number	NUMBER(2)
6.3.24	SUBCYCLE	Inventory subcycle number	NUMBER(2)
6.3.25	TPA_UNADJ	Trees per acre unadjusted	NUMBER(11,6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	SDLREGEN_PK
Unique	STATECD, COUNTYCD, PLOT, SUBP, INVYR, SPCD, CONDID, SEEDLING_SOURCE_CD, LENGTH_CLASS_CD	N/A	SDLREGEN_UK
Foreign	CND_CN	SEEDLING_REGEN to COND	SDLREGEN_CND_FK
Foreign	PLT_CN	SEEDLING_REGEN to PLOT	SDLREGEN_PLT_FK
Foreign	SCD_CN	SEEDLING_REGEN to SUBP_COND	SDLREGEN_SCD_FK

6.3.1 CN

Sequence number. A unique sequence number used to identify a seedling regeneration record.

6.3.2 PLT_CN

Plot sequence number. Foreign key linking the seedling regeneration record to the plot record for this location.

6.3.3 CND_CN

Condition sequence number. Foreign key linking the seedling regeneration record to the condition record for this location.

6.3.4 SCD_CN

Subplot condition sequence number. Foreign key linking the seedling regeneration record to the subplot condition record for this location.

6.3.5 INVYR

Inventory year. See SURVEY.[INVYR](#) description for definition.

6.3.6 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

6.3.7 UNITCD

Survey unit code. Forest Inventory and Analysis survey unit identification number. Survey units are usually groups of counties within each State. For periodic inventories, survey units may be made up of lands of particular owners. Refer to [appendix B](#) for codes.

6.3.8 COUNTYCD

County code. The identification number for a county, parish, watershed, borough, or similar governmental unit in a State. FIPS codes from the Bureau of the Census are used. Refer to [appendix B](#) for codes.

Note: Summarizing data by county is not recommended for Alaska datasets. For assistance with analyses for Alaska, please consult the PNWRS analyst contact listed in [table 1-1](#).

6.3.9 PLOT

Plot number. An identifier for a plot. Along with STATECD, INVYR, UNITCD, COUNTYCD and/or some other combinations of variables, PLOT may be used to uniquely identify a plot.

6.3.10 SUBP

Subplot number. The number assigned to the subplot where seedling regeneration data were collected.

Codes: SUBP

Code	Description
1	Center subplot.
2	North subplot.
3	Southeast subplot.
4	Southwest subplot.

6.3.11 CONDID

Condition class number. The unique identifying number assigned to a condition on which the regeneration seedling is located, and is defined in the COND table. See COND.[CONDID](#) for details on the attributes which delineate a condition.

6.3.12 SPCD

Species code. An FIA tree species code. Refer to [appendix F](#) for codes.

6.3.13 SPGRPCD

Species group code. A code assigned to each tree species in order to group them for reporting purposes. Codes and their associated names (see REF_SPECIES_GROUP.[NAME](#)) are shown in [appendix E](#). Refer to [appendix F](#) for individual tree species and corresponding species group codes.

6.3.14 SEEDLING_SOURCE_CD

Seedling source code. A code indicating the source of the seedlings.

Codes: SEEDLING_SOURCE_CD

Code	Description
1	Other seedling.
2	Stump sprout.
3	Competitive oak, hickory, or butternut seedling (Note: Research indicates that competitive seedlings are highly likely to become dominant or codominant stems in the next stand during forest succession. To be classified as competitive, stems must have a root collar diameter [d.r.c.] >0.75 inches or have a length of at least 3 feet. In situations with relatively high tally, it should only be necessary to check at least 10% of d.r.c.'s.)

6.3.15 LENGTH_CLASS_CD

Length class code. A code indicating the length class of the seedlings.

Codes: LENGTH_CLASS_CD

Code	Description
1	2 inches to less than 6 inches.
2	6 inches to less than 12 inches.
3	1 foot to less than 3 feet.
4	3 feet to less than 5 feet.
5	5 feet to less than 10 feet.
6	Greater than or equal to 10 feet.

6.3.16 SEEDLINGCOUNT

Count of qualifying seedlings. A count of the number of established live tally tree seedlings counted on the microplot by subplot, species, condition class number, seedling source, and length class.

6.3.17 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

6.3.18 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

6.3.19 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

6.3.20 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

6.3.21 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

6.3.22 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

6.3.23 CYCLE

Inventory cycle number. See SURVEY.CYCLE description for definition.

6.3.24 SUBCYCLE

Inventory subcycle number. See SURVEY.SUBCYCLE description for definition.

6.3.25 TPA_UNADJ

Trees per acre unadjusted. The number of trees per acre that the sample seedling count theoretically represents for the whole plot. Sum TPA_UNADJ for all seedling regeneration table records by plot to derive the total number of seedlings per acre represented by plot. This attribute must be adjusted using POP_STRATUM.ADJ_FACTOR_REGEN_MICR to derive population estimates. Examples of estimating population totals are shown in [The Forest Inventory and Analysis Database: Population Estimation User Guide](#).

Section revision: 01.2024

Chapter 7: Database Tables - Ground Cover, Pacific Northwest Research Station (PNWRS)

Chapter Contents:

Section	Database table	Oracle table name
7.1	Ground Cover Table	GRND_CVR
7.2	Ground Layer Functional Groups Table	GRND_LYR_FNCTL_GRP
7.3	Ground Layer Microquadrat Table	GRND_LYR_MICROQUAD

Definitions for database tables:

For further detail and examples, refer to the Overview (chapter 1).

Keys Presented with the Tables

Key type	Definition
Primary	A single column in a table whose values uniquely identify each row in an Oracle table.
Unique	Multiple columns in a table whose values uniquely identify each row in an Oracle table. There can be one and only one row for each unique key value.
Natural	A type of unique key made from existing attributes in the table. It is stored as an index in this database.
Foreign	A column in a table that is used as a link to a matching column in another Oracle table.

Oracle Data Types

Oracle data type	Definition
DATE	A data type that stores the date.
NUMBER	A data type that contains only numbers, positive or negative, with a floating-decimal point.
NUMBER(SIZE, D)	A data type that contains only numbers up to a specified maximum size. The maximum size (<i>and optional fixed-decimal point</i>) is specified by the value(s) listed in the parentheses.
VARCHAR2(SIZE)	A data type that contains alphanumeric data (numbers and/or characters) up to a specified maximum size.

7.1 Ground Cover Table

(Oracle table name: GRND_CVR)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
7.1.1	CN	Sequence number	VARCHAR2(34)
7.1.2	PLT_CN	Plot sequence number	VARCHAR2(34)
7.1.3	INVYR	Inventory year	NUMBER(4)
7.1.4	STATECD	State code	NUMBER(4)
7.1.5	UNITCD	Survey unit code	NUMBER(2)
7.1.6	COUNTYCD	County code	NUMBER(3)
7.1.7	PLOT	Plot number	NUMBER(5)
7.1.8	SUBP	Subplot number	NUMBER
7.1.9	TRANSECT	Transect	NUMBER(3)
7.1.10	CVR_PCT	Cover percent	NUMBER(3)
7.1.11	GRND_CVR_SEG	Ground cover segment number	NUMBER(1)
7.1.12	GRND_CVR_TYP	Ground cover type	VARCHAR2(4)
7.1.13	CYCLE	Inventory cycle number	NUMBER(2)
7.1.14	SUBCYCLE	Inventory subcycle number	NUMBER(2)
7.1.15	CREATED_BY	Created by	VARCHAR2(30)
7.1.16	CREATED_DATE	Created date	DATE
7.1.17	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
7.1.18	MODIFIED_BY	Modified by	VARCHAR2(30)
7.1.19	MODIFIED_DATE	Modified date	DATE
7.1.20	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	GRND_CVR_PK
Unique	PLT_CN, SUBP, TRANSECT, GRND_CVR_SEG, GRND_CVR_TYP	N/A	GRND_CVR_UK
Foreign	PLT_CN	GRND_CVR to PLOT	GRND_CVR_PLT_FK

This table contains ground cover measurement data for National Forest System (NFS) ownership protocols. Currently, this table is populated only by the PNWRS FIA work unit (SURVEY.RSCD = 26). Ground surface cover data for the RMRS FIA work unit (SURVEY.RSCD = 22) is stored in the SUBPLOT table.

7.1.1 CN

Sequence number. A unique sequence number used to identify a ground cover record.

7.1.2 PLT_CN

Plot sequence number. Foreign key linking the ground cover record to the plot record.

7.1.3 INVYR

Inventory year. See SURVEY.INVYR description for definition.

7.1.4 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

7.1.5 UNITCD

Survey unit code. Forest Inventory and Analysis survey unit identification number. Survey units are usually groups of counties within each State. For periodic inventories, survey units may be made up of lands of particular owners. Refer to [appendix B](#) for codes.

7.1.6 COUNTYCD

County code. The identification number for a county, parish, watershed, borough, or similar governmental unit in a State. FIPS codes from the Bureau of the Census are used. Refer to [appendix B](#) for codes.

Note: Summarizing data by county is not recommended for Alaska datasets. For assistance with analyses for Alaska, please consult the PNWRS analyst contact listed in [table 1-1](#).

7.1.7 PLOT

Plot number. An identifier for a plot. Along with STATECD, INVYR, UNITCD, COUNTYCD and/or some other combinations of variables, PLOT may be used to uniquely identify a plot.

7.1.8 SUBP

Subplot number. The number assigned to the subplot. The national plot design (PLOT.DESIGNCD = 1) has subplot number values of 1 through 4. Other plot designs have various subplot number values. See PLOT.DESIGNCD and [appendix G](#) for information about plot designs. For more explanation about SUBP, contact the appropriate FIA work unit ([table 1-1](#)).

7.1.9 TRANSECT

Transect. A code indicating the transect on which ground cover was measured. Each code represents the azimuth of the transect line, extending out from subplot center.

Codes: TRANSECT (INVYR ≤2012)

Code	Description
30	Transect extends 30 degrees from subplot center.
150	Transect extends 150 degrees from subplot center.
270	Transect extends 270 degrees from subplot center.

Codes: TRANSECT (INVYR ≥2013)

Subplot	Code	Description
1	90	Transect extends 90 degrees from subplot center.
1	270	Transect extends 270 degrees from subplot center.
2	360	Transect extends 360 degrees from subplot center.
2	180	Transect extends 180 degrees from subplot center.
3	135	Transect extends 135 degrees from subplot center.
3	315	Transect extends 315 degrees from subplot center.
4	45	Transect extends 45 degrees from subplot center.
4	225	Transect extends 225 degrees from subplot center.

7.1.10 CVR_PCT

Cover percent. The percentage of cover to the nearest 1 percent, for a ground cover type found on each transect segment. If multiple ground cover types (e.g., [BARE](#), [LITT](#), [ROCK](#)) are present on a segment, a separate record is populated for each category. Individual categories add up to 100 percent for each 10-foot segment along the transect.

7.1.11 GRND_CVR_SEG

Ground cover segment number. A code indicating a 10-foot segment on the ground cover transect. A segment is a continuous length of line within one condition, and is based on slope distance from point center.

Codes: GRND_CVR_SEG

Code	Description
1	Segment for 4.0-14.0 feet (slope distance).
2	Segment for 14.0-24.0 feet (slope distance).

7.1.12 GRND_CVR_TYP

Ground cover type. A code indicating the ground cover type found on each transect segment. If multiple ground cover types (e.g., [BARE](#), [LITT](#), [ROCK](#)) are present on a segment, a separate record is populated for each category. Individual categories add up to 100 percent for each 10-foot segment along the transect.

Ground cover items must be in contact with the ground (e.g., a log suspended 1-foot above the ground over the transect does not count as ground cover). If items overlay each other (e.g., [MOSS](#) over [ROCK](#), [LITT](#) over [WOOD](#)), the item viewed from above is measured.

Ground cover type is only recorded for condition classes on R5 or R6 Forest Service administered lands (COND.ADFORCD = 501-699); the category '[NONS](#)' is recorded for portions of the transect not on R5 or R6 Forest Service administered land.

Codes: GRND_CVR_TYP

Code	Description
ASH	Residue after wood and other combustible material has been burned off. Does not include ash from aerial volcanic expulsions.
BARE	Exposed Soil: Bare soil, composed of particles less than 1/8 inch in diameter, which is not covered by rock, cryptogams, or organic material. Does not include any part of a road (see definition for road).
BAVE	The basal area cover, at ground surface, of any plants occupying the ground surface area (this category only includes area where plant stems come out of the ground). Includes any trees, shrubs, basal grasses, and forbs (live, or senesced from the current year). Senesced = live during the current year's growing season, but now dead.
CRYP	Thin, biotically dominated ground or surface crusts on soil in dry rangeland conditions; e.g., cryptogamic crust (algae, lichen, mosses or cyanobacteria).
DEVP	Surface area occupied or covered by any man-made structure other than a road, such as a building, dam, parking lot, electronic site/structure.
LICH	An organism generally recognized as a single plant consisting of a fungus and an alga or cyanobacterium living in a symbiotic association. This code does not apply to lichen growing on bare soil in dry rangeland conditions. For rangeland conditions see cryptogamic crusts.
LITT	Leaf and needle litter, and duff not yet incorporated into the decomposed top humus layer (includes animal droppings).
MOSS	Nonvascular, terrestrial green plant, including mosses, hornworts, and liverworts. Always herbaceous. This code does not apply to moss growing on bare soil in dry rangeland conditions. For rangeland conditions see cryptogamic crusts.
NOIN	Non-inventoried condition classes on R5 or R6 Forest Service administered land: Census water, noncensus water, or nonsampled (hazardous, access denied, outside U.S. boundary).
NONS	Nonsampled: Condition class is not on R5 or R6 Forest Service administered land.
PEIS	Surface area covered by ice and snow at the time of plot measurement, considered permanent.
ROAD	Includes improved roads used to assign condition class, which are generally constructed using machinery, and is the area where the original topography has been disturbed by cutbanks and fill. Also includes unimproved trails impacted by regular use of motorized machines (e.g., motorcycles, jeeps, and off road vehicles). Non-motorized trails and unimproved traces, and roads created by occasional use for skidding logs are not included.
ROCK	Relatively hard, naturally formed mineral or petrified matter greater than 1/8 inch in diameter appearing on the soil surface, as small to large fragments, or as relatively large bodies, cliffs, outcrops or peaks. Includes bedrock. Does not include tephra or pyroclastic material (see definition for TEPH).
TEPH	All material formed by volcanic explosion or aerial expulsion from a volcanic vent, such as tephra, or pyroclastic material.
TRIS	Surface area covered by ice and snow at the time of plot measurement, considered transient.
WATE	Water is coded where the water table is above the ground surface during the growing season, such as streams, bogs, swamps, marshes, and ponds.
WOOD	Woody Material, Slash & Debris: Any woody material, small and large woody debris, regardless of depth. Includes stumps. Litter is not included.

7.1.13 CYCLE

Inventory cycle number. See SURVEY.[CYCLE](#) description for definition.

7.1.14 SUBCYCLE

Inventory subcycle number. See SURVEY.[SUBCYCLE](#) description for definition.

7.1.15 CREATED_BY

Created by. See SURVEY.[CREATED_BY](#) description for definition.

7.1.16 CREATED_DATE

Created date. See SURVEY.[CREATED_DATE](#) description for definition.

7.1.17 CREATED_IN_INSTANCE

Created in instance. See SURVEY.[CREATED_IN_INSTANCE](#) description for definition.

7.1.18 MODIFIED_BY

Modified by. See SURVEY.[MODIFIED_BY](#) description for definition.

7.1.19 MODIFIED_DATE

Modified date. See SURVEY.[MODIFIED_DATE](#) description for definition.

7.1.20 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.[MODIFIED_IN_INSTANCE](#) description for definition.

7.2 Ground Layer Functional Groups Table

(Oracle table name: GRND_LYR_FNCTL_GRP)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
7.2.1	CN	Sequence number	VARCHAR2(34)
7.2.2	STATECD	State code	NUMBER(2)
7.2.3	COUNTYCD	County code	NUMBER(3)
7.2.4	PLOT	Plot number	NUMBER(5)
7.2.5	PLT_CN	Plot sequence number	VARCHAR2(34)
7.2.6	INVYR	Inventory year	NUMBER(4)
7.2.7	INV_VST_NBR	Inventory visit number	NUMBER(2)
7.2.8	CYCLE	Inventory cycle number	NUMBER(2)
7.2.9	SUBCYCLE	Inventory subcycle number	NUMBER(2)
7.2.10	UNITCD	Survey unit code	NUMBER(2)
7.2.11	SUBP	Subplot number	NUMBER(1)
7.2.12	TRANSECT	Transect (Interior Alaska)	NUMBER(3)
7.2.13	MICROQUAD	Microquadrat number (Interior Alaska)	NUMBER(2)
7.2.14	FUNCTIONAL_GROUP_CD	Functional group code (Interior Alaska)	VARCHAR2(5)
7.2.15	FUNCTIONAL_GROUP_UNCERTAIN	Functional group uncertain (Interior Alaska)	VARCHAR2(1)
7.2.16	COVER_CLASS_CD	Cover class code (Interior Alaska)	VARCHAR2(2)
7.2.17	DEPTH_CLASS_CD	Depth class code (Interior Alaska)	VARCHAR2(2)
7.2.18	MODIFIED_BY	Modified by	VARCHAR2(30)
7.2.19	MODIFIED_DATE	Modified date	Date
7.2.20	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)
7.2.21	CREATED_BY	Created by	VARCHAR2(30)
7.2.22	CREATED_DATE	Created date	Date
7.2.23	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
7.2.24	GRND_LYR_CONFIG	Ground layer configuration name	VARCHAR2(20)
7.2.25	MQUADPAC_UNADJ	Microquadrat area expansion to acre, unadjusted	NUMBER
7.2.26	BULKDENS	Functional group bulk density	NUMBER
7.2.27	DRYBIOT	Functional group biomass	NUMBER
7.2.28	CARBON	Functional group carbon	NUMBER
7.2.29	NITROGEN	Functional group nitrogen	NUMBER

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	FGLFGP_PK
Unique	PLT_CN, SUBP, TRANSECT, MICROQUAD, FUNCTIONAL_GROUP_CD	N/A	FGLFGP_UK
Unique	STATECD, COUNTYCD, PLOT, INVYR, INV_VST_NBR, SUBP, TRANSECT, MICROQUAD, FUNCTIONAL_GROUP_CD	N/A	FGLFGP_UK2
Unique	STATECD, CYCLE, SUBCYCLE, COUNTYCD, PLOT, SUBP, TRANSECT, MICROQUAD, FUNCTIONAL_GROUP_CD, INV_VST_NBR	N/A	FGLFGP_UK3
Foreign	PLT_CN	GRND_LYR_FUNCTL_GRP to PLOT	FGLFGP_PLT_FK

Currently, this table is populated only by the PNWRS FIA work unit (SURVEY. RSCD = 27).

7.2.1 CN

Sequence number. A unique sequence number used to identify a ground layer functional groups record.

7.2.2 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

7.2.3 COUNTYCD

County code. The identification number for a county, parish, watershed, borough, or similar governmental unit in a State. FIPS codes from the Bureau of the Census are used. Refer to [appendix B](#) for codes.

Note: Summarizing data by county is not recommended for Alaska datasets. For assistance with analyses for Alaska, please consult the PNWRS analyst contact listed in [table 1-1](#).

7.2.4 PLOT

Plot number. An identifier for a plot. Along with STATECD, INVYR, UNITCD, COUNTYCD and/or some other combinations of variables, PLOT may be used to uniquely identify a plot.

7.2.5 PLT_CN

Plot sequence number. Foreign key linking the ground layer functional groups record to the plot record.

7.2.6 INVYR

Inventory year. See SURVEY.[INVYR](#) description for definition.

7.2.7 INV_VST_NBR

Inventory visit number. Visit number within a cycle. A plot is usually visited once per cycle, but may be visited again for quality assurance visits or other measurements.

7.2.8 CYCLE

Inventory cycle number. See SURVEY.[CYCLE](#) description for definition.

7.2.9 SUBCYCLE

Inventory subcycle number. See SURVEY.[SUBCYCLE](#) description for definition.

7.2.10 UNITCD

Survey unit code. Forest Inventory and Analysis survey unit identification number. Survey units are usually groups of counties within each State. For periodic inventories, survey units may be made up of lands of particular owners. Refer to [appendix B](#) for codes.

7.2.11 SUBP

Subplot number. The number assigned to the subplot. The national plot design (PLOT.DESIGNCD = 1) has subplot number values of 1 through 4.

Codes: SUBP

Code	Description
1	Center subplot.
2	North subplot.
3	Southeast subplot.
4	Southwest subplot.

7.2.12 TRANSECT

Transect (Interior Alaska). The transect azimuth, in degrees, to identify which transect is being sampled. Azimuth indicates direction from subplot center.

Codes: TRANSECT (Interior Alaska)

Code	Subplot
90	1
270	1
360	2
180	2
135	3
315	3
45	4
225	4

7.2.13 MICROQUAD

Microquadrat number (Interior Alaska). A code indicating the number of the microquadrat. This code identifies the placement of the microquadrat, in feet (horizontal distance), on the transect.

Codes: MICROQUAD

Code	Description
5	Microquadrat located at the 5-foot mark on the transect.
10	Microquadrat located at the 10-foot mark on the transect.
15	Microquadrat located at the 15-foot mark on the transect.
20	Microquadrat located at the 20-foot mark on the transect.

7.2.14 FUNCTIONAL_GROUP_CD

Functional group code (Interior Alaska). A code indicating the functional group observed on the microquadrat.

Codes: FUNCTIONAL_GROUP_CD

Code	Description
MS	<i>Sphagnum</i> peat-moss.
MN	N-fixing feather mosses: <i>Pleurozium</i> , <i>Hylocomium</i> .
MF	Other feather (pleurocarp) mosses: <i>Thuidium</i> , <i>Kindbergia</i> .
MT	Turf (acrocarp) mosses: <i>Bryum</i> , <i>Mnium</i> , <i>Polytrichum</i> .
VF	Flat (thalloid) liverworts: <i>Marchantia</i> , <i>Conocephalum</i> .
VS	Stem-and-leaf liverworts: <i>Anthelia</i> , <i>Cephaloziella</i> , <i>Marsupella</i> .
LF	Forage lichens: branched- <i>Cladonia</i> , <i>Alectoria</i> , <i>Bryocaulon</i> .
LN	N-fixing foliose lichens: <i>Peltigera</i> , <i>Nephroma</i> , <i>Solorina</i> , <i>Sticta</i> .
LU	N-fixing fruticose lichens: <i>Stereocaulon</i> .
LL	Other foliose Lichens: <i>Parmelia</i> , <i>Physcia</i> .
LR	Other fruticose lichens: unbranched- <i>Cladonia</i> , <i>Hypogymnia</i> .
CO	Orange lichens: <i>Xanthoria</i> , <i>Candelaria</i> .
CC	Biotic soil crust: <i>Psora</i> , <i>Placidium</i> , cyanobacteria.

7.2.15 FUNCTIONAL_GROUP_UNCERTAIN

Functional group uncertain (Interior Alaska). A code indicating the reliability of the functional group identification (see FUNCTIONAL_GROUP_CD). This attribute was collected for the 2014 Interior Alaska Pilot.

Codes: FUNCTIONAL_GROUP_UNCERTAIN

Code	Description
Y	Yes - The field crew was certain in the functional group identification.
N	No - The field crew was uncertain in the functional group identification.

7.2.16 COVER_CLASS_CD

Cover class code (Interior Alaska). A code indicating the cover class for the vertically projected percent cover over the entire microquadrat, combining together all species included in the functional group.

Codes: COVER_CLASS_CD

Code	Percent cover	Description
0	Absent	None.
T	>0 to 0.1%	Trace.
1	>0.1 to 1%	Two postage stamps.
2	>1 to 2%	Half a standard business card.
5	>2 to 5%	One business card.
10	>5 to 10%	One U.S. dollar bill.
25	>10 to 25%	-
50	>25 to 50%	-
75	>50 to 75%	-
95	>75 to 95%	-
99	>95%	Virtually complete cover.

7.2.17 DEPTH_CLASS_CD

Depth class code (Interior Alaska). A code indicating the depth class for the functional group on the microquadrat. This attribute is recorded up to a maximum depth of 16 inches.

Codes: COVER_CLASS_CD

Code	Description
0	Absent.
T	0 to 1/8 inch (trace, often used for thin biotic soil crusts.)
Q	>1/8 to 1/4 inch.
H	>1/4 to 1/2 inch.
1	>1/2 to 1 inch.
2	>1 to 2 inches.
4	>2 to 4 inches
8	>4 to 8 inches.
16	>8 to 16 inches.

7.2.18 MODIFIED_BY

Modified by. See SURVEY.[MODIFIED_BY](#) description for definition.

7.2.19 MODIFIED_DATE

Modified date. See SURVEY.[MODIFIED_DATE](#) description for definition.

7.2.20 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.[MODIFIED_IN_INSTANCE](#) description for definition.

7.2.21 CREATED_BY

Created by. See SURVEY.[CREATED_BY](#) description for definition.

7.2.22 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

7.2.23 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

7.2.24 GRND_LYR_CONFIG

Ground layer configuration name. A descriptor identifying the ground layer configuration.

Codes: GRND_LYR_CONFIG

Code	Description
INTAK	Interior Alaska.

7.2.25 MQUADPAC_UNADJ

Microquadrat area expansion to acre, unadjusted. Used for the expansion of the microquadrat area to an acre, based on 32 microquadrats per plot. The value 1264.642632 is used for PLOT.DESIGNCD = 506.

7.2.26 BULKDENS

Functional group bulk density. The calculated bulk density of the functional group.

7.2.27 DRYBIOT

Functional group biomass. The calculated biomass of the functional group on the microquadrat, in pounds per acre.

7.2.28 CARBON

Functional group carbon. The calculated carbon of the functional group on the microquadrat, in pounds per acre.

7.2.29 NITROGEN

Functional group nitrogen. The calculated nitrogen of the functional group on the microquadrat, in pounds per acre.

7.3 Ground Layer Microquadrat Table

(Oracle table name: GRND_LYR_MICROQUAD)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
7.3.1	CN	Sequence number	VARCHAR2(34)
7.3.2	PLT_CN	Plot sequence number	VARCHAR2(34)
7.3.3	STATECD	State code	NUMBER(2)
7.3.4	CYCLE	Inventory cycle number	NUMBER(2)
7.3.5	SUBCYCLE	Inventory subcycle number	NUMBER(2)
7.3.6	INVYR	Inventory year	NUMBER(4)
7.3.7	INV_VST_NBR	Inventory visit number	NUMBER(2)
7.3.8	UNITCD	Survey unit code	NUMBER(2)
7.3.9	COUNTYCD	County code	NUMBER(3)
7.3.10	PLOT	Plot number	NUMBER(5)
7.3.11	SUBP	Subplot number	NUMBER(1)
7.3.12	TRANSECT	Transect (Interior Alaska)	NUMBER(3)
7.3.13	MICROQUAD	Microquadrat number (Interior Alaska)	NUMBER(2)
7.3.14	CONDID	Condition class number	NUMBER(1)
7.3.15	MICROQUAD_STATUS_CD	Microquadrat status code (Interior Alaska)	NUMBER(1)
7.3.16	SNOW_COVER_PCT	Percent snow cover (Interior Alaska)	NUMBER(3)
7.3.17	TRAMPLING	Trampling code (Interior Alaska)	NUMBER(1)
7.3.18	MODIFIED_BY	Modified by	VARCHAR2(30)
7.3.19	MODIFIED_DATE	Modified date	Date
7.3.20	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)
7.3.21	CREATED_BY	Created by	VARCHAR2(30)
7.3.22	CREATED_DATE	Created date	Date
7.3.23	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	FGLMP_PK
Unique	PLT_CN, SUBP, TRANSECT, MICROQUAD	N/A	FGLMP_UK
Unique	STATECD, COUNTYCD, PLOT, INVYR, INV_VST_NBR, SUBP, TRANSECT, MICROQUAD	N/A	FGLMP_UK2
Unique	STATECD, CYCLE, SUBCYCLE, COUNTYCD, PLOT, SUBP, TRANSECT, MICROQUAD, INV_VST_NBR	N/A	FGLMP_UK3
Foreign	PLT_CN	GRND_LYR_MICROQUAD to PLOT	FGLMP_PLT_FK

Currently, this table is populated only by the PNWRS FIA work unit (SURVEY.RSCD = 27).

7.3.1 CN

Sequence number. A unique sequence number used to identify a ground layer microquadrat record.

7.3.2 PLT_CN

Plot sequence number. Foreign key linking the ground layer microquadrat record to the plot record.

7.3.3 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

7.3.4 CYCLE

Inventory cycle number. See SURVEY.CYCLE description for definition.

7.3.5 SUBCYCLE

Inventory subcycle number. See SURVEY.SUBCYCLE description for definition.

7.3.6 INVYR

Inventory year. See SURVEY.INVYR description for definition.

7.3.7 INV_VST_NBR

Inventory visit number. Visit number within a cycle. A plot is usually visited once per cycle, but may be visited again for quality assurance visits or other measurements.

7.3.8 UNITCD

Survey unit code. Forest Inventory and Analysis survey unit identification number. Survey units are usually groups of counties within each State. For periodic inventories, survey units may be made up of lands of particular owners. Refer to [appendix B](#) for codes.

7.3.9 COUNTYCD

County code. The identification number for a county, parish, watershed, borough, or similar governmental unit in a State. FIPS codes from the Bureau of the Census are used. Refer to [appendix B](#) for codes.

Note: Summarizing data by county is not recommended for Alaska datasets. For assistance with analyses for Alaska, please consult the PNWRS analyst contact listed in [table 1-1](#).

7.3.10 PLOT

Plot number. An identifier for a plot. Along with STATECD, INVYR, UNITCD, COUNTYCD and/or some other combinations of variables, PLOT may be used to uniquely identify a plot.

7.3.11 SUBP

Subplot number. The number assigned to the subplot. The national plot design (PLOT.DESIGNCD = 1) has subplot number values of 1 through 4.

Codes: SUBP

Code	Description
1	Center subplot.
2	North subplot.
3	Southeast subplot.
4	Southwest subplot.

7.3.12 TRANSECT

Transect (Interior Alaska). The transect azimuth, in degrees, to identify which transect is being sampled. Azimuth indicates direction from subplot center.

Codes: TRANSECT

Code	Subplot
90	1
270	1
360	2
180	2
135	3
315	3
45	4
225	4

7.3.13 MICROQUAD

Microquadrat number (Interior Alaska). A code indicating the number of the microquadrat. This code identifies the placement of the microquadrat, in feet (horizontal distance), on the transect.

Codes: MICROQUAD

Code	Description
5	Microquadrat located at the 5-foot mark on the transect.
10	Microquadrat located at the 10-foot mark on the transect.
15	Microquadrat located at the 15-foot mark on the transect.
20	Microquadrat located at the 20-foot mark on the transect.

7.3.14 CONDID

Condition class number. Unique identifying number assigned to each condition on a plot. A condition is initially defined by condition class status. Differences in reserved status, owner group, forest type, stand-size class, regeneration status, and stand density further define condition for forest land. Mapped nonforest conditions are also assigned numbers. At the time of the plot establishment, the condition class at plot center (the center of subplot 1) is usually designated as condition class 1. Other condition classes are assigned numbers sequentially at the time each condition class is delineated. On a plot, each sampled condition class must have a unique number that can change at remeasurement to reflect new conditions on the plot.

7.3.15 MICROQUAD_STATUS_CD

Microquadrat status code. A code indicating how the microquadrat was sampled.

Codes: MICROQUAD_STATUS_CD

Code	Description
1	Microquad sampled ($\geq 50\%$ of the microquad is in an accessible forest condition), lichens or moss were found.
2	Microquad sampled ($\geq 50\%$ of the microquad is in an accessible nonforest vegetated or noncensus water condition), lichens or moss were found.
3	Microquad sampled ($\geq 50\%$ of the microquad is in an accessible forest condition), lichens and moss were not found or were 100% snow covered.
4	Microquad sampled ($\geq 50\%$ of the microquad is in an accessible nonforest vegetated or noncensus water condition), lichens and moss were not found or were 100% snow covered.
5	Microquad not sampled, access denied.
6	Microquad not sampled, hazardous.
7	Microquad not sampled, census water.
8	Microquad not sampled, other reason - enter in microquad notes.

7.3.16 SNOW_COVER_PCT

Percent snow cover (Interior Alaska). The percent of the microquadrat area covered in snow.

7.3.17 TRAMPLING

Trampling code (Interior Alaska). A code indicating the level of damage to plants or disturbance of the ground layer by humans, livestock, or wildlife. This code is assigned to the microquadrat at the start of the ground layer measurements.

Codes: TRAMPLING

Code	Description
1	Low: 0-10% of microquad trampled; pristine to relatively undisturbed.
2	Moderate: 10-50% of microquad trampled; trampling by animals or field crew.
3	Heavy: >50% of microquad trampled; hiking trail or heavily grazed.

7.3.18 MODIFIED_BY

Modified by. See SURVEY.[MODIFIED_BY](#) description for definition.

7.3.19 MODIFIED_DATE

Modified date. See SURVEY.[MODIFIED_DATE](#) description for definition.

7.3.20 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.[MODIFIED_IN_INSTANCE](#) description for definition.

7.3.21 CREATED_BY

Created by. See SURVEY.[CREATED_BY](#) description for definition.

7.3.22 CREATED_DATE

Created date. See SURVEY.[CREATED_DATE](#) description for definition.

7.3.23 CREATED_IN_INSTANCE

Created in instance. See SURVEY.[CREATED_IN_INSTANCE](#) description for definition.

Section revision: 04.2024

Chapter 8: Database Tables - Soils, Pacific Northwest Research Station (PNWRS)

Chapter Contents:

Section	Database table	Oracle table name
8.1	Subplot Soil Sample Location Table	SUBP_SOIL_SAMPLE_LOC
8.2	Subplot Soil Sample Layer Table	SUBP_SOIL_SAMPLE_LAYER

The soils tables in this chapter are currently only populated by the PNWRS FIA work unit (SURVEY.rscd = 26, 27).

Refer to the "The Forest Inventory and Analysis Database: Database Description and User Guide for Phase 3 (version 6.0.1)" for documentation pertaining to other soils tables populated by FIA (available at web address:
<https://www.fs.usda.gov/research/products/dataandtools/tools/fia-datamart>).

Definitions for database tables:

For further detail and examples, refer to the Overview (chapter 1).

Keys Presented with the Tables

Key type	Definition
Primary	A single column in a table whose values uniquely identify each row in an Oracle table.
Unique	Multiple columns in a table whose values uniquely identify each row in an Oracle table. There can be one and only one row for each unique key value.
Natural	A type of unique key made from existing attributes in the table. It is stored as an index in this database.
Foreign	A column in a table that is used as a link to a matching column in another Oracle table.

Oracle Data Types

Oracle data type	Definition
DATE	A data type that stores the date.
NUMBER	A data type that contains only numbers, positive or negative, with a floating-decimal point.
NUMBER(SIZE, D)	A data type that contains only numbers up to a specified maximum size. The maximum size (<i>and optional fixed-decimal point</i>) is specified by the value(s) listed in the parentheses.
VARCHAR2(SIZE)	A data type that contains alphanumeric data (numbers and/or characters) up to a specified maximum size.

8.1 Subplot Soil Sample Location Table

(Oracle table name: SUBP_SOIL_SAMPLE_LOC)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
8.1.1	CN	Sequence number	VARCHAR2(34)
8.1.2	PLT_CN	Plot sequence number	VARCHAR2(34)
8.1.3	STATECD	State code	NUMBER(2)
8.1.4	COUNTYCD	County code	NUMBER(3)
8.1.5	PLOT	Plot number	NUMBER(5)
8.1.6	INV_VST_NBR	Inventory visit number	NUMBER(2)
8.1.7	INVYR	Inventory year	NUMBER(4)
8.1.8	CYCLE	Inventory cycle number	NUMBER(2)
8.1.9	SUBCYCLE	Inventory subcycle number	NUMBER(2)
8.1.10	UNITCD	Survey unit code	NUMBER(2)
8.1.11	SUBP	Subplot number	NUMBER(1)
8.1.12	VSTNBR	Visit number	NUMBER(1)
8.1.13	CONDID	Condition class number	NUMBER(1)
8.1.14	SOILS_SAMPLE_METHOD_CD	Soils sample method code	NUMBER(1)
8.1.15	SOILS_SAMPLE_STATUS_CD	Soils sample status code	NUMBER(2)
8.1.16	CORE_SIZE	Soil core size	NUMBER(4,3)
8.1.17	CORE_LENGTH	Soil core length	NUMBER(3,1)
8.1.18	CORE_BOTTOM_CD	Core bottom code	NUMBER(1)
8.1.19	HOLE_DEPTH	Hole depth	NUMBER(3,1)
8.1.20	RESTRICTION_DEPTH_CD_1	Restriction depth code 1	NUMBER(1)
8.1.21	RESTRICTION_DEPTH_CD_2	Restriction depth code 2	NUMBER(1)
8.1.22	RESTRICTION_DEPTH_CD_3	Restriction depth code 3	NUMBER(1)
8.1.23	RESTRICTION_DEPTH_CD_4	Restriction depth code 4	NUMBER(1)
8.1.24	RESTRICTION_DEPTH_1	Restriction depth 1	NUMBER(3,1)
8.1.25	RESTRICTION_DEPTH_2	Restriction depth 2	NUMBER(3,1)
8.1.26	RESTRICTION_DEPTH_3	Restriction depth 3	NUMBER(3,1)
8.1.27	RESTRICTION_DEPTH_4	Restriction depth 4	NUMBER(3,1)
8.1.28	C_TOT_3IN_MG_AC	Total carbon per acre, 3 inches depth	NUMBER(10,6)
8.1.29	N_TOT_3IN_MG_AC	Total nitrogen per acre, 3 inches depth	NUMBER(10,6)
8.1.30	USED_IN_ESTIMATION_CD	Used in estimation code	NUMBER(1)
8.1.31	CREATED_BY	Created by	VARCHAR2(30)
8.1.32	CREATED_DATE	Created date	DATE

Subsection	Column name (attribute)	Descriptive name	Oracle data type
8.1.33	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
8.1.34	MODIFIED_BY	Modified by	VARCHAR2(30)
8.1.35	MODIFIED_DATE	Modified date	DATE
8.1.36	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	SSSL_PK
Foreign	PLT_CN	SUBP_SOIL_SAMPLE_LOC to PLOT	SSSL_FK

8.1.1 CN

Sequence number. A unique sequence number used to identify a subplot soil sample location record.

8.1.2 PLT_CN

Plot sequence number. Foreign key linking the subplot soil sample location record to the plot record.

8.1.3 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

8.1.4 COUNTYCD

County code. The identification number for a county, parish, watershed, borough, or similar governmental unit in a State. FIPS codes from the Bureau of the Census are used. Refer to [appendix B](#) for codes.

Note: Summarizing data by county is not recommended for Alaska datasets. For assistance with analyses for Alaska, please consult the PNWRS analyst contact listed in [table 1-1](#).

8.1.5 PLOT

Plot number. An identifier for a plot. Along with STATECD, INVYR, UNITCD, COUNTYCD and/or some other combinations of variables, PLOT may be used to uniquely identify a plot.

8.1.6 INV_VST_NBR

Inventory visit number. Visit number within a cycle. A plot is usually visited once per cycle, but may be visited again for quality assurance visits or other measurements.

8.1.7 INVYR

Inventory year. See SURVEY.[INVYR](#) description for definition.

8.1.8 CYCLE

Inventory cycle number. See SURVEY.[CYCLE](#) description for definition.

8.1.9 SUBCYCLE

Inventory subcycle number. See SURVEY.SUBCYCLE description for definition.

8.1.10 UNITCD

Survey unit code. Forest Inventory and Analysis survey unit identification number. Survey units are usually groups of counties within each State. For periodic inventories, survey units may be made up of lands of particular owners. Refer to [appendix B](#) for codes.

8.1.11 SUBP

Subplot number. The number assigned to the subplot adjacent to the soil sampling site. The national plot design (PLOT.DESIGNCD = 1) has subplot number values of 1 through 4. Soils protocols use only subplots 2-4.

Codes: SUBP

Code	Description
2	North subplot.
3	Southeast subplot.
4	Southwest subplot.

8.1.12 VSTNBR

Visit number. The number of the soil sampling location at which the soil sample was collected. Values are 1-9.

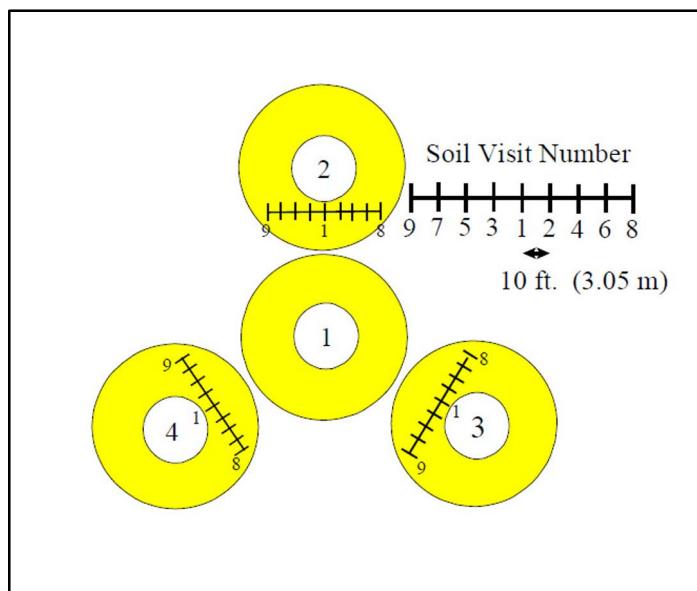


Figure 8-1: Location of soil sampling site.

8.1.13 CONDID

Condition class number. The unique identifying number assigned to the condition where the soil sample was collected. If the condition class of the soil sample site differs from any

condition class mapped on the four subplots, then CONDID = 0. If no soil sample was collected, this attribute is blank (null).

8.1.14 SOILS_SAMPLE_METHOD_CD

Soils sample method code. A code indicating which soils protocol was used.

Codes: SOILS_SAMPLE_METHOD_CD

Code	Description
1	P3 soils sample method.
2	Interior Alaska pilot soils sample method.
3	Interior Alaska soils sample method.
4	Hawaii soils sample method.

8.1.15 SOILS_SAMPLE_STATUS_CD

Soils sample status code. A code indicating whether some or all of the soils protocol was applied (sampled) at the soil sampling location, and if not, the reason the location was not sampled.

Codes: SOILS_SAMPLE_STATUS_CD (When SOILS_SAMPLE_METHOD_CD = 1)

Code	Description
01	Sampled: forest that has been identified as a condition on the plot.
02	Not sampled: non-forest.
03	Not sampled forest condition: too rocky to sample.
04	Not sampled forest condition: water or boggy.
05	Not sampled forest condition: access denied.
06	Not sampled forest condition: too dangerous to sample.
07	Not sampled forest condition: obstruction in sampling area.
08	Not sampled forest condition: broken or lost equipment.
09	Not sampled forest condition: other.
11	Sampled: forest that has NOT been identified as a condition on the plot.

Codes: SOILS_SAMPLE_STATUS_CD (When SOILS_SAMPLE_METHOD_CD = 2, 3, 4)

Code	Description
1	Sampled.
2	Not sampled: standing water.
3	Not sampled: access denied.
4	Not sampled: hazardous.
5	Not sampled: other.

8.1.16 CORE_SIZE

Soil core size. The inner diameter (inches) of the sample soil core collected.

8.1.17 CORE_LENGTH

Soil core length. The length of the soil core to the nearest 0.1 inch.

8.1.18 CORE_BOTTOM_CD

Soil core bottom code. A code indicating the substrate at the bottom of the core.

Codes: CORE_BOTTOM_CD

Code	Description
1	Identifiable plant parts.
2	Unidentifiable plant parts.
5	Mineral soil.
6	Unknown material.

8.1.19 HOLE_DEPTH

Hole depth. The depth of the cored hole to the nearest 0.1 inch.

8.1.20 RESTRICTION_DEPTH_CD_1

Restriction depth code 1. A code indicating the estimated substrate encountered when probing at location 1.

Codes: RESTRICTION_DEPTH_CD_1

Code	Description
1	Frozen soil.
2	Gravel.
3	Substrate not reached >40 inches.
4	Substrate unknown.
5	Bedrock.
6	Sand.

8.1.21 RESTRICTION_DEPTH_CD_2

Restriction depth code 2. A code indicating the estimated substrate encountered when probing at location 2. See [RESTRICTION_DEPTH_CD_1](#) for codes and definitions.

8.1.22 RESTRICTION_DEPTH_CD_3

Restriction depth code 3. A code indicating the estimated substrate encountered when probing at location 3. See [RESTRICTION_DEPTH_CD_1](#) for codes and definitions.

8.1.23 RESTRICTION_DEPTH_CD_4

Restriction depth code 4. A code indicating the estimated substrate encountered when probing at location 4. See [RESTRICTION_DEPTH_CD_1](#) for codes and definitions.

8.1.24 RESTRICTION_DEPTH_1

Restriction depth 1. The maximum depth, to the nearest 0.5 inch, encountered when probing for a restriction at location 1.

8.1.25 RESTRICTION_DEPTH_2

Restriction depth 2. The maximum depth, to the nearest 0.5 inch, encountered when probing for a restriction at location 2.

8.1.26 RESTRICTION_DEPTH_3

Restriction depth 3. The maximum depth, to the nearest 0.5 inch, encountered when probing for a restriction at location 3.

8.1.27 RESTRICTION_DEPTH_4

Restriction depth 4. The maximum depth, to the nearest 0.5 inch, encountered when probing for a restriction at location 4.

8.1.28 C_TOT_3IN_MG_AC

Total carbon per acre, 3 inches depth. The total carbon content (Mg) per acre to a standard depth of 3 inches.

8.1.29 N_TOT_3IN_MG_AC

Total nitrogen per acre, 3 inches depth. The total nitrogen content (Mg) per acre to a standard depth of 3 inches.

8.1.30 USED_IN_ESTIMATION_CD

Used in estimation code. A code indicating whether or not the soil core is included in population estimates.

Codes: USED IN ESTIMATION_CD

Code	Description
0	The soil core is not included in population estimates.
1	The soil core is included in population estimates.

8.1.31 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

8.1.32 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

8.1.33 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

8.1.34 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

8.1.35 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

8.1.36 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

8.2 Subplot Soil Sample Layer Table

(Oracle table name: **SUBP_SOIL_SAMPLE_LAYER**)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
8.2.1	CN	Sequence number	VARCHAR2(34)
8.2.2	SSSL_CN	Subplot soil sample location sequence number	VARCHAR2(34)
8.2.3	PLT_CN	Plot sequence number	VARCHAR2(34)
8.2.4	STATECD	State code	NUMBER(4)
8.2.5	COUNTYCD	County code	NUMBER(3)
8.2.6	PLOT	Plot number	NUMBER(6)
8.2.7	INVYR	Inventory year	NUMBER(4)
8.2.8	INV_VST_NBR	Inventory visit number	NUMBER(2)
8.2.9	CYCLE	Inventory cycle number	NUMBER(2)
8.2.10	SUBCYCLE	Inventory subcycle number	NUMBER(2)
8.2.11	SUBP	Subplot number	NUMBER(1)
8.2.12	VSTNBR	Visit number	NUMBER(1)
8.2.13	SAMPLER_TYPE	Sampler type	VARCHAR2(2)
8.2.14	SAMPLE_DIA	Sample diameter	NUMBER(7,3)
8.2.15	LAYER_TYPE	Layer type	VARCHAR2(30)
8.2.16	SOIL_SAMP_PER_AC	Soil sample area expansion factor	NUMBER(14,6)
8.2.17	LAYER_THICKNESS	Layer thickness	NUMBER(5,3)
8.2.18	LAYER_COLLECTED_CD	Layer collected code	NUMBER(1)
8.2.19	WT_FIELD_MOIST	Field-moist soil weight	NUMBER(7,2)
8.2.20	WT_AIR_DRY	Air-dry soil weight	NUMBER(7,2)
8.2.21	WT_OVEN_DRY	Oven-dry soil weight	NUMBER(7,2)
8.2.22	WT_ROCK	Rock particle weight	NUMBER(7,2)
8.2.23	WATER_CONTENT_PCT_FIELD_MOIST	Field-moist water content percent	NUMBER(6,2)
8.2.24	WATER_CONTENT_PCT_RESIDUAL	Residual water content percent	NUMBER(6,2)
8.2.25	WATER_CONTENT_PCT_TOTAL	Total water content percent	NUMBER(6,2)
8.2.26	BULK_DENSITY	Bulk density	NUMBER(10,6)
8.2.27	COARSE_FRACTION_PCT	Coarse fraction percent	NUMBER(7,3)
8.2.28	BULK_DENSITY_FINE	Bulk density of fine soil fraction	NUMBER(10,6)
8.2.29	TEXTURE_CD	Texture code	NUMBER(1)
8.2.30	PH_H2O	pH in water	NUMBER(7,3)
8.2.31	PH_CACL2	pH in calcium chloride solution	NUMBER(7,3)
8.2.32	ECEC	Effective cation exchange capacity	NUMBER(7,3)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
8.2.33	EXCHNG_AL	Exchangeable aluminum	NUMBER(7,3)
8.2.34	EXCHNG_CA	Exchangeable calcium	NUMBER(8,3)
8.2.35	EXCHNG_CD	Exchangeable cadmium	NUMBER(7,3)
8.2.36	EXCHNG_CU	Exchangeable copper	NUMBER(7,3)
8.2.37	EXCHNG_FE	Exchangeable iron	NUMBER(7,3)
8.2.38	EXCHNG_K	Exchangeable potassium	NUMBER(7,3)
8.2.39	EXCHNG_MG	Exchangeable magnesium	NUMBER(8,3)
8.2.40	EXCHNG_MN	Exchangeable manganese	NUMBER(7,3)
8.2.41	EXCHNG_NA	Exchangeable sodium	NUMBER(8,3)
8.2.42	EXCHNG_NI	Exchangeable nickel	NUMBER(7,3)
8.2.43	EXCHNG_PB	Exchangeable lead	NUMBER(7,3)
8.2.44	EXCHNG_S	Exchangeable sulfur	NUMBER(8,3)
8.2.45	EXCHNG_ZN	Exchangeable zinc	NUMBER(7,3)
8.2.46	BRAY1_P	Bray 1 phosphorus	NUMBER(7,3)
8.2.47	OLSEN_P	Olsen phosphorus	NUMBER(7,3)
8.2.48	C_ORG_PCT	Organic carbon percent	NUMBER(7,3)
8.2.49	C_INORG_PCT	Inorganic carbon percent	NUMBER(7,3)
8.2.50	C_TOTAL_PCT	Total carbon percent	NUMBER(7,3)
8.2.51	C_MG_AC	Carbon content per acre	NUMBER(10,6)
8.2.52	C_MIN3_MG_AC	Carbon content 3-inch depth per acre	NUMBER(10,6)
8.2.53	N_TOTAL_PCT	Total nitrogen percent	NUMBER(7,3)
8.2.54	N_MG_AC	Nitrogen content per acre	NUMBER(10,6)
8.2.55	N_MIN3_MG_AC	Nitrogen content 3-inch depth per acre	NUMBER(10,6)
8.2.56	CREATED_BY	Created by	VARCHAR2(30)
8.2.57	CREATED_DATE	Created date	DATE
8.2.58	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
8.2.59	MODIFIED_BY	Modified by	VARCHAR2(30)
8.2.60	MODIFIED_DATE	Modified date	DATE
8.2.61	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	SSSLYR_PK
Foreign	PLT_CN	SUBP_SOIL_SAMPLE_LAYER to PLOT	SSSLYR_FK
Foreign	SSSL_CN	SUBP_SOIL_SAMPLE_LAYER to SUBP_SOIL_SAMPLE_LOC	SSSLYR_FK2

8.2.1 CN

Sequence number. A unique sequence number used to identify a subplot soil sample layer record.

8.2.2 SSSL_CN

Subplot soil sample location sequence number. Foreign key linking the subplot soil sample layer record to the subplot soil sample location record.

8.2.3 PLT_CN

Plot sequence number. Foreign key linking the subplot soil sample layer record to the plot record.

8.2.4 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

8.2.5 COUNTYCD

County code. The identification number for a county, parish, watershed, borough, or similar governmental unit in a State. FIPS codes from the Bureau of the Census are used. Refer to [appendix B](#) for codes.

Note: Summarizing data by county is not recommended for Alaska datasets. For assistance with analyses for Alaska, please consult the PNWRS analyst contact listed in [table 1-1](#).

8.2.6 PLOT

Plot number. An identifier for a plot. Along with STATECD, INVYR, UNITCD, COUNTYCD and/or some other combinations of variables, PLOT may be used to uniquely identify a plot.

8.2.7 INVYR

Inventory year. See SURVEY.[INVYR](#) description for definition.

8.2.8 INV_VST_NBR

Inventory visit number. Visit number within a cycle. A plot is usually visited once per cycle, but may be visited again for quality assurance visits or other measurements.

8.2.9 CYCLE

Inventory cycle number. See SURVEY.[CYCLE](#) description for definition.

8.2.10 SUBCYCLE

Inventory subcycle number. See SURVEY.[SUBCYCLE](#) description for definition..

8.2.11 SUBP

Subplot number. The number assigned to the subplot adjacent to the soil sampling site. The national plot design (PLOT.DESIGNCD = 1) has subplot number values of 1 through 4. Soils protocols use only subplots 2-4.

Codes: SUBP

Code	Description
2	North subplot.
3	Southeast subplot.
4	Southwest subplot.

8.2.12 VSTNBR

Visit number. The number of the soil sampling location at which the soil sample was collected. Values are 1-9.

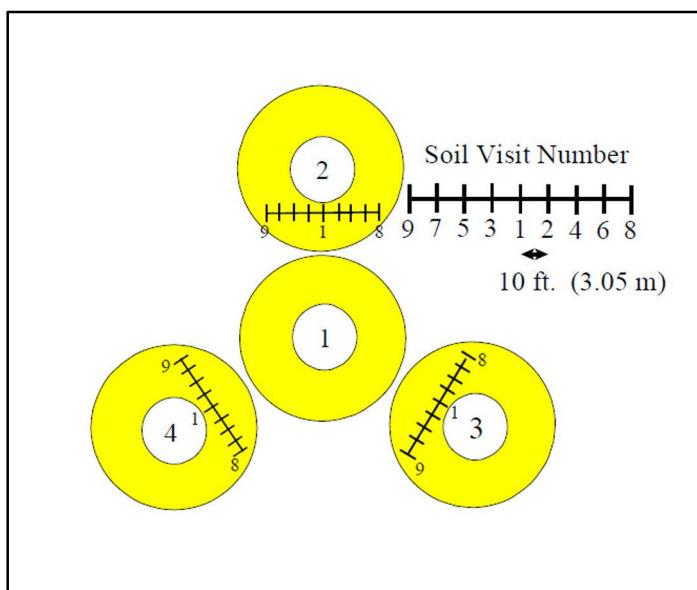


Figure 8-2: Location of soil sampling site.

8.2.13 SAMPLER_TYPE

Sampler type. A code indicating the type of soil sampler used.

Codes: SAMPLER_TYPE

Code	Description
BD	Bulk density.
SF	Sample frame.
O	Other.

8.2.14 SAMPLE_DIA

Sample diameter. The diameter (inches) of the sample area.

8.2.15 LAYER_TYPE

Layer type. A code indicating the soil layer type of the sample. Code values differ depending on the value of SUBP_SOIL_SAMPLE_LOC.SOILS_SAMPLE_METHOD_CD.

Codes: LAYER_TYPE (when SOILS_SAMPLE_METHOD_CD = 1) (P3 Soils)

Code	Description
LITTER	Litter layer.
FOREST FLOOR	Forest floor.
MINERAL_SOIL_0-4_IN	Mineral soil layer collected at 0-4 inches in depth.
MINERAL_SOIL_4-8_IN	Mineral soil layer collected at 4-8 inches in depth.

Codes: LAYER_TYPE (when SOILS_SAMPLE_METHOD_CD = 2) (Interior Alaska pilot)

Code	Description
IDENT_PARTS	Identifiable parts.
UNIDENT_PARTS	Unidentifiable parts.
MINERAL_SOIL	Mineral soil.
UNK_SOIL	Unknown soil.

Codes: LAYER_TYPE (when SOILS_SAMPLE_METHOD_CD = 3) (Interior Alaska)

Code	Description
LITTER	Litter layer.
GREEN_MOSS_LICHEN	Green moss / lichen layer.
IDENT_PARTS	Identifiable parts.
UNIDENT_PARTS	Unidentifiable parts.
MINERAL_SOIL	Mineral soil.
UNK_SOIL	Unknown soil.

Codes: LAYER_TYPE (when SOILS_SAMPLE_METHOD_CD = 4) (Hawaii)

Code	Description
MINERAL_SOIL_0-20_CM	0-20 cm mineral soil layer.
MINERAL_SOIL_20-40_CM	20-40 cm mineral soil layer.
MINERAL_SOIL_40-60_CM	40-60 cm mineral soil layer.
MINERAL_SOIL_60-80_CM	60-80 cm mineral soil layer.
MINERAL_SOIL_80-100_CM	80-100 cm mineral soil layer.

8.2.16 SOIL_SAMP_PER_AC

Soil sample area expansion factor. The expansion factor from the layer sampling area to an acre.

8.2.17 LAYER_THICKNESS

Layer thickness. The layer thickness to the nearest 0.1 inch.

8.2.18 LAYER_COLLECTED_CD

Layer collected code. A code indicating whether or not a soil layer was sampled.

Codes: TEXTURE_CD

Code	Description
1	Sample collected for analysis.
2	Sample not collected for analysis; other reason.

8.2.19 WT_FIELD_MOIST

Field-moist soil weight. The weight (g) of the soil sample as received from the field.

8.2.20 WT_AIR_DRY

Air-dry soil weight. The weight (g) of the soil sample after air-drying at ambient temperature.

8.2.21 WT_OVEN_DRY

Oven-dry soil weight. The calculated weight (g) of the soil sample based on an oven-dried subsample

8.2.22 WT_ROCK

Rock particle weight. The weight (g) of mineral soil >2 mm in size.

8.2.23 WATER_CONTENT_PCT_FIELD_MOIST

Field-moist water content percent. The field-moist to air-dry water content in percent.

8.2.24 WATER_CONTENT_PCT_RESIDUAL

Residual water content percent. The air-dry to oven-dry water content in percent.

8.2.25 WATER_CONTENT_PCT_TOTAL

Total water content percent. The field-moist to air-dry (WATER_CONTENT_PPCT_FIELD_MOIST) plus air-dry to oven-dry water (WATER_CONTENT_PCT_RESIDUAL) contents in percent.

8.2.26 BULK_DENSITY

Bulk density. The soil bulk density calculated as weight per unit volume of soil, g/cm³.

8.2.27 COARSE_FRACTION_PCT

Coarse fraction percent. The percentage of mineral soil >2 mm in size.

8.2.28 BULK_DENSITY_FINE

Bulk density of fine soil fraction. The bulk density of mineral soil particles <2 mm calculated as weight per unit volume of soil, g/cm³.

8.2.29 TEXTURE_CD

Texture code. A code indicating the texture of the soil layer.

Codes: TEXTURE_CD for P3 (SOILS_SAMPLE_METHOD_CD = 1)

Code	Description
0	Organic.
1	Loamy.
2	Clayey.
3	Sandy.
4	Coarse sand.
9	Not measured.

Codes: TEXTURE_CD for Interior Alaska (SOILS_SAMPLE_METHOD_CD = 2, 3)

Code	Description
1	Loamy.
2	Clayey.
3	Sandy.
4	Coarse sand.
9	Not measured.

8.2.30 PH_H2O

pH in water. Soil pH measured in a 1:1 soil/water suspension.

8.2.31 PH_CACL2

pH in calcium chloride solution. Soil pH measured in 0.01 M CaCl₂ solution.

8.2.32 ECEC

Effective cation exchange capacity. Exchangeable sodium (Na) + potassium (K) + magnesium (Mg) + calcium (Ca) + aluminum (Al) in cmolc/kg.

8.2.33 EXCHNG_AL

Exchangeable aluminum. Exchangeable aluminum (Al) in mg/kg.

8.2.34 EXCHNG_CA

Exchangeable calcium. Exchangeable calcium (Ca) in mg/kg.

8.2.35 EXCHNG_CD

Exchangeable cadmium. Exchangeable cadmium (Cd) in mg/kg.

8.2.36 EXCHNG CU

Exchangeable copper. Exchangeable copper (Cu) in mg/kg.

8.2.37 EXCHNG_FE

Exchangeable iron. Exchangeable iron (Fe) in mg/kg.

8.2.38 EXCHNG_K

Exchangeable potassium. Exchangeable potassium (K) in mg/kg.

8.2.39 EXCHNG_MG

Exchangeable magnesium. Exchangeable magnesium (Mg) in mg/kg.

8.2.40 EXCHNG_MN

Exchangeable manganese. Exchangeable manganese (Mn) in mg/kg.

8.2.41 EXCHNG_NA

Exchangeable sodium. Exchangeable sodium (Na) in mg/kg.

8.2.42 EXCHNG_NI

Exchangeable nickel. Exchangeable nickel (Ni) in mg/kg.

8.2.43 EXCHNG_PB

Exchangeable lead. Exchangeable lead (Pb) in mg/kg.

8.2.44 EXCHNG_S

Exchangeable sulfur. Exchangeable sulfur (S) in mg/kg.

8.2.45 EXCHNG_ZN

Exchangeable zinc. Exchangeable zinc (Zn) in mg/kg.

8.2.46 BRAY1_P

Bray 1 phosphorus. Bray 1 extractable phosphorus in mg/kg.

8.2.47 OLSEN_P

Olsen phosphorus. Olsen extractable phosphorus in mg/kg.

8.2.48 C_ORG_PCT

Organic carbon percent. Organic carbon in percent.

8.2.49 C_INORG_PCT

Inorganic carbon percent. Inorganic carbon (carbonates) in percent.

8.2.50 C_TOTAL_PCT

Total carbon percent. Total carbon (organic + inorganic) in percent.

8.2.51 C_MG_AC

Carbon content per acre. Carbon content (Mg) per acre.

8.2.52 C_MIN3_MG_AC

Carbon content 3-inch depth per acre. Carbon content (Mg) per acre to a standard depth of three inches.

8.2.53 N_TOTAL_PCT

Total nitrogen percent. Total nitrogen (N) in percent.

8.2.54 N_MG_AC

Nitrogen content per acre. Nitrogen content (Mg) per acre.

8.2.55 N_MIN3_MG_AC

Nitrogen content 3-inch depth per acre. Nitrogen content (Mg) per acre to a standard depth of three inches.

8.2.56 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

8.2.57 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

8.2.58 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

8.2.59 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

8.2.60 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

8.2.61 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

Section revision: 04.2024

Chapter 9: Database Tables - Population

Chapter Contents:

Section	Database table	Oracle table name
9.1	Population Estimation Unit Table	POP_ESTN_UNIT
9.2	Population Evaluation Table	POP_EVAL
9.3	Population Evaluation Attribute Table	POP_EVAL_ATTRIBUTE
9.4	Population Evaluation Group Table	POP_EVAL_GRP
9.5	Population Evaluation Type Table	POP_EVAL_TYP
9.6	Population Plot Stratum Assignment Table	POP_PLOT_STRATUM_ASSGN
9.7	Population Stratum Table	POP_STRATUM

Definitions for database tables:

For further detail and examples, refer to the Overview (chapter 1).

Keys Presented with the Tables

Key type	Definition
Primary	A single column in a table whose values uniquely identify each row in an Oracle table.
Unique	Multiple columns in a table whose values uniquely identify each row in an Oracle table. There can be one and only one row for each unique key value.
Natural	A type of unique key made from existing attributes in the table. It is stored as an index in this database.
Foreign	A column in a table that is used as a link to a matching column in another Oracle table.

Oracle Data Types

Oracle data type	Definition
DATE	A data type that stores the date.
NUMBER	A data type that contains only numbers, positive or negative, with a floating-decimal point.
NUMBER(SIZE, D)	A data type that contains only numbers up to a specified maximum size. The maximum size (<i>and optional fixed-decimal point</i>) is specified by the value(s) listed in the parentheses.
VARCHAR2(SIZE)	A data type that contains alphanumeric data (numbers and/or characters) up to a specified maximum size.

9.1 Population Estimation Unit Table

(Oracle table name: POP_ESTN_UNIT)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
9.1.1	CN	Sequence number	VARCHAR2(34)
9.1.2	EVAL_CN	Evaluation sequence number	VARCHAR2(34)
9.1.3	RSCD	Region or station code	NUMBER(2)
9.1.4	VALID	Evaluation identifier	NUMBER(6)
9.1.5	ESTN_UNIT	Estimation unit	NUMBER(6)
9.1.6	ESTN_UNIT_DESCR	Estimation unit description	VARCHAR2(255)
9.1.7	STATECD	State code	NUMBER(4)
9.1.8	AREALAND_EU	Land area within the estimation unit	NUMBER(12,2)
9.1.9	AREATOT_EU	Total area within the estimation unit	NUMBER(12,2)
9.1.10	AREA_USED	Area used to calculate all expansion factors	NUMBER(12,2)
9.1.11	AREA_SOURCE	Area source	VARCHAR2(50)
9.1.12	P1PNTCNT_EU	Phase 1 point count for the estimation unit	NUMBER(12)
9.1.13	P1SOURCE	Phase 1 source	VARCHAR2(50)
9.1.14	CREATED_BY	Created by	VARCHAR2(30)
9.1.15	CREATED_DATE	Created date	DATE
9.1.16	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
9.1.17	MODIFIED_BY	Modified by	VARCHAR2(30)
9.1.18	MODIFIED_DATE	Modified date	DATE
9.1.19	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	PEU_PK
Unique	RSCD, VALID, ESTN_UNIT	N/A	PEU_UK
Foreign	EVAL_CN	POP_ESTN_UNIT to POP_EVAL	PEU_PEV_FK

9.1.1 CN

Sequence number. A unique sequence number used to identify a population estimation unit record.

9.1.2 EVAL_CN

Evaluation sequence number. Foreign key linking the estimation unit record to the evaluation record.

9.1.3 RSCD

Region or Station code. See SURVEY.RSCD description for definition.

9.1.4 EVALID

Evaluation identifier. See POP_EVAL.EVALID description for definition.

9.1.5 ESTN_UNIT

Estimation unit. A number assigned to the specific geographic area that is stratified. Estimation units are often determined by a combination of geographical boundaries, sampling intensity and ownership.

9.1.6 ESTN_UNIT_DESCR

Estimation unit description. A description of the estimation unit (e.g., name of the county).

9.1.7 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#). For evaluations that do not conform to the boundaries of a single State the value of STATECD should be set to 99.

9.1.8 AREALAND_EU

Land area within the estimation unit. The area of land, in acres, enclosed by the estimation unit. Census water is excluded.

9.1.9 AREATOT_EU

Total area within the estimation unit. The area of land and census water, in acres, enclosed by the estimation unit.

9.1.10 AREA_USED

Area used to calculate all expansion factors. This value is equivalent to AREATOT_EU when estimates are for all area, including census water; and this value is equivalent to AREALAND_EU when estimates are for land area only.

9.1.11 AREA_SOURCE

Area source. A descriptor for the source of the area numbers. Usually, the area source is either the U.S. Census Bureau or area estimates based on pixel counts. Example descriptors are 'US CENSUS 2000' and 'PIXEL COUNT.'

9.1.12 P1PNTCNT_EU

Phase 1 point count for the estimation unit. For remotely sensed data, this will be the total number of pixels in the estimation unit.

9.1.13 P1SOURCE

Phase 1 source. A descriptor for the Phase 1 data source used for this stratification. Example descriptors are 'NLCD 2001 CANOPY' and 'IKONOS.'

9.1.14 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

9.1.15 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

9.1.16 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

9.1.17 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

9.1.18 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

9.1.19 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

9.2 Population Evaluation Table

(Oracle table name: POP_EVAL)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
9.2.1	CN	Sequence number	VARCHAR2(34)
9.2.2	EVAL_GRP_CN	Evaluation group sequence number	VARCHAR2(34)
9.2.3	RSCD	Region or station code	NUMBER(2)
9.2.4	EVALID	Evaluation identifier	NUMBER(6)
9.2.5	EVAL_DESCR	Evaluation description	VARCHAR2(255)
9.2.6	STATECD	State code	NUMBER(4)
9.2.7	LOCATION_NM	Location name	VARCHAR2(255)
9.2.8	REPORT_YEAR_NM	Report year name	VARCHAR2(255)
9.2.9	START_INVYR	Start inventory year	NUMBER(4)
9.2.10	END_INVYR	End inventory year	NUMBER(4)
9.2.11	LAND_ONLY	Land only	VARCHAR2(1)
9.2.12	TIMBERLAND_ONLY	Timberland only	VARCHAR2(1)
9.2.13	GROWTH_ACCT	Growth accounting	VARCHAR2(1)
9.2.14	ESTN_METHOD	Estimation method	VARCHAR2(40)
9.2.15	NOTES	Notes	VARCHAR2(2000)
9.2.16	CREATED_BY	Created by	VARCHAR2(30)
9.2.17	CREATED_DATE	Created date	DATE
9.2.18	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
9.2.19	MODIFIED_BY	Modified by	VARCHAR2(30)
9.2.20	MODIFIED_DATE	Modified date	DATE
9.2.21	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	PEV_PK
Unique	RSCD, EVALID	N/A	PEV_UK
Foreign	EVAL_GRP_CN	POP_EVAL to POP_EVAL_GRP	PEV_PEG_FK

9.2.1 CN

Sequence number. A unique sequence number used to identify a population evaluation record.

9.2.2 EVAL_GRP_CN

Evaluation group sequence number. Foreign key linking the population evaluation record to the population evaluation group record.

9.2.3 RSCD

Region or Station code. See SURVEY.RSCD description for definition.

9.2.4 EVALID

Evaluation identifier. The EVALID is the unique identifier that represents the population used to produce a type of estimate. The EVALID is generally a concatenation of a 2-digit State code, a 2-digit year code, and a 2-digit evaluation type code (see REF_POP_EVAL_TYP_DESCR.EVAL_TYP_CD). For example, EVALID = 261600 represents the Michigan 2016 evaluation for all sampled and nonsampled plots.

If several types of evaluations are combined for an EVALID, the lowest evaluation type code number within the set is typically used for the last 2 digits of the EVALID. For example, the type code of 03 is used when the evaluation combines sampled plots for tree growth, removals, mortality, and area change estimates. However, the type code of 03 can also be used if the evaluation only combines sampled plots for tree growth and mortality.

Example evaluation type code used for EVALID when evaluation types are combined:

Last 2 digits of EVALID	Evaluation type description
01	Sampled plots used for current area and tree-level estimates.
03	Sampled plots used for tree growth, removals, mortality, and area change estimates.

9.2.5 EVAL_DESCR

Evaluation description. A description of the area being evaluated (often a State), the time period of the evaluation, and the type of estimates that can be computed using the evaluation (e.g., area, volume, growth, removals, mortality). For example, 'MINNESOTA 2017: 2013-2017: CURRENT AREA, CURRENT VOLUME' is an evaluation description.

9.2.6 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

9.2.7 LOCATION_NM

Location name. Geographic area as it would appear in the title of a report.

9.2.8 REPORT_YEAR_NM

Report year name. The data collection years that would appear in the title of a report.

9.2.9 START_INVYR

Start inventory year. The starting year for the data included in the evaluation.

9.2.10 END_INVYR

End inventory year. The ending year for the data included in the evaluation.

9.2.11 LAND_ONLY

Land only. A code indicating area used in stratifying evaluations. See POP_ESTN_UNIT.AREA_SOURCE for more information.

Codes: LAND_ONLY

Code	Description
Y	Only census land was used in the stratification process.
N	Census land and water were used in the stratification process.

9.2.12 TIMBERLAND_ONLY

Timberland only. A code indicating if the estimate can be made for timberland or for timberland and forest land. Timberland is a subset of forest land defined as nonreserved forest land capable of producing at least 20 cubic feet of wood volume per acre per year (COND.COND_STATUS_CD = 1, COND.RESERVCD = 0, COND.SITECLCD <7).

Codes: TIMBERLAND_ONLY

Code	Description
Y	Only timberland attributes can be estimated for the evaluation.
N	Both timberland and forest land attributes can be estimated for the evaluation.

9.2.13 GROWTH_ACCT

Growth accounting. A code indicating whether the evaluation can be used for growth accounting. This attribute is blank (null) when the POP_EVAL_TYP.EVAL_TYP is not 'EXPGROW' evaluation type. See [The Forest Inventory and Analysis Database: Population Estimation User Guide](#) for examples of the growth accounting method.

Codes: GROWTH_ACCT

Code	Description
Y	The evaluation can be used for growth accounting.
N	The evaluation cannot be used for growth accounting.

9.2.14 ESTN_METHOD

Estimation method. Describes the method of estimation. Post-stratification is used for most inventories where PLOT.MANUAL ≥ 1.0 .

Values

- Simple random sampling
- Stratified random sampling
- Double sampling for stratification
- Post-stratification
- Subsampling units of unequal size

9.2.15 NOTES

Notes. Additional information related to the evaluation, such as notes pertaining to any special procedures that had to be implemented for the stratification method. This column may also include citation(s) for any publications that used the evaluation.

9.2.16 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

9.2.17 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

9.2.18 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

9.2.19 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

9.2.20 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

9.2.21 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

9.3 Population Evaluation Attribute Table

(Oracle table name: POP_EVAL_ATTRIBUTE)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
9.3.1	CN	Sequence number	VARCHAR2(34)
9.3.2	EVAL_CN	Evaluation sequence number	VARCHAR2(34)
9.3.3	ATTRIBUTE_NBR	Attribute number	NUMBER(6)
9.3.4	STATECD	State code	NUMBER(4)
9.3.5	CREATED_BY	Created by	VARCHAR2(30)
9.3.6	CREATED_DATE	Created date	DATE
9.3.7	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
9.3.8	MODIFIED_BY	Modified by	VARCHAR2(30)
9.3.9	MODIFIED_DATE	Modified date	DATE
9.3.10	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Unique	EVAL_CN, ATTRIBUTE_NBR	N/A	PEA_UK
Foreign	EVAL_CN	POP_EVAL_ATTRIBUTE to POP_EVAL	PEA_PEV_FK

9.3.1 CN

Sequence number. A unique sequence number used to identify a population evaluation attribute record.

9.3.2 EVAL_CN

Evaluation sequence number. Foreign key linking the population evaluation attribute record to the population evaluation record.

9.3.3 ATTRIBUTE_NBR

Attribute number. Foreign key linking the population evaluation attribute record to the reference population attribute record.

9.3.4 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

9.3.5 CREATED_BY

Created by. See SURVEY.[CREATED_BY](#) description for definition.

9.3.6 CREATED_DATE

Created date. See SURVEY.[CREATED_DATE](#) description for definition.

9.3.7 CREATED_IN_INSTANCE

Created in instance. See SURVEY.[CREATED_IN_INSTANCE](#) description for definition.

9.3.8 MODIFIED_BY

Modified by. See SURVEY.[MODIFIED_BY](#) description for definition.

9.3.9 MODIFIED_DATE

Modified date. See SURVEY.[MODIFIED_DATE](#) description for definition.

9.3.10 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.[MODIFIED_IN_INSTANCE](#) description for definition.

9.4 Population Evaluation Group Table

(Oracle table name: POP_EVAL_GRP)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
9.4.1	CN	Sequence number	VARCHAR2(34)
9.4.2	RSCD	Region or station code	NUMBER(2)
9.4.3	EVAL_GRP	Evaluation group	NUMBER(6)
9.4.4	EVAL_GRP_DESCR	Evaluation group description	VARCHAR2(255)
9.4.5	STATECD	State code	NUMBER(4)
9.4.6	NOTES	Notes	VARCHAR2(2000)
9.4.7	CREATED_BY	Created by	VARCHAR2(30)
9.4.8	CREATED_DATE	Created date	DATE
9.4.9	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
9.4.10	MODIFIED_BY	Modified by	VARCHAR2(30)
9.4.11	MODIFIED_DATE	Modified date	DATE
9.4.12	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	PEG_PK
Unique	RSCD, EVAL_GRP	N/A	PEG_UK
Index	EVAL_GRP	N/A	PEG_EVAL_I

9.4.1 CN

Sequence number. A unique sequence number used to identify a population evaluation group record.

9.4.2 RSCD

Region or Station code. See SURVEY.RSCD description for definition.

9.4.3 EVAL_GRP

Evaluation group. An identifier for the evaluation group. This identifier includes the "State code" (first 2 digits) and the "year" (last 4 digits) used to identify the evaluation group. The last year of a measurement interval (which is a "range of years" that is typically 5, 7, or 10 years in length) is used for the identifier label.

9.4.4 EVAL_GRP_DESCR

Evaluation group description. A brief description for the evaluation group. This description includes the State and year used to identify the evaluation group, and the types of estimates that can be computed using the evaluation group (e.g., area, volume, growth, removals, mortality). The last year of a measurement interval (which is a "range of years" that is typically 5, 7, or 10 years in length) is used for the description. For example, 'MINNESOTA 2017: ALL AREA, CURRENT AREA, CURRENT VOLUME, AREA

CHANGE, GROWTH, REMOVALS, MORTALITY, DWM, REGENERATION' is an evaluation group description.

9.4.5 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#). For evaluations that do not conform to the boundaries of a single State the value of STATECD should be set to 99.

9.4.6 NOTES

Notes. Population evaluation group notes.

9.4.7 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

9.4.8 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

9.4.9 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

9.4.10 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

9.4.11 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

9.4.12 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

9.5 Population Evaluation Type Table

(Oracle table name: POP_EVAL_TYP)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
9.5.1	CN	Sequence number	VARCHAR2(34)
9.5.2	EVAL_GRP_CN	Evaluation group sequence number	VARCHAR2(34)
9.5.3	EVAL_CN	Evaluation sequence number	VARCHAR2(34)
9.5.4	EVAL_TYP	Evaluation type	VARCHAR2(15)
9.5.5	CREATED_BY	Created by	VARCHAR2(30)
9.5.6	CREATED_DATE	Created date	DATE
9.5.7	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
9.5.8	MODIFIED_BY	Modified by	VARCHAR2(30)
9.5.9	MODIFIED_DATE	Modified date	DATE
9.5.10	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	PET_PK
Unique	EVAL_GRP_CN, EVAL_CN, EVAL_TYP	N/A	PET_UK1
Unique	EVAL_GRP_CN, EVAL_TYP	N/A	PET_UK2
Foreign	EVAL_GRP_CN	POP_EVAL_TYP to POP_EVAL_GRP	PET_PEG_FK
Foreign	EVAL_CN	POP_EVAL_TYP to POP_EVAL	PET_PEV_FK
Foreign	EVAL_TYP	POP_EVAL_TYP to REF_POP_EVAL_TYP_DESCR	PET_PED_FK

9.5.1 CN

Sequence number. A unique sequence number used to identify a population evaluation type record.

9.5.2 EVAL_GRP_CN

Evaluation group sequence number. Foreign key linking the population evaluation type record to the population evaluation group record.

9.5.3 EVAL_CN

Evaluation sequence number. Foreign key linking the population evaluation type record to the population evaluation record.

9.5.4 EVAL_TYP

Evaluation type. An identifier describing the type of evaluation. Evaluation type is needed to generate summary reports for an inventory. For example, a specific evaluation is

associated with the evaluation for tree volume (EXPVOL). See REF_POP_EVAL_TYP_DESCR.EVAL_TYP_CD for codes.

9.5.5 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

9.5.6 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

9.5.7 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

9.5.8 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

9.5.9 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

9.5.10 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

9.6 Population Plot Stratum Assignment Table

(Oracle table name: POP_PLOT_STRATUM_ASSGN)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
9.6.1	CN	Sequence number	VARCHAR2(34)
9.6.2	STRATUM_CN	Stratum sequence number	VARCHAR2(34)
9.6.3	PLT_CN	Plot sequence number	VARCHAR2(34)
9.6.4	STATECD	State code	NUMBER(4)
9.6.5	INVYR	Inventory year	NUMBER(4)
9.6.6	UNITCD	Survey unit code	NUMBER(2)
9.6.7	COUNTYCD	County code	NUMBER(3)
9.6.8	PLOT	Plot number	NUMBER(5)
9.6.9	RSCD	Region or station code	NUMBER(2)
9.6.10	EVALID	Evaluation identifier	NUMBER(6)
9.6.11	ESTN_UNIT	Estimation unit	NUMBER(6)
9.6.12	STRATUMCD	Stratum code	NUMBER(6)
9.6.13	CREATED_BY	Created by	VARCHAR2(30)
9.6.14	CREATED_DATE	Created date	DATE
9.6.15	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
9.6.16	MODIFIED_BY	Modified by	VARCHAR2(30)
9.6.17	MODIFIED_DATE	Modified date	DATE
9.6.18	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	PPSA_PK
Unique	RSCD, EVALID, STATECD, COUNTYCD, PLOT	N/A	PPSA_UK
Foreign	PLT_CN	POP_PLOT_STRATUM_ASSGN to PLOT	PPSA_PLT_FK
Foreign	STRATUM_CN	POP_PLOT_STRATUM_ASSGN to POP_STRATUM	PPSA_PSM_FK

9.6.1 CN

Sequence number. A unique sequence number used to identify a population plot stratum assignment record.

9.6.2 STRATUM_CN

Stratum sequence number. Foreign key linking the population plot stratum assignment record to the population stratum record.

9.6.3 PLT_CN

Plot sequence number. Foreign key linking the population plot stratum assignment record to the plot record.

9.6.4 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

9.6.5 INVYR

Inventory year. See SURVEY.[INVYR](#) description for definition.

9.6.6 UNITCD

Survey unit code. Forest Inventory and Analysis survey unit identification number. Survey units are usually groups of counties within each State. For periodic inventories, survey units may be made up of lands of particular owners. Refer to [appendix B](#) for codes.

9.6.7 COUNTYCD

County code. The identification number for a county, parish, watershed, borough, or similar governmental unit in a State. FIPS codes from the Bureau of the Census are used. Refer to [appendix B](#) for codes.

Note: Summarizing data by county is not recommended for Alaska datasets. For assistance with analyses for Alaska, please consult the PNWRS analyst contact listed in [table 1-1](#).

9.6.8 PLOT

Plot number. An identifier for a plot. Along with INVYR, STATECD, UNITCD, COUNTYCD, PLOT may be used to uniquely identify a plot.

9.6.9 RSCD

Region or Station code. See SURVEY.[RSCD](#) description for definition.

9.6.10 EVALID

Evaluation identifier. See POP_EVAL.[EVALID](#) description for definition.

9.6.11 ESTN_UNIT

Estimation unit. A number assigned to the specific geographic area that is stratified. Estimation units are often determined by a combination of geographical boundaries, sampling intensity and ownership.

9.6.12 STRATUMCD

Stratum code. A code uniquely identifying a stratum within an estimation unit.

9.6.13 CREATED_BY

Created by. See SURVEY.[CREATED_BY](#) description for definition.

9.6.14 CREATED_DATE

Created date. See SURVEY.[CREATED_DATE](#) description for definition.

9.6.15 CREATED_IN_INSTANCE

Created in instance. See SURVEY.[CREATED_IN_INSTANCE](#) description for definition.

9.6.16 MODIFIED_BY

Modified by. See SURVEY.[MODIFIED_BY](#) description for definition.

9.6.17 MODIFIED_DATE

Modified date. See SURVEY.[MODIFIED_DATE](#) description for definition.

9.6.18 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.[MODIFIED_IN_INSTANCE](#) description for definition.

9.7 Population Stratum Table

(Oracle table name: POP_STRATUM)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
9.7.1	CN	Sequence number	VARCHAR2(34)
9.7.2	ESTN_UNIT_CN	Estimation unit sequence number	VARCHAR2(34)
9.7.3	RSCD	Region or station code	NUMBER(2)
9.7.4	VALID	Evaluation identifier	NUMBER(6)
9.7.5	ESTN_UNIT	Estimation unit	NUMBER(6)
9.7.6	STRATUMCD	Stratum code	NUMBER(6)
9.7.7	STRATUM_DESCR	Stratum description	VARCHAR2(255)
9.7.8	STATECD	State code	NUMBER(4)
9.7.9	P1POINTCNT	Phase 1 point count	NUMBER(12)
9.7.10	P2POINTCNT	Phase 2 point count	NUMBER(12)
9.7.11	EXPNS	Expansion factor	NUMBER
9.7.12	ADJ_FACTOR_MACR	Adjustment factor for the macroplot	NUMBER
9.7.13	ADJ_FACTOR_SUBP	Adjustment factor for the subplot	NUMBER
9.7.14	ADJ_FACTOR_MICR	Adjustment factor for the microplot	NUMBER
9.7.15	ADJ_FACTOR_CWD	Adjustment factor for coarse woody debris	NUMBER
9.7.16	ADJ_FACTOR_FWD_SM	Adjustment factor for small fine woody debris	NUMBER
9.7.17	ADJ_FACTOR_FWD_LG	Adjustment factor for large fine woody debris	NUMBER
9.7.18	ADJ_FACTOR_DUFF	Adjustment factor for the duff and litter layer	NUMBER
9.7.19	CREATED_BY	Created by	VARCHAR2(30)
9.7.20	CREATED_DATE	Created date	DATE
9.7.21	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
9.7.22	MODIFIED_BY	Modified by	VARCHAR2(30)
9.7.23	MODIFIED_DATE	Modified date	DATE
9.7.24	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)
9.7.25	ADJ_FACTOR_PILE	Adjustment factor for piles	NUMBER
9.7.26	ADJ_FACTOR_REGEN_MICR	Adjustment factor for tree regeneration indicator on the microplot	NUMBER
9.7.27	ADJ_FACTOR_INV_SUBP	Adjustment factor for invasive species on the subplot	NUMBER
9.7.28	ADJ_FACTOR_P2VEG_SUBP	Adjustment factor for Phase 2 vegetation profile on the subplot	NUMBER

Subsection	Column name (attribute)	Descriptive name	Oracle data type
9.7.29	ADJ_FACTOR_GRNDLYR_MICROQUAD	Adjustment factor for ground cover layer on the microquadrat	NUMBER
9.7.30	ADJ_FACTOR_SOIL	Adjustment factor for soils	NUMBER

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	PSM_PK
Unique	RSCD, EVALID, ESTN_UNIT, STRATUMCD	N/A	PSM_UK
Foreign	ESTN_UNIT_CN	POP_STRATUM to POP_ESTN_UNIT	PSM_PEU_FK

9.7.1 CN

Sequence number. A unique sequence number used to identify a population stratum record.

9.7.2 ESTN_UNIT_CN

Estimation unit sequence number. Foreign key linking the stratum record to the estimation unit record.

9.7.3 RSCD

Region or Station code. See SURVEY.RSCD description for definition.

9.7.4 EVALID

Evaluation identifier. See POP_EVAL.EVALID description for definition.

9.7.5 ESTN_UNIT

Estimation unit. A number assigned to the specific geographic area that is stratified. Estimation units are often determined by a combination of geographical boundaries, sampling intensity and ownership.

9.7.6 STRATUMCD

Stratum code. A code uniquely identifying a stratum within an estimation unit.

9.7.7 STRATUM_DESCR

Stratum description. A brief description or phrase used to identify a stratum. A stratum is a non-overlapping subdivision of the population. Each plot is assigned to one and only one subdivision or stratum; the relative sizes of strata are used to compute strata weights (Bechtold and Patterson 2005). Strata are usually based on land use (e.g., forest or nonforest) but may also be based on other criteria (e.g., ownership, crown cover).

9.7.8 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#). For evaluations that do not conform to the boundaries of a single State the value of STATECD should be set to 99.

9.7.9 P1POINTCNT

Phase 1 point count. The number of basic units (pixels or points) in the stratum.

9.7.10 P2POINTCNT

Phase 2 point count. The number of field plots that are within the stratum.

9.7.11 EXPNS

Expansion factor. The area, in acres, that a stratum represents divided by the number of sampled plots in that stratum:

$$\text{EXPNS} = (\text{POP_ESTN_UNIT.AREA_USED} * \text{P1POINTCNT} / \text{POP_ESTN_UNIT.P1PNTCNT_EU}) / \text{P2POINTCNT}.$$

This attribute can be used to obtain estimates of population area when summed across all the plots in the population of interest.

Refer to [The Forest Inventory and Analysis Database: Population Estimation User Guide](#) for detailed examples.

9.7.12 ADJ_FACTOR_MACR

Adjustment factor for the macroplot. A value that adjusts the population estimates to account for partially nonsampled plots due to hazardous conditions or denied access. It is used with condition proportion (COND.CONDPROP_UNADJ) and area expansion (EXPNS) to provide area estimates, when COND.PROP_BASIS = 'MACR' (indicating macroplot installed). ADJ_FACTOR_MACR is also used with EXPNS and trees per acre unadjusted (e.g., TREE.TPA_UNADJ) to provide tree estimates for sampled land. If a macroplot was not installed, this attribute is left blank (null). Refer to [The Forest Inventory and Analysis Database: Population Estimation User Guide](#) for detailed examples.

9.7.13 ADJ_FACTOR_SUBP

Adjustment factor for the subplot. A value that adjusts the population estimates to account for partially nonsampled plots due to hazardous conditions or denied access. It is used with condition proportion (COND.CONDPROP_UNADJ) and area expansion (EXPNS) to provide area estimates, when COND.PROP_BASIS = 'SUBP' (indicating subplots installed). ADJ_FACTOR_SUBP is also used with EXPNS and trees per acre unadjusted (e.g., TREE.TPA_UNADJ) to provide tree estimates for sampled land. Refer to [The Forest Inventory and Analysis Database: Population Estimation User Guide](#) for detailed examples.

9.7.14 ADJ_FACTOR_MICR

Adjustment factor for the microplot. A value that adjusts population estimates to account for partially nonsampled plots due to hazardous conditions or denied access. It is used with area expansion (EXPNS) and seedlings per acre unadjusted (SEEDLING.TPA_UNADJ) or saplings per acre unadjusted (TREE.TPA_UNADJ where TREE.DIA < 5.0) to provide tree estimates for sampled land. Refer to [The Forest Inventory and Analysis Database: Population Estimation User Guide](#) for detailed examples.

9.7.15 ADJ_FACTOR_CWD

Adjustment factor for coarse woody debris. A value that adjusts the population estimates to account for partially nonsampled transects due to hazardous conditions or denied access. This attribute is used in the process that populates adjusted values in COND_DWM_CALC (i.e., plot-level estimate, condition, and adjustment for estimation).

9.7.16 ADJ_FACTOR_FWD_SM

Adjustment factor for small fine woody debris. A value that adjusts the population estimates to account for partially nonsampled transects due to hazardous conditions or denied access. This attribute is used in the process that populates adjusted values in COND_DWM_CALC (i.e., plot-level estimate, condition, and adjustment for estimation).

9.7.17 ADJ_FACTOR_FWD_LG

Adjustment factor for large fine woody debris. A value that adjusts the population estimates to account for partially nonsampled transects due to hazardous conditions or denied access. This attribute is used in the process that populates adjusted values in COND_DWM_CALC (i.e., plot-level estimate, condition, and adjustment for estimation).

9.7.18 ADJ_FACTOR_DUFF

Adjustment factor for the duff and litter layer. A value that adjusts the population estimates to account for partially nonsampled points due to hazardous conditions or denied access. This attribute is used in the process that populates adjusted values in COND_DWM_CALC (i.e., plot-level estimate, condition, and adjustment for estimation).

9.7.19 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

9.7.20 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

9.7.21 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

9.7.22 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

9.7.23 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

9.7.24 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

9.7.25 ADJ_FACTOR_PILE

Adjustment factor for piles. A value that adjusts the population estimates to account for partially nonsampled transects or plots due to hazardous conditions or denied access.

9.7.26 ADJ_FACTOR_REGEN_MICR

Adjustment factor for tree regeneration indicator on the microplot. A value that adjusts the population estimates to account for partially nonsampled plots due to hazardous conditions or denied access. This is the ratio of the total area of the microplot footprint to the area of the microplot footprint that was actually sampled. This value is for plots that include an optional tree regeneration indicator sample protocol. Only populated by certain FIA work units (SURVEY.RSCD = 23, 24).

9.7.27 ADJ_FACTOR_INV_SUBP

Adjustment factor for invasive species on the subplot. A value that adjusts the population estimates to account for partially nonsampled plots due to hazardous conditions or denied access. This is the ratio of the total area of the subplot footprint to the area of the subplot footprint that was actually sampled. This value is for plots that include an optional invasive species sample protocol.

9.7.28 ADJ_FACTOR_P2VEG_SUBP

Adjustment factor for Phase 2 vegetation profile on the subplot. A value that adjusts the population estimates to account for partially nonsampled plots due to hazardous conditions or denied access. This is the ratio of the total area of the subplot footprint to the area of the subplot footprint that was actually sampled. This value is for plots that include an optional P2 (Phase 2) vegetation profile sample protocol.

9.7.29 ADJ_FACTOR_GRNDLYR_MICROQUAD

Adjustment factor for ground cover layer on the microquadrat. A value that adjusts the population estimates to account for partially nonsampled plots due to hazardous conditions or denied access. This is the ratio of the total area of the microquadrat footprint to the area of the microquadrat footprint that was actually sampled. This value is for plots that include an optional ground cover layer sample protocol. Only populated by certain FIA work units (SURVEY.RSCD = 27).

9.7.30 ADJ_FACTOR_SOIL

Adjustment factor for soils. A value that adjusts the population estimates to account for partially nonsampled plots due to hazardous conditions or denied access. This is the ratio of the total soil points of the footprint to the number of soil points that were actually sampled. This value is for plots that include a soil sample.

Section revision: 04.2024

Chapter 10: Database Tables - Plot Geometry; Plot Snapshot

Chapter Contents:

Section	Database table	Oracle table name
10.1	Plot Geometry Table	PLOTGEOM
10.2	Plot Snapshot Table	PLOTSNAP

Definitions for database tables:

For further detail and examples, refer to the Overview (chapter 1).

Keys Presented with the Tables

Key type	Definition
Primary	A single column in a table whose values uniquely identify each row in an Oracle table.
Unique	Multiple columns in a table whose values uniquely identify each row in an Oracle table. There can be one and only one row for each unique key value.
Natural	A type of unique key made from existing attributes in the table. It is stored as an index in this database.
Foreign	A column in a table that is used as a link to a matching column in another Oracle table.

Oracle Data Types

Oracle data type	Definition
DATE	A data type that stores the date.
NUMBER	A data type that contains only numbers, positive or negative, with a floating-decimal point.
NUMBER(SIZE, D)	A data type that contains only numbers up to a specified maximum size. The maximum size (<i>and optional fixed-decimal point</i>) is specified by the value(s) listed in the parentheses.
VARCHAR2(SIZE)	A data type that contains alphanumeric data (numbers and/or characters) up to a specified maximum size.

10.1 Plot Geometry Table

(Oracle table name: PLOTGEOM)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
10.1.1	CN	Sequence number	VARCHAR2(34)
10.1.2	STATECD	State code	NUMBER
10.1.3	INVYR	Inventory year	NUMBER
10.1.4	UNITCD	Survey unit code	NUMBER
10.1.5	COUNTYCD	County code	NUMBER
10.1.6	PLOT	Plot number	NUMBER
10.1.7	LAT	Latitude	NUMBER
10.1.8	LON	Longitude	NUMBER
10.1.9	CONGCD	Congressional district code	NUMBER
10.1.10	ECOSUBCD	Ecological subsection code	VARCHAR2(7)
10.1.11	HUC	Hydrologic unit code	NUMBER
10.1.12	EMAP_HEX	EMAP hexagon	NUMBER
10.1.13	FIPSCOUNTY	FIPS county code	NUMBER
10.1.14	ROADLESSCD	Roadless code	VARCHAR2(4)
10.1.15	CREATED_BY	Created by	VARCHAR2(30)
10.1.16	CREATED_DATE	Created date	DATE
10.1.17	CREATED_IN_INSTANCE	Created in instance	NUMBER(6)
10.1.18	MODIFIED_BY	Modified by	VARCHAR2(30)
10.1.19	MODIFIED_DATE	Modified date	DATE
10.1.20	MODIFIED_IN_INSTANCE	Modified in instance	NUMBER(6)
10.1.21	ALP_ADFORCD	Administrative forest code	NUMBER
10.1.22	FVS_VARIANT	Forest vegetation simulator variant	VARCHAR2(2)
10.1.23	FVS_LOC_CD	Forest vegetation simulator location code	NUMBER(6)
10.1.24	FVS_REGION	Forest vegetation simulator region code	NUMBER(2)
10.1.25	FVS_FOREST	Forest vegetation simulator forest code	NUMBER(2)
10.1.26	FVS_DISTRICT	Forest vegetation simulator district code	NUMBER(2)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	PLOTGEOM_PK
Foreign	CN	PLOTGEOM to PLOT	PLOTGEOM_PLT_FK

10.1.1 CN

Sequence number. A unique sequence number used to identify a plot geometry record, and is equal to the CN identifier in the PLOT table.

10.1.2 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

10.1.3 INVYR

Inventory year. See SURVEY.[INVYR](#) description for definition.

10.1.4 UNITCD

Survey unit code. Forest Inventory and Analysis survey unit identification number. Survey units are usually groups of counties within each State. For periodic inventories, survey units may be made up of lands of particular owners. Refer to [appendix B](#) for codes.

10.1.5 COUNTYCD

County code. The identification number for a county, parish, watershed, borough, or similar governmental unit in a State. FIPS codes from the Bureau of the Census are used. Refer to [appendix B](#) for codes.

Note: Summarizing data by county is not recommended for Alaska datasets. For assistance with analyses for Alaska, please consult the PNWRS analyst contact listed in [table 1-1](#).

10.1.6 PLOT

Plot number. An identifier for a plot. Along with INVYR, STATECD, UNITCD, COUNTYCD, PLOT may be used to uniquely identify a plot.

10.1.7 LAT

Latitude. The approximate latitude of the plot in decimal degrees using NAD 83 datum (these [Pacific Islands](#) plots use WSG84 datum - SURVEY.RSCD = 26 and SURVEY.STATECD = 60, 64, 66, 68, 69, or 70). Actual plot coordinates cannot be released because of a Privacy provision enacted by Congress in the Food Security Act of 1985. Therefore, this attribute is approximately +/- 1 mile and, for annual inventory data, most plots are within +/- 1/2 mile. Annual data have additional uncertainty for private plots caused by swapping plot coordinates for up to 20 percent of the plots. In some cases, the county centroid is used when the actual coordinate is not available.

10.1.8 LON

Longitude. The approximate longitude of the plot in decimal degrees using NAD 83 datum (these [Pacific Islands](#) plots use WSG84 datum - SURVEY.RSCD = 26 and SURVEY.STATECD = 60, 64, 66, 68, 69, or 70). Actual plot coordinates cannot be released because of a Privacy provision enacted by Congress in the Food Security Act of 1985. Therefore, this attribute is approximately +/- 1 mile and, for annual inventory data, most plots are within +/- 1/2 mile. Annual data have additional uncertainty for private plots caused by swapping plot coordinates for up to 20 percent of the plots. In some cases, the county centroid is used when the actual coordinate is not available.

10.1.9 CONGCD

Congressional district code. A territorial division of a State from which a member of the U.S. House of Representatives is elected. The congressional district code assigned to a plot (regardless of when it was measured) is for the current Congress CONGCD is a 4-digit code. The first 2 digits are the State FIPS code and the last 2 digits are the congressional district number. If a State has only one congressional district, the congressional district number is 00. If a plot's congressional district assignment falls in a State other than the plot's actual State due to using the approximate coordinates, the congressional district code will be for the nearest congressional district in the correct State. This attribute is coded for the coterminous States and Alaska, and is left blank (null) in all other instances. For more information about the coverage used to assign this attribute, see National Atlas of the United States (2007). This assignment is derived using a spatial intersection of PLOT.LAT and PLOT.LON.

10.1.10 ECOSUBCD

Ecological subsection code. An area of similar surficial geology, lithology, geomorphic process, soil groups, subregional climate, and potential natural communities. Subsection boundaries usually correspond with discrete changes in geomorphology. Subsection information is used for broad planning and assessment. Subsection codes for the coterminous United States were developed as part of the "[Ecological Subregions: Sections and Subsections for the Conterminous United States](#) (Cleland and others 2007) (<https://www.fs.usda.gov/research/treesearch/48672>).

For Alaska, the ecological section codes are equivalent to the ecoregions designated by Nowacki and others in Ecoregions of Alaska: 2001. U.S. Geological Survey Open-File Report 02-297.

A full description of Alaska ecoregions can be found in Spencer and others (2002) "[Home is where the habitat is: An ecosystem foundation for wildlife distribution and behavior](#)" (https://www.nsf.gov/pubs/2003/nsf03021/nsf03021_2.pdf). In: Arctic Research of the United States. 2002. Volume 16:6-17. This attribute is coded for the coterminous United States, southeast and south coastal Alaska, and is left blank (null) in all other instances. This assignment is derived using a spatial intersection of PLOT.LAT and PLOT.LON.

10.1.11 HUC

Hydrologic unit code. A code representing a watershed area that is the fourth-level hydrological subdivision as classified by the [USGS National Water Information System \(NWIS\)](#). URL: <https://water.usgs.gov/GIS/huc.html>. This assignment is derived using a spatial intersection of PLOT.LAT and PLOT.LON.

10.1.12 EMAP_HEX

EMAP hexagon. The identifier for the approximately 160,000 acre Environmental Monitoring and Assessment Program (EMAP) hexagon in which the plot is located. [EMAP hexagons](#) are available to the public, cover the coterminous United States, and have been used in summarizing and aggregating data about numerous natural resources. This assignment is derived using a spatial intersection of PLOT.LAT and PLOT.LON. May not be populated for some FIA work units when PLOT.MANUAL <1.0.

10.1.13 FIPSCOUNTY

FIPS county code. State code concatenated with the county code.

10.1.14 ROADLESSCD

Roadless code. A code indicating the management type of the inventoried roadless area the plot falls in, as designated by USDA Forest Service, within the National Forest System lands. The current metadata files available at the [National Inventoried Roadless Areas](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fsm8_037001.html) web page (https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fsm8_037001.html). This assignment is derived using a spatial intersection of PLOT.LAT and PLOT.LON.

Codes: ROADLESSCD

Code	Description
1B	Inventoried roadless areas where road construction and reconstruction is prohibited.
1B-1	Inventoried roadless areas that are recommended for wilderness designation in the forest plan and where road construction and reconstruction is prohibited.
1C	Inventoried roadless areas where road construction and reconstruction is not prohibited.

10.1.15 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

10.1.16 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

10.1.17 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

10.1.18 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

10.1.19 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

10.1.20 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

10.1.21 ALP_ADFORCD

Administrative forest code. Identifies the administrative unit (Forest Service Region and National Forest) in which the plot center is located. The first 2 digits of the 4-digit code are for the region number and the last 2 digits are for the Administrative National Forest number. Based solely on the most recent ALP (Automated Lands Program) layers (BASICOWNERSHIP and ADMINISTRATIVEFOREST) and the exact plot location. A plot can be assigned an ADFORCD irrespective of the plot's OWNCD value(s). Refer to [appendix C](#) for codes.

10.1.22 FVS_VARIANT

Forest vegetation simulator variant. A code indicating the Forest Vegetation Simulator (FVS) geographic variant assigned to the plot. The assignment is derived using a spatial intersection of PLOT.LAT and PLOT.LON, and the official Forest Vegetation Simulator variant map. See REF_FVS_VAR_NAME.FVS VARIANT for codes.

10.1.23 FVS_LOC_CD

Forest vegetation simulator location code. A code indicating the National Forest System location assigned to the plot using a spatial intersection of PLOT.LAT and PLOT.LON, and the official Forest Vegetation Simulator variant map. All FIA plot locations that fall within the boundary of an FVS geographic variant are assigned a location code, regardless of the ownership on which they occur. FVS_LOC_CD is stored in the format RRFF, with RR being NFS Region codes 01-06, 08-10 or other jurisdictions/ownerships (07), and FF being NFS Forest codes. There is an exception to this format when the plot falls within the boundary of the Southern (SN) variant, where the format is RFFDD, with R being NFS Region code (8), FF being NFS Forest codes, and DD being the NFS District code. See [appendix M](#) for codes.

10.1.24 FVS_REGION

Forest vegetation simulator region code. A code indicating the NFS Region assigned to the plot using a spatial intersection of PLOT.LAT and PLOT.LON and the official Forest Vegetation Simulator variant map. All FIA plot locations that fall within the boundary of an FVS variant are assigned to a region, regardless of the ownership on which they occur. See [appendix M](#) for codes.

10.1.25 FVS_FOREST

Forest vegetation simulator forest code. A code indicating the NFS National Forest assigned to the plot using a spatial intersection of PLOT.LAT and PLOT.LON and the official Forest Vegetation Simulator variant map. All FIA plot locations that fall within the boundary of an FVS variant are assigned to a forest, regardless of the ownership on which they occur. This is not to be confused with the administrative forest codes (COND.ADFORCD). See [appendix M](#) for codes.

10.1.26 FVS_DISTRICT

Forest vegetation simulator district code. A code indicating the NFS National Forest District assigned to the plot using a spatial intersection of PLOT.LAT and PLOT.LON and the official Forest Vegetation Simulator variant map. All FIA plot locations that fall within the boundary of an FVS variant are assigned to a district, regardless of the ownership on which they occur. See [appendix M](#) for codes.

10.2 Plot Snapshot Table

(Oracle table name: PLOTSNAP)

Subsection	Column name	Descriptive name	Oracle data type
10.2.1	CN	Sequence number	VARCHAR2(34)
10.2.2	SRV_CN	Survey sequence number	VARCHAR2(34)
10.2.3	CTY_CN	County sequence number	VARCHAR2(34)
10.2.4	PREV_PLT_CN	Previous plot sequence number	VARCHAR2(34)
10.2.5	INVYR	Inventory year	NUMBER(4)
10.2.6	STATECD	State code	NUMBER(4)
10.2.7	UNITCD	Survey unit code	NUMBER(2)
10.2.8	COUNTYCD	County code	NUMBER(3)
10.2.9	PLOT	Plot number	NUMBER(5)
10.2.10	PLOT_STATUS_CD	Plot status code	NUMBER(1)
10.2.11	PLOT_NONSAMPLE_REASN_CD	Plot nonsampled reason code	NUMBER(2)
10.2.12	MEASYEAR	Measurement year	NUMBER(4)
10.2.13	MEASMON	Measurement month	NUMBER(2)
10.2.14	MEASDAY	Measurement day	NUMBER(2)
10.2.15	REMPER	Remeasurement period	NUMBER(3,1)
10.2.16	KINDCD	Sample kind code	NUMBER(2)
10.2.17	DESIGNCD	Design code	NUMBER(4)
10.2.18	RDDISTCD	Horizontal distance to improved road code	NUMBER(2)
10.2.19	WATERCD	Water on plot code	NUMBER(2)
10.2.20	LAT	Latitude	NUMBER(8,6)
10.2.21	LON	Longitude	NUMBER(9,6)
10.2.22	ELEV	Elevation	NUMBER(5)
10.2.23	GROW_TYP_CD	Type of annual volume growth code	NUMBER(2)
10.2.24	MORT_TYP_CD	Type of annual mortality volume code	NUMBER(2)
10.2.25	P2PANEL	Phase 2 panel number	NUMBER(2)
10.2.26	P3PANEL	Phase 3 panel number	NUMBER(2)
10.2.27	ECOSUBCD	Ecological subsection code	VACHAR2(7)
10.2.28	CONGCD	Congressional district code	NUMBER(4)
10.2.29	MANUAL	Manual (field guide) version number	NUMBER(3,1)
10.2.30	MANUAL_DB	Manual version of the data	NUMBER(3,1)
10.2.31	SUBPANEL	Subpanel	NUMBER(2)
10.2.32	KINDCD_NC	Sample kind code, North Central	NUMBER(2)
10.2.33	QA_STATUS	Quality assurance status	NUMBER(1)

Subsection	Column name	Descriptive name	Oracle data type
10.2.34	CREATED_BY	Created by	VARCHAR2(30)
10.2.35	CREATED_DATE	Created date	DATE
10.2.36	CREATED_IN_INSTANCE	Created in instance	NUMBER(6)
10.2.37	MODIFIED_BY	Modified by	VARCHAR2(30)
10.2.38	MODIFIED_DATE	Modified date	DATE
10.2.39	MODIFIED_IN_INSTANCE	Modified in instance	NUMBER(6)
10.2.40	MICROPLOT_LOC	Microplot location	VARCHAR2(12)
10.2.41	DECLINATION	Declination	NUMBER(4,1)
10.2.42	EMAP_HEX	EMAP hexagon	NUMBER(7)
10.2.43	SAMP_METHOD_CD	Sample method code	NUMBER(1)
10.2.44	SUBP_EXAMINE_CD	Subplots examined code	NUMBER(1)
10.2.45	MACRO_BREAKPOINT_DIA	Macroplot breakpoint diameter	NUMBER(2)
10.2.46	INTENSITY	Intensity	VARCHAR2(2)
10.2.47	CYCLE	Inventory cycle number	NUMBER(2)
10.2.48	SUBCYCLE	Inventory subcycle number	NUMBER(2)
10.2.49	ECO_UNIT_PNW	Ecological unit, Pacific Northwest Research Station	VARCHAR2(10)
10.2.50	TOPO_POSITION_PNW	Topographic position, Pacific Northwest Research Station	VARCHAR2(2)
10.2.51	EVAL_GRP_CN	Evaluation group sequence number	VARCHAR2(34)
10.2.52	EVAL_GRP	Evaluation group	NUMBER(6)
10.2.53	EXPALL	Expansion factor for EXPALL evaluation	NUMBER
10.2.54	EXPCURR	Expansion factor for EXPCURR evaluation	NUMBER
10.2.55	EXPVOL	Expansion factor for EXPVOL evaluation	NUMBER
10.2.56	EXPGROW	Expansion factor for EXPGROW evaluation	NUMBER
10.2.57	EXPMORT	Expansion factor for EXPMORT evaluation	NUMBER
10.2.58	EXPREMV	Expansion factor for EXPREMV evaluation	NUMBER
10.2.59	EXPCHNG	Expansion factor for EXPCHNG evaluation	NUMBER
10.2.60	EXPDWM	Expansion factor for EXPDWM evaluation	NUMBER
10.2.61	EXPREGEN	Expansion factor for EXPREGEN evaluation	NUMBER
10.2.62	EXPINV	Expansion factor for EXPINV evaluation	NUMBER

Subsection	Column name	Descriptive name	Oracle data type
10.2.63	EXPP2VEG	Expansion factor for EXPP2VEG evaluation	NUMBER
10.2.64	EXPSoIL	Expansion factor for EXPSoIL evaluation	NUMBER
10.2.65	EXPCRWN	Expansion factor for EXPCRWN evaluation	NUMBER
10.2.66	EXPGRNDLYR	Expansion factor for EXPGRNDLYR	NUMBER
10.2.67	ADJ_EXPALL	Adjustment factor for EXPALL evaluation	NUMBER
10.2.68	ADJ_EXPCURR	Adjustment factor for EXPCURR evaluation	NUMBER
10.2.69	ADJ_EXPVOL_MACR	Macroplot adjustment factor for EXPVOL evaluation	NUMBER
10.2.70	ADJ_EXPVOL_SUBP	Subplot adjustment factor for EXPVOL evaluation	NUMBER
10.2.71	ADJ_EXPVOL_MICR	Microplot adjustment factor for EXPVOL evaluation	NUMBER
10.2.72	ADJ_EXPGROW_MACR	Macroplot adjustment factor for EXPGROW evaluation	NUMBER
10.2.73	ADJ_EXPGROW_SUBP	Subplot adjustment factor for EXPGROW evaluation	NUMBER
10.2.74	ADJ_EXPGROW_MICR	Microplot adjustment factor for EXPGROW evaluation	NUMBER
10.2.75	ADJ_EXPMORT_MACR	Macroplot adjustment factor for EXPMORT evaluation	NUMBER
10.2.76	ADJ_EXPMORT_SUBP	Subplot adjustment factor for EXPMORT evaluation	NUMBER
10.2.77	ADJ_EXPMORT_MICR	Microplot adjustment factor for EXPMORT evaluation	NUMBER
10.2.78	ADJ_EXPREMV_MACR	Macroplot adjustment factor for EXPREMV evaluation	NUMBER
10.2.79	ADJ_EXPREMV_SUBP	Subplot adjustment factor for EXPREMV evaluation	NUMBER
10.2.80	ADJ_EXPREMV_MICR	Microplot adjustment factor for EXPREMV evaluation	NUMBER
10.2.81	ADJ_EXPCHNG_MACR	Macroplot adjustment factor for EXPCHNG evaluation	NUMBER
10.2.82	ADJ_EXPCHNG_SUBP	Subplot adjustment factor for EXPCHNG evaluation	NUMBER
10.2.83	ADJ_EXPCHNG_MICR	Microplot adjustment for EXPCHNG evaluation	NUMBER
10.2.84	ADJ_EXPDWM_CWD	Adjustment factor for coarse woody debris estimates using EXPDWM evaluation	NUMBER

Subsection	Column name	Descriptive name	Oracle data type
10.2.85	ADJ_EXPDWM_FWD_SM	Adjustment factor for small fine woody debris estimates using EXPDWM evaluation	NUMBER
10.2.86	ADJ_EXPDWM_FWD_LG	Adjustment factor large fine woody debris estimates using EXPDWM for evaluation	NUMBER
10.2.87	ADJ_EXPDWM_DUFF	Adjustment factor for duff, litter, and fuelbed estimates using EXPDWM evaluation	NUMBER
10.2.88	ADJ_EXPDWM_PILE	Adjustment factor for pile estimates using EXPDWM evaluation	NUMBER
10.2.89	ADJ_EXPREGEN_MICR	Microplot adjustment factor for estimates using EXPREGEN evaluation	NUMBER
10.2.90	ADJ_EXPINV_SUBP	Subplot adjustment factor for estimates using EXPINV evaluation	NUMBER
10.2.91	ADJ_EXPP2VEG_SUBP	Subplot adjustment factor for estimates using EXPP2VEG evaluation	NUMBER
10.2.92	ADJ_EXPSOIL	Adjustment factor for EXPSOIL evaluation	NUMBER
10.2.93	ADJ_EXPGRNDLYR_MICROQUA D	Microquadrat adjustment factor for estimates using EXPGRNDLYR evaluation type	NUMBER

Key Type	Column(s) order	Tables to link	Abbreviated notation
Unique	CN, EVAL_GRP	N/A	PLOTSNP_UK

10.2.1 CN

Sequence number. A unique sequence number (equal to the CN identifier in the PLOT table), which, combined with the EVAL_GRP_CN, is used to identify a plot snapshot record.

10.2.2 SRV_CN

Survey sequence number. Foreign key linking the plot snapshot record to the survey record.

10.2.3 CTY_CN

County sequence number. Foreign key linking the plot snapshot record to the county record.

10.2.4 PREV_PLT_CN

Previous plot sequence number. Foreign key linking the plot snapshot record to the previous inventory's plot record for this location. Only populated on remeasurement plots.

Note: PREV_PLT_CN is only valid for prior plot visits that were sampled using the FIA national plot design for annual inventory. It cannot be used to link prior plot visits that were sampled using a different plot design for periodic inventory.

10.2.5 INVYR

Inventory year. See SURVEY.[INVYR](#) description for definition.

10.2.6 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

10.2.7 UNITCD

Survey unit code. Forest Inventory and Analysis survey unit identification number. Survey units are usually groups of counties within each State. For periodic inventories, survey units may be made up of lands of particular owners. Refer to [appendix B](#) for codes.

10.2.8 COUNTYCD

County code. The identification number for a county, parish, watershed, borough, or similar governmental unit in a State. FIPS codes from the Bureau of the Census are used. Refer to [appendix B](#) for codes.

Note: Summarizing data by county is not recommended for Alaska datasets. For assistance with analyses for Alaska, please consult the PNWRS analyst contact listed in [table 1-1](#).

10.2.9 PLOT

Plot number. An identifier for a plot. Along with INVYR, STATECD, UNITCD, COUNTYCD, PLOT may be used to uniquely identify a plot.

10.2.10 PLOT_STATUS_CD

Plot status code. A code that describes the sampling status of the plot. Blank (null) values may be present for periodic inventories.

Codes: PLOT_STATUS_CD

Code	Description
1	Sampled - at least one accessible forest land condition present on plot.
2	Sampled - no accessible forest land condition present on plot.
3	Nonsampled.

10.2.11 PLOT_NONSAMPLE_REASON_CD

Plot nonsampled reason code. A code indicating the reason the entire plot was not sampled. Not populated for sampled plots.

Codes: PLOT_NONSAMPLE_REASN_CD

Code	Description
01	Outside U.S. boundary - Entire plot is outside of the U.S. border.
02	Denied access area - Access to the entire plot is denied by the legal owner, or by the owner of the only reasonable route to the plot.
03	Hazardous - Entire plot cannot be accessed because of a hazard or danger, for example cliffs, quarries, strip mines, illegal substance plantations, high water, etc.
05	Lost data - Plot data file was discovered to be corrupt after a panel was completed and submitted for processing.
06	Lost plot - Entire plot cannot be found.
07	Wrong location - Previous plot can be found, but its placement is beyond the tolerance limits for plot location.
08	Skipped visit - Entire plot skipped. Used for plots that are not completed prior to the time a panel is finished and submitted for processing. This code is for office use only.
09	Dropped intensified plot - Intensified plot dropped due to a change in grid density. This code used only by units engaged in intensification. This code is for office use only.
10	Other - Entire plot not sampled due to a reason other than one of the specific reasons already listed.
11	Ocean - Plot falls in ocean water below mean high tide line.

10.2.12 MEASYEAR

Measurement year. The year in which the plot was completed. MEASYEAR may differ from INVYR.

10.2.13 MEASMON

Measurement month. The month in which the plot was completed. May be blank (null) for periodic inventory.

Codes: MEASMON

Code	Description
1	January.
2	February.
3	March.
4	April.
5	May.
6	June.
7	July.
8	August.
9	September.
10	October.
11	November.
12	December.

10.2.14 MEASDAY

Measurement day. The day of the month in which the plot was completed. May be blank (null) for periodic inventory.

10.2.15 REMPER

Remeasurement period. The number of years between measurements for remeasured plots. This attribute is blank (null) for new plots or remeasured plots that are not used for growth, removals, or mortality estimates. For data processed with NIMS, REMPER is the number of years between measurements to the nearest 0.1 year. For data processed with systems other than NIMS, remeasurement period is based on the number of growing seasons between measurements. Allocation of parts of the growing season by month is different for each FIA work unit. Contact the appropriate FIA work unit ([table 1-1](#)) for information on how this is done for a particular State.

10.2.16 KINDCD

Sample kind code. A code indicating the type of plot installation. Database users may also want to examine DESIGNCD to obtain additional information about the kind of plot being selected.

Codes: KINDCD

Code	Description
0	Periodic inventory plot.
1	Initial installation of a National design plot.
2	Remeasurement of previously installed National design plot.
3	Replacement of previously installed National design plot.
4	Modeled periodic inventory plot (Northeastern and North Central only).

10.2.17 DESIGNCD

Design code. A code indicating the type of plot design used to collect the data. Refer to [appendix G](#) for a list of codes and descriptions.

10.2.18 RDDISTCD

Horizontal distance to improved road code. The straight-line distance from plot center to the nearest improved road, which is a road of any width that is maintained as evidenced by pavement, gravel, grading, ditching, and/or other improvements. May not be populated for some FIA work units when PLOT.MANUAL <1.0.

Codes: RDDISTCD

Code	Description
1	100 ft or less.
2	101 ft to 300 ft.
3	301 ft to 500 ft.
4	501 ft to 1000 ft.
5	1001 ft to 1/2 mile.
6	1/2 to 1 mile.
7	1 to 3 miles.

Code	Description
8	3 to 5 miles.
9	Greater than 5 miles.

10.2.19 WATERCD

Water on plot code. Water body <1 acre in size or a stream <30 feet wide that has the greatest impact on the area within the sampled portions of any of the four subplots. The coding hierarchy is listed in order from large permanent water to temporary water. May not be populated for some FIA work units.

Codes: WATERCD

Code	Description
0	None - no water sources within the sampled condition class(es).
1	Permanent streams or ponds too small to qualify as noncensus water.
2	Permanent water in the form of deep swamps, bogs, marshes without standing trees present and less than 1.0 acre in size, or with standing trees.
3	Ditch/canal - human-made channels used as a means of moving water, e.g., for irrigation or drainage, which are too small to qualify as noncensus water.
4	Temporary streams.
5	Flood zones - evidence of flooding when bodies of water exceed their natural banks.
9	Other temporary water.

10.2.20 LAT

Latitude. The approximate latitude of the plot in decimal degrees using NAD 83 datum (these [Pacific Islands](#) plots use WSG84 datum - SURVEY.RSCD = 26 and SURVEY.STATECD = 60, 64, 66, 68, 69, or 70). Actual plot coordinates cannot be released because of a Privacy provision enacted by Congress in the Food Security Act of 1985. Therefore, this attribute is approximately +/- 1 mile and, for annual inventory data, most plots are within +/- 1/2 mile. Annual data have additional uncertainty for private plots caused by swapping plot coordinates for up to 20 percent of the plots. In some cases, the county centroid is used when the actual coordinate is not available.

10.2.21 LON

Longitude. The approximate longitude of the plot in decimal degrees using NAD 83 datum (these [Pacific Islands](#) plots use WSG84 datum - SURVEY.RSCD = 26 and SURVEY.STATECD = 60, 64, 66, 68, 69, or 70). Actual plot coordinates cannot be released because of a Privacy provision enacted by Congress in the Food Security Act of 1985. Therefore, this attribute is approximately +/- 1 mile and, for annual inventory data, most plots are within +/- 1/2 mile. Annual data have additional uncertainty for private plots caused by swapping plot coordinates for up to 20 percent of the plots. In some cases, the county centroid is used when the actual coordinate is not available.

10.2.22 ELEV

Elevation. The distance the plot is located above sea level. ELEV is based on approximate plot coordinates (see LAT and LON). For certain FIA work units (SURVEY.RSCD = 22, 23, 24, 33), the ELEV value is rounded to the nearest 10 feet. For other FIA work units

(SURVEY.RSCD = 26, 27), the ELEV value is based on 200-foot groupings, and then a mid-point value is returned starting at 100 feet. Negative values indicate distance below sea level.

10.2.23 GROW_TYP_CD

Type of annual volume growth code. A code indicating how volume growth is estimated. Current annual growth is an estimate of the amount of volume that was added to a tree in the year before the tree was sampled, and is based on the measured diameter increment recorded when the tree was sampled or on a modeled diameter for the previous year. Periodic annual growth is an estimate of the average annual change in volume occurring between two measurements, usually the current inventory and the previous inventory, where the same plot is evaluated twice. Periodic annual growth is the increase in volume between inventories divided by the number of years between each inventory. This attribute is blank (null) if the plot does not contribute to the growth estimate.

Codes: GROW_TYP_CD

Code	Description
1	Current annual.
2	Periodic annual.

10.2.24 MORT_TYP_CD

Type of annual mortality volume code. A code indicating how mortality volume is estimated. Current annual mortality is an estimate of the volume of trees dying in the year before the plot was measured, and is based on the year of death or on a modeled estimate. Periodic annual mortality is an estimate of the average annual volume of trees dying between two measurements, usually the current inventory and previous inventory, where the same plot is evaluated twice. Periodic annual mortality is the loss of volume between inventories divided by the number of years between each inventory. Periodic average annual mortality is the most common type of annual mortality estimated. This attribute is blank (null) if the plot does not contribute to the mortality estimate.

Codes: MORT_TYP_CD

Code	Description
1	Current annual.
2	Periodic annual.

10.2.25 P2PANEL

Phase 2 panel number. The value for P2PANEL ranges from 1 to 5 for annual inventories and is blank (null) for periodic inventories. A panel is a sample in which the same elements are measured on two or more occasions. FIA divides the plots in each State into 5 panels that can be used to independently sample the population.

10.2.26 P3PANEL

Phase 3 panel number. A panel is a sample in which the same elements are measured on two or more occasions. FIA divides the plots in each State into 5 panels that can be used to independently sample the population. The value for P3PANEL ranges from 1 to 5 for

those plots where Phase 3 data were collected. If the plot is not a Phase 3 plot, then this attribute is left blank (null).

10.2.27 ECOSUBCD

Ecological subsection code. A code identifying an area of similar surficial geology, lithology, geomorphic process, soil groups, subregional climate, and potential natural communities. See PLOT.[ECOSUBCD](#) for details on the source of the codes.

10.2.28 CONGCD

Congressional district code. A territorial division of a State from which a member of the U.S. House of Representatives is elected. See PLOT.[CONGCD](#) for other details related to congressional code.

10.2.29 MANUAL

Manual (field guide) version number. Version number of the Field Guide used to describe procedures for collecting data on the plot. The National FIA Field Guide began with version 1.0; therefore data taken using the National Field procedures will have PLOT.MANUAL ≥ 1.0 . Data taken according to field instructions prior to the use of the National Field Guide have PLOT.MANUAL < 1.0 .

10.2.30 MANUAL_DB

Manual version of the data. Version of the National Field Guide used to describe procedures for collecting data on the plot. The data in the database have been standardized to this version. Versions of the national field guide are available on the [FIA website](#) (<https://www.fia.fs.usda.gov/library/field-guides-methods-proc/index.php>).

10.2.31 SUBPANEL

Subpanel. Annual inventory subpanel assignment for the plot for FIA work units using subpaneling. FIA uses a 5-panel system (see [P2PANEL](#)), but may further subdivide the 5 panels into subpanels. The following FIA work units subdivide each P2PANEL into 2 subpanels (SUBPANEL = 1 or 2), for a total of 10 subpanels. For these FIA work units, 1 subpanel is usually scheduled for measurement each year: RMRS (SURVEY.RSCD = 22); PNWRS (SURVEY.RSCD = 26, 27); SRS (SURVEY.RSCD = 33, only for Oklahoma where UNITCD ≥ 3). Populated for all plots using the National Field Guide protocols (MANUAL ≥ 1.0).

Codes: SUBPANEL

Code	Description
0	Subpaneling not used.
1	Subpanel1.
2	Subpanel2.

10.2.32 KINDCD_NC

Sample kind code, North Central. This attribute is populated through 2005 for the former North Central work unit (SURVEY.RSCD = 23) and is blank (null) for all other FIA work units.

Codes: KINDCD_NC

Code	Description
0	New/lost.
6	Remeasured.
8	Old location but not remeasured.
20	Skipped.
33	Replacement of lost plot.

10.2.33 QA_STATUS

Quality assurance status. A code indicating the type of plot data collected. Production plots have QA_STATUS = 1 or 7. May not be populated for some FIA work units when PLOT.MANUAL <1.0.

Codes: QA_STATUS

Code	Description
1	Standard production plot.
2	Cold check.
3	Reference plot (off grid).
4	Training/practice plot (off grid).
5	Botched plot file (disregard during data processing).

10.2.34 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

10.2.35 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

10.2.36 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

10.2.37 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

10.2.38 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

10.2.39 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

10.2.40 MICROPLOT_LOC

Microplot location. A code indicating the location of the microplot center on the subplot. The offset microplot center is located 12 feet due east (90 degrees) of subplot center. The current standard is that the microplot is located in the 'OFFSET' location, but some earlier inventories, including some early panels of the annual inventory, may contain data where the microplot was located at the 'CENTER' location. Populated for annual inventory and may be populated for periodic inventory.

Codes: MICROPLOT_LOC

Code	Description
OFFSET	The microplot center is offset from the subplot center.
CENTER	The microplot center is at the subplot center.

10.2.41 DECLINATION

Declination. (*core optional*) The azimuth correction used to adjust magnetic north to true north and is defined as follows:

$$\text{DECLINATION} = (\text{TRUE NORTH} - \text{MAGNETIC NORTH})$$

This field is only used in cases where FIA work units are adjusting azimuths to correspond to true north. This field includes a decimal place because the USGS corrections are provided to the nearest half degree. DECLINATION is set to a value of 0.0 for plots that are sampled using magnetic azimuths. Only populated by certain FIA work units (SURVEY.RSCD = 26, 27).

10.2.42 EMAP_HEX

EMAP hexagon. The identifier for the approximately 160,000 acre Environmental Monitoring and Assessment Program (EMAP) hexagon in which the plot is located. [EMAP hexagons](#) are available to the public, cover the coterminous United States, and have been used in summarizing and aggregating data about numerous natural resources. For information about State code 5, contact the regional representative ([table 1-1](#)). May not be populated for some FIA work units when PLOT.MANUAL <1.0.

10.2.43 SAMP_METHOD_CD

Sample method code. A code indicating if the plot was observed in the field or remotely sensed in the office.

Codes: SAMP_METHOD_CD

Code	Description
1	Field visited, meaning a field crew physically examined the plot and recorded information at least about subplot 1 center condition (see SUBP_EXAMINE_CD below).
2	Remotely sensed, meaning a determination was made using some type of imagery that a field visit was not necessary. When the plot is sampled remotely, the number of subplots examined (SUBP_EXAMINE_CD) usually equals 1.

10.2.44 SUBP_EXAMINE_CD

Subplots examined code. A code indicating the number of subplots examined. By default, PLOT_STATUS_CD = 1 plots have all 4 subplots examined.

Codes: SUBP_EXAMINE_CD

Code	Description
1	Only subplot 1 center condition examined and all other subplots assumed (inferred) to be the same.
4	All four subplots fully described (no assumptions/inferences).

10.2.45 MACRO_BREAKPOINT_DIA

Macroplot breakpoint diameter. (*core optional*) A macroplot breakpoint diameter is the diameter (either d.b.h. or d.r.c.) above which trees are measured on the plot extending from 0.01 to 58.9 feet horizontal distance from the center of each subplot. Examples of different breakpoint diameters used by western FIA work units are 24 inches or 30 inches (RSCD = 26, 27), or 21 inches (RSCD = 22). Installation of macroplots is *core optional* to more adequately sample large trees. If macroplots are not being installed, this item will be left blank (null).

10.2.46 INTENSITY

Intensity. A code used to identify FIA base grid annual inventory plots and plots that have been added to intensify a particular sample. Under the FIA base grid, one plot is collected in each theoretical hexagonal polygon, which is approximately 6,000 acres in size. INTENSITY values of 1-200 are tied to the FIA base grid. INTENSITY = 1 approximates 1 plot per 6,000 acres. INTENSITY values = 2-200 indicate further intensification tied to the FIA base grid in a specific repeatable geometric pattern. INTENSITY values greater than 1 may not have any relation to the amount of intensification applied (e.g., INTENSITY = 2 does NOT necessarily mean 2x spatial intensification). For certain FIA work units (SURVEY.RSCD = 26, 27), INTENSITY values greater than 201 are tied to the older Continuous Vegetation Survey (CVS) plot grid (used by FS Region 6, Oregon Department of Forestry, and BLM) or other special studies. Populated when PLOT.MANUAL ≥ 1.0 .

10.2.47 CYCLE

Inventory cycle number. See SURVEY.CYCLE description for definition.

10.2.48 SUBCYCLE

Inventory subcycle number. See SURVEY.SUBCYCLE description for definition.

10.2.49 ECO_UNIT_PNW

Ecological unit, Pacific Northwest Research Station. Plots taken by PNWRS FIA are assigned to the ecological unit in which they are located. Certain units have stocking adjustments made to the plots that occur on very low productivity lands, which thereby reduces the estimated potential productivity of the plot. More information can be found in MacLean (1973). Only populated by certain FIA work units (SURVEY.RSCD = 26, 27).

10.2.50 TOPO_POSITION_PNW

Topographic position, Pacific Northwest Research Station. The topographic position that describes the plot area. Illustrations available in Plot section of the PNWRS field guide located at the web page for [PNWRS FIA Field Manuals](#) (<https://www.fs.usda.gov/pnw/page/pnw-fia-field-manuals-0>). Adapted from information found in Wilson (1900). Only populated by certain FIA work units (SURVEY.RSCD = 26).

Codes: TOPO_POSITION_PNW

Code	Topographic position	Common shape of slope
1	Ridge top or mountain peak over 130 feet.	Flat.
2	Narrow ridge top or mountain peak over 130 feet wide.	Convex.
3	Side hill - upper 1/3.	Convex.
4	Side hill - middle 1/3.	No rounding.
5	Side hill - lower 1/3.	Concave.
6	Canyon bottom less than 660 feet wide.	Concave.
7	Bench, terrace or dry flat.	Flat.
8	Broad alluvial flat over 660 feet wide.	Flat.
9	Swamp or wet flat.	Flat.

10.2.51 EVAL_GRP_CN

Evaluation group sequence number. Foreign key linking the plot snapshot record to the population evaluation group record.

10.2.52 EVAL_GRP

Evaluation group. An identifier for the evaluation group. This identifier includes the "State code" (first two digits) and the "year" (last four digits) used to identify the evaluation group. The last year of a measurement interval (which is a "range of years" that is typically 5, 7, or 10 years in length) is used for the identifier label.

10.2.53 EXPALL

Expansion factor for EXPALL evaluation. The value of POP_STRATUM.EXPNS for estimates using evaluations where 'EXPALL' is recorded in the POP_EVAL_TYP column. See REF_POP_EVAL_TYP_DESCR.EVAL_TYP_CD for descriptions.

10.2.54 EXPCURR

Expansion factor for EXPCURR evaluation. The value of POP_STRATUM.EXPNS for estimates using evaluations where 'EXPCURR' is recorded in the POP_EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPCURR evaluation. See REF_POP_EVAL_TYP_DESCR.EVAL_TYP_CD for descriptions.

10.2.55 EXPVOL

Expansion factor for EXPVOL evaluation. The value of POP_STRATUM.EXPNS for estimates using evaluations where 'EXPVOL' is recorded in the POP_EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPVOL evaluation. See REF_POP_EVAL_TYP_DESCR.EVAL_TYP_CD for descriptions.

10.2.56 EXPGROW

Expansion factor for EXPGROW evaluation. The value of POP_STRATUM.EXPNS for estimates using evaluations where 'EXPGROW' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPGROW evaluation. See REF_POP_EVAL_TYP_DESCR.EVAL_TYP_CD for descriptions.

10.2.57 EXPMORT

Expansion factor for EXPMORT evaluation. The value of POP_STRATUM.EXPNS for estimates using evaluations where 'EXPMORT' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPMORT evaluation. See REF_POP_EVAL_TYP_DESCR.[EVAL_TYP_CD](#) for descriptions.

10.2.58 EXPREMV

Expansion factor for EXPREMV evaluation. The value of POP_STRATUM.EXPNS for estimates using evaluations where 'EXPREMV' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPREMV evaluation. See REF_POP_EVAL_TYP_DESCR.[EVAL_TYP_CD](#) for descriptions.

10.2.59 EXPCHNG

Expansion factor for EXPCHNG evaluation. The value of POP_STRATUM.EXPNS for estimates using evaluations where 'EXPCHNG' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPCHNG evaluation. See REF_POP_EVAL_TYP_DESCR.[EVAL_TYP_CD](#) for descriptions.

10.2.60 EXPDWM

Expansion factor for EXPDWM evaluation. The value of POP_STRATUM.EXPNS for estimates using evaluations where 'EXPDWM' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPDWM evaluation. See REF_POP_EVAL_TYP_DESCR.[EVAL_TYP_CD](#) for descriptions.

10.2.61 EXPREGEN

Expansion factor for EXPREGEN evaluation. The value of POP_STRATUM.EXPNS for estimates using evaluations where 'EXPREGEN' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPREGEN evaluation. See REF_POP_EVAL_TYP_DESCR.[EVAL_TYP_CD](#) for descriptions.

10.2.62 EXPINV

Expansion factor for EXPINV evaluation. The value of POP_STRATUM.EXPNS for estimates using evaluations where 'EXPINV' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPINV evaluation. See REF_POP_EVAL_TYP_DESCR.[EVAL_TYP_CD](#) for descriptions.

10.2.63 EXPP2VEG

Expansion factor for EXPP2VEG evaluation. The value of POP_STRATUM.EXPNS for estimates using evaluations where 'EXPP2VEG' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPP2VEG evaluation. See REF_POP_EVAL_TYP_DESCR.[EVAL_TYP_CD](#) for descriptions.

10.2.64 EXPSOIL

Expansion factor for EXPSOIL evaluation. The value of POP_STRATUM.EXPNS for estimates using evaluations where 'EXPSOIL' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPSOIL evaluation. See REF_POP_EVAL_TYP_DESCR.[EVAL_TYP_CD](#) for descriptions.

10.2.65 EXPCRWN

Expansion factor for EXPCRWN evaluation. The value of POP_STRATUM.EXPNS for estimates using evaluations where 'EXPCRWN' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPCRWN evaluation. See REF_POP_EVAL_TYP_DESCR.[EVAL_TYP_CD](#) for descriptions.

10.2.66 EXPGRNDLYR

Expansion factor for EXPGRNDLYR evaluation. The value of POP_STRATUM.EXPNS for estimates using evaluations where 'EXPGRNDLYR' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPGRNDLYR evaluation. See REF_POP_EVAL_TYP_DESCR.[EVAL_TYP_CD](#) for descriptions.

10.2.67 ADJ_EXPALL

Adjustment factor for EXPALL evaluation. The value of either POP_STRATUM.ADJ_FACTOR_SUBP or POP_STRATUM.ADJ_FACTOR_MACR (depending on the value of COND.PROP_BASIS) for estimates using evaluations where 'EXPALL' is recorded in the POP_EVAL_TYP.EVAL_TYP column. See REF_POP_EVAL_TYP_DESCR.[EVAL_TYP_CD](#) for descriptions.

10.2.68 ADJ_EXPCURR

Adjustment factor for EXPCURR evaluation. The value of either POP_STRATUM.ADJ_FACTOR_SUBP or POP_STRATUM.ADJ_FACTOR_MACR (depending on the value of COND.PROP_BASIS) for estimates using evaluations where 'EXPCURR' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPCURR evaluation. See REF_POP_EVAL_TYP_DESCR.[EVAL_TYP_CD](#) for descriptions.

10.2.69 ADJ_EXPVOL_MACR

Macroplot adjustment factor for EXPVOL evaluation. The value of POP_STRATUM.ADJ_FACTOR_MACR for estimates using evaluations where 'EXPVOL' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPVOL evaluation. See REF_POP_EVAL_TYP_DESCR.[EVAL_TYP_CD](#) for descriptions.

10.2.70 ADJ_EXPVOL_SUBP

Subplot adjustment factor for EXPVOL evaluation. The value of POP_STRATUM.ADJ_FACTOR_SUBP for estimates using evaluations where 'EXPVOL' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPVOL evaluation. See REF_POP_EVAL_TYP_DESCR.[EVAL_TYP_CD](#) for descriptions.

10.2.71 ADJ_EXPVOL_MICR

Microplot adjustment factor for EXPVOL evaluation. The value of POP_STRATUM.ADJ_FACTOR_MICR for estimates using evaluations where 'EXPVOL' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPVOL evaluation. See REF_POP_EVAL_TYP_DESCR.[EVAL_TYP_CD](#) for descriptions.

10.2.72 ADJ_EXPGROW_MACR

Macroplot adjustment factor for EXPGROW evaluation. The value of POP_STRATUM.ADJ_FACTOR_MACR for estimates using evaluations where 'EXPGROW' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPGROW evaluation. See REF_POP_EVAL_TYP_DESCR.[EVAL_TYP_CD](#) for descriptions.

10.2.73 ADJ_EXPGROW_SUBP

Subplot adjustment factor for EXPGROW evaluation. The value of POP_STRATUM.ADJ_FACTOR_SUBP for estimates using evaluations where 'EXPGROW' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPGROW evaluation. See REF_POP_EVAL_TYP_DESCR.[EVAL_TYP_CD](#) for descriptions.

10.2.74 ADJ_EXPGROW_MICR

Microplot adjustment factor for EXPGROW evaluation. The value of POP_STRATUM.ADJ_FACTOR_MICR for estimates using evaluations where 'EXPGROW' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPGROW evaluation. See REF_POP_EVAL_TYP_DESCR.[EVAL_TYP_CD](#) for descriptions.

10.2.75 ADJ_EXPMORT_MACR

Macroplot adjustment factor for EXPMORT evaluation. The value of POP_STRATUM.ADJ_FACTOR_MACR for estimates using evaluations where 'EXPMORT' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPMORT evaluation. See REF_POP_EVAL_TYP_DESCR.[EVAL_TYP_CD](#) for descriptions.

10.2.76 ADJ_EXPMORT_SUBP

Subplot adjustment factor for EXPMORT evaluation. The value of POP_STRATUM.ADJ_FACTOR_SUBP for estimates using evaluations where 'EXPMORT' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPMORT evaluation. See REF_POP_EVAL_TYP_DESCR.[EVAL_TYP_CD](#) for descriptions.

10.2.77 ADJ_EXPMORT_MICR

Microplot adjustment factor for EXPMORT evaluation. The value of POP_STRATUM.ADJ_FACTOR_MICR for estimates using evaluations where 'EXPMORT' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPMORT evaluation. See REF_POP_EVAL_TYP_DESCR.[EVAL_TYP_CD](#) for descriptions.

10.2.78 ADJ_EXPREMV_MACR

Macroplot adjustment factor for EXPREMV evaluation. The value of POP_STRATUM.ADJ_FACTOR_MACR for estimates using evaluations where 'EXPREMV' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPREMV evaluation. See REF_POP_EVAL_TYP_DESCR.[EVAL_TYP_CD](#) for descriptions.

10.2.79 ADJ_EXPREMV_SUBP

Subplot adjustment factor for EXPREMV evaluation. The value of POP_STRATUM.ADJ_FACTOR_SUBP for estimates using evaluations where 'EXPREMV' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPREMV evaluation. See [REF_POP_EVAL_TYP_DESCR.EVAL_TYP_CD](#) for descriptions.

10.2.80 ADJ_EXPREMV_MICR

Microplot adjustment factor for EXPREMV evaluation. The value of POP_STRATUM.ADJ_FACTOR_MICR for estimates using evaluations where 'EXPREMV' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPREMV evaluation. See [REF_POP_EVAL_TYP_DESCR.EVAL_TYP_CD](#) for descriptions.

10.2.81 ADJ_EXPCHNG_MACR

Macroplot adjustment factor for EXPCHNG evaluation. The value of POP_STRATUM.ADJ_FACTOR_MACR for estimates using evaluations where 'EXPCHNG' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPCHNG evaluation. See [REF_POP_EVAL_TYP_DESCR.EVAL_TYP_CD](#) for descriptions.

10.2.82 ADJ_EXPCHNG_SUBP

Subplot adjustment factor for EXPCHNG evaluation. The value of POP_STRATUM.ADJ_FACTOR_SUBP for estimates using evaluations where 'EXPCHNG' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPCHNG evaluation. See [REF_POP_EVAL_TYP_DESCR.EVAL_TYP_CD](#) for descriptions.

10.2.83 ADJ_EXPCHNG_MICR

Microplot adjustment factor for EXPCHNG evaluation. The value of POP_STRATUM.ADJ_FACTOR_MICR for estimates using evaluations where 'EXPCHNG' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPCHNG evaluation. See [REF_POP_EVAL_TYP_DESCR.EVAL_TYP_CD](#) for descriptions.

10.2.84 ADJ_EXPDWM_CWD

Adjustment factor for coarse woody debris estimates using EXPDWM evaluation. The value of POP_STRATUM.ADJ_FACTOR_CWD for estimates using evaluations where 'EXPDWM' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPDWM evaluation. See [REF_POP_EVAL_TYP_DESCR.EVAL_TYP_CD](#) for descriptions.

10.2.85 ADJ_EXPDWM_FWD_SM

Adjustment factor for small fine woody debris estimates using EXPDWM evaluation. The value of POP_STRATUM.ADJ_FACTOR_FWD_SM for estimates using evaluations where 'EXPDWM' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPDWM evaluation. See [REF_POP_EVAL_TYP_DESCR.EVAL_TYP_CD](#) for descriptions.

10.2.86 ADJ_EXPDWM_FWD_LG**Adjustment factor for large fine woody debris estimates using EXPDWM evaluation.**

The value of POP_STRATUM.ADJ_FACTOR_FWD_LG for estimates using evaluations where 'EXPDWM' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPDWM evaluation. See REF_POP_EVAL_TYP_DESCR.[EVAL_TYP_CD](#) for descriptions.

10.2.87 ADJ_EXPDWM_DUFF**Adjustment factor for duff, litter, and fuelbed estimates using EXPDWM evaluation.**

The value of POP_STRATUM.ADJ_FACTOR_DUFF for estimates using evaluations where 'EXPDWM' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPDWM evaluation. See REF_POP_EVAL_TYP_DESCR.[EVAL_TYP_CD](#) for descriptions.

10.2.88 ADJ_EXPDWM_PILE**Adjustment factor for pile estimates using EXPDWM evaluation.** The value of

POP_STRATUM.ADJ_FACTOR_PILE for estimates using evaluations where 'EXPDWM' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPDWM evaluation. See REF_POP_EVAL_TYP_DESCR.[EVAL_TYP_CD](#) for descriptions.

10.2.89 ADJ_EXPREGEN_MICR**Microplot adjustment factor for estimates using EXPREGEN evaluation.** The value of

POP_STRATUM.ADJ_FACTOR_REGEN_MICR for estimates using evaluations where 'EXPREGEN' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPREGEN evaluation. See REF_POP_EVAL_TYP_DESCR.[EVAL_TYP_CD](#) for descriptions.

10.2.90 ADJ_EXPINV_SUBP**Subplot adjustment factor for estimates using EXPINV evaluation.** The value of

POP_STRATUM.ADJ_FACTOR_INV_SUBP for estimates using evaluations where 'EXPINV' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPINV evaluation. See REF_POP_EVAL_TYP_DESCR.[EVAL_TYP_CD](#) for descriptions.

10.2.91 ADJ_EXPP2VEG_SUBP**Subplot adjustment factor for estimates using EXPP2VEG evaluation.** The value of

POP_STRATUM.ADJ_FACTOR_P2VEG_SUBP for estimates using evaluations where 'EXPP2VEG' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPP2VEG evaluation. See REF_POP_EVAL_TYP_DESCR.[EVAL_TYP_CD](#) for descriptions.

10.2.92 ADJ_EXPSOIL**Adjustment factor for EXPSOIL evaluation.** The value of

POP_STRATUM.ADJ_FACTOR_SOIL for estimates using evaluations where 'EXPSOIL' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPSOIL evaluation. See REF_POP_EVAL_TYP_DESCR.[EVAL_TYP_CD](#) for descriptions

10.2.93 ADJ_EXPGRNDLYR_MICROQUAD

Microquadrat adjustment factor for estimates using EXPGRNDLYR evaluation type.

The value of POP_STRATUM.ADJ_FACTOR_GRNDLYR_MICROQUAD for estimates using evaluations where 'EXPGRNDLYR' is recorded in the POP_EVAL_TYP.EVAL_TYP column. This attribute is left blank (null) if the plot is not included in the EXPGRNDLYR evaluation. See REF_POP_EVAL_TYP_DESCR.[EVAL_TYP_CD](#) for descriptions.

Section revision: 04.2024

Chapter 11: Database Tables - Reference

Chapter Contents:

Section	Database table	Oracle table name
11.1	Reference Population Attribute Table	REF_POP_ATTRIBUTE
11.2	Reference Population Evaluation Type Description Table	REF_POP_EVAL_TYP_DESCR
11.3	Reference Forest Type Table	REF_FOREST_TYPE
11.4	Reference Forest Type Group Table	REF_FOREST_TYPE_GROUP
11.5	Reference Species Table	REF_SPECIES
11.6	Reference Plant Dictionary	REF_PLANT_DICTIONARY
11.7	Reference Species Group Table	REF_SPECIES_GROUP
11.8	Reference Invasive Species Table	REF_INVASIVE_SPECIES
11.9	Reference Habitat Type Description Table	REF_HAPtyp_DESCRIPTION
11.10	Reference Habitat Type Publication Table	REF_HABtyp_PUBLICATION
11.11	Reference Citation Table	REF_CITATION
11.12	Reference Forest Inventory and Analysis Database Version Table	REF_FIADB_VERSION
11.13	Reference State Elevation Table	REF_STATE_ELEV
11.14	Reference Unit Table	REF_UNIT
11.15	Reference Research Station Table	REF_RESEARCH_STATION
11.16	Reference National Vegetation Classification Standard (NVCS) Hierarchy Structure Table	REF_NVCS_HIERARCHY_STRCT
11.17	Reference National Vegetation Classification Standard Level 1 Codes Table	REF_NVCS_LEVEL_1_CODES
11.18	Reference National Vegetation Classification Standard Level 2 Codes Table	REF_NVCS_LEVEL_2_CODES
11.19	Reference National Vegetation Classification Standard Level 3 Codes Table	REF_NVCS_LEVEL_3_CODES

Section	Database table	Oracle table name
11.20	Reference National Vegetation Classification Standard Level 4 Codes Table	REF_NVCS_LEVEL_4_CODES
11.21	Reference National Vegetation Classification Standard Level 5 Codes Table	REF_NVCS_LEVEL_5_CODES
11.22	Reference National Vegetation Classification Standard Level 6 Codes Table	REF_NVCS_LEVEL_6_CODES
11.23	Reference National Vegetation Classification Standard Level 7 Codes Table	REF_NVCS_LEVEL_7_CODES
11.24	Reference National Vegetation Classification Standard Level 8 Codes Table	REF_NVCS_LEVEL_8_CODES
11.25	Reference Damage Agent Table	REF_DAMAGE_AGENT
11.26	Reference Damage Agent Group Table	REF_DAMAGE_AGENT_GROUP
11.27	Reference Forest Vegetation Simulator Variant Name Table	REF_FVS_VAR_NAME
11.28	Reference Forest Vegetation Simulator Location Name Table	REF_FVS_LOC_NAME
11.29	Reference Owner Group Code Table	REF_OWNGRPCD
11.30	Reference Difference Test Per Acre Table	REF_DIFFERENCE_TEST_PER_ACRE
11.31	Reference Difference Test Totals Table	REF_DIFFERENCE_TEST_TOTALS
11.32	Reference Site Index Equation Table	REF_SIEQN
11.33	Reference Tree Growth, Removal, and Mortality Type Table	REF_GRM_TYPE
11.34	Reference International to Doyle Volume Factors Table	REF_INTL_TO_DOYLE_FACTOR
11.35	Reference Tree Carbon Ratio Dead Table	REF_TREE_CARBON_RATIO_DEAD
11.36	Reference Tree Decay Proportion Table	REF_TREE_DECAY_PROP
11.37	Reference Tree Standing Dead Crown Ratio Proportion Table	REF_TREE_STND_DEAD_CR_PROP
11.38	Reference Ground Layer Table	REF_GRND_LYR

Definitions for database tables:

For further detail and examples, refer to the Overview (chapter 1).

Keys Presented with the Tables

Key type	Definition
Primary	A single column in a table whose values uniquely identify each row in an Oracle table.
Unique	Multiple columns in a table whose values uniquely identify each row in an Oracle table. There can be one and only one row for each unique key value.
Natural	A type of unique key made from existing attributes in the table. It is stored as an index in this database.
Foreign	A column in a table that is used as a link to a matching column in another Oracle table.

Oracle Data Types

Oracle data type	Definition
DATE	A data type that stores the date.
NUMBER	A data type that contains only numbers, positive or negative, with a floating-decimal point.
NUMBER(SIZE, D)	A data type that contains only numbers up to a specified maximum size. The maximum size (<i>and optional fixed-decimal point</i>) is specified by the value(s) listed in the parentheses.
VARCHAR2(SIZE)	A data type that contains alphanumeric data (numbers and/or characters) up to a specified maximum size.

11.1 Reference Population Attribute Table

(Oracle table name: REF_POP_ATTRIBUTE)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.1.1	ATTRIBUTE_NBR	Attribute number	NUMBER
11.1.2	ATTRIBUTE_DESCR	Attribute description	VARCHAR2(255)
11.1.3	EVAL_TYP	Evaluation type	VARCHAR2(15)
11.1.4	NOTES	Notes	VARCHAR2(2000)
11.1.5	SQL_QUERY	SQL estimate script	VARCHAR2(4000)
11.1.6	ACTIVE	Active	VARCHAR2(1)
11.1.7	GROWTH_ACCT	Growth accounting	VARCHAR2(1)
11.1.8	LAND_BASIS	Land basis	VARCHAR2(32)
11.1.9	SQL_QUERY_SE	SQL estimation script with sampling error	CLOB
11.1.10	CREATED_BY	Created by	VARCHAR2(30)
11.1.11	CREATED_DATE	Created date	DATE
11.1.12	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
11.1.13	MODIFIED_BY	Modified by	VARCHAR2(30)
11.1.14	MODIFIED_DATE	Modified date	DATE
11.1.15	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Unique	ATTRIBUTE_NBR	N/A	PAE_UK

11.1.1 ATTRIBUTE_NBR

Attribute number. A numeric code used to identify an attribute record. See codes and descriptions in [Forest Inventory and Analysis Database: Population Estimation User Guide](#) (see appendix A).

11.1.2 ATTRIBUTE_DESCR

Attribute description. A description of the attribute. See the descriptions in [Forest Inventory and Analysis Database: Population Estimation User Guide](#) (see appendix A).

11.1.3 EVAL_TYP

Evaluation type. An identifier describing the type of evaluation. Evaluation type is needed to generate summary reports for an inventory. For example, a specific evaluation is associated with the evaluation for tree volume (EXPVOL). See [REF_POP_EVAL_TYP_DESCR.EVAL_TYP_CD](#) for codes.

11.1.4 NOTES

Notes. Reference population attribute notes.

11.1.5 SQL_QUERY

SQL estimate script. SQL script used to generate the population estimate for this attribute.

11.1.6 ACTIVE

Active. A code indicating whether or not the attribute is valid.

Codes: ACTIVE

Code	Description
Y	Yes, the attribute is active (valid).
N	No, the attribute is not active (not valid).

11.1.7 GROWTH_ACCT

Growth accounting. A code indicating whether the estimate can be used for growth accounting. This attribute is blank (null) when the EVAL_TYP is not 'EXPGROW' evaluation type. See the [Forest Inventory and Analysis Database: Population Estimation User Guide](#) for examples of the growth accounting method.

Codes: GROWTH_ACCT

Code	Description
Y	Attribute can be used for growth accounting.
N	Attribute cannot be used for growth accounting.
Null/blank	Attribute is not applicable for growth estimates.
M	This code is no longer used/valid.

11.1.8 LAND_BASIS

Land basis An attribute that categorizes estimates by the land-based domain of interest.

Note: Starting with PLOT.[MANUAL](#) ≥6.0, code descriptions have been modified to match FIA's new definition for accessible forest land and nonforest land. The current wording of "at least 10 percent canopy cover" replaces older wording of "at least 10 percent stocked" as the qualifying criterion in classification. This criterion applies to any tally tree species, including woodland tree species.

Codes: LAND_BASIS

Code	Description
Forest land	Land that has at least 10 percent canopy cover by live tally trees of any size or has had at least 10 percent canopy cover of live tally species in the past, based on the presence of stumps, snags, or other evidence. To qualify, the area must be at least 1.0 acre in size and 120.0 feet wide. Forest land includes transition zones, such as areas between forest and nonforest lands that meet the minimal tree canopy cover and forest areas adjacent to urban and built-up lands. Roadside, streamside, and shelterbelt strips of trees must have a width of at least 120 feet and continuous length of at least 363 feet to qualify as forest land. Unimproved roads and trails, streams, and clearings in forest areas are classified as forest if they are less than 120 feet wide or less than an acre in size. Tree-covered areas in agricultural production settings, such as fruit orchards, or tree-covered areas in urban settings, such as city parks, are not considered forest land.
Timberland	Forest land that is producing or capable of producing 20 cubic feet per acre or more per year of wood at culmination of mean annual increment (MAI). Timberland excludes reserved forest lands.
All land	All area, including land, noncensus water, and census water.

11.1.9 SQL_QUERY_SE

SQL estimate script with sampling error. Not available for download.

11.1.10 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

11.1.11 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

11.1.12 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

11.1.13 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

11.1.14 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

11.1.15 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

11.2 Reference Population Evaluation Type Description Table

(Oracle table name: REF_POP_EVAL_TYP_DESCR)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.2.1	CN	Sequence number	VARCHAR2(34)
11.2.2	LABEL_ORDER	Label order	NUMBER(2)
11.2.3	EVAL_TYP	Evaluation type	VARCHAR2(15)
11.2.4	EVAL_TYP_LABEL	Evaluation type label	VARCHAR2(15)
11.2.5	CHANGE_EVAL_TYP	Change evaluation type	VARCHAR2(1)
11.2.6	EVAL_TYP_DESCR	Evaluation type descriptor	VARCHAR2(255)
11.2.7	CREATED_BY	Created by	VARCHAR2(30)
11.2.8	CREATED_DATE	Created date	DATE
11.2.9	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
11.2.10	MODIFIED_BY	Modified by	VARCHAR2(30)
11.2.11	MODIFIED_DATE	Modified date	DATE
11.2.12	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)
11.2.13	EVAL_TYP_CD	Evaluation type code	VARCHAR2(2)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	PED_PK
Unique	EVAL_TYP	N/A	PED_UK

11.2.1 CN

Sequence number. A unique sequence number used to identify a reference population evaluation type description record.

11.2.2 LABEL_ORDER

Label order. The order in which to assemble EVAL_TYP to create standardized evaluation group descriptions.

11.2.3 EVAL_TYP

Evaluation type. An identifier describing the type of evaluation. Evaluation type is needed to generate summary reports for an inventory. For example, a specific evaluation is associated with the evaluation for tree volume (EXPVOL). Evaluation types (EVAL_TYP), the corresponding code (EVAL_TYP_CD), and the description of the evaluation types (EVAL_TYP_DESCR) are as follows:

Codes: EVAL_TYP

Evaluation type	Evaluation type code (EVAL_TYP_CD)	Description
EXPALL	00	All plots: sampled and nonsampled.
EXPCURR	01	Sampled plots used for current area and condition-level estimates.
EXPVOL	02	Sampled plots used for current tree-level estimates.
EXPGROW	03	Sampled plots used for tree growth estimates.
EXPMORT	04	Sampled plots used for tree mortality estimates.
EXPREMV	05	Sampled plots used for tree removal estimates.
EXPCHNG	06	Sampled plots used for area change estimates.
EXPDWIM	07	Sampled plots used for down woody material estimates.
EXPREGEN	08	Sampled plots used for tree regeneration estimates (RSCD = 23, 24).
EXPINV	09	Sampled plots used for invasive species estimates.
EXPP2VEG	10	Sampled plots used for Phase 2 vegetation estimates.
EXPSOIL	11	Sampled plots used for soils estimates.
EXPCRWN	12	Sampled plots used for tree crown estimates.
EXPGRNLDLYR	13	Sampled plots used for ground cover layer estimates (RSCD = 27).

11.2.4 EVAL_TYP_LABEL

Evaluation type label. The label used for the EVAL_TYP description.

11.2.5 CHANGE_EVAL_TYP

Change evaluation type. A code indicating whether the EVAL_TYP computes change attributes, such as growth, removals, and mortality.

Codes: CHANGE_EVAL_TYP

Code	Description
Y	Yes, computes change attributes.
N	No, does not compute change attributes.

11.2.6 EVAL_TYP_DESCR

Evaluation type descriptor. The descriptor for each evaluation type (EVAL_TYP). See [EVAL_TYP](#) and [EVAL_TYP_CD](#) for the list of codes.

11.2.7 CREATED_BY

Created by. See SURVEY.[CREATED_BY](#) description for definition.

11.2.8 CREATED_DATE

Created date. See SURVEY.[CREATED_DATE](#) description for definition.

11.2.9 CREATED_IN_INSTANCE

Created in instance. See SURVEY.[CREATED_IN_INSTANCE](#) description for definition.

11.2.10 MODIFIED_BY

Modified by. See SURVEY.[MODIFIED_BY](#) description for definition.

11.2.11 MODIFIED_DATE

Modified date. See SURVEY.[MODIFIED_DATE](#) description for definition.

11.2.12 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.[MODIFIED_IN_INSTANCE](#) description for definition.

11.2.13 EVAL_TYP_CD

Evaluation type code. A code used to describe the evaluation type. Evaluation type (EVAL_TYP) is used to identify a specific set of plots that can be used to make a statistically valid sample-based estimate for a population (e.g., area of land).

Codes: EVAL_TYP_CD

Evaluation type code (EVAL_TYP_CD)	Evaluation type (EVAL_TYP)	Evaluation type description
00	EXPALL	All plots: sampled and nonsampled.
01	EXPCURR	Sampled plots used for current area and condition-level estimates.
02	EXPVOL	Sampled plots used for current tree-level estimates.
03	EXPGROW	Sampled plots used for tree growth estimates.
04	EXPMORT	Sampled plots used for tree mortality estimates.
05	EXPREMV	Sampled plots used for tree removal estimates.
06	EXPCHNG	Sampled plots used for area change estimates.
07	EXPDWM	Sampled plots used for down woody material estimates.
08	EXPREGEN	Sampled plots used for tree regeneration estimates (RSCD = 23, 24).
09	EXPINV	Sampled plots used for invasive species estimates.
10	EXPP2VEG	Sampled plots used for Phase 2 vegetation estimates.
11	EXPSOIL	Sampled plots used for soils estimates.
12	EXPCRWN	Sampled plots used for tree crown estimates.
13	EXPGRNDLYR	Sampled plots used for ground cover layer estimates (RSCD = 27).

11.3 Reference Forest Type Table

(Oracle table name: REF_FOREST_TYPE)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.3.1	VALUE	Value	NUMBER(3)
11.3.2	MEANING	Meaning	VARCHAR2(80)
11.3.3	TYPGRPCD	Forest type group code	NUMBER(3)
11.3.4	MANUAL_START	Manual start	NUMBER(3,1)
11.3.5	MANUAL_END	Manual end	NUMBER(3,1)
11.3.6	ALLOWED_IN_FIELD	Allowed in field	VARCHAR2(1)
11.3.7	CREATED_BY	Created by	VARCHAR2(30)
11.3.8	CREATED_DATE	Created date	DATE
11.3.9	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
11.3.10	MODIFIED_BY	Modified by	VARCHAR2(30)
11.3.11	MODIFIED_DATE	Modified date	DATE
11.3.12	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	VALUE	N/A	RFT_PK

11.3.1 VALUE

Value. A code used for the forest type (COND.FORTYPCD, COND.FLDTYPCD, COND.FORTYPCDCALC). Refer to [appendix D](#).

11.3.2 MEANING

Meaning. The descriptive name corresponding with the forest type code (VALUE). Refer to [appendix D](#).

11.3.3 TYPGRPCD

Forest type group code. A code assigned to individual forest types in order to group them for reporting purposes. Refer to [appendix D](#).

11.3.4 MANUAL_START

Manual start. The first version of the Field Guide (PLOT.[MANUAL](#)) that the forest type code (VALUE) was used.

11.3.5 MANUAL_END

Manual end. The last version of the Field Guide (PLOT.[MANUAL](#)) that the forest type code (VALUE) was valid. When MANUAL_END is blank (null), the code is still valid.

11.3.6 ALLOWED_IN_FIELD

Allowed in field. An indicator to show if a code (VALUE) is allowed to be used by the field crews. This is a Yes/No ('Y' / 'N') field. Specifically, forest type group codes are not allowed in the Field Guide nor is the code for a nonstocked forest type (VALUE = 999).

11.3.7 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

11.3.8 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

11.3.9 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

11.3.10 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

11.3.11 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

11.3.12 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

11.4 Reference Forest Type Group Table

(Oracle table name: REF_FOREST_TYPE_GROUP)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.4.1	VALUE	Value	NUMBER(3)
11.4.2	MEANING	Meaning	VARCHAR2(80)
11.4.3	ABBR	Abbreviation	VARCHAR2(40)
11.4.4	DUFF_DENSITY	Duff density	NUMBER(12,10)
11.4.5	DUFF_CARBON_RATIO	Duff carbon ratio	NUMBER(12,11)
11.4.6	LITTER_DENSITY	Litter density	NUMBER(12,10)
11.4.7	LITTER_CARBON_RATIO	Litter carbon ratio	NUMBER(12,11)
11.4.8	PILE_DENSITY	Pile density	NUMBER(12,10)
11.4.9	PILE_CARBON_RATIO	Pile carbon ratio	NUMBER(12,11)
11.4.10	PILE_DECAY_RATIO	Pile decay ratio	NUMBER(12,11)
11.4.11	FWD_DENSITY	Fine woody debris density	NUMBER(12,10)
11.4.12	FWD_CARBON_RATIO	Fine woody debris carbon ratio	NUMBER(12,11)
11.4.13	FWD_DECAY_RATIO	Fine woody debris decay ratio	NUMBER(12,11)
11.4.14	FWD_SMALL_QMD	Small fine woody debris quadratic mean diameter	NUMBER(12,10)
11.4.15	FWD_MEDIUM_QMD	Medium fine woody debris quadratic mean diameter	NUMBER(12,10)
11.4.16	FWD_LARGE_QMD	Large fine woody debris quadratic mean diameter	NUMBER(12,10)
11.4.17	CREATED_BY	Created by	VARCHAR2(30)
11.4.18	CREATED_DATE	Created date	DATE
11.4.19	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
11.4.20	MODIFIED_BY	Modified by	VARCHAR2(30)
11.4.21	MODIFIED_DATE	Modified date	DATE
11.4.22	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	VALUE	N/A	FTGP_PK

11.4.1 VALUE

Value. A code used for the forest type group, which is assigned to individual forest types (COND.FORTYPCD, COND.FLDTYPCD, COND.FORTYPCDCALC) for reporting purposes. VALUE is linked to the TYPGRPCD in the REF_FOREST_TYPE table. Refer to [appendix D](#).

11.4.2 MEANING

Meaning. The descriptive name corresponding with the forest type group code (VALUE). Refer to [appendix D](#).

11.4.3 ABBR

Abbreviation. The forest type group abbreviation.

11.4.4 DUFF_DENSITY

Duff density. The average oven-dry density of duff in pounds per cubic foot for the forest type group.

11.4.5 DUFF_CARBON_RATIO

Duff carbon ratio. The ratio of carbon weight to biomass of duff for the forest type group.

11.4.6 LITTER_DENSITY

Litter density. The average oven-dry density of litter in pounds per cubic foot for the forest type group.

11.4.7 LITTER_CARBON_RATIO

Litter carbon ratio. The ratio of carbon weight to biomass of litter for the forest type group.

11.4.8 PILE_DENSITY

Pile density. The average oven-dry density of piles in pounds per cubic foot for the forest type group.

11.4.9 PILE_CARBON_RATIO

Pile carbon ratio. The ratio of carbon weight to biomass of piles for the forest type group.

11.4.10 PILE_DECAY_RATIO

Pile decay ratio. The ratio of decayed to sound wood weight of piles for the forest type group.

11.4.11 FWD_DENSITY

Fine woody debris density. The average oven-dry density of fine woody debris in pounds per cubic foot for the forest type group.

11.4.12 FWD_CARBON_RATIO

Fine woody debris carbon ratio. The ratio of carbon weight to biomass of fine woody debris for the forest type group.

11.4.13 FWD_DECAY_RATIO

Fine woody debris decay ratio. The ratio of decayed to sound wood weight of fine woody debris for the forest type group.

11.4.14 FWD_SMALL_QMD

Small fine woody debris quadratic mean diameter. The quadratic mean diameter of small fine woody debris for the forest type group. A constant value is used for all forest type groups.

11.4.15 FWD_MEDIUM_QMD

Medium fine woody debris quadratic mean diameter. The quadratic mean diameter of medium fine woody debris for the forest type group. A constant value is used for all forest type groups.

11.4.16 FWD_LARGE_QMD

Large fine woody debris quadratic mean diameter. The quadratic mean diameter of large fine woody debris for the forest type group. A constant value is used for all forest type groups.

11.4.17 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

11.4.18 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

11.4.19 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

11.4.20 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

11.4.21 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

11.4.22 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

11.5 Reference Species Table

(Oracle table name: REF_SPECIES)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.5.1	SPCD	Species code	NUMBER(38)
11.5.2	COMMON_NAME	Common name	VARCHAR2(100)
11.5.3	SHARED_COMMON_NAME_IND	Shared common name indicator	CHAR(1)
11.5.4	GENUS	Genus	VARCHAR2(4000)
11.5.5	SPECIES	Species	VARCHAR2(4000)
11.5.6	VARIETY	Variety	VARCHAR2(4000)
11.5.7	SUBSPECIES	Subspecies	VARCHAR2(4000)
11.5.8	SCIENTIFIC_NAME	Scientific name	VARCHAR2(4000)
11.5.9	SPECIES_SYMBOL	Species symbol	VARCHAR2(10)
11.5.10	E_SPGRPCD	Eastern species group code	NUMBER
11.5.11	W_SPGRPCD	Western species group code	NUMBER
11.5.12	C_SPGRPCD	Caribbean Islands species group code	NUMBER
11.5.13	P_SPGRPCD	Pacific Islands species group code	NUMBER
11.5.14	MAJOR_SPGRPCD	Major species group code	NUMBER
11.5.15	STOCKING_SPGRPCD	Stocking species group code	NUMBER
11.5.16	FOREST_TYPE_SPGRPCD	Forest type species group code	NUMBER
11.5.17	JENKINS_SPGRPCD	Jenkins species group code	NUMBER
11.5.18	JENKINS_SAPLING_ADJUSTMENT	Jenkins sapling adjustment factor	NUMBER
11.5.19	SITETREE	Site tree	VARCHAR2(1)
11.5.20	SFTWD_HRDWD	Softwood or hardwood	VARCHAR2(1)
11.5.21	WOODLAND	Woodland species indicator	VARCHAR2(1)
11.5.22	WOOD_SPGR_GREENVOL_DRYWT	Green specific gravity of wood	NUMBER
11.5.23	WOOD_SPGR_GREENVOL_DRYWT_CIT	Citation for WOOD_SPGR_GREENVOL_DRYWT	NUMBER
11.5.24	BARK_SPGR_GREENVOL_DRYWT	Green specific gravity of bark	NUMBER
11.5.25	BARK_SPGR_GREENVOL_DRYWT_CIT	Citation for BARK_SPGR_GREENVOL_DRYWT	NUMBER
11.5.26	MC_PCT_GREEN_WOOD	Moisture content of green wood as a percent of oven-dry weight	NUMBER
11.5.27	MC_PCT_GREEN_WOOD_CIT	Citation for MC_PCT_GREEN_WOOD	NUMBER
11.5.28	MC_PCT_GREEN_BARK	Moisture content of green bark as a percent of oven-dry weight	NUMBER
11.5.29	MC_PCT_GREEN_BARK_CIT	Citation for MC_PCT_GREEN_BARK	NUMBER
11.5.30	BARK_VOL_PCT	Bark volume as a percent of wood volume	NUMBER

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.5.31	BARK_VOL_PCT_CIT	Citation for BARK_VOL_PCT	NUMBER
11.5.32	CWD_DECAY_RATIO1	Coarse woody debris decay ratio 1	NUMBER
11.5.33	CWD_DECAY_RATIO2	Coarse woody debris decay ratio 2	NUMBER
11.5.34	CWD_DECAY_RATIO3	Coarse woody debris decay ratio 3	NUMBER
11.5.35	CWD_DECAY_RATIO4	Coarse woody debris decay ratio 4	NUMBER
11.5.36	CWD_DECAY_RATIO5	Coarse woody debris decay ratio 5	NUMBER
11.5.37	DWM_CARBON_RATIO	Down woody debris carbon ratio	NUMBER
11.5.38	CARBON_RATIO_LIVE	Wood carbon fraction	NUMBER
11.5.39	DRYWT_TO_GREENWT_CONVERSATION	Dry weight to green weight conversion	NUMBER
11.5.40	CREATED_DATE	Created date	DATE
11.5.41	MODIFIED_DATE	Modified date	DATE

Key Type	Column(s) order	Tables to link	Abbreviated notation
Unique	SPCD	N/A	RS_UK

FIA identifies species and other taxonomic ranks for plants using symbols (SYMBOL) as assigned by NRCS (Natural Resources Conservation Service) for the [PLANTS database](#) (<https://plants.usda.gov>) on a periodic basis. The most recent NRCS download for the FIA program was September 15, 2017.

11.5.1 SPCD

Species code. An FIA tree species code. Refer to [appendix F](#) for codes.

11.5.2 COMMON_NAME

Common name. Common name of the species. Refer to [appendix F](#).

11.5.3 SHARED_COMMON_NAME_IND

Shared common name indicator. A yes/no ('Y' / 'N') value indicating whether or not the common name for the species (see COMMON_NAME) is shared by multiple species. Species with a shared common name are marked with a 'Y' in this column.

Codes: SHARED_COMMON_NAME_IND

Code	Description
Y	Yes, the common named is shared by multiple species.
N	No, the common name is unique to this species.

11.5.4 GENUS

Genus. The genus name associated with the FIA tree species code. Refer to [appendix F](#).

11.5.5 SPECIES

Species. The species name associated with the FIA tree species code. Refer to [appendix F](#).

11.5.6 VARIETY

Variety. The variety name associated with the FIA tree species code.

11.5.7 SUBSPECIES

Subspecies. The subspecies name associated with the FIA tree species code.

11.5.8 SCIENTIFIC_NAME

Scientific name. The Natural Resources Conservation Service (NRCS) [PLANTS database](#) scientific name for the taxon SYMBOL.

11.5.9 SPECIES_SYMBOL

Species symbol. The NRCS PLANTS database [symbol](#) code assigned to the specific plant taxon and associated with the FIA species code ([SPCD](#)).

11.5.10 E_SPGRPCD

Eastern species group code. A code indicating the species group assignment for eastern species. The assignment of a species group code is dependent on the State or region (e.g., All, Eastern, Western, Tropical/Subtropical) in which a tree is tallied. Species group codes and names can be found in [appendix E](#).

11.5.11 W_SPGRPCD

Western species group code. A code indicating the FIADB species group assignment for western species. The assignment of a species group code is dependent on the State or region (e.g., All, Eastern, Western, Tropical/Subtropical) in which a tree is tallied. Species group codes and names can be found in [appendix E](#).

11.5.12 C_SPGRPCD

Caribbean Islands species group code. A code indicating the species group assignment for [Caribbean Islands](#) species. The assignment of a species group code is dependent on the State or region (e.g., All, Eastern, Western, Tropical/Subtropical) in which a tree is tallied. Species group codes and names can be found in [appendix E](#).

11.5.13 P_SPGRPCD

Pacific Islands species group code. A code indicating the species group assignment for [Pacific Islands](#) species. The assignment of a species group code is dependent on the State or region (e.g., All, Eastern, Western, Tropical/Subtropical) in which a tree is tallied. Species group codes and names can be found in [appendix E](#).

11.5.14 MAJOR_SPGRPCD

Major species group code. A code indicating the major species group, which can be used for reporting purposes.

Codes: MAJOR_SPGRPCD

Code	Description
1	Pines.
2	Other softwoods.

Code	Description
3	Soft hardwoods.
4	Hard hardwoods.

11.5.15 STOCKING_SPGRPCD

Stocking species group code. A code indicating which stocking equation a species is assigned.

Codes: STOCKING_SPGRPCD

Code	Description
1	Spruce-fir.
2	Western larch.
3	Black spruce.
4	Jack pine.
5	Lodgepole pine.
6	Shortleaf pine.
7	Slash pine.
8	Western white pine.
9	Longleaf pine.
10	Ponderosa pine.
11	Red pine.
12	Pond pine.
13	Eastern white pine.
14	Loblolly pine.
15	Douglas-fir.
16	Northern white cedar.
17	Eastern hemlock.
18	Western hemlock.
19	Redwood.
20	Average softwood.
25	Red maple.
26	Red alder.
27	Maple, beech, birch.
28	Paper birch.
29	Oaks and hickory.
30	Black walnut.
31	Sweetgum.
32	Aspen.
33	Cherry, ash, yellow poplar.
35	Basswood.
36	Elm, ash, cottonwood.

Code	Description
37	Average hardwood.
38	Dryland species.

11.5.16 FOREST_TYPE_SPGRPCD

Forest type species group code. A code used during processing to assign a forest type to a condition. This is for office use only. These processing codes differ from the codes listed for REF_FOREST_TYPE GROUP. [VALUE](#) and the codes listed in [appendix D](#) (Forest Type Codes and Names).

11.5.17 JENKINS_SPGRPCD

Jenkins species group code. A code that identifies a group of similar species, which is used to apply the correct biomass estimation equation and coefficient developed by Jenkins and others (2003). A specific set of biomass equation coefficients are assigned to each group. Additional explanation about how to estimate biomass, and when to use a certain set of coefficients, is provided in [appendix K](#).

Codes: JENKINS_SPGRPCD

Code	Description
1	Cedar/larch.
2	Douglas-fir.
3	True fir/hemlock.
4	Pine.
5	Spruce.
6	Aspen/alder/cottonwood-willow.
7	Soft maple/birch.
8	Mixed hardwood.
9	Hard maple/oak/hickory/beech.
10	Juniper/oak/mesquite.

11.5.18 JENKINS_SAPLING_ADJUSTMENT

Jenkins sapling adjustment factor. A factor used to compute the biomass of saplings. Sapling biomass is computed by multiplying diameter (DIA) by the appropriate species adjustment factor (from Jenkins and others [2003]). The sapling adjustment factor was computed as a national average ratio of the total dry biomass divided by the Jenkins total biomass for all 5.0-inch trees, which is the size at which biomass based on volume begins. Because this adjustment factor was computed at the species level, there is a specific adjustment factor for each species. See [appendix K](#) for details on biomass equations.

11.5.19 SITETREE

Site tree. Indicates whether the tree species can be coded as a site tree. Tree species that are applicable to have site data collected are marked with an 'X' in this column.

Codes:

Code	Description
S	Softwood classification.
H	Hardwood classification.

11.5.20 SFTWD_HRDWD

Softwood or hardwood. A code indicating whether the species has been classified as a softwood or a hardwood.

11.5.21 WOODLAND

Woodland species indicator. a yes/no ('Y' / 'N') indicating whether or not the tree species is classified by FIA as a woodland species. The diameter for a woodland species is measured at root collar (d.r.c.). Woodland species are marked with a 'Y' in this column.

Codes: Woodland

Code	Description
Y	Yes, this tree species is classified by FIA as a woodland species.
N	No, this tree species is not classified by FIA as a woodland species.

11.5.22 WOOD_SPGR_GREENVOL_DRYWT

Green specific gravity of wood. This attribute is used to determine the oven-dry weight, in pounds, of live and dead trees based on volume attributes in the TREE table (VOLCFSND, VOLCFGRS, VOLCFNET, etc.). These volumes are assumed to be green wood volumes.

11.5.23 WOOD_SPGR_GREENVOL_DRYWT_CIT

Citation for WOOD_SPGR_GREENVOL_DRYWT. A code indicating the citation for the WOOD_SPGR_GREENVOL_DRYWT attribute. Refer to REF_CITATION.CITATION_NBR to determine the citation corresponding to the WOOD_SPGR_GREENVOL_DRYWT_CIT code.

11.5.24 BARK_SPGR_GREENVOL_DRYWT

Green specific gravity of bark. A value for the green specific gravity of bark (green volume and oven-dry weight).

11.5.25 BARK_SPGR_GREENVOL_DRYWT_CIT

Citation for BARK_SPGR_GREENVOL_DRYWT. A code indicating the citation for the BARK_SPGR_GREENVOL_DRYWT attribute. Refer to REF_CITATION.CITATION_NBR to determine the citation corresponding to the BARK_SPGR_GREENVOL_DRYWT_CIT code.

11.5.26 MC_PCT_GREEN_WOOD

Moisture content of green wood as a percent of oven-dry weight. Wood and bark are often sold based on green weight. The user is cautioned that green weights can be extremely variable geographically, seasonally, within species and across various portions of individual trees.

11.5.27 MC_PCT_GREEN_WOOD_CIT

Citation for MC_PCT_GREEN_WOOD. A code indicating the citation for the MC_PCT_GREEN_WOOD attribute. Refer to REF_CITATION.CITATION_NBR to determine the citation corresponding to the MC_PCT_GREEN_WOOD_CIT code.

11.5.28 MC_PCT_GREEN_BARK

Moisture content of green bark as a percent of oven-dry weight. Wood and bark are often sold based on green weight. The user is cautioned that green weights can be extremely variable geographically, seasonally, within species and across various portions of individual trees.

11.5.29 MC_PCT_GREEN_BARK_CIT

Citation for MC_PCT_GREEN_BARK. A code indicating the citation for the MC_PCT_GREEN_BARK attribute. Refer to REF_CITATION.CITATION_NBR to determine the citation corresponding to the MC_PCT_GREEN_BARK_CIT code.

11.5.30 BARK_VOL_PCT

Bark volume as a percent of wood volume. Bark volume expressed as a percent of wood volume. The volume of bark does not include voids due to ridges and valleys in bark.

11.5.31 BARK_VOL_PCT_CIT

Citation for BARK_VOL_PCT. A code indicating the citation for the BARK_VOL_PCT attribute. Refer to REF_CITATION.CITATION_NBR to determine the citation corresponding to the BARK_VOL_PCT_CIT code.

11.5.32 CWD_DECAY_RATIO1

Coarse woody debris decay ratio 1. Ratio of decayed to sound wood weight of CWD indicated by decay class 1.

11.5.33 CWD_DECAY_RATIO2

Coarse woody debris decay ratio 2. Ratio of decayed to sound wood weight of CWD indicated by decay class 2.

11.5.34 CWD_DECAY_RATIO3

Coarse woody debris decay ratio 3. Ratio of decayed to sound wood weight of CWD indicated by decay class 3.

11.5.35 CWD_DECAY_RATIO4

Coarse woody debris decay ratio 4. Ratio of decayed to sound wood weight of CWD indicated by decay class 4.

11.5.36 CWD_DECAY_RATIO5

Coarse woody debris decay ratio 5. Ratio of decayed to sound wood weight of CWD indicated by decay class 5.

11.5.37 DWM_CARBON_RATIO

Down woody debris carbon ratio. Ratio of carbon to dry wood weight.

11.5.38 CARBON_RATIO_LIVE

Wood carbon fraction. The mass of carbon per unit dry mass of wood, expressed as a proportion (ranging from 0-1), obtained from elemental analyses of dry wood samples. Synonymous with "wood carbon concentrations" or related terms in scientific literature (Doraisami and others 2022). This ratio is multiplied by live tree biomass estimates to obtain live tree carbon estimates.

11.5.39 DRYWT_TO_GREENWT_CONVERSION

Dry weight to green weight conversion. A coefficient used to convert oven-dry weight to green weight. Dry weight is converted to green weight by multiplying the dry weight by DRYWT_TO_GREENWT_CONVERSION (e.g., for green weight of tree bole, multiply TREE.DRYBIO_BOLE by DRYWT_TO_GREENWT_CONVERSION).

```
drywt_to_greenwt_conversion =((1 - (bark_vol_pct / (100 + bark_vol_pct))) *  
    wood_spgr_greenvol_drywt /  
    ((1 - (bark_vol_pct / (100 + bark_vol_pct))) *  
    wood_spgr_greenvol_drywt +  
    (bark_vol_pct / (100 + bark_vol_pct)) * bark_spgr_greenvol_drywt) *  
    (1.0 + mc_pct_green_wood * 0.01) +  
    (bark_vol_pct / (100 + bark_vol_pct)) * bark_spgr_greenvol_drywt /  
    ((1 - (bark_vol_pct / (100 + bark_vol_pct))) *  
    wood_spgr_greenvol_drywt +  
    (bark_vol_pct / (100 + bark_vol_pct)) * bark_spgr_greenvol_drywt) *  
    (1.0 + mc_pct_green_bark * 0.01))
```

11.5.40 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

11.5.41 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

11.6 Reference Plant Dictionary

(Oracle table name: REF_PLANT_DICTIONARY)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.6.1	CN	Sequence number	VARCHAR2(34)
11.6.2	SYMBOL_TYPE	Symbol type	VARCHAR2(20)
11.6.3	SYMBOL	Symbol	VARCHAR2(16)
11.6.4	SCIENTIFIC_NAME	Scientific name	VARCHAR2(100)
11.6.5	NEW_SYMBOL	New symbol	VARCHAR2(16)
11.6.6	NEW_SCIENTIFIC_NAME	New scientific name	VARCHAR2(100)
11.6.7	COMMON_NAME	Common name	VARCHAR2(100)
11.6.8	CATEGORY	Category	VARCHAR2(15)
11.6.9	FAMILY	Family	VARCHAR2(25)
11.6.10	GROWTH_HABIT	Growth habit	VARCHAR2(50)
11.6.11	DURATION	Duration	VARCHAR2(50)
11.6.12	US_NATIVITY	United States nativity	VARCHAR2(100)
11.6.13	STATE_DISTRIBUTION	State distribution	VARCHAR2(300)
11.6.14	STATE_AND_PROVINCE	State and province	VARCHAR2(500)
11.6.15	SCIENTIFIC_NAME_W_AUTHOR	Scientific name with author	VARCHAR2(500)
11.6.16	GENERA_BINOMIAL_AUTHOR	Genera binomial author	VARCHAR2(100)
11.6.17	TRINOMIAL_AUTHOR	Trinomial author	VARCHAR2(100)
11.6.18	QUADRINOMIAL_AUTHOR	Quadrinomial author	VARCHAR2(100)
11.6.19	XGENUS	Cross genus	VARCHAR2(1)
11.6.20	GENUS	Genus	VARCHAR2(40)
11.6.21	XSPECIES	Cross species	VARCHAR2(1)
11.6.22	SPECIES	Species	VARCHAR2(50)
11.6.23	SSP	Subspecies indicator	VARCHAR2(4)
11.6.24	XSUBSPECIES	Cross subspecies	VARCHAR2(1)
11.6.25	SUBSPECIES	Subspecies	VARCHAR2(30)
11.6.26	VAR	Variety indicator	VARCHAR2(4)
11.6.27	XVARIETY	Cross variety	VARCHAR2(1)
11.6.28	VARIETY	Variety	VARCHAR2(30)
11.6.29	SUBVAR	Subvariety indicator	VARCHAR2(7)
11.6.30	SUBVARIETY	Subvariety	VARCHAR2(30)
11.6.31	F	Forma indicator	VARCHAR2(2)
11.6.32	FORMA	Forma	VARCHAR2(30)
11.6.33	NOTES	Notes	VARCHAR2(2000)
11.6.34	CREATED_BY	Created by	VARCHAR2(30)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.6.35	CREATED_DATE	Created date	DATE
11.6.36	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
11.6.37	MODIFIED_BY	Modified by	VARCHAR2(30)
11.6.38	MODIFIED_DATE	Modified date	DATE
11.6.39	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	RPD_PK
Unique	SYMBOL_TYPE, SYMBOL, NEW_SYMBOL	N/A	RPD_UK

FIA identifies species and other taxonomic ranks for plants using symbols (SYMBOL) as assigned by NRCS (Natural Resources Conservation Service) for the [PLANTS database](#) (<https://plants.usda.gov>) on a periodic basis. The most recent NRCS download for the FIA program was September 15, 2017.

11.6.1 CN

Sequence number. A unique sequence number used to identify a reference plant dictionary record.

11.6.2 SYMBOL_TYPE

Symbol type. This attribute describes the type of NRCS PLANTS symbol.

Codes: SYMBOL_TYPE

Code	Symbol type
Species	Accepted symbol identified to species, subspecies, or variety.
Genus	Accepted symbol identified to genus.
Old	Synonym symbol for an old scientific name.
Unknown	Symbol used to identify generic categories of unknown plants.

11.6.3 SYMBOL

Symbol. The NRCS PLANTS database symbol code assigned to a specific plant taxon.

11.6.4 SCIENTIFIC_NAME

Scientific name. The NRCS PLANTS database scientific name for the taxon SYMBOL.

11.6.5 NEW_SYMBOL

New symbol. Populated only when 'Old' is recorded in the SYMBOL_TYPE column. Represents the new NRCS PLANTS database accepted code that has been updated from the old synonym symbol. When SYMBOL_TYPE = 'Species' or 'Genus' is recorded, the current accepted code is found in the SYMBOL column. See table 9-1 for an example that displays the old and current records for a species that was updated to a new symbol code.

Table 11-1: REF_PLANT_DICTIONARY table example displaying codes for an old and current record.

SYMBOL_TYPE	SYMBOL	SCIENTIFIC_NAME	NEW_SYMBOL	NEW_SCIENTIFIC_NAME	SCIENTIFIC_NAME_W_AUTHOR	GENERA_BINOMIAL_AUTHOR
Old	ABAM4	Abamaamer-icana	NAAM	Narthecium-americanum	Abama americana (Ker Gawl.) Morong	(Ker Gawl.) Morong
Species	NAAM	Narthecium-americanum	-	-	Narthecium americanum Ker Gawl.	Ker Gawl.

11.6.6 NEW_SCIENTIFIC_NAME

New scientific name. Populated only when 'Old' is recorded in the SYMBOL_TYPE column. Represents the new NRCS PLANTS database accepted scientific name that has been updated from the old synonym scientific name. When SYMBOL_TYPE = 'Species' or 'Genus' is recorded, the current accepted scientific name is found in the SCIENTIFIC_NAME column. See table 9-1 in [NEW_SYMBOL](#) for an example that displays the old and current records for a species that was updated to a new symbol code.

11.6.7 COMMON_NAME

Common name. The NRCS PLANTS database common name associated with the taxon SYMBOL.

11.6.8 CATEGORY

Category. Indicates the broad taxonomic category for the symbol. Attribute is blank (null) when 'Unknown' is recorded in the SYMBOL column.

Codes: CATEGORY

Code	Category
Dicot	Division Magnoliophyta; Class Magnoliopsida.
Fern	Division Pteridophyta.
Gymnosperm	Division Coniferophyta (conifers).
Horsetail	Division Equisetophyta.
Lycopod	Division Lycopodiophyta; Class Lycopodiopsida; Order Lycopodiales (clubmoss).
Monocot	Division Magnoliophyta; Class Liliopsida.
Psilophyte	Division Psilotophyta (whisk-ferns).
Quillwort	Division Lycopodiophyta; Class Lycopodiopsida; Order Isoetales.

11.6.9 FAMILY

Family. The NRCS PLANTS database family name associated with the species SYMBOL.

11.6.10 GROWTH_HABIT

Growth habit. The growth habit of the symbol according to the NRCS PLANTS database. Some plants have different growth habits depending on environment or location, so a

plant can have more than one value. Code descriptions are from the NRCS PLANTS documentation.

Codes: GROWTH_HABIT

Code	Growth habit
Forb/herb	Vascular plant without significant woody tissue above or at the ground. Forbs and herbs may be annual, biennial, or perennial but always lack significant thickening by secondary woody growth and have perennating buds borne at or below the ground surface. In PLANTS, graminoids are excluded, but ferns, horsetails, lycopods, and whisk-ferns are included.
Graminoid	Grass or grass-like plant, including grasses (Poaceae), sedges (Cyperaceae), rushes (Juncaceae), arrow-grasses (Juncaginaceae), and quillworts (Isoetes).
Liana	Climbing plant found in tropical forests with long, woody rope-like stems of anomalous anatomical structure.
Shrub	Perennial, multi-stemmed woody plant that is usually less than 4 to 5 meters (13 to 16 feet) in height. Shrubs typically have several stems arising from or near the ground, but may be taller than 5 meters or single-stemmed under certain environmental conditions.
Subshrub	Low-growing shrub usually under 0.5 m (1.5 feet) tall, never exceeding 1 meter (3 feet) tall at maturity.
Tree	Perennial, woody plant with a single stem (trunk), normally greater than 4 to 5 meters (13 to 16 feet) in height; under certain environmental conditions, some tree species may develop a multi-stemmed or short growth form (less than 4 meters or 13 feet in height).
Vine	Twining/climbing plant with relatively long stems, can be woody or herbaceous.

11.6.11 DURATION

Duration. The duration of a plant according to the NRCS PLANTS database. A plant can be associated with more than one type of duration.

Codes: DURATION

Code	Duration
Annual	Individual completes life cycle in a single year.
Biennial	Individual completes life cycle over two growing seasons.
Perennial	Individuals live for many years, including herbaceous plants that re-sprout from roots.
Unknown	Life cycle and duration unknown.

11.6.12 US_NATIVITY

United States nativity. A code indicating the native status jurisdiction and the native status of the plant. There are plants present in the table that do not currently exist in the United States (i.e., jurisdiction is outside of the United States). A plant that is native to any part of a native status jurisdiction (e.g., 'L48' [the lower 48 States]) is considered native, even if some populations within that area are introduced. Thus the 'L48' native status for smooth cord grass (*Spartina alterniflora*) is 'N' (Native) despite the existence of introduced populations on the West Coast. A plant like dandelion (*Taraxacum officinale*), however, is considered native and introduced because it has some infra-taxa that are native to 'L48' and some that are introduced there.

Codes: US_NATIVITY (Status - Native)

Jurisdiction code	Description
AK	Alaska.
CAN	Canada.
GL	Greenland (Denmark).
HI	Hawaii.
L48	Lower 48 States.
NA	North America (only non-vascular plants and lichens have native status given at this level).
NAV	Navassa Island (the sole Caribbean member of the United States Minor Outlying Islands).
PB	Pacific Basin excluding Hawaii.
PR	Puerto Rico.
SPM	St. Pierre and Miquelon (France).
VI	U.S. Virgin Islands.
AS	American Samoa.
PW	Palau.
FM	Micronesia, Federated States.
MP	Northern Mariana Islands.

Codes: US_NATIVITY (Status - Native)

Status code	United States nativity
N	Native.
N?	Probably Native.
NI	Native and Introduced - some infra-taxa are native and others are introduced.
NI?	Native and Probably Introduced - some infra-taxa are native and others are probably introduced.

Codes: US_NATIVITY (Status - Introduced)

Status code	United States nativity
GP	Garden persistent - persists around gardens and old habitations, not naturalized.
GP?	Probably Garden persistent - persists around gardens and old habitations, not naturalized.
I	Introduced.
I?	Probably Introduced.
N?I	Probably Native and Introduced - some infra-taxa are probably native and others are introduced.
W	Waif - an ephemeral introduction, not persistently naturalized.
W?	Probably a Waif - an ephemeral introduction, not persistently naturalized.

11.6.13 STATE_DISTRIBUTION

State distribution. State distribution of the plant according to the NRCS PLANTS database.

11.6.14 STATE_AND_PROVINCE

State and province. State and province distribution of the plant according to the NRCS PLANTS database.

11.6.15 SCIENTIFIC_NAME_W_AUTHOR

Scientific name with author. Scientific name with author of the plant according to the NRCS PLANTS database.

11.6.16 GENERA_BINOMIAL_AUTHOR

Genera binomial author. Genera binomial author of the plant according to the NRCS PLANTS database.

11.6.17 TRINOMIAL_AUTHOR

Trinomial author. Trinomial author of the plant according to the NRCS PLANTS database.

11.6.18 QUADRINOMIAL_AUTHOR

Quadrinomial author. Quadrinomial author of the plant according to the NRCS PLANTS database.

11.6.19 XGENUS

Cross genus. The cross-genus hybridization indicator.

11.6.20 GENUS

Genus. The NRCS PLANTS database genus name.

11.6.21 XSPECIES

Cross species. The cross-species hybridization indicator.

11.6.22 SPECIES

Species. The NRCS PLANTS database species name.

11.6.23 SSP

Subspecies indicator. The term "ssp." is a botanical abbreviation for the taxonomic rank of "subspecies." This column is populated with 'spp.' for plants that have this term included within their name as listed in the NRCS PLANTS database. This column remains null for other plants. When populated, the subspecies name associated with the taxon symbol is listed in the SUBSPECIES column.

11.6.24 XSUBSPECIES

Cross subspecies. Cross-subspecies hybridization indicator.

11.6.25 SUBSPECIES

Subspecies. The NRCS PLANTS database subspecies name.

11.6.26 VAR

Variety indicator. The term "var." is a botanical abbreviation for the taxonomic rank of "variety." This column is populated with 'var.' for plants that have this term included within their name as listed in the NRCS PLANTS database. This column remains null for other plants. When populated, the variety name associated with the taxon symbol is listed in the VARIETY column.

11.6.27 XVARIETY

Cross variety. Cross-variety hybridization indicator.

11.6.28 VARIETY

Variety. The NRCS PLANTS database variety name.

11.6.29 SUBVAR

Subvariety indicator. The term "subvar." is a botanical abbreviation for the taxonomic rank of "subvariety." This column is populated with 'subvar.' for plants that have this term included within their name as listed in the NRCS PLANTS database. This column remains null for other plants. When populated, the subvariety name associated with the taxon symbol is listed in the SUBVARIETY column.

11.6.30 SUBVARIETY

Subvariety. Subvariety of the plant according to the NRCS PLANTS database.

11.6.31 F

Forma indicator. The term "f." is a botanical abbreviation for the taxonomic rank of "forma." This column is populated with 'f.' for plants that have this term included within their name as listed in the NRCS PLANTS database. This column remains null for other plants. When populated, the forma name associated with the taxon symbol is listed in the FORMA column.

11.6.32 FORMA

Forma. Forma of the plant according to the NRCS PLANTS database.

11.6.33 NOTES

Notes. Notes pertaining to the record.

11.6.34 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

11.6.35 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

11.6.36 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

11.6.37 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

11.6.38 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

11.6.39 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.[MODIFIED_IN_INSTANCE](#) description for definition.

11.7 Reference Species Group Table

(Oracle table name: REF_SPECIES_GROUP)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.7.1	SPGRPCD	Species group code	NUMBER(4)
11.7.2	NAME	Name	VARCHAR2(40)
11.7.3	REGION	Region	VARCHAR2(4000)
11.7.4	CLASS	Class	VARCHAR2(4000)
11.7.5	CREATED_DATE	Created date	DATE
11.7.6	MODIFIED_DATE	Modified date	DATE

Key Type	Column(s) order	Tables to link	Abbreviated notation
Unique	SPGRPCD	N/A	RSG_UK

11.7.1 SPGRPCD

Species group code. A code assigned to each tree species in order to group them for reporting purposes. Codes and their associated names (NAME) are shown in [appendix E](#). Refer to [appendix F](#) for individual tree species and corresponding species group codes.

11.7.2 NAME

Name. A descriptive name for each species group code (SPGRPCD). Refer to [appendix E](#).

11.7.3 REGION

Region. A descriptor for the section of the United States in which the species, and therefore species group, is commonly found.

Codes: REGION

Code	Description
All	All regions.
Eastern	Eastern region.
Western	Western region.
Tropical/Subtropical	Tropical/Subtropical regions.

11.7.4 CLASS

Class. A classification type for the trees within the species group.

Codes: CLASS

Code	Description
Softwood	Softwood tree species.
Hardwood	Hardwood tree species.

11.7.5 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

11.7.6 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

11.8 Reference Invasive Species Table

(Oracle table name: REF_INVASIVE_SPECIES)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.8.1	CN	Sequence number	VARCHAR2(34)
11.8.2	STATECD	State code	NUMBER(4)
11.8.3	SYMBOL	Symbol	VARCHAR2(16)
11.8.4	INV_GROUP_CD	Invasive group code	NUMBER
11.8.5	UNITCD_LIST	Unit code list	VARCHAR2(20)
11.8.6	START_DATE	Start date	DATE
11.8.7	END_DATE	End date	DATE
11.8.8	MANUAL_START	Manual start	NUMBER(3,1)
11.8.9	MANUAL_END	Manual end	NUMBER(3,1)
11.8.10	NOTES	Notes	VARCHAR2(2000)
11.8.11	CREATED_BY	Created by	VARCHAR2(30)
11.8.12	CREATED_DATE	Created date	DATE
11.8.13	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
11.8.14	MODIFIED_BY	Modified by	VARCHAR2(30)
11.8.15	MODIFIED_DATE	Modified date	DATE
11.8.16	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	RIS_PK
Unique	STATECD, SYMBOL	N/A	RIS_UK

FIA identifies species and other taxonomic ranks for plants using symbols (SYMBOL) as assigned by NRCS (Natural Resources Conservation Service) for the [PLANTS database](#) (<https://plants.usda.gov>) on a periodic basis. The most recent NRCS download for the FIA program was September 15, 2017. The plants identified here are also present in REF_PLANT_DICTIONARY (REF_INVASIVE_SPECIES.SYMBOL = REF_PLANT_DICTIONARY.SYMBOL). The FIA invasive species list is derived from the invasives identified in the PLANTS database and using other ancillary information.

11.8.1 CN

Sequence number. A unique sequence number used to identify a reference invasive species record.

11.8.2 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

11.8.3 SYMBOL

Symbol. The NRCS PLANTS database symbol code assigned to a specific plant taxon.

11.8.4 INV_GROUP_CD

Invasive group code. A code that can be used to group multiple species that are difficult to distinguish from one another. This code typically represents the most likely species in the invasive species group, or the first one in the group, if the field person was unable to make a positive identification. These groups are typically defined by region.

11.8.5 UNITCD_LIST

Unit code list. A list of survey unit codes (UNITCD) separated by commas, which identifies the geographical areas within the State where the species is likely to be found. For example, for Oregon (STATECD = 41), UNITCD_LIST = 0, 1, 2 indicates that the species is likely to be found in the Northwest, West Central, and Southeast survey units. Refer to [appendix B](#) for survey unit codes (UNITCD) by State.

11.8.6 START_DATE

Start date. The date the species was inserted in the REF_INVASIVE_SPECIES table for use as a recordable invasive plant species for a State.

11.8.7 END_DATE

End date. The date the species was no longer considered an invasive plant species for a State.

11.8.8 MANUAL_START

Manual start. The first version of the Field Guide (PLOT.[MANUAL](#)) that the invasive species (SYMBOL) was used.

11.8.9 MANUAL_END

Manual end. The last version of the Field Guide (PLOT.[MANUAL](#)) that the invasive species (SYMBOL) was valid. When MANUAL_END is blank (null), the code is still valid.

11.8.10 NOTES

Notes. Notes on this invasive species for this State (e.g., why added or removed from list).

11.8.11 CREATED_BY

Created by. See SURVEY.[CREATED_BY](#) description for definition.

11.8.12 CREATED_DATE

Created date. See SURVEY.[CREATED_DATE](#) description for definition.

11.8.13 CREATED_IN_INSTANCE

Created in instance. See SURVEY.[CREATED_IN_INSTANCE](#) description for definition.

11.8.14 MODIFIED_BY

Modified by. See SURVEY.[MODIFIED_BY](#) description for definition.

11.8.15 MODIFIED_DATE

Modified date. See SURVEY.[MODIFIED_DATE](#) description for definition.

11.8.16 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.[MODIFIED_IN_INSTANCE](#) description for definition.

11.9 Reference Habitat Type Description Table

(Oracle table name: REF_HABTYP_DESCRIPTION)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.9.1	CN	Sequence number	VARCHAR2(34)
11.9.2	HABTYP_CD	Habitat type code	VARCHAR2(10)
11.9.3	PUB_CD	Publication code	VARCHAR2(10)
11.9.4	SCIENTIFIC_NAME	Scientific name	VARCHAR2(115)
11.9.5	COMMON_NAME	Common name	VARCHAR2(255)
11.9.6	VALID	Valid	VARCHAR2(1)
11.9.7	CREATED_BY	Created by	VARCHAR2(30)
11.9.8	CREATED_DATE	Created date	DATE
11.9.9	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
11.9.10	MODIFIED_BY	Modified by	VARCHAR2(30)
11.9.11	MODIFIED_DATE	Modified date	DATE
11.9.12	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	RHN_PK
Unique	HABTYP_CD, PUB_CD	N/A	RHN_UK
Foreign	PUB_CD	REF_HABTYP_DESCRIPTION to REF_HABTYP_PUBLICATION	RHN_RPN_FK

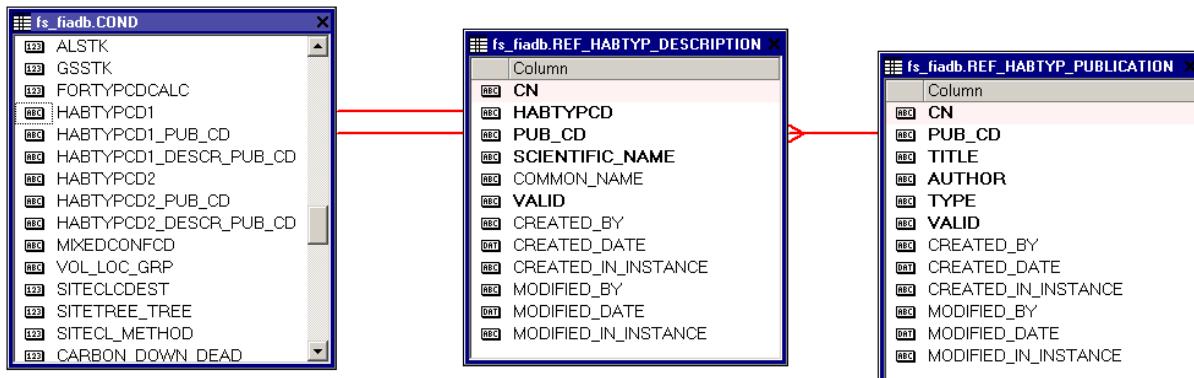


Figure 11-1: Illustration of how publication information can be derived.

11.9.1 CN

Sequence number. A unique sequence number used to identify a reference habitat type description record.

11.9.2 HABTYP_CD

Habitat type code. A code representing a habitat type. Unique codes are determined by combining both habitat type code and publication code (HABTYP_CD and PUB_CD).

11.9.3 PUB_CD

Publication code. A code indicating the publication that lists the name and/or description associated with a particular habitat type code (HABTYP_CD).

11.9.4 SCIENTIFIC_NAME

Scientific name. This attribute contains some type of descriptor, usually the Latin name, of the plant(s) associated with the habitat type code. It has values such as the entire scientific name or the shortened synonym of the plant(s) represented by the habitat type code or it may have an English geographic type of descriptor.

11.9.5 COMMON_NAME

Common name. This attribute contains some type of descriptor, usually the common name, of the plant(s) associated with the habitat type code.

11.9.6 VALID

Valid. A flag to indicate if this is a valid, documented habitat type code. Values are 'Y' (yes) and 'N' (no).

11.9.7 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

11.9.8 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

11.9.9 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

11.9.10 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

11.9.11 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

11.9.12 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

11.10 Reference Habitat Type Publication Table

(Oracle table name: REF_HABTYP_PUBLICATION)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.10.1	CN	Sequence number	VARCHAR2(34)
11.10.2	PUB_CD	Publication code	VARCHAR2(10)
11.10.3	TITLE	Title of publication	VARCHAR2(200)
11.10.4	AUTHOR	Author of publication	VARCHAR2(200)
11.10.5	TYPE	Type of publication	VARCHAR2(10)
11.10.6	VALID	Valid	VARCHAR2(1)
11.10.7	CREATED_BY	Created by	VARCHAR2(30)
11.10.8	CREATED_DATE	Created date	DATE
11.10.9	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
11.10.10	MODIFIED_BY	Modified by	VARCHAR2(30)
11.10.11	MODIFIED_DATE	Modified date	DATE
11.10.12	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	RPN_PK
Unique	PUB_CD	N/A	RPN_UK

11.10.1 CN

Sequence number. A unique sequence number used to identify a reference habitat type publication record.

11.10.2 PUB_CD

Publication code. A code indicating the publication that lists the name and/or description associated with a particular habitat type code (REF_HABTYP_DESCRIPTION.HABTYP_CD).

11.10.3 TITLE

Title of publication. The title of the publication associated with the publication code (PUB_CD).

11.10.4 AUTHOR

Author of publication. The author of the publication associated with the publication code (PUB_CD).

11.10.5 TYPE

Type of publication. A code indicating if the habitat type publication describes potential vegetation or existing vegetation. If it is unknown which type of habitat is being described, then '?' is recorded in this column.

Codes: TYPE

Code	Duration
PVREF	Potential vegetation.
EVREF	Existing vegetation.
?	The type (potential or existing) is unknown.

11.10.6 VALID

Valid. A flag to indicate if this publication is valid for FIA. Values are 'Y' (yes) and 'N' (no).

11.10.7 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

11.10.8 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

11.10.9 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

11.10.10 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

11.10.11 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

11.10.12 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

11.11 Reference Citation Table

(Oracle table name: REF_CITATION)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.11.1	CITATION_NBR	Citation number	NUMBER(7)
11.11.2	CITATION	Citation	VARCHAR2(2000)
11.11.3	CREATED_BY	Created by	VARCHAR2(30)
11.11.4	CREATED_DATE	Created date	DATE
11.11.5	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
11.11.6	MODIFIED_BY	Modified by	VARCHAR2(30)
11.11.7	MODIFIED_DATE	Modified date	DATE
11.11.8	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CITATION_NBR	N/A	CIT_PK

11.11.1 CITATION_NBR

Citation number. A unique number used to identify a REF_CITATION record. Citation information is currently available in the database only for information about the source of specific gravity and bark volume percent values contained in the REF_SPECIES table. REF_SPECIES attributes ending in '_CIT' link back to the REF_CITATION table through CITATION_NBR.

11.11.2 CITATION

Citation. This attribute is usually a publication citation. In some cases, CITATION may contain more specific information about how data were populated for a field.

11.11.3 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

11.11.4 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

11.11.5 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

11.11.6 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

11.11.7 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

11.11.8 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

11.12 Reference Forest Inventory and Analysis Database Version Table

(Oracle table name: REF_FIADB_VERSION)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.12.1	VERSION	Version identifier	VARCHAR2(40)
11.12.2	INSTALL_TYPE	Install type	VARCHAR2(10)
11.12.3	DESCR	Version description	VARCHAR2(2000)
11.12.4	CREATED_BY	Created by	VARCHAR2(30)
11.12.5	CREATED_DATE	Created date	DATE
11.12.6	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
11.12.7	MODIFIED_BY	Modified by	VARCHAR2(30)
11.12.8	MODIFIED_DATE	Modified date	DATE
11.12.9	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	VERSION	N/A	RFN_PK

11.12.1 VERSION

Version identifier. A unique identifier for the FIADB version.

11.12.2 INSTALL_TYPE

Install type. A brief description of the version installation type.

Codes: INSTALL_TYPE

Installation type value	Description
INITIAL	Initial installation of FIADB.
UPDATE	Major update of previous FIADB version.
RELEASE	Minor revision of FIADB version.

11.12.3 DESCR

Version description. A description of the FIADB version. This may include a literature citation and internet links to documentation.

11.12.4 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

11.12.5 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

11.12.6 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

11.12.7 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

11.12.8 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

11.12.9 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

11.13 Reference State Elevation Table

(Oracle table name: REF_STATE_ELEV)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.13.1	STATECD	State code	NUMBER(4)
11.13.2	MIN_ELEV	Minimum elevation	NUMBER(5)
11.13.3	MAX_ELEV	Maximum elevation	NUMBER(5)
11.13.4	LOWEST_POINT	Lowest point	VARCHAR2(30)
11.13.5	HIGHEST_POINT	Highest point	VARCHAR2(30)
11.13.6	CREATED_BY	Created by	VARCHAR2(30)
11.13.7	CREATED_DATE	Created date	DATE
11.13.8	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
11.13.9	MODIFIED_BY	Modified by	VARCHAR2(30)
11.13.10	MODIFIED_DATE	Modified date	DATE
11.13.11	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	STATECD	N/A	RSE_PK

11.13.1 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

11.13.2 MIN_ELEV

Minimum elevation. The minimum elevation within the State in feet.

11.13.3 MAX_ELEV

Maximum elevation. The maximum elevation within the State in feet.

11.13.4 LOWEST_POINT

Lowest point. The name of the lowest point within the State. 'SL' refers to sea level. Negative minimum elevations are listed here.

11.13.5 HIGHEST_POINT

Highest point. The name of the highest point within the State. Alternative names are also provided.

11.13.6 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

11.13.7 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

11.13.8 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

11.13.9 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

11.13.10 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

11.13.11 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

11.14 Reference Unit Table

(Oracle table name: REF_UNIT)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.14.1	STATECD	State code	NUMBER(4)
11.14.2	VALUE	Value	NUMBER(2)
11.14.3	MEANING	Meaning	VARCHAR2(80)
11.14.4	CREATED_BY	Created by	VARCHAR2(30)
11.14.5	CREATED_DATE	Created date	DATE
11.14.6	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
11.14.7	MODIFIED_BY	Modified by	VARCHAR2(30)
11.14.8	MODIFIED_DATE	Modified date	DATE
11.14.9	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	STATECD, VALUE	N/A	UNT_PK

11.14.1 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

11.14.2 VALUE

Value. Forest Inventory and Analysis survey unit identification number. Survey units are usually groups of counties within each State. For periodic inventories, survey units may be made up of lands of particular owners. Refer to [appendix B](#) for codes.

11.14.3 MEANING

Meaning. The name corresponding to the survey unit code (VALUE) in the State (STATECD). Refer to [appendix B](#).

11.14.4 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

11.14.5 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

11.14.6 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

11.14.7 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

11.14.8 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

11.14.9 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

11.15 Reference Research Station Table

(Oracle table name: REF_RESEARCH_STATION)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.15.1	STATECD	State code	NUMBER(4)
11.15.2	RSCD	Region or station code	NUMBER(2)
11.15.3	RS	Research station abbreviation	VARCHAR2(5)
11.15.4	STATE_NAME	State name	VARCHAR2(40)
11.15.5	STATE_ABBR	State abbreviation	VARCHAR2(4)
11.15.6	CREATED_BY	Created by	VARCHAR2(30)
11.15.7	CREATED_DATE	Created date	DATE
11.15.8	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
11.15.9	MODIFIED_BY	Modified by	VARCHAR2(30)
11.15.10	MODIFIED_DATE	Modified date	DATE
11.15.11	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	STATECD	N/A	RES_PK

11.15.1 STATECD

State code. Bureau of the Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

11.15.2 RSCD

Region or Station code. See SURVEY.RSCD description for definition.

11.15.3 RS

Research station abbreviation. Abbreviation for the research station.

Codes: RS

Code	Description
RMRS	Rocky Mountain Research Station.
NCRS	North Central Research Station.
NERS	Northeastern Research Station.
PNWRS	Pacific Northwest Research Station.
SRS	Southern Research Station.

11.15.4 STATE_NAME

State name. Refer to [appendix B](#).

11.15.5 STATE_ABBR

State abbreviation. The two-character State abbreviation. [Refer to appendix B.](#)

11.15.6 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

11.15.7 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

11.15.8 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

11.15.9 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

11.15.10 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

11.15.11 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

11.16 Reference National Vegetation Classification Standard (NVCS) Hierarchy Structure Table

(Oracle table name: REF_NVCS_HIERARCHY_STRCT)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.16.1	HIERARCHY_VERSION	Hierarchy version	VARCHAR2(30)
11.16.2	PRIMARY_CLASS	Primary class	VARCHAR2(8)
11.16.3	NVCS_LEVEL_1_LABEL	Level 1 label of the NVCS	VARCHAR2(30)
11.16.4	NVCS_LEVEL_1_CD	Level 1 code of the NVCS	VARCHAR2(3)
11.16.5	NVCS_LEVEL_2_LABEL	Level 2 label of the NVCS	VARCHAR2(30)
11.16.6	NVCS_LEVEL_2_CD	Level 2 code of the NVCS	VARCHAR2(8)
11.16.7	NVCS_LEVEL_3_LABEL	Level 3 label of the NVCS	VARCHAR2(30)
11.16.8	NVCS_LEVEL_3_CD	Level 3 code of the NVCS	VARCHAR2(10)
11.16.9	NVCS_LEVEL_4_LABEL	Level 4 label of the NVCS	VARCHAR2(30)
11.16.10	NVCS_LEVEL_4_CD	Level 4 code of the NVCS	VARCHAR2(13)
11.16.11	NVCS_LEVEL_5_LABEL	Level 5 label of the NVCS	VARCHAR2(30)
11.16.12	NVCS_LEVEL_5_CD	Level 5 code of the NVCS	VARCHAR2(20)
11.16.13	NVCS_LEVEL_6_LABEL	Level 6 label of the NVCS	VARCHAR2(30)
11.16.14	NVCS_LEVEL_6_CD	Level 6 code of the NVCS	VARCHAR2(20)
11.16.15	NVCS_LEVEL_7_LABEL	Level 7 label of the NVCS	VARCHAR2(30)
11.16.16	NVCS_LEVEL_7_CD	Level 7 code of the NVCS	VARCHAR2(25)
11.16.17	NVCS_LEVEL_8_LABEL	Level 8 label of the NVCS	VARCHAR2(30)
11.16.18	NVCS_LEVEL_8_CD	Level 8 code of the NVCS	VARCHAR2(25)
11.16.19	NVCS_LEVEL_1_MEANING	Level 1 meaning of the NVCS	VARCHAR2(100)
11.16.20	NVCS_LEVEL_2_MEANING	Level 2 meaning of the NVCS	VARCHAR2(100)
11.16.21	NVCS_LEVEL_3_MEANING	Level 3 meaning of the NVCS	VARCHAR2(100)
11.16.22	NVCS_LEVEL_4_MEANING	Level 4 meaning of the NVCS	VARCHAR2(100)
11.16.23	NVCS_LEVEL_5_MEANING	Level 5 meaning of the NVCS	VARCHAR2(100)
11.16.24	NVCS_LEVEL_6_MEANING	Level 6 meaning of the NVCS	VARCHAR2(100)
11.16.25	NVCS_LEVEL_7_MEANING	Level 7 meaning of the NVCS	VARCHAR2(100)
11.16.26	NVCS_LEVEL_8_MEANING	Level 8 meaning of the NVCS	VARCHAR2(100)
11.16.27	NVCS_LEVEL_1_NOTE	Level 1 note of the NVCS	VARCHAR2(1000)
11.16.28	NVCS_LEVEL_2_NOTE	Level 2 note of the NVCS	VARCHAR2(1000)
11.16.29	NVCS_LEVEL_3_NOTE	Level 3 note of the NVCS	VARCHAR2(1000)
11.16.30	NVCS_LEVEL_4_NOTE	Level 4 note of the NVCS	VARCHAR2(1000)
11.16.31	NVCS_LEVEL_5_NOTE	Level 5 note of the NVCS	VARCHAR2(1000)
11.16.32	NVCS_LEVEL_6_NOTE	Level 6 note of the NVCS	VARCHAR2(1000)
11.16.33	NVCS_LEVEL_7_NOTE	Level 7 note of the NVCS	VARCHAR2(1000)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.16.34	NVCS_LEVEL_8_NOTE	Level 8 note of the NVCS	VARCHAR2(1000)
11.16.35	CITATION_NBR	Citation number	NUMBER(7)
11.16.36	CREATED_BY	Created by	VARCHAR2(30)
11.16.37	CREATED_DATE	Created date	DATE
11.16.38	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
11.16.39	MODIFIED_BY	Modified by	VARCHAR2(30)
11.16.40	MODIFIED_DATE	Modified date	DATE
11.16.41	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

This table describes the structure of a given National Vegetation Classification Standard (NVCS) hierarchy. More information about the NVCS is available at the [United States National Vegetation Classification website](#) (www.usnvc.org) (United States National Vegetation Classification 2016). Populated for data collected using the National Field Guide protocols (PLOT.MANUAL \geq 1.0).

11.16.1 HIERARCHY_VERSION

Hierarchy version. A version indicator for the National Vegetation Classification hierarchy.

11.16.2 PRIMARY_CLASS

Primary class. The primary classification determined by the NVCS classification algorithm. 'NATURAL' or 'CULTURAL' are the valid values. As of August 2017, the classification algorithm has only been developed for the eastern continental United States excluding the western edges of the Plains States, Oklahoma, and Texas. This column will only be populated for forested conditions in the supported area.

Note: For more information on the 'NATURAL' and 'CULTURAL' vegetation classifications, refer to the [Plant Communities and Vegetation Classification](#) web page on the USNVC website (available at web address: <https://usnvc.org/about/plant-communities-and-vegetation-classification/>).

11.16.3 NVCS_LEVEL_1_LABEL

Level 1 label of the NVCS. A label assigned to the current level of the NVCS hierarchy.

11.16.4 NVCS_LEVEL_1_CD

Level 1 code of the NVCS. The NVCS code describing the vegetative community of the condition at the first level of the NVCS hierarchy. It is populated for both the 'NATURAL' and 'CULTURAL' primary classifications. Code definitions can be found in the [Reference National Vegetation Classification Standard Level 1 Codes Table](#) (NVCS_LEVEL_1_CODES). Joins to this table must use both the NVCS_PRIMARY_CLASS and NVCS_LEVEL_1_CD values as shown in the following example.

```

SELECT c.cn AS cnd_cn,
       c.nvcs_primary_class,
       c.nvcs_level_1_cd,
       r.meaning
  FROM cond c, ref_nvcs_level_1_codes r

```

```
WHERE c.nvcs_primary_class = r.primary_class
    AND c.nvcs_level_1_cd = r.nvcs_code;
```

11.16.5 NVCS_LEVEL_2_LABEL

Level 2 label of the NVCS. A label assigned to the current level of the NVCS hierarchy.

11.16.6 NVCS_LEVEL_2_CD

Level 2 code of the NVCS. The NVCS code describing the vegetative community of the condition at the second level of the NVCS hierarchy. It is populated for both the 'NATURAL' and 'CULTURAL' primary classifications. Code definitions can be found in the [Reference National Vegetation Classification Standard Level 2 Codes Table](#) (NVCS_LEVEL_2_CODES). Joins to this table must use both the NVCS_PRIMARY_CLASS and NVCS_LEVEL_2_CD values as shown in the following example.

```
SELECT c.cn AS cnd_cn,
       c.nvcs_primary_class,
       c.nvcs_level_2_cd,
       r.meaning
  FROM cond c, ref_nvcs_level_2_codes r
 WHERE c.nvcs_primary_class = r.primary_class
    AND c.nvcs_level_2_cd = r.nvcs_code;
```

11.16.7 NVCS_LEVEL_3_LABEL

Level 3 label of the NVCS. A label assigned to the current level of the NVCS hierarchy.

11.16.8 NVCS_LEVEL_3_CD

Level 3 code of the NVCS. The NVCS code describing the vegetative community of the condition at the third level of the NVCS hierarchy. It is populated for both the 'NATURAL' and 'CULTURAL' primary classifications. Code definitions can be found in the [Reference National Vegetation Classification Standard Level 3 Codes Table](#) (NVCS_LEVEL_3_CODES). Joins to this table must use both the NVCS_PRIMARY_CLASS and NVCS_LEVEL_3_CD values as shown in the following example.

```
SELECT c.cn AS cnd_cn,
       c.nvcs_primary_class,
       c.nvcs_level_3_cd,
       r.meaning
  FROM cond c, ref_nvcs_level_3_codes r
 WHERE c.nvcs_primary_class = r.primary_class
    AND c.nvcs_level_3_cd = r.nvcs_code;
```

11.16.9 NVCS_LEVEL_4_LABEL

Level 4 label of the NVCS. A label assigned to the current level of the NVCS hierarchy.

11.16.10 NVCS_LEVEL_4_CD

Level 4 code of the NVCS. The NVCS code describing the vegetative community of the condition at the fourth level of the NVCS hierarchy. It is populated for both the 'NATURAL' and 'CULTURAL' primary classifications. Code definitions can be found in the [Reference National Vegetation Classification Standard Level 4 Codes Table](#) (NVCS_LEVEL_4_CODES).

Joins to this table must use both the NVCS_PRIMARY_CLASS and NVCS_LEVEL_4_CD values as shown in the following example.

```
SELECT c.cn AS cnd_cn,
       c.nvcs_primary_class,
       c.nvcs_level_4_cd,
       r.meaning
  FROM cond c, ref_nvcs_level_4_codes r
 WHERE c.nvcs_primary_class = r.primary_class
   AND c.nvcs_level_4_cd = r.nvcs_code;
```

11.16.11 NVCS_LEVEL_5_LABEL

Level 5 label of the NVCS. A label assigned to the current level of the NVCS hierarchy.

11.16.12 NVCS_LEVEL_5_CD

Level 5 code of the NVCS. The NVCS code describing the vegetative community of the condition at the fifth level of the NVCS hierarchy. It is populated for both the 'NATURAL' and 'CULTURAL' primary classifications. Code definitions can be found in the [Reference National Vegetation Classification Standard Level 5 Codes Table \(NVCS_LEVEL_5_CODES\)](#). Joins to this table must use both the NVCS_PRIMARY_CLASS and NVCS_LEVEL_5_CD values as shown in the following example.

```
SELECT c.cn AS cnd_cn,
       c.nvcs_primary_class,
       c.nvcs_level_5_cd,
       r.meaning
  FROM cond c, ref_nvcs_level_5_codes r
 WHERE c.nvcs_primary_class = r.primary_class
   AND c.nvcs_level_5_cd = r.nvcs_code;
```

11.16.13 NVCS_LEVEL_6_LABEL

Level 6 label of the NVCS. A label assigned to the current level of the NVCS hierarchy.

11.16.14 NVCS_LEVEL_6_CD

Level 6 code of the NVCS. The NVCS code describing the vegetative community of the condition at the sixth level of the NVCS hierarchy. It is populated for the 'CULTURAL' primary classification. Code definitions can be found in the [Reference National Vegetation Classification Standard Level 6 Codes Table \(NVCS_LEVEL_6_CODES\)](#). Joins to this table must use both the NVCS_PRIMARY_CLASS and NVCS_LEVEL_6_CD values as shown in the following example.

```
SELECT c.cn AS cnd_cn,
       c.nvcs_primary_class,
       c.nvcs_level_6_cd,
       r.meaning
  FROM cond c, ref_nvcs_level_6_codes r
 WHERE c.nvcs_primary_class = r.primary_class
   AND c.nvcs_level_6_cd = r.nvcs_code;
```

11.16.15 NVCS_LEVEL_7_LABEL

Level 7 label of the NVCS. A label assigned to the current level of the NVCS hierarchy.

11.16.16 NVCS_LEVEL_7_CD

Level 7 code of the NVCS. The NVCS code describing the vegetative community of the condition at the seventh level of the NVCS hierarchy. It is populated for the 'CULTURAL' primary classification. Code definitions can be found in the [Reference National Vegetation Classification Standard Level 7 Codes Table](#) (NVCS_LEVEL_7_CODES). Joins to this table must use both the NVCS_PRIMARY_CLASS and NVCS_LEVEL_7_CD values as shown in the following example.

```
SELECT c.cn AS cnd_cn,
       c.nvcs_primary_class,
       c.nvcs_level_7_cd,
       r.meaning
  FROM cond c, ref_nvcs_level_7_codes r
 WHERE c.nvcs_primary_class = r.primary_class
   AND c.nvcs_level_7_cd = r.nvcs_code;
```

11.16.17 NVCS_LEVEL_8_LABEL

Level 8 label of the NVCS. A label assigned to the current level of the NVCS hierarchy.

11.16.18 NVCS_LEVEL_8_CD

Level 8 code of the NVCS. The NVCS code describing the vegetative community of the condition at the eighth level of the NVCS hierarchy. It is populated for the 'CULTURAL' primary classification. Code definitions can be found in the [Reference National Vegetation Classification Standard Level 8 Codes Table](#) (NVCS_LEVEL_8_CODES). Joins to this table must use both the NVCS_PRIMARY_CLASS and NVCS_LEVEL_8_CD values as shown in the following example.

```
SELECT c.cn AS cnd_cn,
       c.nvcs_primary_class,
       c.nvcs_level_8_cd,
       r.meaning
  FROM cond c, ref_nvcs_level_8_codes r
 WHERE c.nvcs_primary_class = r.primary_class
   AND c.nvcs_level_8_cd = r.nvcs_code;
```

11.16.19 NVCS_LEVEL_1_MEANING

Level 1 meaning of the NVCS. The meaning of the code at the current level of the NVCS hierarchy.

11.16.20 NVCS_LEVEL_2_MEANING

Level 2 meaning of the NVCS. The meaning of the code at the current level of the NVCS hierarchy.

11.16.21 NVCS_LEVEL_3_MEANING

Level 3 meaning of the NVCS. The meaning of the code at the current level of the NVCS hierarchy.

11.16.22 NVCS_LEVEL_4_MEANING

Level 4 meaning of the NVCS. The meaning of the code at the current level of the NVCS hierarchy.

11.16.23 NVCS_LEVEL_5_MEANING

Level 5 meaning of the NVCS. The meaning of the code at the current level of the NVCS hierarchy.

11.16.24 NVCS_LEVEL_6_MEANING

Level 6 meaning of the NVCS. The meaning of the code at the current level of the NVCS hierarchy.

11.16.25 NVCS_LEVEL_7_MEANING

Level 7 meaning of the NVCS. The meaning of the code at the current level of the NVCS hierarchy.

11.16.26 NVCS_LEVEL_8_MEANING

Level 8 meaning of the NVCS. The meaning of the code at the current level of the NVCS hierarchy.

11.16.27 NVCS_LEVEL_1_NOTE

Level 1 note of the NVCS. Any remark relevant to the hierarchy structure record.

11.16.28 NVCS_LEVEL_2_NOTE

Level 2 note of the NVCS. Any remark relevant to the hierarchy structure record.

11.16.29 NVCS_LEVEL_3_NOTE

Level 3 note of the NVCS. Any remark relevant to the hierarchy structure record.

11.16.30 NVCS_LEVEL_4_NOTE

Level 4 note of the NVCS. Any remark relevant to the hierarchy structure record.

11.16.31 NVCS_LEVEL_5_NOTE

Level 5 note of the NVCS. Any remark relevant to the hierarchy structure record.

11.16.32 NVCS_LEVEL_6_NOTE

Level 6 note of the NVCS. Any remark relevant to the hierarchy structure record.

11.16.33 NVCS_LEVEL_7_NOTE

Level 7 note of the NVCS. Any remark relevant to the hierarchy structure record.

11.16.34 NVCS_LEVEL_8_NOTE

Level 8 note of the NVCS. Any remark relevant to the hierarchy structure record.

11.16.35 CITATION_NBR

Citation number. Foreign key to the parent REF_CITATION record.

11.16.36 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

11.16.37 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

11.16.38 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

11.16.39 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

11.16.40 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

11.16.41 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

11.17 Reference National Vegetation Classification Standard Level 1 Codes Table

(Oracle table name: REF_NVCS_LEVEL_1_CODES)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.17.1	CN	Sequence number	VARCHAR2(34)
11.17.2	PRIMARY_CLASS	Primary class	VARCHAR2(8)
11.17.3	HIERARCHY_LEVEL	Hierarchy level	NUMBER(2)
11.17.4	HIERARCHY_LEVEL_LABEL	Hierarchy level label	VARCHAR2(30)
11.17.5	NVCS_CODE	NVCS code	VARCHAR2(20)
11.17.6	MEANING	Meaning	VARCHAR2(100)
11.17.7	NOTE	Note	VARCHAR2(1000)
11.17.8	CREATED_BY	Created by	VARCHAR2(30)
11.17.9	CREATED_DATE	Created date	DATE
11.17.10	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
11.17.11	MODIFIED_BY	Modified by	VARCHAR2(30)
11.17.12	MODIFIED_DATE	Modified date	DATE
11.17.13	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	RNVCSHS1_PK
Unique	PRIMARY_CLASS, NVCS_CODE	N/A	RNVCSHS1_UK

This table defines the codes for the first level of the National Vegetation Classification Standard (NVCS) hierarchy. More information about the NVCS is available at the [United States National Vegetation Classification website](http://www.usnvc.org) (www.usnvc.org) (United States National Vegetation Classification 2016). Populated for data collected using the National Field Guide protocols (PLOT.MANUAL ≥1.0).

11.17.1 CN

Sequence number. A unique sequence number used to identify a reference NVCS level 1 codes record.

11.17.2 PRIMARY_CLASS

Primary class. The primary classification determined by the NVCS classification algorithm. 'NATURAL' or 'CULTURAL' are the valid values. As of August 2017, the classification algorithm has only been developed for the eastern continental United States excluding the western edges of the Plains States, Oklahoma, and Texas. This column will only be populated for forested conditions in the supported area.

Note: For more information on the 'NATURAL' and 'CULTURAL' vegetation classifications, refer to the [Plant Communities and Vegetation Classification](#) web page on the USNVC

website (available at web address:
<https://usnvc.org/about/plant-communities-and-vegetation-classification/>).

11.17.3 HIERARCHY_LEVEL

Hierarchy level. An integer value indicating at what level in the National Vegetation Classification Standard hierarchy the current record exists.

11.17.4 HIERARCHY_LEVEL_LABEL

Hierarchy level label. A label assigned to the current level of the NVCS hierarchy.

11.17.5 NVCS_CODE

NVCS code. A code representing the classification at the current level of the NVCS hierarchy.

Codes: NVCS_CODE

NVCS_CODE	MEANING
-2	Algorithm does not support area where the sampling point fell.
-1	Algorithm failed to produce a solution.
1	Forest & Woodland.
7	Agricultural & Developed Vegetation.

11.17.6 MEANING

Meaning. The meaning of the code at the current level of the NVCS hierarchy.

Codes: MEANING

NVCS_CODE	MEANING
-2	Algorithm does not support area where the sampling point fell.
-1	Algorithm failed to produce a solution.
1	Forest & Woodland.
7	Agricultural & Developed Vegetation.

11.17.7 NOTE

Note. Any remark relevant to the hierarchy structure record.

11.17.8 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

11.17.9 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

11.17.10 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

11.17.11 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

11.17.12 MODIFIED_DATE

Modified date. See SURVEY.[MODIFIED_DATE](#) description for definition.

11.17.13 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.[MODIFIED_IN_INSTANCE](#) description for definition.

11.18 Reference National Vegetation Classification Standard Level 2 Codes Table

(Oracle table name: REF_NVCS_LEVEL_2_CODES)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.18.1	CN	Sequence number	VARCHAR2(34)
11.18.2	PRIMARY_CLASS	Primary class	VARCHAR2(8)
11.18.3	HIERARCHY_LEVEL	Hierarchy level	NUMBER(2)
11.18.4	HIERARCHY_LEVEL_LABEL	Hierarchy level label	VARCHAR2(30)
11.18.5	NVCS_CODE	NVCS code	VARCHAR2(20)
11.18.6	MEANING	Meaning	VARCHAR2(100)
11.18.7	NOTE	Note	VARCHAR2(1000)
11.18.8	CREATED_BY	Created by	VARCHAR2(30)
11.18.9	CREATED_DATE	Created date	DATE
11.18.10	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
11.18.11	MODIFIED_BY	Modified by	VARCHAR2(30)
11.18.12	MODIFIED_DATE	Modified date	DATE
11.18.13	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	RNVCSHS2_PK
Unique	PRIMARY_CLASS, NVCS_CODE	N/A	RNVCSHS2_UK

This table defines the codes for the second level of the National Vegetation Classification Standard (NVCS) hierarchy. More information about the NVCS is available at the [United States National Vegetation Classification website](http://www.usnvc.org) (www.usnvc.org) (United States National Vegetation Classification 2016). Populated for data collected using the National Field Guide protocols (PLOT.MANUAL ≥1.0).

11.18.1 CN

Sequence number. A unique sequence number used to identify a reference NVCS level 2 codes record.

11.18.2 PRIMARY_CLASS

Primary class. The primary classification determined by the NVCS classification algorithm. 'NATURAL' or 'CULTURAL' are the valid values. As of August 2017, the classification algorithm has only been developed for the eastern continental United States excluding the western edges of the Plains States, Oklahoma, and Texas. This column will only be populated for forested conditions in the supported area.

Note: For more information on the 'NATURAL' and 'CULTURAL' vegetation classifications, refer to the [Plant Communities and Vegetation Classification](#) web page on the USNVC

website (available at web address:
<https://usnvc.org/about/plant-communities-and-vegetation-classification/>).

11.18.3 HIERARCHY_LEVEL

Hierarchy level. An integer value indicating at what level in the National Vegetation Classification Standard hierarchy the current record exists.

11.18.4 HIERARCHY_LEVEL_LABEL

Hierarchy level label. A label assigned to the current level of the NVCS hierarchy.

11.18.5 NVCS_CODE

NVCS code. A code representing the classification at the current level of the NVCS hierarchy.

Codes: NVCS_CODE

NVCS_CODE	MEANING
-2.-2	Algorithm does not support area where the sampling point fell.
-1.-1	Algorithm failed to produce a solution.
1.A	Tropical Forest & Woodland.
1.B	Temperate & Boreal Forest & Woodland.
7.A	Woody Agricultural Vegetation.

11.18.6 MEANING

Meaning. The meaning of the code at the current level of the NVCS hierarchy.

Codes: MEANING

NVCS_CODE	MEANING
-2.-2	Algorithm does not support area where the sampling point fell.
-1.-1	Algorithm failed to produce a solution.
1.A	Tropical Forest & Woodland.
1.B	Temperate & Boreal Forest & Woodland.
7.A	Woody Agricultural Vegetation.

11.18.7 NOTE

Note. Any remark relevant to the hierarchy structure record.

11.18.8 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

11.18.9 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

11.18.10 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

11.18.11 MODIFIED_BY

Modified by. See SURVEY.[MODIFIED_BY](#) description for definition.

11.18.12 MODIFIED_DATE

Modified date. See SURVEY.[MODIFIED_DATE](#) description for definition.

11.18.13 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.[MODIFIED_IN_INSTANCE](#) description for definition.

11.19 Reference National Vegetation Classification Standard Level 3 Codes Table

(Oracle table name: REF_NVCS_LEVEL_3_CODES)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.19.1	CN	Sequence number	VARCHAR2(34)
11.19.2	PRIMARY_CLASS	Primary class	VARCHAR2(8)
11.19.3	HIERARCHY_LEVEL	Hierarchy level	NUMBER(2)
11.19.4	HIERARCHY_LEVEL_LABEL	Hierarchy level label	VARCHAR2(30)
11.19.5	NVCS_CODE	NVCS code	VARCHAR2(20)
11.19.6	MEANING	Meaning	VARCHAR2(100)
11.19.7	NOTE	Note	VARCHAR2(1000)
11.19.8	CREATED_BY	Created by	VARCHAR2(30)
11.19.9	CREATED_DATE	Created date	DATE
11.19.10	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
11.19.11	MODIFIED_BY	Modified by	VARCHAR2(30)
11.19.12	MODIFIED_DATE	Modified date	DATE
11.19.13	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	RNVCSHS3_PK
Unique	PRIMARY_CLASS, NVCS_CODE	N/A	RNVCSHS3_UK

This table defines the codes for the third level of the National Vegetation Classification Standard (NVCS) hierarchy. More information about the NVCS is available at the [United States National Vegetation Classification website](http://www.usnvc.org) (www.usnvc.org) (United States National Vegetation Classification 2016). Populated for data collected using the National Field Guide protocols (PLOT.MANUAL ≥1.0).

11.19.1 CN

Sequence number. A unique sequence number used to identify a reference NVCS level 3 codes record.

11.19.2 PRIMARY_CLASS

Primary class. The primary classification determined by the NVCS classification algorithm. 'NATURAL' or 'CULTURAL' are the valid values. As of August 2017, the classification algorithm has only been developed for the eastern continental United States excluding the western edges of the Plains States, Oklahoma, and Texas. This column will only be populated for forested conditions in the supported area.

Note: For more information on the 'NATURAL' and 'CULTURAL' vegetation classifications, refer to the [Plant Communities and Vegetation Classification](#) web page on the USNVC

website (available at web address:
<https://usnvc.org/about/plant-communities-and-vegetation-classification/>).

11.19.3 HIERARCHY_LEVEL

Hierarchy level. An integer value indicating at what level in the National Vegetation Classification Standard hierarchy the current record exists.

11.19.4 HIERARCHY_LEVEL_LABEL

Hierarchy level label. A label assigned to the current level of the NVCS hierarchy.

11.19.5 NVCS_CODE

NVCS code. A code representing the classification at the current level of the NVCS hierarchy.

Codes: NVCS_CODE

NVCS_CODE	MEANING
-2.-2.-2	Algorithm does not support area where the sampling point fell.
-1.-1.-1	Algorithm failed to produce a solution.
1.A.1	Tropical Dry Forest & Woodland.
1.A.2	Tropical Lowland Humid Forest.
1.A.4	Tropical Flooded & Swamp Forest.
1.B.1	Warm Temperate Forest & Woodland.
1.B.2	Cool Temperate Forest & Woodland.
1.B.3	Temperate Flooded & Swamp Forest.
1.B.4	Boreal Forest & Woodland.
1.B.5	Boreal Flooded & Swamp Forest.
7.A.2	Forest Plantation & Agroforestry.

11.19.6 MEANING

Meaning. The meaning of the code at the current level of the NVCS hierarchy.

Codes: NVCS_CODE

NVCS_CODE	MEANING
-2.-2.-2	Algorithm does not support area where the sampling point fell.
-1.-1.-1	Algorithm failed to produce a solution.
1.A.1	Tropical Dry Forest & Woodland.
1.A.2	Tropical Lowland Humid Forest.
1.A.4	Tropical Flooded & Swamp Forest.
1.B.1	Warm Temperate Forest & Woodland.
1.B.2	Cool Temperate Forest & Woodland.
1.B.3	Temperate Flooded & Swamp Forest.
1.B.4	Boreal Forest & Woodland.
1.B.5	Boreal Flooded & Swamp Forest.
7.A.2	Forest Plantation & Agroforestry.

11.19.7 NOTE

Note. Any remark relevant to the hierarchy structure record.

11.19.8 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

11.19.9 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

11.19.10 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

11.19.11 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

11.19.12 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

11.19.13 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

11.20 Reference National Vegetation Classification Standard Level 4 Codes Table

(Oracle table name: REF_NVCS_LEVEL_4_CODES)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.20.1	CN	Sequence number	VARCHAR2(34)
11.20.2	PRIMARY_CLASS	Primary class	VARCHAR2(8)
11.20.3	HIERARCHY_LEVEL	Hierarchy level	NUMBER(2)
11.20.4	HIERARCHY_LEVEL_LABEL	Hierarchy level label	VARCHAR2(30)
11.20.5	NVCS_CODE	NVCS code	VARCHAR2(20)
11.20.6	MEANING	Meaning	VARCHAR2(100)
11.20.7	NOTE	Note	VARCHAR2(1000)
11.20.8	CREATED_BY	Created by	VARCHAR2(30)
11.20.9	CREATED_DATE	Created date	DATE
11.20.10	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
11.20.11	MODIFIED_BY	Modified by	VARCHAR2(30)
11.20.12	MODIFIED_DATE	Modified date	DATE
11.20.13	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	RNVCSHS4_PK
Unique	PRIMARY_CLASS, NVCS_CODE	N/A	RNVCSHS4_UK

This table defines the codes for the fourth level of the National Vegetation Classification Standard (NVCS) hierarchy. More information about the NVCS is available at the [United States National Vegetation Classification website](http://www.usnvc.org) (www.usnvc.org) (United States National Vegetation Classification 2016). Populated for data collected using the National Field Guide protocols (PLOT.MANUAL ≥1.0).

11.20.1 CN

Sequence number. A unique sequence number used to identify a reference NVCS level 4 codes record.

11.20.2 PRIMARY_CLASS

Primary class. The primary classification determined by the NVCS classification algorithm. 'NATURAL' or 'CULTURAL' are the valid values. As of August 2017, the classification algorithm has only been developed for the eastern continental United States excluding the western edges of the Plains States, Oklahoma, and Texas. This column will only be populated for forested conditions in the supported area.

Note: For more information on the 'NATURAL' and 'CULTURAL' vegetation classifications, refer to the [Plant Communities and Vegetation Classification](#) web page on the USNVC

website (available at web address:
<https://usnvc.org/about/plant-communities-and-vegetation-classification/>).

11.20.3 HIERARCHY_LEVEL

Hierarchy level. An integer value indicating at what level in the National Vegetation Classification Standard hierarchy the current record exists.

11.20.4 HIERARCHY_LEVEL_LABEL

Hierarchy level label. A label assigned to the current level of the NVCS hierarchy.

11.20.5 NVCS_CODE

NVCS code. A code representing the classification at the current level of the NVCS hierarchy.

Codes: NVCS_CODE

NVCS_CODE	MEANING
-2.-2.-2.-2	Algorithm does not support area where the sampling point fell.
-1.-1.-1.-1	Algorithm failed to produce a solution.
1.A.1.Ea	Caribbean-Mesoamerican Dry Forest & Woodland.
1.A.2.Eg	Caribbean-Mesoamerican Lowland Humid Forest.
1.A.4.Ed	Caribbean-Central American Flooded & Swamp Forest.
1.B.1.Na	Southeastern North American Forest & Woodland.
1.B.2.Na	Eastern North American Forest & Woodland.
1.B.2.Ne	North American Great Plains Forest & Woodland.
1.B.3.Na	Eastern North American-Great Plains Flooded & Swamp Forest.
1.B.3.Nb	Southeastern North American Flooded & Swamp Forest.
1.B.4.Na	North American Boreal Forest & Woodland.
1.B.5.Na	North American Boreal Flooded & Swamp Forest.
7.A.2.1	Forest Plantation.

11.20.6 MEANING

Meaning. The meaning of the code at the current level of the NVCS hierarchy.

Codes: NVCS_CODE

NVCS_CODE	MEANING
-2.-2.-2.-2	Algorithm does not support area where the sampling point fell.
-1.-1.-1.-1	Algorithm failed to produce a solution.
1.A.1.Ea	Caribbean-Mesoamerican Dry Forest & Woodland.
1.A.2.Eg	Caribbean-Mesoamerican Lowland Humid Forest.
1.A.4.Ed	Caribbean-Central American Flooded & Swamp Forest.
1.B.1.Na	Southeastern North American Forest & Woodland.
1.B.2.Na	Eastern North American Forest & Woodland.
1.B.2.Ne	North American Great Plains Forest & Woodland.
1.B.3.Na	Eastern North American-Great Plains Flooded & Swamp Forest.

NVCS_CODE	MEANING
1.B.3.Nb	Southeastern North American Flooded & Swamp Forest.
1.B.4.Na	North American Boreal Forest & Woodland.
1.B.5.Na	North American Boreal Flooded & Swamp Forest.
7.A.2.1	Forest Plantation.

11.20.7 NOTE

Note. Any remark relevant to the hierarchy structure record.

11.20.8 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

11.20.9 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

11.20.10 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

11.20.11 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

11.20.12 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

11.20.13 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

11.21 Reference National Vegetation Classification Standard Level 5 Codes Table

(Oracle table name: REF_NVCS_LEVEL_5_CODES)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.21.1	CN	Sequence number	VARCHAR2(34)
11.21.2	PRIMARY_CLASS	Primary class	VARCHAR2(8)
11.21.3	HIERARCHY_LEVEL	Hierarchy level	NUMBER(2)
11.21.4	HIERARCHY_LEVEL_LABEL	Hierarchy level label	VARCHAR2(30)
11.21.5	NVCS_CODE	NVCS code	VARCHAR2(20)
11.21.6	MEANING	Meaning	VARCHAR2(100)
11.21.7	NOTE	Note	VARCHAR2(1000)
11.21.8	CREATED_BY	Created by	VARCHAR2(30)
11.21.9	CREATED_DATE	Created date	DATE
11.21.10	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
11.21.11	MODIFIED_BY	Modified by	VARCHAR2(30)
11.21.12	MODIFIED_DATE	Modified date	DATE
11.21.13	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	RNVCSHS5_PK
Unique	PRIMARY_CLASS, NVCS_CODE	N/A	RNVCSHS5_UK

This table defines the codes for the fifth level of the National Vegetation Classification Standard (NVCS) hierarchy. More information about the NVCS is available at the [United States National Vegetation Classification website](http://www.usnvc.org) (www.usnvc.org) (United States National Vegetation Classification 2016). Populated for data collected using the National Field Guide protocols (PLOT.MANUAL ≥1.0).

11.21.1 CN

Sequence number. A unique sequence number used to identify a reference NVCS level 5 codes record.

11.21.2 PRIMARY_CLASS

Primary class. The primary classification determined by the NVCS classification algorithm. 'NATURAL' or 'CULTURAL' are the valid values. As of August 2017, the classification algorithm has only been developed for the eastern continental United States excluding the western edges of the Plains States, Oklahoma, and Texas. This column will only be populated for forested conditions in the supported area.

Note: For more information on the 'NATURAL' and 'CULTURAL' vegetation classifications, refer to the [Plant Communities and Vegetation Classification](#) web page on the USNVC

website (available at web address:
<https://usnvc.org/about/plant-communities-and-vegetation-classification/>).¹¹

11.21.3 HIERARCHY_LEVEL

Hierarchy level. An integer value indicating at what level in the National Vegetation Classification Standard hierarchy the current record exists.

11.21.4 HIERARCHY_LEVEL_LABEL

Hierarchy level label. A label assigned to the current level of the NVCS hierarchy.

11.21.5 NVCS_CODE

NVCS code. A code representing the classification at the current level of the NVCS hierarchy.

Codes: NVCS_CODE

NVCS_CODE	MEANING
-2.-2.-2.-2.-2	Algorithm does not support area where the sampling point fell.
-1.-1.-1.-1.-1	Algorithm failed to produce a solution.
1.A.1.Ea.M296	Caribbean-Mesoamerican Pine Dry Forest.
1.A.1.Ea.M134	Caribbean Coastal Lowland Dry Forest.
1.A.1.Ea.M294	Caribbean Dry Limestone Forest.
1.A.1.Ea.M514	Caribbean Ruderal Dry Forest.
1.A.2.Eg.M281	Caribbean Lowland Humid Forest.
1.A.4.Ed.M618	Caribbean Floodplain Forest.
1.A.4.Ed.M617	Caribbean Swamp Forest.
1.A.4.Ed.M005	Western Atlantic & Caribbean Mangrove.
1.B.1.Na.M007	Longleaf Pine Woodland.
1.B.1.Na.M885	Southeastern Coastal Plain Evergreen Oak - Mixed Hardwood Forest.
1.B.1.Na.M008	Southern Mesic Mixed Broadleaf Forest.
1.B.1.Na.M305	Southeastern North American Ruderal Forest.
1.B.2.Na.M016	Southern & South-Central Oak - Pine Forest & Woodland.
1.B.2.Na.M502	Appalachian-Northeastern Oak - Hardwood - Pine Forest & Woodland.
1.B.2.Na.M883	Appalachian-Interior-Northeastern Mesic Forest.
1.B.2.Na.M012	Central Midwest Oak Forest, Woodland & Savanna.
1.B.2.Na.M882	Central Midwest Mesic Forest.
1.B.2.Na.M159	Laurentian-Acadian Pine - Hardwood Forest & Woodland.
1.B.2.Na.M014	Laurentian-Acadian Mesic Hardwood - Conifer Forest.
1.B.2.Na.M013	Eastern North American Ruderal Forest.
1.B.2.Ne.M151	Great Plains Forest & Woodland.
1.B.3.Na.M029	Central Hardwood Floodplain Forest.
1.B.3.Na.M503	Central Hardwood Swamp Forest.
1.B.3.Na.M504	Laurentian-Acadian-North Atlantic Coastal Flooded & Swamp Forest.
1.B.3.Na.M028	Great Plains Floodplain Forest.
1.B.3.Na.M302	Eastern North American Ruderal Flooded & Swamp Forest.

NVCS_CODE	MEANING
1.B.3.Nb.M161	Pond-cypress Basin Swamp.
1.B.3.Nb.M033	Southern Coastal Plain Basin Swamp & Flatwoods.
1.B.3.Nb.M032	Southern Coastal Plain Evergreen Hardwood - Conifer Swamp.
1.B.3.Nb.M031	Southern Coastal Plain Floodplain Forest.
1.B.3.Nb.M154	Southern Great Plains Floodplain Forest & Woodland.
1.B.3.Nb.M310	Southeastern North American Ruderal Flooded & Swamp Forest.
1.B.3.Nb.M031/M033	Southern Coastal Plain Floodplain Forest/Southern Coastal Plain Basin Swamp & Flatwoods.
1.B.4.Na.M495	Eastern North American Boreal Forest.
1.B.4.Na.M179	North American Boreal Subarctic & Subalpine Woodland.
1.B.5.Na.M299	North American Boreal Conifer Poor Swamp.
1.B.5.Na.M300	North American Boreal Flooded & Rich Swamp Forest.
7.A.2.1.1	Tropical Forest Plantation.
7.A.2.1.2	Temperate & Boreal Plantation.

11.21.6 MEANING

Meaning. The meaning of the code at the current level of the NVCS hierarchy.

Codes: MEANING

NVCS_CODE	MEANING
-2.-2.-2.-2.-2	Algorithm does not support area where the sampling point fell.
-1.-1.-1.1-	Algorithm failed to produce a solution.
1.A.1.Ea.M296	Caribbean-Mesoamerican Pine Dry Forest.
1.A.1.Ea.M134	Caribbean Coastal Lowland Dry Forest.
1.A.1.Ea.M294	Caribbean Dry Limestone Forest.
1.A.1.Ea.M514	Caribbean Ruderal Dry Forest.
1.A.2.Eg.M281	Caribbean Lowland Humid Forest.
1.A.4.Ed.M618	Caribbean Floodplain Forest.
1.A.4.Ed.M617	Caribbean Swamp Forest.
1.A.4.Ed.M005	Western Atlantic & Caribbean Mangrove.
1.B.1.Na.M007	Longleaf Pine Woodland.
1.B.1.Na.M885	Southeastern Coastal Plain Evergreen Oak - Mixed Hardwood Forest.
1.B.1.Na.M008	Southern Mesic Mixed Broadleaf Forest.
1.B.1.Na.M305	Southeastern North American Ruderal Forest.
1.B.2.Na.M016	Southern & South-Central Oak - Pine Forest & Woodland.
1.B.2.Na.M502	Appalachian-Northeastern Oak - Hardwood - Pine Forest & Woodland.
1.B.2.Na.M883	Appalachian-Interior-Northeastern Mesic Forest.
1.B.2.Na.M012	Central Midwest Oak Forest, Woodland & Savanna.
1.B.2.Na.M882	Central Midwest Mesic Forest.
1.B.2.Na.M159	Laurentian-Acadian Pine - Hardwood Forest & Woodland.

NVCS_CODE	MEANING
1.B.2.Na.M014	Laurentian-Acadian Mesic Hardwood - Conifer Forest.
1.B.2.Na.M013	Eastern North American Ruderal Forest.
1.B.2.Ne.M151	Great Plains Forest & Woodland.
1.B.3.Na.M029	Central Hardwood Floodplain Forest.
1.B.3.Na.M503	Central Hardwood Swamp Forest.
1.B.3.Na.M504	Laurentian-Acadian-North Atlantic Coastal Flooded & Swamp Forest.
1.B.3.Na.M028	Great Plains Floodplain Forest.
1.B.3.Na.M302	Eastern North American Ruderal Flooded & Swamp Forest.
1.B.3.Nb.M161	Pond-cypress Basin Swamp.
1.B.3.Nb.M033	Southern Coastal Plain Basin Swamp & Flatwoods.
1.B.3.Nb.M032	Southern Coastal Plain Evergreen Hardwood - Conifer Swamp.
1.B.3.Nb.M031	Southern Coastal Plain Floodplain Forest.
1.B.3.Nb.M154	Southern Great Plains Floodplain Forest & Woodland.
1.B.3.Nb.M310	Southeastern North American Ruderal Flooded & Swamp Forest.
1.B.3.Nb.M031/M033	Southern Coastal Plain Floodplain Forest/Southern Coastal Plain Basin Swamp & Flatwoods.
1.B.4.Na.M495	Eastern North American Boreal Forest.
1.B.4.Na.M179	North American Boreal Subarctic & Subalpine Woodland.
1.B.5.Na.M299	North American Boreal Conifer Poor Swamp.
1.B.5.Na.M300	North American Boreal Flooded & Rich Swamp Forest.
7.A.2.1.1	Tropical Forest Plantation.
7.A.2.1.2	Temperate & Boreal Plantation.

11.21.7 NOTE

Note. Any remark relevant to the hierarchy structure record.

11.21.8 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

11.21.9 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

11.21.10 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

11.21.11 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

11.21.12 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

11.21.13 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

11.22 Reference National Vegetation Classification Standard Level 6 Codes Table

(Oracle table name: REF_NVCS_LEVEL_6_CODES)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.22.1	CN	Sequence number	VARCHAR2(34)
11.22.2	PRIMARY_CLASS	Primary class	VARCHAR2(8)
11.22.3	HIERARCHY_LEVEL	Hierarchy level	NUMBER(2)
11.22.4	HIERARCHY_LEVEL_LABEL	Hierarchy level label	VARCHAR2(30)
11.22.5	NVCS_CODE	NVCS code	VARCHAR2(20)
11.22.6	MEANING	Meaning	VARCHAR2(100)
11.22.7	NOTE	Note	VARCHAR2(1000)
11.22.8	CREATED_BY	Created by	VARCHAR2(30)
11.22.9	CREATED_DATE	Created date	DATE
11.22.10	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
11.22.11	MODIFIED_BY	Modified by	VARCHAR2(30)
11.22.12	MODIFIED_DATE	Modified date	DATE
11.22.13	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	RNVCSHS6_PK
Unique	PRIMARY_CLASS, NVCS_CODE	N/A	RNVCSHS6_UK

This table defines the codes for the sixth level of the National Vegetation Classification Standard (NVCS) hierarchy. More information about the NVCS is available at the [United States National Vegetation Classification website](http://www.usnvc.org) (www.usnvc.org) (United States National Vegetation Classification 2016). Populated for data collected using the National Field Guide protocols (PLOT.MANUAL ≥1.0).

11.22.1 CN

Sequence number. A unique sequence number used to identify a reference NVCS level 6 codes record.

11.22.2 PRIMARY_CLASS

Primary class. The primary classification determined by the NVCS classification algorithm. 'CULTURAL' is the valid value. As of August 2017, the classification algorithm has only been developed for the eastern continental United States excluding the western edges of the Plains States, Oklahoma, and Texas. This column will only be populated for forested conditions in the supported area.

Note: For more information on the 'NATURAL' and 'CULTURAL' vegetation classifications, refer to the [Plant Communities and Vegetation Classification](#) web page on the USNVC

website (available at web address:
<https://usnvc.org/about/plant-communities-and-vegetation-classification/>).

11.22.3 HIERARCHY_LEVEL

Hierarchy level. An integer value indicating at what level in the National Vegetation Classification Standard hierarchy the current record exists.

11.22.4 HIERARCHY_LEVEL_LABEL

Hierarchy level label. A label assigned to the current level of the NVCS hierarchy.

11.22.5 NVCS_CODE

NVCS code. A code representing the classification at the current level of the NVCS hierarchy.

Codes: NVCS_CODE

NVCS_CODE	MEANING
-2.-2.-2.-2.-2.-2	Algorithm does not support area where the sampling point fell.
-1.-1.-1.-1.-1.-1	Algorithm failed to produce a solution.
7.A.2.1.1.a	Caribbean Forest Plantation.
7.A.2.1.2.a	Eastern North American Temperate Forest Plantation.

11.22.6 MEANING

Meaning. The meaning of the code at the current level of the NVCS hierarchy.

Codes: MEANING

NVCS_CODE	MEANING
-2.-2.-2.-2.-2.-2	Algorithm does not support area where the sampling point fell.
-1.-1.-1.-1.-1.-1	Algorithm failed to produce a solution.
7.A.2.1.1.a	Caribbean Forest Plantation.
7.A.2.1.2.a	Eastern North American Temperate Forest Plantation.

11.22.7 NOTE

Note. Any remark relevant to the hierarchy structure record.

11.22.8 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

11.22.9 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

11.22.10 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

11.22.11 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

11.22.12 MODIFIED_DATE

Modified date. See SURVEY.[MODIFIED_DATE](#) description for definition.

11.22.13 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.[MODIFIED_IN_INSTANCE](#) description for definition.

11.23 Reference National Vegetation Classification Standard Level 7 Codes Table

(Oracle table name: REF_NVCS_LEVEL_7_CODES)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.23.1	CN	Sequence number	VARCHAR2(34)
11.23.2	PRIMARY_CLASS	Primary class	VARCHAR2(8)
11.23.3	HIERARCHY_LEVEL	Hierarchy level	NUMBER(2)
11.23.4	HIERARCHY_LEVEL_LABEL	Hierarchy level label	VARCHAR2(30)
11.23.5	NVCS_CODE	NVCS code	VARCHAR2(20)
11.23.6	MEANING	Meaning	VARCHAR2(100)
11.23.7	NOTE	Note	VARCHAR2(1000)
11.23.8	CREATED_BY	Created by	VARCHAR2(30)
11.23.9	CREATED_DATE	Created date	DATE
11.23.10	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
11.23.11	MODIFIED_BY	Modified by	VARCHAR2(30)
11.23.12	MODIFIED_DATE	Modified date	DATE
11.23.13	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	RNVCSHS7_PK
Unique	PRIMARY_CLASS, NVCS_CODE	N/A	RNVCSHS7_UK

This table defines the codes for the seventh level of the National Vegetation Classification Standard (NVCS) hierarchy. More information about the NVCS is available at the [United States National Vegetation Classification website](http://www.usnvc.org) (www.usnvc.org) (United States National Vegetation Classification 2016). Populated for data collected using the National Field Guide protocols (PLOT.MANUAL ≥1.0).

11.23.1 CN

Sequence number. A unique sequence number used to identify a reference NVCS level 7 codes record.

11.23.2 PRIMARY_CLASS

Primary class. The primary classification determined by the NVCS classification algorithm. 'CULTURAL' is the valid value. As of August 2017, the classification algorithm has only been developed for the eastern continental United States excluding the western edges of the Plains States, Oklahoma, and Texas. This column will only be populated for forested conditions in the supported area.

Note: For more information on the 'NATURAL' and 'CULTURAL' vegetation classifications, refer to the [Plant Communities and Vegetation Classification](#) web page on the USNVC

website (available at web address:
<https://usnvc.org/about/plant-communities-and-vegetation-classification/>).

11.23.3 HIERARCHY_LEVEL

Hierarchy level. An integer value indicating at what level in the National Vegetation Classification Standard hierarchy the current record exists.

11.23.4 HIERARCHY_LEVEL_LABEL

Hierarchy level label. A label assigned to the current level of the NVCS hierarchy.

11.23.5 NVCS_CODE

NVCS code. A code representing the classification at the current level of the NVCS hierarchy.

Codes: NVCS_CODE

NVCS_CODE	MEANING
-2.-2.-2.-2.-2.-2	Algorithm does not support area where the sampling point fell.
-1.-1.-1.-1.-1.-1	Algorithm failed to produce a solution.
7.A.2.1.1.a.2	Exotic Caribbean Conifer Plantation.
7.A.2.1.1.a.3	Native Caribbean Hardwood Plantation.
7.A.2.1.1.a.5	Exotic Caribbean Palm Plantation.
7.A.2.1.2.a.11	Exotic Southern Hardwood Plantation.
7.A.2.1.2.a.1	Native Northern Pine Plantation.
7.A.2.1.2.a.5	Native Miscellaneous Southern Conifer Plantation.
7.A.2.1.2.a.6	Exotic Northern Conifer Plantation.
7.A.2.1.2.a.7	Exotic Southern Conifer Plantation.

11.23.6 MEANING

Meaning. The meaning of the code at the current level of the NVCS hierarchy.

Codes: MEANING

NVCS_CODE	MEANING
-2.-2.-2.-2.-2.-2	Algorithm does not support area where the sampling point fell.
-1.-1.-1.-1.-1.-1	Algorithm failed to produce a solution.
7.A.2.1.1.a.2	Exotic Caribbean Conifer Plantation.
7.A.2.1.1.a.3	Native Caribbean Hardwood Plantation.
7.A.2.1.1.a.5	Exotic Caribbean Palm Plantation.
7.A.2.1.2.a.11	Exotic Southern Hardwood Plantation.
7.A.2.1.2.a.1	Native Northern Pine Plantation.
7.A.2.1.2.a.5	Native Miscellaneous Southern Conifer Plantation.
7.A.2.1.2.a.6	Exotic Northern Conifer Plantation.
7.A.2.1.2.a.7	Exotic Southern Conifer Plantation.

11.23.7 NOTE

Note. Any remark relevant to the hierarchy structure record.

11.23.8 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

11.23.9 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

11.23.10 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

11.23.11 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

11.23.12 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

11.23.13 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

11.24 Reference National Vegetation Classification Standard Level 8 Codes Table

(Oracle table name: REF_NVCS_LEVEL_8_CODES)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.24.1	CN	Sequence number	VARCHAR2(34)
11.24.2	PRIMARY_CLASS	Primary class	VARCHAR2(8)
11.24.3	HIERARCHY_LEVEL	Hierarchy level	NUMBER(2)
11.24.4	HIERARCHY_LEVEL_LABEL	Hierarchy level label	VARCHAR2(30)
11.24.5	NVCS_CODE	NVCS code	VARCHAR2(25)
11.24.6	MEANING	Meaning	VARCHAR2(100)
11.24.7	NOTE	Note	VARCHAR2(1000)
11.24.8	CREATED_BY	Created by	VARCHAR2(30)
11.24.9	CREATED_DATE	Created date	DATE
11.24.10	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
11.24.11	MODIFIED_BY	Modified by	VARCHAR2(30)
11.24.12	MODIFIED_DATE	Modified date	DATE
11.24.13	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	RNVCSHS8_PK
Unique	PRIMARY_CLASS, NVCS_CODE	N/A	RNVCSHS8_UK

This table defines the codes for the eighth level of the National Vegetation Classification Standard (NVCS) hierarchy. More information about the NVCS is available at the [United States National Vegetation Classification website](http://www.usnvc.org) (www.usnvc.org) (United States National Vegetation Classification 2016). Populated for data collected using the National Field Guide protocols (PLOT.MANUAL ≥1.0).

11.24.1 CN

Sequence number. A unique sequence number used to identify a reference NVCS level 8 codes record.

11.24.2 PRIMARY_CLASS

Primary class. The primary classification determined by the NVCS classification algorithm. 'CULTURAL' is the valid values. As of August 2017, the classification algorithm has only been developed for the eastern continental United States excluding the western edges of the Plains States, Oklahoma, and Texas. This column will only be populated for forested conditions in the supported area.

Note: For more information on the 'NATURAL' and 'CULTURAL' vegetation classifications, refer to the [Plant Communities and Vegetation Classification](#) web page on the USNVC

website (available at web address:
<https://usnvc.org/about/plant-communities-and-vegetation-classification/>).

11.24.3 HIERARCHY_LEVEL

Hierarchy level. An integer value indicating at what level in the National Vegetation Classification Standard hierarchy the current record exists.

11.24.4 HIERARCHY_LEVEL_LABEL

Hierarchy level label. A label assigned to the current level of the NVCS hierarchy.

11.24.5 NVCS_CODE

NVCS code. A code representing the classification at the current level of the NVCS hierarchy.

Codes: NVCS_CODE

NVCS_CODE	MEANING
-2.-2.-2.-2.-2.-2.-2	Algorithm does not support area where the sampling point fell.
-1.-1.-1.-1.-1.-1.-1	Algorithm failed to produce a solution.
7.A.2.1.1.a.2.CST008393	Honduras Pine Plantation.
7.A.2.1.1.a.3.CST008394	Beach She-oak Plantation.
7.A.2.1.1.a.5.CST003512	Coconut Palm Plantation.
7.A.2.1.2.a.11.CST008451	Sawtooth Oak Wildlife Planting.
7.A.2.1.1.a.5.CST007178	Eastern White Pine Plantation.
7.A.2.1.1.a.5.CST007161	Jack Pine Plantation.
7.A.2.1.1.a.5.CST006902	Native Miscellaneous Northern Pine Plantation.
7.A.2.1.1.a.5.CST007177	Red Pine Plantation.
7.A.2.1.1.a.5.CST007182	Balsam Fir Plantation.
7.A.2.1.1.a.5.CST004758	Red Spruce Plantation.
7.A.2.1.1.a.5.CST007164	White Spruce Plantation.
7.A.2.1.2.a.1.CST007187	Exotic Miscellaneous Southern Conifer Plantation.
7.A.2.1.2.a.1.CST007179	Loblolly Pine Plantation.
7.A.2.1.2.a.1.CST007176	Longleaf Pine Plantation.
7.A.2.1.2.a.1.CST007171	Mid- to Late-Successional Slash Pine Managed Forest.
7.A.2.1.2.a.1.CST008436	Pitch Pine Plantation.
7.A.2.1.2.a.1.CST007168	Sand Pine Plantation.
7.A.2.1.2.a.1.CST007169	Shortleaf Pine Plantation.
7.A.2.1.2.a.1.CST007170	Slash Pine Plantation.
7.A.2.1.2.a.1.CST004730	Virginia Pine Plantation.
7.A.2.1.2.a.1.CST007108	West Gulf Coastal Plain Managed Loblolly Pine Forest.
7.A.2.1.2.a.1.CST003760	West Gulf Coastal Plain Mature, Managed Shortleaf Pine Forest.
7.A.2.1.2.a.5.CST007452	Bald-cypress Plantation.
7.A.2.1.2.a.5.CST007183	Exotic Miscellaneous Northern Conifer Plantation.
7.A.2.1.2.a.5.CST006408	Larch Plantation.
7.A.2.1.2.a.5.CST006313	Mixed Pine Conifer Plantation.

NVCS_CODE	MEANING
7.A.2.1.2.a.5.CST007167	Norway Spruce Plantation.
7.A.2.1.2.a.5.CST006686	Scotch Pine Plantation.
7.A.2.1.2.a.5.CST007189	Aspen Plantation.
7.A.2.1.2.a.5.CST007190	Black Locust Plantation.
7.A.2.1.2.a.5.CST007188	Black Walnut Plantation.
7.A.2.1.2.a.5.CST007193	Native Miscellaneous Northern Hardwood Plantation.
7.A.2.1.2.a.6.CST007945	Maritime Pine Plantation.
7.A.2.1.2.a.7.CST004482	Eastern Cottonwood Plantation.
7.A.2.1.2.a.7.CST007155	Miscellaneous Southern Hardwood Plantation.
7.A.2.1.2.a.7.CST003740	Pecan Plantation.
7.A.2.1.2.a.7.CST007450	Sweetgum Plantation.
7.A.2.1.2.a.7.CST007451	Sycamore Plantation.
7.A.2.1.2.a.7.CST007197	Tuliptree Plantation.

11.24.6 MEANING

Meaning. The meaning of the code at the current level of the NVCS hierarchy.

Codes: MEANING

NVCS_CODE	MEANING
2.-2.-2.-2.-2.-2.-2	Algorithm does not support area where the sampling point fell.
-1.-1.-1.-1.-1.-1.-1	Algorithm failed to produce a solution.
7.A.2.1.1.a.2.CST008393	Honduras Pine Plantation.
7.A.2.1.1.a.3.CST008394	Beach She-oak Plantation.
7.A.2.1.1.a.5.CST003512	Coconut Palm Plantation.
7.A.2.1.2.a.11.CST008451	Sawtooth Oak Wildlife Planting.
7.A.2.1.1.a.5.CST007178	Eastern White Pine Plantation.
7.A.2.1.1.a.5.CST007161	Jack Pine Plantation.
7.A.2.1.1.a.5.CST006902	Native Miscellaneous Northern Pine Plantation.
7.A.2.1.1.a.5.CST007177	Red Pine Plantation.
7.A.2.1.1.a.5.CST007182	Balsam Fir Plantation.
7.A.2.1.1.a.5.CST004758	Red Spruce Plantation.
7.A.2.1.1.a.5.CST007164	White Spruce Plantation.
7.A.2.1.2.a.1.CST007187	Exotic Miscellaneous Southern Conifer Plantation.
7.A.2.1.2.a.1.CST007179	Loblolly Pine Plantation.
7.A.2.1.2.a.1.CST007176	Longleaf Pine Plantation.
7.A.2.1.2.a.1.CST007171	Mid- to Late-Successional Slash Pine Managed Forest.
7.A.2.1.2.a.1.CST008436	Pitch Pine Plantation.
7.A.2.1.2.a.1.CST007168	Sand Pine Plantation.
7.A.2.1.2.a.1.CST007169	Shortleaf Pine Plantation.
7.A.2.1.2.a.1.CST007170	Slash Pine Plantation.

NVCS_CODE	MEANING
7.A.2.1.2.a.1.CST004730	Virginia Pine Plantation.
7.A.2.1.2.a.1.CST007108	West Gulf Coastal Plain Managed Loblolly Pine Forest.
7.A.2.1.2.a.1.CST003760	West Gulf Coastal Plain Mature, Managed Shortleaf Pine Forest.
7.A.2.1.2.a.5.CST007452	Bald-cypress Plantation.
7.A.2.1.2.a.5.CST007183	Exotic Miscellaneous Northern Conifer Plantation.
7.A.2.1.2.a.5.CST006408	Larch Plantation.
7.A.2.1.2.a.5.CST006313	Mixed Pine Conifer Plantation.
7.A.2.1.2.a.5.CST007167	Norway Spruce Plantation.
7.A.2.1.2.a.5.CST006686	Scotch Pine Plantation.
7.A.2.1.2.a.5.CST007189	Aspen Plantation.
7.A.2.1.2.a.5.CST007190	Black Locust Plantation.
7.A.2.1.2.a.5.CST007188	Black Walnut Plantation.
7.A.2.1.2.a.5.CST007193	Native Miscellaneous Northern Hardwood Plantation.
7.A.2.1.2.a.6.CST007945	Maritime Pine Plantation.
7.A.2.1.2.a.7.CST004482	Eastern Cottonwood Plantation.
7.A.2.1.2.a.7.CST007155	Miscellaneous Southern Hardwood Plantation.
7.A.2.1.2.a.7.CST003740	Pecan Plantation.
7.A.2.1.2.a.7.CST007450	Sweetgum Plantation.
7.A.2.1.2.a.7.CST007451	Sycamore Plantation.
7.A.2.1.2.a.7.CST007197	Tuliptree Plantation.

11.24.7 NOTE

Note. Any remark relevant to the hierarchy structure record.

11.24.8 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

11.24.9 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

11.24.10 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

11.24.11 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

11.24.12 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

11.24.13 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

11.25 Reference Damage Agent Table

(Oracle table name: REF_DAMAGE_AGENT)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.25.1	CODE	Damage agent code	NUMBER(5)
11.25.2	COMMON_NAME	Common name of damage agent	VARCHAR2(80)
11.25.3	SCIENTIFIC_NAME	Scientific name of damage agent	VARCHAR2(80)
11.25.4	THRESHOLD	Threshold for damage agent	VARCHAR2(2000)
11.25.5	CREATED_BY	Created by	VARCHAR2(30)
11.25.6	CREATED_DATE	Created date	DATE
11.25.7	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
11.25.8	MODIFIED_BY	Modified by	VARCHAR2(30)
11.25.9	MODIFIED_DATE	Modified date	DATE
11.25.10	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)
11.25.11	DAG_CODE	Damage agent group code	NUMBER(5)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CODE	N/A	DA_PK
Foreign	DAG_CODE	REF_DAMAGE_AGENT to REF_DAMAGE_AGENT_GROUP	DA_DAG_FK

11.25.1 CODE

Damage agent code. The code assigned to a tree damage agent. The current list of damage agents used by FIA became national (*core*) starting with version 6.0 of the National Field Guide. Damage is a composite variable. Up to three damaging agents may be recorded per tree. Many damaging agents are host specific and their potential for damage could vary by region. Refer to [appendix H](#) for damage agent codes and thresholds. Refer to regional field guides for further detail describing when tree damage agents are to be recorded.

11.25.2 COMMON_NAME

Common name of damage agent. The common name assigned to the tree damage agent.

11.25.3 SCIENTIFIC_NAME

Scientific name of damage agent. The scientific name assigned to the tree damage agent.

11.25.4 THRESHOLD

Threshold for damage agent. The threshold required for a tree damage agent to be recorded. Refer to [appendix H](#) for damage agent codes and thresholds. Refer to regional field guides for further detail describing when tree damage agents are to be recorded.

11.25.5 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

11.25.6 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

11.25.7 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

11.25.8 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

11.25.9 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

11.25.10 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

11.25.11 DAG_CODE

Damage agent group code. The code assigned to a tree damage agent group (see CODE for the specific agent code). The current list of damage agents used by FIA became national (*core*) starting with version 6.0 of the National Field Guide. Damage is a composite variable. Up to three damaging agents may be recorded per tree. Many damaging agents are host specific and their potential for damage could vary by region. Refer to appendix H for damage agent codes and thresholds. Refer to regional field guides for further detail describing when tree damage agents are to be recorded.

11.26 Reference Damage Agent Group Table

(Oracle table name: REF_DAMAGE_AGENT_GROUP)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.26.1	CODE	Damage agent group code	NUMBER(5)
11.26.2	DESCRIPTION	Damage agent group description	VARCHAR2(80)
11.26.3	CREATED_BY	Created by	VARCHAR2(30)
11.26.4	CREATED_DATE	Created date	DATE
11.26.5	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
11.26.6	MODIFIED_BY	Modified by	VARCHAR2(30)
11.26.7	MODIFIED_DATE	Modified date	DATE
11.26.8	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CODE	N/A	DAG_PK

11.26.1 CODE

Damage agent group code. The code assigned to a tree damage agent group. The current list of damage agents used by FIA became national (*core*) starting with version 6.0 of the National Field Guide. Damage is a composite variable. Up to three damaging agents may be recorded per tree. Many damaging agents are host specific and their potential for damage could vary by region. Refer to [appendix H](#) for damage agent codes and thresholds. Refer to regional field guides for further detail describing when tree damage agents are to be recorded.

Codes: Code

Code	Description
0	No damage.
10000	General Insects.
11000	Bark Beetles.
12000	Defoliators.
13000	Chewing Insects.
14000	Sucking Insects.
15000	Boring Insects.
16000	Seed/Cone/Flower/Fruit Insects.
17000	Gallmaker.
18000	Insect redators.
19000	General Diseases.
20000	Biotic Damage.
21000	Root/Butt Diseases.

Code	Description
22000	Cankers.
22500	Stem Decay.
23000	Parasitic/Epiphytic Plants.
24000	Decline Complexes/Dieback/Wilts.
25000	Foliage diseases.
26000	Stem Rusts.
27000	Broom Rusts.
30000	Fire.
41000	Wild Animals.
42000	Domestic Animals.
50000	Abiotic Damage.
60000	Competition.
70000	Human Activities.
71000	Harvest.
80000	Multi-Damage (Insects/Disease).
85000	Invasive Plants.
90000	Other Damages and Symptoms.
99000	UNKNOWN.

11.26.2 DESCRIPTION

Damage agent group description. The general title assigned to the damage agent group (e.g., Bark Beetles, Defoliators, Boring Insects, Cankers, Stem Rusts, Fire).

11.26.3 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

11.26.4 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

11.26.5 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

11.26.6 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

11.26.7 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

11.26.8 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

11.27 Reference Forest Vegetation Simulator Variant Name Table

(Oracle table name: REF_FVS_VAR_NAME)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.27.1	CN	Sequence number	VARCHAR2(34)
11.27.2	FVS_VARIANT	Forest vegetation simulator variant	VARCHAR2(2)
11.27.3	FVS_VAR_NAME	Forest vegetation simulator variant name	VARCHAR2(65)
11.27.4	MANUAL_START	Manual start	NUMBER(3,1)
11.27.5	MANUAL_END	Manual end	NUMBER(3,1)
11.27.6	ALLOWED_IN_FIELD	Allowed in field	VARCHAR2(1)
11.27.7	CREATED_BY	Created by	VARCHAR2(30)
11.27.8	CREATED_DATE	Created date	DATE
11.27.9	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
11.27.10	MODIFIED_BY	Modified by	VARCHAR2(30)
11.27.11	MODIFIED_DATE	Modified date	DATE
11.27.12	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	RFVN_PK

11.27.1 CN

Sequence number. A unique sequence number used to identify a reference forest vegetation simulator variant name record.

11.27.2 FVS_VARIANT

Forest vegetation simulator variant. A code indicating the Forest Vegetation Simulator (FVS) geographic variant assigned to the plot. The assignment is derived using a spatial intersection of PLOT.LAT and PLOT.LON, and the official Forest Vegetation Simulator variant map.

Codes: FVS_VARIANT

Code	Description
AK	Southeast Alaska and Coastal British Columbia (SEAPROG).
BM	Blue Mountains.
CA	Inland California and Southern Cascades (ICASCA).
CI	Central Idaho.
CR	Central Rockies.
C9	Central States.
EC	Eastern Cascades.
EM	Eastern Montana.
IE	Inland Empire.
LS	Lake States.
NC	Northern California (Klamath Mountains).
NE	Northeast.
PN	Pacific Northwest Coast.
SN	Southern.
SO	South Central Oregon and Northwest California (SORNEC).
TT	Tetons.
UT	Utah.
WC	Westside Cascades.
WS	Western Sierra Nevada.

11.27.3 FVS_VAR_NAME

Forest vegetation simulator variant name. The name assigned to the FVS variant. See [FVS_VARIANT](#) for code names.

11.27.4 MANUAL_START

Manual start. The first version of the Field Guide (PLOT.[MANUAL](#)) that the species variant was valid.

11.27.5 MANUAL_END

Manual end. The last version of the Field Guide (PLOT.[MANUAL](#)) that the species variant was valid. When MANUAL_END is blank (null), the variant is still valid.

11.27.6 ALLOWED_IN_FIELD

Allowed in field. An indicator to show if a code (VALUE) is allowed to be used by the field crews. This is a Yes / No ('Y' / 'N') field.

11.27.7 CREATED_BY

Created by. See SURVEY.[CREATED_BY](#) description for definition.

11.27.8 CREATED_DATE

Created date. See SURVEY.[CREATED_DATE](#) description for definition.

11.27.9 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

11.27.10 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

11.27.11 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

11.27.12 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

11.28 Reference Forest Vegetation Simulator Location Name Table

(Oracle table name: REF_FVS_LOC_NAME)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.28.1	CN	Sequence number	VARCHAR2(34)
11.28.2	FVS_LOC_CD	Forest vegetation simulator location code	VARCHAR2(6)
11.28.3	FVS_LOC_CD_NAME	Forest vegetation simulator location code name	VARCHAR2(70)
11.28.4	MANUAL_START	Manual start	NUMBER(3,1)
11.28.5	MANUAL_END	Manual end	NUMBER(3,1)
11.28.6	ALLOWED_IN_FIELD	Allowed in field	VARCHAR2(1)
11.28.7	CREATED_BY	Created by	VARCHAR2(30)
11.28.8	CREATED_DATE	Created date	DATE
11.28.9	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
11.28.10	MODIFIED_BY	Modified by	VARCHAR2(30)
11.28.11	MODIFIED_DATE	Modified date	DATE
11.28.12	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	FVS_LOC_CD	N/A	RFLN_PK

11.28.1 CN

Sequence number. A unique sequence number used to identify a reference forest vegetation simulator location name record.

11.28.2 FVS_LOC_CD

Forest vegetation simulator location code. A code indicating the National Forest System location assigned to the plot using a spatial intersection of PLOT, LAT and PLOT.LON, and the official Forest Vegetation Simulator variant map. All FIA plot locations that fall within the boundary of an FVS geographic variant are assigned a location code, regardless of the ownership on which they occur. FVS_LOC_CD is stored in the format RRFF, with RR being NFS Region codes 01-06, 08-10 or other jurisdictions/ownerships (07), and FF being NFS Forest codes. There is an exception to this format when the plot falls within the boundary of the Southern (SN) variant, where the format is RFFFDD, with R being NFS Region code (8), FF being NFS Forest codes, and DD being the NFS District code. See [appendix M](#) for codes.

11.28.3 FVS_LOC_CD_NAME

Forest vegetation simulator location code name. The name assigned to the FVS location code. See [appendix M](#) for codes.

11.28.4 MANUAL_START

Manual start. The first version of the Field Guide (PLOT.MANUAL) that the species variant was valid.

11.28.5 MANUAL_END

Manual end. The last version of the Field Guide (PLOT.MANUAL) that the species variant was valid. When MANUAL_END is blank (null), the variant is still valid.

11.28.6 ALLOWED_IN_FIELD

Allowed in field. An indicator to show if a code (VALUE) is allowed to be used by the field crews. This is a Yes / No ('Y' / 'N') field.

11.28.7 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

11.28.8 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

11.28.9 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

11.28.10 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

11.28.11 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

11.28.12 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

11.29 Reference Owner Group Code Table

(Oracle table name: REF_OWNGRPCD)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.29.1	OWNGRPCD	Owner group code	NUMBER(2)
11.29.2	MEANING	Owner group code meaning	VARCHAR2(100)
11.29.3	CREATED_BY	Created by	VARCHAR2(30)
11.29.4	CREATED_DATE	Created date	DATE
11.29.5	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
11.29.6	MODIFIED_BY	Modified by	VARCHAR2(30)
11.29.7	MODIFIED_DATE	Modified date	DATE
11.29.8	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	OWNGRPCD	N/A	REF_OWNGRPCD_PK

11.29.1 OWNGRPCD

Owner group code. (*core for all accessible forest land; core optional for other sampled land*) A broader group of landowner classes than owner class code (COND.OWNCD). When PLOT.DESIGNCD = 999, OWNGRPCD may be blank (null). See COND.[OWNGRPCD](#) for codes.

11.29.2 MEANING

Owner group code meaning. The description assigned to the OWNGRPCD. See COND.[OWNGRPCD](#) for codes and descriptions.

11.29.3 CREATED_BY

Created by. See SURVEY.[CREATED_BY](#) description for definition.

11.29.4 CREATED_DATE

Created date. See SURVEY.[CREATED_DATE](#) description for definition.

11.29.5 CREATED_IN_INSTANCE

Created in instance. See SURVEY.[CREATED_IN_INSTANCE](#) description for definition.

11.29.6 MODIFIED_BY

Modified by. See SURVEY.[MODIFIED_BY](#) description for definition.

11.29.7 MODIFIED_DATE

Modified date. See SURVEY.[MODIFIED_DATE](#) description for definition.

11.29.8 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.[MODIFIED_IN_INSTANCE](#) description for definition.

11.30 Reference Difference Test Per Acre Table

(Oracle table name: REF_DIFFERENCE_TEST_PER_ACRE)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.30.1	CN	Sequence number	VARCHAR2(34)
11.30.2	COMPARISON	Comparison	VARCHAR2(4000)
11.30.3	COMPARISON_TYPE	Comparison type	VARCHAR2(4000)
11.30.4	ATTRIBUTE_NBR	Attribute number	VARCHAR2(10)
11.30.5	SCRIPT	Script	VARCHAR2(4000)
11.30.6	COMMENT_1	Comment 1	VARCHAR2(4000)
11.30.7	SQL_COL_1	SQL script section for column 1	VARCHAR2(4000)
11.30.8	COMMENT_2	Comment 2	VARCHAR2(4000)
11.30.9	SQL_COL_2	SQL script section for column 2	VARCHAR2(4000)
11.30.10	COMMENT_3	Comment 3	VARCHAR2(4000)
11.30.11	SQL_COL_3	SQL script section for column 3	VARCHAR2(4000)
11.30.12	COMMENT_4	Comment 4	VARCHAR2(4000)
11.30.13	SQL_COL_4	SQL script section for column 4	VARCHAR2(4000)
11.30.14	COMMENT_5	Comment 5	VARCHAR2(4000)
11.30.15	SQL_COL_5	SQL script section for column 5	VARCHAR2(4000)
11.30.16	COMMENT_6	Comment 6	VARCHAR2(4000)
11.30.17	SQL_COL_6	SQL script section for column 6	VARCHAR2(4000)
11.30.18	COMMENT_7	Comment 7	VARCHAR2(4000)
11.30.19	SQL_COL_7	SQL script section for column 7	VARCHAR2(4000)
11.30.20	COMMENT_8	Comment 8	VARCHAR2(4000)
11.30.21	SQL_COL_8	SQL script section for column 8	VARCHAR2(4000)
11.30.22	COMMENT_9	Comment 9	VARCHAR2(4000)
11.30.23	SQL_COL_9	SQL script section for column 9	VARCHAR2(4000)
11.30.24	COMMENT_10	Comment 10	VARCHAR2(4000)
11.30.25	SQL_COL_10	SQL script section for column 10	VARCHAR2(4000)
11.30.26	COMMENT_11	Comment 11	VARCHAR2(4000)
11.30.27	SQL_COL_11	SQL script section for column 11	VARCHAR2(4000)
11.30.28	COMMENT_12	Comment 12	VARCHAR2(4000)
11.30.29	SQL_COL_12	SQL script section for column 12	VARCHAR2(4000)
11.30.30	COMMENT_13	Comment 13	VARCHAR2(4000)
11.30.31	SQL_COL_13	SQL script section for column 13	VARCHAR2(4000)
11.30.32	COMMENT_14	Comment 14	VARCHAR2(4000)
11.30.33	SQL_COL_14	SQL script section for column 14	VARCHAR2(4000)
11.30.34	COMMENT_15	Comment 15	VARCHAR2(4000)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.30.35	SQL_COL_15	SQL script section for column 15	VARCHAR2(4000)
11.30.36	COMMENT_16	Comment 16	VARCHAR2(4000)
11.30.37	SQL_COL_16	SQL script section for column 16	VARCHAR2(4000)
11.30.38	COMMENT_17	Comment 17	VARCHAR2(4000)
11.30.39	SQL_COL_17	SQL script section for column 17	VARCHAR2(4000)
11.30.40	COMMENT_18	Comment 18	VARCHAR2(4000)
11.30.41	SQL_COL_18	SQL script section for column 18	VARCHAR2(4000)
11.30.42	COMMENT_19	Comment 19	VARCHAR2(4000)
11.30.43	SQL_COL_19	SQL script section for column 19	VARCHAR2(4000)
11.30.44	COMMENT_20	Comment 20	VARCHAR2(4000)
11.30.45	SQL_COL_20	SQL script section for column 20	VARCHAR2(4000)
11.30.46	COMMENT_21	Comment 21	VARCHAR2(4000)
11.30.47	SQL_COL_21	SQL script section for column 21	VARCHAR2(4000)
11.30.48	COMMENT_22	Comment 22	VARCHAR2(4000)
11.30.49	SQL_COL_22	SQL script section for column 22	VARCHAR2(4000)
11.30.50	COMMENT_23	Comment 23	VARCHAR2(4000)
11.30.51	SQL_COL_23	SQL script section for column 23	VARCHAR2(4000)
11.30.52	COMMENT_24	Comment 24	VARCHAR2(4000)
11.30.53	SQL_COL_24	SQL script section for column 24	VARCHAR2(4000)
11.30.54	COMMENT_25	Comment 25	VARCHAR2(4000)
11.30.55	SQL_COL_25	SQL script section for column 25	VARCHAR2(4000)
11.30.56	COMMENT_26	Comment 26	VARCHAR2(4000)
11.30.57	SQL_COL_26	SQL script section for column 26	VARCHAR2(4000)
11.30.58	COMMENT_27	Comment 27	VARCHAR2(4000)
11.30.59	SQL_COL_27	SQL script section for column 27	VARCHAR2(4000)
11.30.60	COMMENT_28	Comment 28	VARCHAR2(4000)
11.30.61	SQL_COL_28	SQL script section for column 28	VARCHAR2(4000)
11.30.62	COMMENT_29	Comment 29	VARCHAR2(4000)
11.30.63	SQL_COL_29	SQL script section for column 29	VARCHAR2(4000)
11.30.64	COMMENT_30	Comment 30	VARCHAR2(4000)
11.30.65	SQL_COL_30	SQL script section for column 30	VARCHAR2(4000)
11.30.66	COMMENT_31	Comment 31	VARCHAR2(4000)
11.30.67	SQL_COL_31	SQL script section for column 31	VARCHAR2(4000)
11.30.68	COMMENT_32	Comment 32	VARCHAR2(4000)
11.30.69	SQL_COL_32	SQL script section for column 32	VARCHAR2(4000)
11.30.70	COMMENT_33	Comment 33	VARCHAR2(4000)
11.30.71	SQL_COL_33	SQL script section for column 33	VARCHAR2(4000)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.30.72	COMMENT_34	Comment 34	VARCHAR2(4000)
11.30.73	SQL_COL_34	SQL script section for column 34	VARCHAR2(4000)
11.30.74	COMMENT_35	Comment 35	VARCHAR2(4000)
11.30.75	SQL_COL_35	SQL script section for column 35	VARCHAR2(4000)
11.30.76	COMMENT_36	Comment 36	VARCHAR2(4000)
11.30.77	SQL_COL_36	SQL script section for column 36	VARCHAR2(4000)
11.30.78	CREATED_BY	Created by	VARCHAR2(30)
11.30.79	CREATED_DATE	Created date	DATE
11.30.80	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
11.30.81	MODIFIED_BY	Modified by	VARCHAR2(30)
11.30.82	MODIFIED_DATE	Modified date	DATE
11.30.83	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	RDTPA_PK

This table contains Oracle SQL scripts for comparing ratio estimates, per acre, of an attribute between two different groups. For example, is the number of standing dead trees per acre significantly different between the current and most recent previous inventory. To effectively use these scripts the user will need a thorough understanding of parametric statistics and FIADB (see [The Forest Inventory and Analysis Database: Population Estimation User Guide](#) for examples). Each comparison is available by record. A complete script can be created for each comparison by concatenating the SQL section columns (e.g., SQL_COL_1) in order as indicated by the number in each SQL section column name.

11.30.1 CN

Sequence number. A unique sequence number used to identify a reference difference test per acre record.

11.30.2 COMPARISON

Comparison. Identifies the attribute being compared for two different groups of interest. The description of the attribute follows a derivation of REF_POP_ATTRIBUTE.ATTRIBUTE_DESCR for REF_DIFFERENCE_TEST_PER_ACRE.ATTRIBUTE_NBR matching REF_POP_ATTRIBUTE.ATTRIBUTE_NBR.

11.30.3 COMPARISON_TYPE

Comparison type. Identifies the type of attribute being compared. Type (e.g., 'temporal_tree_per_acre') indicates if the comparison is over time (temporal), identifies the sampled item type (e.g., tree) and specifies the ratios (e.g., per acre).

11.30.4 ATTRIBUTE_NBR

Attribute number. Identifies the attribute record, REF_POP_ATTRIBUTE.ATTRIBUTE_NBR, associated with COMPARISON.

11.30.5 SCRIPT

Script. Name of the SQL file with comments (e.g., COMMENT_1) and SQL (e.g., SQL_COL_1) used to populate this table. The file is not available in the public domain.

11.30.6 COMMENT_1

Comment 1. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_1 is associated with SQL_COL_1. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.7 SQL_COL_1

SQL script section for column 1. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.8 COMMENT_2

Comment 2. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_2 is associated with SQL_COL_2. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.9 SQL_COL_2

SQL script section for column 2. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.10 COMMENT_3

Comment 3. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_3 is associated with SQL_COL_3. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.11 SQL_COL_3

SQL script section for column 3. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.12 COMMENT_4

Comment 4. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_4 is associated with SQL_COL_4. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.13 SQL_COL_4

SQL script section for column 4. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.14 COMMENT_5

Comment 5. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_5 is associated with SQL_COL_5. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.15 SQL_COL_5

SQL script section for column 5. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.16 COMMENT_6

Comment 6. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_6 is associated with SQL_COL_6. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.17 SQL_COL_6

SQL script section for column 6. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.18 COMMENT_7

Comment 7. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_7 is associated with SQL_COL_7. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.19 SQL_COL_7

SQL script section for column 7. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.20 COMMENT_8

Comment 8. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_8 is associated with SQL_COL_8. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.21 SQL_COL_8

SQL script section for column 8. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.22 COMMENT_9

Comment 9. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_9 is associated with SQL_COL_9. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.23 SQL_COL_9

SQL script section for column 9. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.24 COMMENT_10

Comment 10. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_10 is associated with SQL_COL_10. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.25 SQL_COL_10

SQL script section for column 10. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.26 COMMENT_11

Comment 11. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_11 is associated with SQL_COL_11. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.27 SQL_COL_11

SQL script section for column 11. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.28 COMMENT_12

Comment 12. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_12 is associated with SQL_COL_12. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.29 SQL_COL_12

SQL script section for column 12. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.30 COMMENT_13

Comment 13. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_13 is associated with SQL_COL_13. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.31 SQL_COL_13

SQL script section for column 13. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.32 COMMENT_14

Comment 14. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_14 is associated with SQL_COL_14. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.33 SQL_COL_14

SQL script section for column 14. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.34 COMMENT_15

Comment 15. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_15 is associated with SQL_COL_15. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.35 SQL_COL_15

SQL script section for column 15. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.36 COMMENT_16

Comment 16. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_16 is associated with SQL_COL_16. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.37 SQL_COL_16

SQL script section for column 16. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.38 COMMENT_17

Comment 17. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_17 is associated with SQL_COL_17. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.39 SQL_COL_17

SQL script section for column 17. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.40 COMMENT_18

Comment 18. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_18 is associated with SQL_COL_18. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.41 SQL_COL_18

SQL script section for column 18. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.42 COMMENT_19

Comment 19. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_19 is associated with SQL_COL_19. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.43 SQL_COL_19

SQL script section for column 19. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.44 COMMENT_20

Comment 20. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_20 is associated with SQL_COL_20. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.45 SQL_COL_20

SQL script section for column 20. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.46 COMMENT_21

Comment 21. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_21 is associated with SQL_COL_21. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.47 SQL_COL_21

SQL script section for column 21. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.48 COMMENT_22

Comment 22. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_22 is associated with SQL_COL_22. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.49 SQL_COL_22

SQL script section for column 22. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.50 COMMENT_23

Comment 23. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_23 is associated with SQL_COL_23. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.51 SQL_COL_23

SQL script section for column 23. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.52 COMMENT_24

Comment 24. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_24 is associated with SQL_COL_24. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.53 SQL_COL_24

SQL script section for column 24. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.54 COMMENT_25

Comment 25. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_25 is associated with SQL_COL_25. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.55 SQL_COL_25

SQL script section for column 25. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.56 COMMENT_26

Comment 26. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_26 is associated with SQL_COL_26. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.57 SQL_COL_26

SQL script section for column 26. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.58 COMMENT_27

Comment 27. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_27 is associated with SQL_COL_27. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.59 SQL_COL_27

SQL script section for column 27. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.60 COMMENT_28

Comment 28. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_28 is associated with SQL_COL_28. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.61 SQL_COL_28

SQL script section for column 28. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.62 COMMENT_29

Comment 29. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_29 is associated with SQL_COL_29. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.63 SQL_COL_29

SQL script section for column 29. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.64 COMMENT_30

Comment 30. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_30 is associated with SQL_COL_30. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.65 SQL_COL_30

SQL script section for column 30. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.66 COMMENT_31

Comment 31. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_31 is associated with SQL_COL_31. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.67 SQL_COL_31

SQL script section for column 31. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.68 COMMENT_32

Comment 32. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_32 is associated with SQL_COL_32. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.69 SQL_COL_32

SQL script section for column 32. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.70 COMMENT_33

Comment 33. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_33 is associated with SQL_COL_33. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.71 SQL_COL_33

SQL script section for column 33. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.72 COMMENT_34

Comment 34. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_34 is associated with SQL_COL_34. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.73 SQL_COL_34

SQL script section for column 34. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.74 COMMENT_35

Comment 35. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_35 is associated with SQL_COL_35. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.75 SQL_COL_35

SQL script section for column 35. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.76 COMMENT_36

Comment 36. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_36 is associated with SQL_COL_36. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.30.77 SQL_COL_36

SQL script section for column 36. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.30.78 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

11.30.79 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

11.30.80 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

11.30.81 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

11.30.82 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

11.30.83 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

11.31 Reference Difference Test Totals Table

(Oracle table name: REF_DIFFERENCE_TEST_TOTALS)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.31.1	CN	Sequence number	VARCHAR2(34)
11.31.2	COMPARISON	Comparison	VARCHAR2(4000)
11.31.3	COMPARISON_TYPE	Comparison type	VARCHAR2(4000)
11.31.4	ATTRIBUTE_NBR	Attribute number	VARCHAR2(10)
11.31.5	SCRIPT	Script	VARCHAR2(4000)
11.31.6	COMMENT_1	Comment 1	VARCHAR2(4000)
11.31.7	SQL_COL_1	SQL script section for column 1	VARCHAR2(4000)
11.31.8	COMMENT_2	Comment 2	VARCHAR2(4000)
11.31.9	SQL_COL_2	SQL script section for column 2	VARCHAR2(4000)
11.31.10	COMMENT_3	Comment 3	VARCHAR2(4000)
11.31.11	SQL_COL_3	SQL script section for column 3	VARCHAR2(4000)
11.31.12	COMMENT_4	Comment 4	VARCHAR2(4000)
11.31.13	SQL_COL_4	SQL script section for column 4	VARCHAR2(4000)
11.31.14	COMMENT_5	Comment 5	VARCHAR2(4000)
11.31.15	SQL_COL_5	SQL script section for column 5	VARCHAR2(4000)
11.31.16	COMMENT_6	Comment 6	VARCHAR2(4000)
11.31.17	SQL_COL_6	SQL script section for column 6	VARCHAR2(4000)
11.31.18	COMMENT_7	Comment 7	VARCHAR2(4000)
11.31.19	SQL_COL_7	SQL script section for column 7	VARCHAR2(4000)
11.31.20	COMMENT_8	Comment 8	VARCHAR2(4000)
11.31.21	SQL_COL_8	SQL script section for column 8	VARCHAR2(4000)
11.31.22	COMMENT_9	Comment 9	VARCHAR2(4000)
11.31.23	SQL_COL_9	SQL script section for column 9	VARCHAR2(4000)
11.31.24	COMMENT_10	Comment 10	VARCHAR2(4000)
11.31.25	SQL_COL_10	SQL script section for column 10	VARCHAR2(4000)
11.31.26	COMMENT_11	Comment 11	VARCHAR2(4000)
11.31.27	SQL_COL_11	SQL script section for column 11	VARCHAR2(4000)
11.31.28	COMMENT_12	Comment 12	VARCHAR2(4000)
11.31.29	SQL_COL_12	SQL script section for column 12	VARCHAR2(4000)
11.31.30	COMMENT_13	Comment 13	VARCHAR2(4000)
11.31.31	SQL_COL_13	SQL script section for column 13	VARCHAR2(4000)
11.31.32	COMMENT_14	Comment 14	VARCHAR2(4000)
11.31.33	SQL_COL_14	SQL script section for column 14	VARCHAR2(4000)
11.31.34	COMMENT_15	Comment 15	VARCHAR2(4000)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.31.35	SQL_COL_15	SQL script section for column 15	VARCHAR2(4000)
11.31.36	COMMENT_16	Comment 16	VARCHAR2(4000)
11.31.37	SQL_COL_16	SQL script section for column 16	VARCHAR2(4000)
11.31.38	COMMENT_17	Comment 17	VARCHAR2(4000)
11.31.39	SQL_COL_17	SQL script section for column 17	VARCHAR2(4000)
11.31.40	COMMENT_18	Comment 18	VARCHAR2(4000)
11.31.41	SQL_COL_18	SQL script section for column 18	VARCHAR2(4000)
11.31.42	COMMENT_19	Comment 19	VARCHAR2(4000)
11.31.43	SQL_COL_19	SQL script section for column 19	VARCHAR2(4000)
11.31.44	COMMENT_20	Comment 20	VARCHAR2(4000)
11.31.45	SQL_COL_20	SQL script section for column 20	VARCHAR2(4000)
11.31.46	COMMENT_21	Comment 21	VARCHAR2(4000)
11.31.47	SQL_COL_21	SQL script section for column 21	VARCHAR2(4000)
11.31.48	COMMENT_22	Comment 22	VARCHAR2(4000)
11.31.49	SQL_COL_22	SQL script section for column 22	VARCHAR2(4000)
11.31.50	COMMENT_23	Comment 23	VARCHAR2(4000)
11.31.51	SQL_COL_23	SQL script section for column 23	VARCHAR2(4000)
11.31.52	COMMENT_24	Comment 24	VARCHAR2(4000)
11.31.53	SQL_COL_24	SQL script section for column 24	VARCHAR2(4000)
11.31.54	COMMENT_25	Comment 25	VARCHAR2(4000)
11.31.55	SQL_COL_25	SQL script section for column 25	VARCHAR2(4000)
11.31.56	COMMENT_26	Comment 26	VARCHAR2(4000)
11.31.57	SQL_COL_26	SQL script section for column 26	VARCHAR2(4000)
11.31.58	CREATED_BY	Created by	VARCHAR2(30)
11.31.59	CREATED_DATE	Created date	DATE
11.31.60	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
11.31.61	MODIFIED_BY	Modified by	VARCHAR2(30)
11.31.62	MODIFIED_DATE	Modified date	DATE
11.31.63	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	RDTT_PK

This table contains Oracle SQL scripts for comparing total estimates of an attribute between two different groups. For example, is the total number of standing dead trees significantly different between the current and most recent previous inventory. To effectively use these scripts the user will need a thorough understanding of parametric statistics and FIADB (see [The Forest Inventory and Analysis Database: Population Estimation User Guide](#) for examples). Each comparison

is available by record. A complete script can be created for each comparison by concatenating the SQL section columns (e.g., SQL_COL_1) in order as indicated by the number in each SQL section column name.

11.31.1 CN

Sequence number. A unique sequence number used to identify a reference difference test totals record.

11.31.2 COMPARISON

Comparison. Identifies the attribute being compared for two different groups of interest. The description of the attribute follows a derivation of
REF_POP_ATTRIBUTE.ATTRIBUTE_DESCR for
REF_DIFFERENCE_TEST_TOTALS.ATTRIBUTE_NBR matching
REF_POP_ATTRIBUTE.ATTRIBUTE_NBR.

11.31.3 COMPARISON_TYPE

Comparison type. Identifies the type of attribute being compared. Type (e.g., 'temporal_tree_per_acre') indicates if the comparison is over time (temporal), identifies the sampled item type (e.g., tree) and specifies the ratios (e.g., per acre).

11.31.4 ATTRIBUTE_NBR

Attribute number. Identifies the attribute record, REF_POP_ATTRIBUTE.ATTRIBUTE_NBR, associated with COMPARISON.

11.31.5 SCRIPT

Script. Name of the SQL file with comments (e.g., COMMENT_1) and SQL (e.g., SQL_COL_1) used to populate this table. The file is not available in the public domain.

11.31.6 COMMENT_1

Comment 1. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_1 is associated with SQL_COL_1. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.31.7 SQL_COL_1

SQL script section for column 1. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.31.8 COMMENT_2

Comment 2. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_2 is associated with SQL_COL_2. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.31.9 SQL_COL_2

SQL script section for column 2. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.31.10 COMMENT_3

Comment 3. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_3 is associated with SQL_COL_3. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.31.11 SQL_COL_3

SQL script section for column 3. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.31.12 COMMENT_4

Comment 4. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_4 is associated with SQL_COL_4. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.31.13 SQL_COL_4

SQL script section for column 4. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.31.14 COMMENT_5

Comment 5. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_5 is associated with SQL_COL_5. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.31.15 SQL_COL_5

SQL script section for column 5. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.31.16 COMMENT_6

Comment 6. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_6 is associated with SQL_COL_6. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.31.17 SQL_COL_6

SQL script section for column 6. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.31.18 COMMENT_7

Comment 7. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_7 is associated with SQL_COL_7. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.31.19 SQL_COL_7

SQL script section for column 7. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.31.20 COMMENT_8

Comment 8. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_8 is associated with SQL_COL_8. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.31.21 SQL_COL_8

SQL script section for column 8. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.31.22 COMMENT_9

Comment 9. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_9 is associated with SQL_COL_9. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.31.23 SQL_COL_9

SQL script section for column 9. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.31.24 COMMENT_10

Comment 10. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_10 is associated with SQL_COL_10. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.31.25 SQL_COL_10

SQL script section for column 10. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.31.26 COMMENT_11

Comment 11. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_11 is associated with SQL_COL_11. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.31.27 SQL_COL_11

SQL script section for column 11. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.31.28 COMMENT_12

Comment 12. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_12 is associated with SQL_COL_12. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.31.29 SQL_COL_12

SQL script section for column 12. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.31.30 COMMENT_13

Comment 13. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_13 is associated with SQL_COL_13. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.31.31 SQL_COL_13

SQL script section for column 13. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.31.32 COMMENT_14

Comment 14. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_14 is associated with SQL_COL_14. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.31.33 SQL_COL_14

SQL script section for column 14. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.31.34 COMMENT_15

Comment 15. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_15 is associated with SQL_COL_15. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.31.35 SQL_COL_15

SQL script section for column 15. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.31.36 COMMENT_16

Comment 16. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_16 is associated with SQL_COL_16. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.31.37 SQL_COL_16

SQL script section for column 16. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.31.38 COMMENT_17

Comment 17. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_17 is associated with SQL_COL_17. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.31.39 SQL_COL_17

SQL script section for column 17. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.31.40 COMMENT_18

Comment 18. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_18 is associated with SQL_COL_18. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.31.41 SQL_COL_18

SQL script section for column 18. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.31.42 COMMENT_19

Comment 19. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_19 is associated with SQL_COL_19. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.31.43 SQL_COL_19

SQL script section for column 19. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.31.44 COMMENT_20

Comment 20. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_20 is associated with SQL_COL_20. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.31.45 SQL_COL_20

SQL script section for column 20. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.31.46 COMMENT_21

Comment 21. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_21 is associated with SQL_COL_21. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.31.47 SQL_COL_21

SQL script section for column 21. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.31.48 COMMENT_22

Comment 22. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_22 is associated with SQL_COL_22. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.31.49 SQL_COL_22

SQL script section for column 22. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.31.50 COMMENT_23

Comment 23. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_23 is associated with SQL_COL_23. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.31.51 SQL_COL_23

SQL script section for column 23. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.31.52 COMMENT_24

Comment 24. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_24 is associated with SQL_COL_24. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.31.53 SQL_COL_24

SQL script section for column 24. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.31.54 COMMENT_25

Comment 25. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_25 is associated with SQL_COL_25. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.31.55 SQL_COL_25

SQL script section for column 25. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.31.56 COMMENT_26

Comment 26. Comment for associated SQL section where association is indicated by the common number. For example, COMMENT_26 is associated with SQL_COL_26. The comment indicates if the section of SQL varies by COMPARISON_TYPE.

11.31.57 SQL_COL_26

SQL script section for column 26. Complete SQL scripts for each unique combination of COMPARISON, COMPARISON_TYPE and ATTRIBUTE_NBR are created by concatenating each of these SQL sections in order.

11.31.58 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

11.31.59 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

11.31.60 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

11.31.61 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

11.31.62 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

11.31.63 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

11.32 Reference Site Index Equation Table

(Oracle table name: REF_SIEQN)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.32.1	CN	Sequence number	VARCHAR2(34)
11.32.2	SIEQN_REF_CD	Site index equation reference code	VARCHAR2(10)
11.32.3	SIEQN_REF_NOTES	Site index equation references and notes	VARCHAR2(540)
11.32.4	SIEQN_LOC_DESC_FSVEG	Site index equation coverage area in FSVeg	VARCHAR2(100)
11.32.5	SIEQN_AGE_BASIS	Base age basis	VARCHAR2(10)
11.32.6	CREATED_BY	Created by	VARCHAR2(30)
11.32.7	CREATED_DATE	Created date	DATE
11.32.8	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
11.32.9	MODIFIED_BY	Modified by	VARCHAR2(30)
11.32.10	MODIFIED_DATE	Modified date	DATE
11.32.11	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	REF_SIEQN_PK
Unique	SIEQN_REF_CD	N/A	REF_SIEQN_UK

11.32.1 CN

Sequence number. A unique sequence number used to identify a reference site index record.

11.32.2 SIEQN_REF_CD

Site index equation reference code. Internal reference code for site index calculation.

11.32.3 SIEQN_REF_NOTES

Site index equation references and notes. Any notes pertaining to the record, such as the primary reference for the SIEQN_REF_CD.

11.32.4 SIEQN_LOC_DESC_FSVEG

Site index equation coverage area in FSVeg. This is the general geographic area covered by the equation, as described in the original publication. The geographic area where the equation is used in FIA compilation and for use in the Forest Vegetation Simulator (FVS) may differ from the original described area. Users should consult the original publication for comparison to the area represented in COND.VOL_LOC_GRP and the area covered by FVS variant locations. Field Sampled Vegetation (FSVeg) is a Forest Service application that stores data about trees, fuels, down woody material, surface cover, and understory vegetation. FSVeg supports the business of common stand exam, fuels data collection, permanent grid inventories, and other vegetation inventory collection processes.

11.32.5 SIEQN_AGE_BASIS

Base age basis. Denotes if the tree age used in the equation is expected to be breast height age or total age. The base age used by the equation can be found in SITETREE.SIBASE, SITETREE.SIBASE_FVS, COND.SIBASE, and COND.SIBASE_FVS depending on whether site index is used for FIA compilation or use in FVS.

11.32.6 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

11.32.7 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

11.32.8 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

11.32.9 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition.

11.32.10 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

11.32.11 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

11.33 Reference Tree Growth, Removal, and Mortality Type Table

(Oracle table name: REF_GRM_TYPE)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.33.1	CN	Sequence number	VARCHAR2(34)
11.33.2	RSCD	Region or Station code	NUMBER(2)
11.33.3	STATECD	State code	NUMBER(4)
11.33.4	START_INVYR	Start inventory year	NUMBER(4)
11.33.5	END_INVYR	End inventory year	NUMBER(4)
11.33.6	GRM_TYP	Growth, removal, and mortality type	VARCHAR2(15)
11.33.7	GROW_TYP_CD	Type of annual volume growth code	NUMBER(2)
11.33.8	MORT_TYP_CD	Type of annual mortality volume code	NUMBER(2)
11.33.9	REMV_TYP_CD	Type of annual removals volume code	NUMBER(2)
11.33.10	CREATED_BY	Created by	VARCHAR2(30)
11.33.11	CREATED_DATE	Created date	DATE
11.33.12	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
11.33.13	MODIFIED_BY	Modified by	VARCHAR2(30)
11.33.14	MODIFIED_DATE	Modified date	DATE
11.33.15	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)
11.33.16	TIMBERLAND_ONLY	Timberland only	VARCHAR2(1)
11.33.17	GRM_BUILD_LOCATION	Growth, removal, and mortality build location	VARCHAR2(5)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	RGT_PK
Unique	RSCD, STATECD, START_INVYR	N/A	RGT_UK

11.33.1 CN

Sequence number. A unique sequence number used to identify a reference tree growth, removal, and mortality type record.

11.33.2 RSCD

Region or Station code. See SURVEY.RSCD description for definition.

11.33.3 STATECD

State code. Bureau of Census Federal Information Processing Standards (FIPS) 2-digit code for each State. Refer to [appendix B](#).

11.33.4 START_INVYR

Start inventory year. The starting year, by State (STATECD), for the GRM estimation protocol specified for the record. The GRM protocol is summarized from a combination of codes for GRM_TYP, GROW_TYP_CD, MORT_TYP_CD, and REMV_TYP_CD.

11.33.5 END_INVYR

End inventory year. The ending year, by State (STATECD), for the GRM estimation protocol specified for the record. The GRM protocol is summarized from a combination of codes for GRM_TYP, GROW_TYP_CD, MORT_TYP_CD, REMV_TYP_CD. If this column is blank (null), the GRM protocol is still active.

11.33.6 GRM_TYP

Growth, removal, and mortality type. A descriptor for the growth, removals, and mortality (GRM) protocol type used for estimation.

Codes: GRM_TYP

Code	Description
A2A	Annual to annual.
P2A	Periodic to annual.
P2P	Periodic to periodic.
MODELED	Modeled.
NONE	None - GRM not applicable.

11.33.7 GROW_TYP_CD

Type of annual volume growth code. A code indicating how volume growth is estimated. Current annual growth is an estimate of the amount of volume that was added to a tree in the year before the tree was sampled, and is based on the measured diameter increment recorded when the tree was sampled or on a modeled diameter for the previous year. Periodic annual growth is an estimate of the average annual change in volume occurring between two measurements, usually the current inventory and the previous inventory, where the same plot is evaluated twice. Periodic annual growth is the increase in volume between inventories divided by the number of years between each inventory.

Codes: GROW_TYP_CD

Code	Description
1	Current annual.
2	Periodic annual.

11.33.8 MORT_TYP_CD

Type of annual mortality volume code. A code indicating how mortality volume is estimated. Current annual mortality is an estimate of the volume of trees dying in the year before the plot was measured, and is based on the year of death or on a modeled estimate. Periodic annual mortality is an estimate of the average annual volume of trees dying between two measurements, usually the current inventory and previous inventory, where the same plot is evaluated twice. Periodic annual mortality is the loss of volume between inventories divided by the number of years between each inventory. Periodic average annual mortality is the most common type of annual mortality estimated.

Codes: MORT_TYP_CD

Code	Description
1	Current annual.
2	Periodic annual.

11.33.9 REMV_TYP_CD

Type of annual removals volume code. A code indicating how removals volume is estimated. Periodic annual removals is an estimate of the average annual volume of trees removed between two measurements, usually the current inventory and previous inventory, where the same plot is evaluated twice. Periodic annual removals is the loss of volume between inventories divided by the number of trees between each inventory.

Codes: REMV_TYP_CD

Code	Description
0	No estimate.
2	Periodic annual.

11.33.10 CREATED_BY

Created by. See SURVEY.CREATED_BY description for definition.

11.33.11 CREATED_DATE

Created date. See SURVEY.CREATED_DATE description for definition.

11.33.12 CREATED_IN_INSTANCE

Created in instance. See SURVEY.CREATED_IN_INSTANCE description for definition.

11.33.13 MODIFIED_BY

Modified by. See SURVEY.MODIFIED_BY description for definition,

11.33.14 MODIFIED_DATE

Modified date. See SURVEY.MODIFIED_DATE description for definition.

11.33.15 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.MODIFIED_IN_INSTANCE description for definition.

11.33.16 TIMBERLAND_ONLY

Timberland only. A code indicating if the GRM estimation is only for timberland or for timberland and forest land. Timberland is a subset of forest land defined as nonreserved forest land capable of producing as least 20 cubic feet of wood volume per acre per year (COND.COND_STATUS_CD = 1, COND.RESERVCD = 0, COND.SITECLCD <7).

Codes: TIMBERLAND_ONLY

Code	Description
Y	GRM estimates for timberland only.
N	GRM estimation for both timberland and forest land.

11.33.17 GRM_BUILD_LOCATION

Growth, removal, and mortality build location. An identifier for the database in which the TREE_GRM_* tables were initially populated. This attribute is for office use only.

Codes: GRM_BUILD_LOCATION

Code	Description
NIMS	National Information Management System (NIMS) – The TREE_GRM_* tables were initially populated with NIMS using the national annual GRM algorithm.
FIADB	Forest Inventory and Analysis Database (FIADB) – The TREE_GRM_* tables were directly populated in FIADB for periodic remeasurement data or using regional GRM compilation systems.
N/A	Not applicable.

11.34 Reference International to Doyle Volume Factors Table

(Oracle table name: REF_INTL_TO_DOYLE_FACTOR)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.34.1	DIA_2INCH_CLASS	Diameter class	NUMBER(2)
11.34.2	SOFTWOOD	Softwood or hardwood	VARCHAR2(1)
11.34.3	FACTOR	Factor	NUMBER(5,4)
11.34.4	CREATED_BY	Created by	VARCHAR2(30)
11.34.5	CREATED_DATE	Created date	DATE
11.34.6	CREATED_IN_INSTANCE	Created in instance	VARCHAR2(6)
11.34.7	MODIFIED_BY	Modified by	VARCHAR2(30)
11.34.8	MODIFIED_DATE	Modified date	DATE
11.34.9	MODIFIED_IN_INSTANCE	Modified in instance	VARCHAR2(6)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	DIA_2INCH_CLASS, SOFTWOOD	N/A	RIDF_PK

11.34.1 DIA_2INCH_CLASS

Diameter class. A code indicating the diameter class. This code is used to group tree diameters into a class of a specified range.

Codes:

Code	Description
8	8-inch class (trees 7.0-8.9 inches in diameter).
10	10-inch class (trees 9.0-10.9 inches in diameter).
12	12-inch class (trees 11.0-12.9 inches in diameter).
14	14-inch class (trees 13.0-14.9 inches in diameter).
16	16-inch class (trees 15.0-16.9 inches in diameter).
18	18-inch class (trees 17.0-18.9 inches in diameter).
20	20-inch class (trees 19.0-20.9 inches in diameter).
22	22-inch class (trees 21.0-22.9 inches in diameter).
24	24-inch class (trees 23.0-24.9 inches in diameter).
26	26-inch class (trees 25.0-26.9 inches in diameter).
28	28-inch class (trees 27.0-28.9 inches in diameter).
30	30-inch class (trees ≥ 29 inches in diameter).

11.34.2 SOFTWOOD

Softwood or hardwood. A code indicating whether the factor (see [FACTOR](#)) is for a softwood or hardwood species.

Codes:

Code	Description
Y	Softwood species.
N	Hardwood species.

11.34.3 FACTOR

Factor. The factor that is multiplied by International ¼-inch log rule board-foot volume to produce Doyle log rule board-foot volume.

11.34.4 CREATED_BY

Created by. See SURVEY.[CREATED_BY](#) description for definition.

11.34.5 CREATED_DATE

Created date. See SURVEY.[CREATED_DATE](#) description for definition.

11.34.6 CREATED_IN_INSTANCE

Created in instance. See SURVEY.[CREATED_IN_INSTANCE](#) description for definition.

11.34.7 MODIFIED_BY

Modified by. See SURVEY.[MODIFIED_BY](#) description for definition.

11.34.8 MODIFIED_DATE

Modified date. See SURVEY.[MODIFIED_DATE](#) description for definition.

11.34.9 MODIFIED_IN_INSTANCE

Modified in instance. See SURVEY.[MODIFIED_IN_INSTANCE](#) description for definition.

11.35 Reference Tree Carbon Ratio Dead Table

(Oracle table name: REF_TREE_CARBON_RATIO_DEAD)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.35.1	CN	Sequence number	NUMBER(38)
11.35.2	SFTWD_HRDWD	Softwood or hardwood	VARCHAR2(1)
11.35.3	DECAYCD	Decay class code	NUMBER(1)
11.35.4	CARBON_RATIO	Wood carbon fraction	NUMBER(6,5)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	REFTCRD_PK
Unique	SFTWD_HRDWD, DECAYCD	N/A	REFTCRD_UK

11.35.1 CN

Sequence number. A unique sequence number used to identify a reference tree carbon ratio dead record.

11.35.2 SFTWD_HRDWD

Softwood or hardwood. A code indicating whether the tree species has been classified a softwood or hardwood species.

Codes: SFTWD_HRDWD

Code	Description
S	Softwood classification.
H	Hardwood classification.

11.35.3 DECAYCD

Decay class code. A code indicating the stage of decay in a standing dead tree (TREE.STANDING_DEAD_CD = 1) .

Codes: DECAYCD

Code	Description
1	All limbs and branches are present - The tree top is pointed and 100 percent bark remains. For Douglas-fir species, sapwood presence and condition is intact, sound, incipient decay, hard, original color, and heartwood condition is sound, hard, with original color - used as a guide for other species.
2	Few limbs and no fine branches - The tree top may be broken and variable bark remaining. For Douglas-fir species, sapwood presence and condition is sloughing, advance decay, fibrous, firm to soft, light brown, and the heartwood condition is sound at base, incipient decay in outer edge of upper bole, hard, light to reddish brown - used as a guide for other species.
3	Limbs stubs only - Tree top is broken and variable percent bark remains. For Douglas-fir species, sapwood presence and condition is sloughing, fibrous, soft, light to reddish brown and heartwood condition is incipient decay at base, advanced decay throughout upper bole, fibrous, hard to firm, reddish brown - used as a guide for other species.
4	Few or no limb stubs present - The tree top is broken and variable percent bark remains. For Douglas-fir species, sapwood presence and condition is sloughing, cubical, soft, reddish to dark brown, and the heartwood condition is advanced decay at base, sloughing from upper bole, fibrous to cubical, soft dark reddish brown - used as a guide for other species.
5	No limbs or branches - The top is broken and less than 20 percent of the bark remains. For Douglas-fir species sapwood presence and condition is none and heartwood condition is sloughing, cubical, soft, dark brown, or fibrous, very soft, dark reddish brown, encased in hardened shell - used as a guide for other species.

11.35.4 CARBON_RATIO

Wood carbon fraction. The mass of carbon per unit dry mass of wood, expressed as a proportion (ranging from 0-1), obtained from elemental analyses of dry wood samples. Synonymous with "wood carbon concentrations" or related terms in scientific literature (Doraisami and others 2022). The ratio is applied by softwood/hardwood classification ([SFTWD_HRDWD](#)) and decay class ([DECAYCD](#)) and multiplied by dead tree biomass estimates to obtain dead tree carbon estimates.

11.36 Reference Tree Decay Proportion Table

(Oracle table name: REF_TREE_DECAY_PROP)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.36.1	CN	Sequence number	NUMBER(38)
11.36.2	DECAYCD	Decay class code	NUMBER(1)
11.36.3	SFTWD_HRDWD	Softwood or hardwood	VARCHAR2(1)
11.36.4	DENSITY_PROP	Density proportion	NUMBER(3,2)
11.36.5	BARK_LOSS_PROP	Bark loss proportion	NUMBER(3,2)
11.36.6	BRANCH_LOSS_PROP	Branch loss proportion	NUMBER(3,2)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	REFTDP_PK
Unique	DECAYCD, SFTWD_HRDWD	N/A	REFTDP_UK

11.36.1 CN

Sequence number. A unique sequence number used to identify a reference tree decay proportion record.

11.36.2 DECAYCD

Decay class code. A code indicating the stage of decay in a standing dead tree (TREE.STANDING_DEAD_CD = 1).

Note: Not populated for standing dead saplings (1.0 - 4.9 inches d.b.h./d.r.c.) when PLOT.MANUAL <7.0.

Codes: DECAYCD

Code	Description
1	All limbs and branches are present - The tree top is pointed and 100 percent bark remains. For Douglas-fir species, sapwood presence and condition is intact, sound, incipient decay, hard, original color, and heartwood condition is sound, hard, with original color - used as a guide for other species.
2	Few limbs and no fine branches - The tree top may be broken and variable bark remaining. For Douglas-fir species, sapwood presence and condition is sloughing, advance decay, fibrous, firm to soft, light brown, and the heartwood condition is sound at base, incipient decay in outer edge of upper bole, hard, light to reddish brown - used as a guide for other species.
3	Limbs stubs only - Tree top is broken and variable percent bark remains. For Douglas-fir species, sapwood presence and condition is sloughing, fibrous, soft, light to reddish brown and heartwood condition is incipient decay at base, advanced decay throughout upper bole, fibrous, hard to firm, reddish brown - used as a guide for other species.

Code	Description
4	Few or no limb stubs present - The tree top is broken and variable percent bark remains. For Douglas-fir species, sapwood presence and condition is sloughing, cubical, soft, reddish to dark brown, and the heartwood condition is advanced decay at base, sloughing from upper bole, fibrous to cubical, soft dark reddish brown - used as a guide for other species.
5	No limbs or branches - The top is broken and less than 20 percent of the bark remains. For Douglas-fir species sapwood presence and condition is none and heartwood condition is sloughing, cubical, soft, dark brown, or fibrous, very soft, dark reddish brown, encased in hardened shell - used as a guide for other species.

11.36.3 SFTWD_HRDWD

Softwood or hardwood. A code indicating whether the tree species has been classified a softwood or hardwood species.

Codes: SFTWD_HRDWD

Code	Description
S	Softwood classification.
H	Hardwood classification.

11.36.4 DENSITY_PROP

Density proportion. The proportion of the tree remaining after deductions for decay.

11.36.5 BARK_LOSS_PROP

Bark loss proportion. The proportion of the bark component remaining after deductions for decay.

11.36.6 BRANCH_LOSS_PROP

Branch loss proportion. The proportion of the branch component remaining after deductions for decay.

11.37 Reference Tree Standing Dead Crown Ratio Proportion Table

(Oracle table name: REF_TREE_STND_DEAD_CR_PROP)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.37.1	CN	Sequence number	NUMBER(38)
11.37.2	ECOPROV	Ecoregion province	VARCHAR2(10)
11.37.3	SFTWD_HRDWD	Softwood or hardwood	VARCHAR2(1)
11.37.4	CR_MEAN	Crown ratio mean	NUMBER(4,3)

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	REFTSDCP_PK
Unique	ECOPROV, SFTWD_HRDWD	N/A	REFTSDCP_UK

11.37.1 CN

Sequence number. A unique sequence number used to identify a reference tree standing dead crown ratio proportion record.

11.37.2 ECOPROV

Ecoregion province. A code indicating the ecoregion province. A province is a zone at the ecoregion level that contains nested sections that are delineated by similarities in surficial geology, lithology, geomorphic process, soil groups, subregional climate, and potential natural communities.

For detailed descriptions on provinces and sections in the conterminous United States, see McNab and others (2007). For further information for Alaska ecoregions, see Nowacki and others (2002).

Codes: ECOPROV

Code	Description
132	Intermontane Boreal.
133	Alaska Range Transition.
211	Northeastern Mixed Forest Province.
212	Laurentian Mixed Forest Province.
221	Eastern Broadleaf Forest Province.
222	Midwest Broadleaf Forest Province.
223	Central Interior Broadleaf Forest Province.
231	Southeastern Mixed Forest Province.
232	Outer Coastal Plain Mixed Forest Province.
234	Lower Mississippi Riverine Forest Province.
242	Pacific Lowland Mixed Forest Province.

Code	Description
251	Prairie Parkland (Temperate) Province.
255	Prairie Parkland (Subtropical) Province.
261	California Coastal Chaparral Forest and Shrub Province.
262	California Dry Steppe Province.
263	California Coastal Steppe, Mixed Forest, and Redwood Forest Province.
313	Colorado Plateau Semidesert Province.
315	Southwest Plateau and Plains Dry Steppe and Shrub Province.
321	Chihuahuan Semidesert Province.
322	American Semidesert and Desert Province.
331	Great Plains-Palouse Dry Steppe Province.
332	Great Plains Steppe Province.
341	Intermountain Semidesert and Desert Province.
342	Intermountain Semidesert Province.
411	Everglades Province.
M132	Intermontane Boreal Province - Mountains.
M133	Alaska Range Transition Province - Mountains.
M134	Coastal Mountains Transition Province - Mountains.
M211	Adirondack-New England Mixed Forest - Coniferous Forest - Alpine Meadow Province.
M221	Central Appalachian Broadleaf Forest - Coniferous Forest - Meadow Province.
M223	Ozark Broadleaf Forest - Meadow Province.
M231	Ouachita Mixed Forest - Meadow Province.
M241	Coastal Rainforest Province - Mountains.
M242	Cascade Mixed Forest - Coniferous Forest - Alpine Meadow Province.
M261	Sierran Steppe - Mixed Forest - Coniferous Forest - Alpine Meadow Province.
M262	California Coastal Range Open Woodland - Shrub - Coniferous Forest - Meadow Province.
M313	Arizona-New Mexico Mountains Semidesert - Open Woodland - Coniferous Forest - Alpine Meadow Province.
M331	Southern Rocky Mountain Steppe - Open Woodland - Coniferous Forest - Alpine Meadow Province.
M332	Middle Rocky Mountain Steppe - Coniferous Forest - Alpine Meadow Province.
M333	Northern Rocky Mountain Forest-Steppe - Coniferous Forest - Alpine Meadow Province.
M334	Black Hills Coniferous Forest Province.
M341	Nevada-Utah Mountains Semidesert - Coniferous Forest - Alpine Meadow Province.
UNDEFINED	Undefined.

11.37.3 SFTWD_HRDWD

Softwood or hardwood. A code indicating whether the tree species has been classified a softwood or hardwood species.

Codes: SFTWD_HRDWD

Code	Description
S	Softwood classification.
H	Hardwood classification.

11.37.4 CR_MEAN

Crown ratio mean. The mean crown ratio for the ecoregion province ([ECOPROV](#)) and softwood/hardwood classification ([SFTWD_HRDWD](#)).

11.38 Reference Ground Layer Table

(Oracle table name: REF_GRND_LYR)

Subsection	Column name (attribute)	Descriptive name	Oracle data type
11.38.1	CN	Sequence number	NUMBER(38)
11.38.2	GRND_LYR_CONFIG	Ground layer configuration name	VARCHAR2(20)
11.38.3	FUNCTIONAL_GROUP_CD	Functional group code	VARCHAR2(10)
11.38.4	CARBON_PCT	Percent carbon	NUMBER(5,2)
11.38.5	NITROGEN_PCT	Percent nitrogen	NUMBER(5,2)
11.38.6	BULKDENSITY_COEFF_M	Bulk density coefficient m	NUMBER(5,4)
11.38.7	BULKDENSITY_COEFF_A	Bulk density coefficient a	NUMBER(5,4)
11.38.8	BULKDENSITY_COEFF_B	Bulk density coefficient b	NUMBER(6,4)
11.38.9	CREATED_DATE	Created date	DATE
11.38.10	MODIFIED_DATE	modified date	DATE

Key Type	Column(s) order	Tables to link	Abbreviated notation
Primary	CN	N/A	REFGLYR_PK
Unique	GRND_LYR_CONFIG, FUNCTIONAL_GROUP_CD	N/A	REFGLYR_UK

11.38.1 CN

Sequence number. A unique sequence number used to identify a reference ground layer record.

11.38.2 GRND_LYR_CONFIG

Ground layer configuration name. A descriptor identifying the ground layer configuration.

Codes: GRND_LYR_CONFIG

Code	Description
INTAK	Interior Alaska.

11.38.3 FUNCTIONAL_GROUP_CD

Functional group code. A code indicating the ground layer functional group.

Codes: FUNCTIONAL_GROUP_CD

Code	Description
MS	<i>Sphagnum</i> peat-moss.
MN	N-fixing feather mosses: <i>Pleurozium</i> , <i>Hylocomium</i> .
MF	Other feather (pleurocarp) mosses: <i>Thuidium</i> , <i>Kindbergia</i> .
MT	Turf (acrocarp) mosses: <i>Bryum</i> , <i>Mnium</i> , <i>Polytrichum</i> .
VF	Flat (thalloid) liverworts: <i>Marchantia</i> , <i>Conocephalum</i> .
VS	Stem-and-leaf liverworts: <i>Anthelia</i> , <i>Cephaloziella</i> , <i>Marsupella</i> .
LF	Forage lichens: branched- <i>Cladonia</i> , <i>Alectoria</i> , <i>Bryocaulon</i> .
LN	N-fixing foliose lichens: <i>Peltigera</i> , <i>Nephroma</i> , <i>Solorina</i> , <i>Sticta</i> .
LU	N-fixing fruticose lichens: <i>Stereocaulon</i> .
LL	Other foliose lichens: <i>Parmelia</i> , <i>Physcia</i> .
LR	Other fruticose lichens: unbranched- <i>Cladonia</i> , <i>Hypogymnia</i> .
CO	Orange lichens: <i>Xanthoria</i> , <i>Candelaria</i> .
CC	Biotic soil crust: <i>Psora</i> , <i>Placidium</i> , cyanobacteria.

11.38.4 CARBON_PCT

Percent carbon. The percent carbon content for the ground layer functional group ([FUNCTIONAL_GROUP_CD](#)).

11.38.5 NITROGEN_PCT

Percent nitrogen. The percent nitrogen content for the ground layer functional group ([FUNCTIONAL_GROUP_CD](#)).

11.38.6 BULKDENSITY_COEFF_M

Bulk density coefficient m. The value assigned to coefficient "m" for calculating bulk density of the ground layer functional group ([FUNCTIONAL_GROUP_CD](#)). See Smith and others (2015) for more detail.

11.38.7 BULKDENSITY_COEFF_A

Bulk density coefficient a. The value assigned to coefficient "a" for calculating bulk density of the ground layer functional group ([FUNCTIONAL_GROUP_CD](#)). See Smith and others (2015) for more detail.

11.38.8 BULKDENSITY_COEFF_B

Bulk density coefficient b. The value assigned to coefficient "b" for calculating bulk density of the ground layer functional group ([FUNCTIONAL_GROUP_CD](#)). See Smith and others (2015) for more detail.

11.38.9 CREATED_DATE

Created date. See SURVEY.[CREATED_DATE](#) description for definition.

11.38.10 MODIFIED_DATE

Modified date. See SURVEY.[MODIFIED_DATE](#) description for definition.

Section revision: 04.2024

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Index of Tables

The following table contains an alphabetized list and brief descriptions of the tables included within this user guide.

Index - Quick Link:			
A	B	C	D
E	F	G	H
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M	N	O	P
Q	R	S	T
U	V	W	X
Y	Z	-	-

Section	Oracle table name	Table name	Description
		A	
		B	
3.8	BEGINEND	Begin and End Table	Begin and end table. This table contains a counter to establish how many times to access a tree record in the TREE_GRM_ESTN table. This is used when calculating net growth accounting estimates.
2.7	BOUNDARY	Boundary Table	Boundary table. This table provides a description of the demarcation line between two conditions that occur on a single subplot. <ul style="list-style-type: none"> • BOUNDARY.PLT_CN = PLOT.CN links the boundary records to the unique plot record.
		C	

Section	Oracle table name	Table name	Description
2.5	COND	Condition Table	<p>Condition table. This table provides information on the discrete combination of landscape attributes that define the condition (a condition will have the same land class, reserved status, owner group, forest type, stand-size class, regeneration status, and stand density).</p> <ul style="list-style-type: none"> COND.PLT_CN = PLOT.CN links the condition class record(s) to the plot table. COND.PLT_CN = SITETREE.PLT_CN and COND.CON DID = SITETREE.CON DID links the condition class record to the site tree data. COND.PLT_CN = TREE.PLT_CN and COND.CON DID = TREE.CON DID links the condition class record to the tree data.
5.8	COND_DWM_CALC	Condition Down Woody Material Calculation Table	<p>Condition down woody material calculation table. This table contains calculated values and condition-level estimates for down woody attributes by plot number (PLOT), condition class number (CONDID), and evaluation identifier (EVALID).</p> <ul style="list-style-type: none"> COND_DWM_CALC.PLT_CN = PLOT.CN links the down woody material calculation records to the unique plot record. COND_DWM_CALC.CND_CN = COND.CN links the down woody material calculation records to the unique condition record. COND_DWM_CALC.STRATUM_CN = POP_STRATUM.CN links the down woody material calculation records to the unique population stratum record.
2.3	COUNTY	County Table	<p>County table. This table contains survey unit codes and is also a reference table for the county codes and names.</p> <ul style="list-style-type: none"> COUNTY.CN = PLOT.CTY_CN links the unique county record to the plot record.
D			
5.2	DWM_COARSE_WOODY_DEBRIS	Down Woody Material Coarse Woody Debris Table	<p>Down woody material coarse woody debris table. This table provides information for each piece of coarse woody debris measured along the transects.</p> <ul style="list-style-type: none"> DWM_COARSE_WOODY_DEBRIS.PLT_CN = PLOT.CN links the down woody material coarse woody debris records to the unique plot record. DWM_COARSE_WOODY_DEBRIS.PLT_CN = COND.PLT_CN and DWM_COARSE_WOODY_DEBRIS.CON DID = COND.CON DID links the coarse woody debris records to the unique condition record.

Section	Oracle table name	Table name	Description
5.3	DWM_DUFF_LITTER_FUEL	Down Woody Material Duff, Litter, Fuel Table	<p>Down woody material duff, litter, fuel table. This table provides information on the duff, litter, fuelbed depths measured at a point on the transects.</p> <ul style="list-style-type: none"> • DWM_DUFF_LITTER_FUEL.PLT_CN = PLOT.CN links the duff, litter, fuelbed records to the unique plot record. • DWM_DUFF_LITTER_FUEL.PLT_CN = COND.PLT_CN and DWM_DUFF_LITTER_FUEL.CONDID = COND.CONDID links the duff, litter, fuel records to the unique condition record.
5.4	DWM_FINE_WOODY_DEBRIS	Down Woody Material Fine Woody Debris Table	<p>Down woody material fine woody debris table. This table provides information on the fine woody debris measured along a segment of the transects.</p> <ul style="list-style-type: none"> • DWM_FINE_WOODY_DEBRIS.PLT_CN = PLOT.CN links the fine woody debris records to the unique plot record. • DWM_FINE_WOODY_DEBRIS.PLT_CN = COND.PLT_CN and DWM_FINE_WOODY_DEBRIS.CONDID = COND.CONDID links the fine woody debris records to the unique condition record.
5.5	DWM_MICROPLOT_FUEL	Down Woody Material Microplot Fuel Table	<p>Down woody material microplot fuel table. This table provides information on the fuel loads (shrubs and herbs) measured on the microplot.</p> <ul style="list-style-type: none"> • DWM_MICROPLOT_FUEL.PLT_CN = PLOT.CN links the microplot fuel records to the unique plot record.
5.6	DWM_RESIDUALPILE	Down Woody Material Residual Pile Table	<p>Down woody material residual pile table. This table provides information on the wood piles measured on the subplot.</p> <ul style="list-style-type: none"> • DWM_RESIDUALPILE.PLT_CN = PLOT.CN links the wood piles records to the unique plot record. • DWM_RESIDUALPILE.PLT_CN = COND.PLT_CN and DWM_RESIDUALPILE.CONDID = COND.CONDID links the wood piles records to the unique condition record.
5.7	DWM_TRANSECT_SEGMENT	Down Woody Material Transect Segment Table	<p>Down woody material transect segment table. This table describes the down woody material transect segment lengths by condition class.</p> <ul style="list-style-type: none"> • DWM_TRANSECT_SEGMENT.PLT_CN = PLOT.CN links the down woody material transect length records to the unique plot record. • DWM_TRANSECT_SEGMENT.PLT_CN = COND.PLT_CN and DWM_TRANSECT_SEGMENT.CONDID = COND.CONDID links the down woody material transect segment records to the unique condition record.

Section	Oracle table name	Table name	Description
5.1	DWM_VISIT	Down Woody Material Visit Table	<p>Down woody material visit table. This table provides general information on down woody material indicator visit, such as the date of the DWM survey.</p> <ul style="list-style-type: none"> DWM_VISIT.PLT_CN = PLOT.CN links the down woody material indicator visit record to the unique plot record.
		E	
		F	
		G	
7.1	GRND_CVR	Ground Cover Table	<p>Ground cover table. This table provides ground cover measurement data for National Forest System (NFS) ownership protocols.</p> <ul style="list-style-type: none"> GRND_CVR.PLT_CN = PLOT.CN links the ground cover record to the unique plot record.
7.2	GRND_LYR_FNCTL_GRP	Ground Layer Functional Groups Table	Ground layer functional groups table. This table is used to record the data for thirteen ground layer functional groups that may be found on the sampled microquadrats. These data are used to determine nonvascular forest floor composition and carbon content on forest and nonforest conditions.
7.3	GRND_LYR_MICROQUAD	Ground Layer Microquadrat Table	Ground layer microquadrat table. This table records ground layer data for the microquadrats.
		H	
		I	
4.1	INVASIVE_SUBPLOT_SPP	Invasive Subplot Species Table	<p>Invasive subplot species table. This table provides percent cover data of invasive species identified on the subplot.</p> <ul style="list-style-type: none"> INVASIVE_SUBPLOT_SPP.PLT_CN = PLOT.CN links the invasive subplot species record(s) to the unique plot record. INVASIVE_SUBPLOT_SPP.PLT_CN = SUBP_COND.PLT_CN and INVASIVE_SUBPLOT_SPP.CONDID = SUBP_COND.CONDID and INVASIVE_SUBPLOT_SPP.SUBP = SUBP_COND.SUBP links the invasive subplot species record(s) to the unique subplot condition record. INVASIVE_SUBPLOT_SPP.VEG_SPCD = REF_PLANT_DICTIONARY.SYMBOL links the invasive vegetation subplot NRCS species code to the plant dictionary reference species code.
		J	
		K	
		L	
		M	

Section	Oracle table name	Table name	Description
		N	
		O	
		P	
4.3	P2VEG_SUBP_STRUCTURE	Phase 2 Vegetation Subplot Structure Table	<p>Phase 2 Vegetation subplot structure table. This table provides percent cover by layer by growth habit.</p> <ul style="list-style-type: none"> P2VEG_SUBP_STRUCTURE.PLT_CN = PLOT.CN links the subplot structure record(s) to the unique plot record. P2VEG_SUBP_STRUCTURE.PLT_CN = SUBP_COND.PLT_CN and P2VEG_SUBP_STRUCTURE.CONDID = SUBO_COND.CONDID and P2VEG_SUBP_STRUCTURE.SUBP = SUBP_COND.SUBP links the vegetation subplot structure record(s) to the unique subplot condition record.
4.2	P2VEG_SUBPLOT_SPP	Phase 2 Vegetation Subplot Species Table	<p>Phase 2 Vegetation subplot species table. This table provides percent cover data of vegetation species identified on the subplot.</p> <ul style="list-style-type: none"> P2VEG_SUBPLOT_SPP.PLT_CN != PLOT.CN links the vegetation subplot species record(s) to the unique plot record. P2VEG_SUBPLOT_SPP.PLT_CN = SUBO_COND.PLT_CN and P2VEG_SUBPLOT_SPP.CONDID = SUBP_COND.CONDID and P2VEG_SUBPLOT_SPP.SUBP != SUBP_COND.SUBP links the vegetation subplot species record(s) to the unique subplot condition record. P2VEG_SUBPLOT_SPP.VEG_SPCD = REF_PLANT_DICTIONARY.SYMBOL links the P2 vegetation subplot NRCS species code to the plant dictionary reference species code.
2.4	PLOT	Plot Table	<p>Plot table. This table provides information relevant to the entire 1-acre field plot. This table links to most other tables, and the linkage is made using PLOT.CN = TABLE_NAME.PLT_CN (TABLE_NAME is the name of any table containing the column name PLT_CN). Below are some examples of linking PLOT to other tables.</p> <ul style="list-style-type: none"> PLOT.CN = COND.PLT_CN links the unique plot record to the condition class record(s). PLOT.CN = SUBPLOT.PLT_CN links the unique plot record to the subplot records. PLOT.CN = TREE.PLT_CN links the unique plot record to the tree records. PLOT.CN = SEEDLING.PLT_CN links the unique plot record to the seedling records.

Section	Oracle table name	Table name	Description
10.1	PLOTGEOM	Plot Geometry Table	Plot geometry table. This table contains geometric attributes associated with the plot location, such as the hydrological unit and roadless codes. <ul style="list-style-type: none"> • PLOTGEOM.CN = PLOT.CN links the unique plot record between the two tables.
10.2	PLOTSNAP	Plot Snapshot Table	Plot snapshot table. This table combines the information in the PLOT table with information in the PLOT_EVAL_GRP and POP_STRATUM tables to provide a snapshot of the plot records with their associated expansion and adjustment factors. <ul style="list-style-type: none"> • PLOTSNAP.CN = PLOT.CN links the unique plot record between the two tables.
6.1	PLOT_REGEN	Plot Regeneration Table	Plot regeneration table. This table contains the information for the four subplots describing the amount of animal browse pressure exerted on the regeneration of trees. <ul style="list-style-type: none"> • PLOT_REGEN.PLT_CN = PLOT.CN links the unique plot record to the unique plot regeneration record.
9.1	POP_ESTN_UNIT	Population Estimation Unit Table	Population estimation unit table. This table contains information about estimation units. An estimation unit is a geographic area that can be drawn on a map. It has a known area, and the sampling intensity must be the same within a stratum within an estimation unit. Generally, estimation units are contiguous areas, but exceptions are made when certain ownerships, usually National Forests, are sampled at different intensities. One record in the POP_ESTN_UNIT table corresponds to a single estimation unit. <p>POP_ESTN_UNIT.CN = POP_STRATUM.ESTN_UNIT_CN links the unique stratified geographical area (ESTN_UNIT) to the strata (STRATUMCD) that are assigned to each ESTN_UNIT.</p>

Section	Oracle table name	Table name	Description
9.2	POP_EVAL	Population Evaluation Table	<p>Population evaluation table. This table provides information about evaluations. An evaluation is the combination of a set of plots (the sample) and a set of Phase 1 data (obtained through remote sensing, called a stratification) that can be used to produce population estimates for a State (an evaluation may be created to produce population estimates for a region other than a State, such as the Black Hills National Forest). A record in the POP_EVAL table identifies one evaluation and provides some descriptive information about how the evaluation may be used.</p> <ul style="list-style-type: none"> POP_EVAL.CN = POP_ESTN_UNIT.EVAL_CN links the unique evaluation identifier (EVALID) in the POP_EVAL table to the unique geographical areas (ESTN_UNIT) that are stratified. Within a population evaluation (EVALID) there can be multiple population estimation units, or geographic areas across which there are a number of values being estimated (e.g., estimation of volume across counties for a given State).
9.3	POP_EVAL_ATTRIBUTE	Population Evaluation Attribute Table	<p>Population evaluation attribute table. This table provides information as to which population estimates can be provided by an evaluation. If an evaluation can produce only 22 of all the population estimates in the REF_POP_ATTRIBUTE table, there will be 22 records in the POP_EVAL_ATTRIBUTE table (one per population estimate) for that evaluation.</p> <ul style="list-style-type: none"> POP_EVAL_ATTRIBUTE.EVAL_CN = POP_EVAL.CN links the unique evaluation identifier to the list of population estimates that can be derived for that evaluation.
9.4	POP_EVAL_GRP	Population Evaluation Group Table	<p>Population evaluation group table. This table lists and describes the evaluation groups. One record in the POP_EVAL_GRP table can be linked to all the evaluations that were used in generating estimates for a State inventory report.</p> <ul style="list-style-type: none"> POP_EVAL_GRP.CN=POP_EVAL_TYP.EVAL_GRP_CN links the evaluation group record to the evaluation type record.

Section	Oracle table name	Table name	Description
9.5	POP_EVAL_TYP	Population Evaluation Type Table	<p>Population evaluation type table. This table provides information on the type of evaluations that were used to generate a set of tables for an inventory report. In a typical State inventory report, one evaluation is used to generate an estimate of the total land area; a second evaluation is used to generate current estimates of volume, numbers of trees and biomass; and a third evaluation is used for estimating growth, removals and mortality.</p> <ul style="list-style-type: none"> • POP_EVAL_TYP.EVAL_CN = POP_EVAL.CN links the evaluation type record to the evaluation record. • POP_EVAL_TYP.EVAL_GRP_CN=POP_EVAL_GRP.CN links the evaluation type record to the evaluation group record. • POP_EVAL_TYP.EVAL_TYP = REF_POP_EVAL_TYP_DESCR.EVAL_TYP links an evaluation type record to an evaluation type description reference record.
9.6	POP_PLOT_STRATUM_ASSGN	Population Plot Stratum Assignment Table	<p>Population plot stratum assignment table. This table provides a way to assign stratum information to a plot. Stratum information is assigned to a plot by overlaying the plot's location on the Phase 1 imagery. Plots are linked to their appropriate stratum for an evaluation via the POP_PLOT_STRATUM_ASSGN table.</p> <ul style="list-style-type: none"> • POP_PLOT_STRATUM_ASSGN.PLT_CN = PLOT.CN links the stratum assigned to the plot record.
9.7	POP_STRATUM	Population Stratum Table	<p>Population stratum table. This table provides information about individual strata. The area within an estimation unit is divided into strata. The area for each stratum can be calculated by determining the proportion of Phase 1 pixels/plots in each stratum and multiplying that proportion by the total area in the estimation unit. Information for a single stratum is stored in a single record of the POP_STRATUM table.</p> <ul style="list-style-type: none"> • POP_STRATUM.CN = POP_PLOT_STRATUM_ASSGN.STRATUM_CN links the defined stratum to each plot.
2.2	PROJECT	Project Table	<p>Project table. This table provides a list of FIA inventory projects. Each project targets one and only one population for study. A project is assigned to an FIA work unit, which has stewardship over that project.</p>
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Section	Oracle table name	Table name	Description
11.11	REF_CITATION	Reference Citation Table	<p>Reference citation table. This table identifies the published source for information on specific gravities, moisture content, and bark as a percent of wood volume that is provided in the REF_SPECIES table.</p> <ul style="list-style-type: none"> • REF_CITATION.CITATION_NBR = REF_SPECIES.WOOD_SPGR_GREENVOL_DRYWT_CIT. • REF_CITATION.CITATION_NBR = REF_SPECIES.BARK_SPGR_GREENVOL_DRYWT_CIT • REF_CITATION.CITATION_NBR = REF_SPECIES.MC_PCT_GREEN_WOOD_CIT. • REF_CITATION.CITATION_NBR = REF_SPECIES.MC_PCT_GREEN_BARK_CIT. • REF_CITATION.CITATION_NBR = REF_SPECIES.WOOD_SPGR_MC12VOL_DRYWT_CIT • REF_CITATION.CITATION_NBR = REF_SPECIES.BARK_VOL_PCT_CIT.
11.25	REF_DAMAGE_AGENT	Reference Damage Agent Table	<p>Reference damage agent table. This table identifies damage agent codes, common and scientific names, and measurement thresholds for all damages collected.</p> <ul style="list-style-type: none"> • REF_DAMAGE_AGENT.DAG_CODE = REF_DAMAGE_AGENT_GROUP.CODE links the damage agent code to the damage agent group code.
11.26	REF_DAMAGE_AGENT_GROUP	Reference Damage Agent Group Table	<p>Reference damage agent group table. This table identifies the codes and descriptions of the damage agent groups.</p>
11.30	REF_DIFFERENCE_TEST_PER_ACRE	Reference Difference Test Per Acre Table	<p>Reference difference test per acre table. This table contains Oracle SQL scripts for comparing ratio estimates (per acre) of an attribute between two different groups.</p>
11.31	REF_DIFFERENCE_TEST_TOTALS	Reference Difference Test Totals Table	<p>Reference difference test totals table. This table contains Oracle SQL scripts for comparing total estimates of an attribute between two different groups.</p>
11.12	REF_FIADB_VERSION	Reference Forest Inventory and Analysis Database Version Table	<p>Reference forest inventory and analysis database version table. This table contains information identifying the format of the currently available FIADB.</p>

Section	Oracle table name	Table name	Description
11.3	REF_FOREST_TYPE	Reference Forest Type Table	<p>Reference forest type table. This table contains forest type codes, descriptive names and other information. Data users should link codes as shown below and then obtain the information stored in MEANING to convert the code to a name.</p> <ul style="list-style-type: none"> • REF_FOREST_TYPE.VALUE = COND.FORTYPCD links the forest type reference record to the condition forest code used for reporting and analysis purposes. • REF_FOREST_TYPE.VALUE = COND.FLDTYPCD links the forest type reference record to the condition forest type code recorded by field crews. • REF_FOREST_TYPE.VALUE = COND.FORTYPCDCALC links the forest type reference record to the condition forest type code calculated by an algorithm.
11.4	REF_FOREST_TYPE_GROUP	Reference Forest Type Group Table	<p>Reference forest type group table. This table contains forest type grouping codes, and descriptive names. Data users should link codes as shown below and then obtain the information stored in MEANING to convert the code to a name.</p> <ul style="list-style-type: none"> • REF_FOREST_TYPE_GROUP.VALUE = REF_FOREST_TYPE.TYPGRPCD links the forest type group reference record to the forest type reference record. To display the forest type group code, the forest type reference record must be linked to the condition record by linking REF_FOREST_TYPE.VALUE to COND.FORTYPCD, COND.FLDTYPCD, or COND.FORTYPCDCALC.
11.28	REF_FVS_LOC_NAME	Reference Forest Vegetation Simulator Location Name Table	<p>Reference forest vegetation simulator location name table. This table contains FVS variant codes, and descriptive names.</p>
11.27	REF_FVS_VAR_NAME	Reference Forest Vegetation Simulator Variant Name Table	<p>Reference forest vegetation simulator variant name table. This table contains FVS location codes, and descriptive names.</p>
11.33	REF_GRM_TYPE	Reference Tree Growth, Removal, and Mortality Type Table	<p>Reference tree growth, removal, and mortality type table. This table summarizes information identifying the method used for growth, removals, and mortality (GRM) estimation.</p>
11.38	REF_GRND_LYR	Reference Ground Layer Table	<p>Reference ground layer table. This table stores bulk density coefficients for ground layer functional groups and associated information (e.g., ground layer configuration name, percent carbon content, percent nitrogen content).</p>

Section	Oracle table name	Table name	Description
11.9	REF_HABTYP_DESCRIPTION	Reference Habitat Type Description Table	<p>Reference habitat type description table. This table contains habitat type codes, and associated scientific plant species abbreviation and common name for each habitat type. Users wanting to know the publication that further describes the habitat type should link codes as shown below to obtain the corresponding publication information.</p> <ul style="list-style-type: none"> • REF_HABTYP_DESCRIPTION.HABTYP_CD = COND.HABTYP_CD and REF_HABTYP_DESCRIPTION.PUB_CD = COND.HABTYP_CD_DESCR_PUB_CD and REF_HABTYP_DESCRIPTION.PUB_CD = REF_HABTYP_PUBLICATION.PUB_CD links the primary habitat type code to reference description habitat code and primary habitat type publication code to the reference description publication code and reference description publication code to the publication reference information. (see figure 9-1). • REF_HABTYP_DESCRIPTION.HABTYP_CD = COND.HABTYP_CD and REF_HABTYP_DESCRIPTION.PUB_CD = COND.HABTYP_CD_DESCR_PUB_CD and REF_HABTYP_DESCRIPTION.PUB_CD = REF_HABTYP_PUBLICATION.PUB_CD links the secondary habitat type code to reference description habitat code and secondary habitat type publication code to the reference description publication code and reference description publication code to the publication reference information.
11.10	REF_HABTYP_PUBLICATION	Reference Habitat Type Publication Table	<p>Reference habitat type publication table. This table contains the publication information (title, author) for the publication code. See the links described above in REF_HABTYP_DESCRIPTION.</p>
11.34	REF_INTL_TO_DOYLE_FACTOR	Reference International to Doyle Volume Factors Table	<p>Reference international to Doyle volumes factors. This table contains conversion factors (by diameter class) that are multiplied by International 1/4-inch log rule board-foot volume to produce Doyle log rule board-foot volume. The Doyle log rule conversion factors are based on tree volumes from Illinois, Indiana, Iowa, and Missouri (Brand and Walkowiak 1991).</p>
11.8	REF_INVASIVE_SPECIES	Reference Invasive Species Table	<p>Reference invasive species table. This table contains the invasive species list by State.</p> <ul style="list-style-type: none"> • REF_INVASIVE_SPECIES.SYMBOL = INVASIVE_SUBPLOT_SPP.VEG_SPCD links the invasive species reference to the invasive species NRCS code. • REF_INVASIVE_SPECIES.SYMBOL = REF_PLANT_DICTIONARY.SYMBOL links the invasive species reference to the plant dictionary reference NRCS species code.

Section	Oracle table name	Table name	Description
11.16	REF_NVCS_HIERARCHY_STRCT	Reference National Vegetation Classification Standard (NVCS) Hierarchy Structure Table	Reference national vegetation classification standard (NVCS) hierarchy structure table. This table describes the structure of a given National Vegetation Classification Standard (NVCS) hierarchy.
11.17	REF_NVCS_LEVEL_1_CODES	Reference National Vegetation Classification Standard Level 1 Codes Table	Reference national vegetation classification standard level 1 codes table. This table contains definitions of the codes for the first level of the National Vegetation Classification Standard (NVCS) hierarchy.
11.18	REF_NVCS_LEVEL_2_CODES	Reference National Vegetation Classification Standard Level 2 Codes Table	Reference national vegetation classification standard level 2 codes table. This table contains definitions of the codes for the second level of the National Vegetation Classification Standard (NVCS) hierarchy.
11.19	REF_NVCS_LEVEL_3_CODES	Reference National Vegetation Classification Standard Level 3 Codes Table	Reference national vegetation classification standard level 3 codes table. This table contains definitions of the codes for the third level of the National Vegetation Classification Standard (NVCS) hierarchy.
11.20	REF_NVCS_LEVEL_4_CODES	Reference National Vegetation Classification Standard Level 4 Codes Table	Reference national vegetation classification standard level 4 codes table. This table contains definitions of the codes for the fourth level of the National Vegetation Classification Standard (NVCS) hierarchy.
11.21	REF_NVCS_LEVEL_5_CODES	Reference National Vegetation Classification Standard Level 5 Codes Table	Reference national vegetation classification standard level 5 codes table. This table contains definitions of the codes for the fifth level of the National Vegetation Classification Standard (NVCS) hierarchy.
11.22	REF_NVCS_LEVEL_6_CODES	Reference National Vegetation Classification Standard Level 6 Codes Table	Reference national vegetation classification standard level 6 codes table. This table contains definitions of the codes for the sixth level of the National Vegetation Classification Standard (NVCS) hierarchy.

Section	Oracle table name	Table name	Description
11.23	REF_NVCS_LEVEL_7_CODES	Reference National Vegetation Classification Standard Level 7 Codes Table	Reference national vegetation classification standard level 7 codes table. This table contains definitions of the codes for the seventh level of the National Vegetation Classification Standard (NVCS) hierarchy.
11.24	REF_NVCS_LEVEL_8_CODES	Reference National Vegetation Classification Standard Level 8 Codes Table	Reference national vegetation classification standard level 8 codes table. This table contains definitions of the codes for the eighth level of the National Vegetation Classification Standard (NVCS) hierarchy.
11.29	REF_OWNGRPCD	Reference Owner Group Code Table	Reference owner group code. This table identifies the codes and descriptions of the owner groups.
11.6	REF_PLANT_DICTIONARY	Reference Plant Dictionary	<p>Reference plant dictionary table. This table contains information about plant species as defined in the NRCS PLANTS database. The species symbol, common name, scientific name, growth habit and other identifying information are included in this table. Data users should link codes as shown below and then obtain the information stored in one of the columns such as COMMON_NAME or SCIENTIFIC_NAME to convert the code to a name.</p> <ul style="list-style-type: none"> • REF_PLANT_DICTIONARY.SYMBOL = INVASIVE_SUBPLOT_SPP.VEG_SPCD links the plant dictionary reference species code to the invasive vegetation subplot NRCS species code. • REF_PLANT_DICTIONARY.SYMBOL = P2VEG_SUBPLOT_SPP.VEG_SPCD links the plant dictionary reference species code to the P2 vegetation subplot NRCS species code.
11.1	REF_POP_ATTRIBUTE	Reference Population Attribute Table	<p>Reference population attribute table. This table identifies all of the population estimates that are currently supported, and provides information useful to the estimation procedure, such as how to calculate forest area.</p> <ul style="list-style-type: none"> • REF_POP_ATTRIBUTE.ATTRIBUTE_NBR = POP_EVAL_ATTRIBUTE.ATTRIBUTE_NBR links the description of the unique population estimate to the records of evaluations that can be used to make those estimates.
11.2	REF_POP_EVAL_TYP_DESCR	Reference Population Evaluation Type Description Table	<p>Reference population evaluation type description table. This table contains the description for each evaluation type.</p> <ul style="list-style-type: none"> • REF_POP_EVAL_TYP_DESCR.EVAL_TYP = POP_EVAL_TYP.EVAL_TYP links an evaluation type description reference record to an evaluation type record.

Section	Oracle table name	Table name	Description
11.15	REF_RESEARCH_STATION	Reference Research Station Table	Reference research station table. This table contains the state codes, and abbreviations, and the region or station codes and abbreviations.
11.32	REF_SIEQN	Reference Site Index Equation Table	Reference site index equation table. This table contains information about site index equations, including references and notes.
11.5	REF_SPECIES	Reference Species Table	<p>Reference species table. This table contains the species code, descriptive common name, scientific name, and many other attributes for each species. For example, data users who want to convert the species code to the associated common name should link codes as shown below and then obtain the information stored in COMMON_NAME.</p> <ul style="list-style-type: none"> • REF_SPECIES.SPCD = TREE.SPCD links the species reference table record to the tree species code. • REF_SPECIES.SPCD = SEEDLING.SPCD links the species reference table record to the seedling species code. • REF_SPECIES.SPCD = SITETREE.SPCD links the species reference table record to the site tree species code.
11.7	REF_SPECIES_GROUP	Reference Species Group Table	<p>Reference species group table. This table contains the species group code, descriptive name, and several other attributes for each species group. Data users should link codes as shown below and then obtain the information stored in NAME to convert the code to a descriptive name.</p> <ul style="list-style-type: none"> • REF_SPECIES_GROUP.SPGRPCD = TREE.SPGRPCD links the species group reference table to the tree species group code. • REF_SPECIES_GROUP.SPGRPCD = SEEDLING.SPGRPCD links the species reference table record to the seedling species group code. • REF_SPECIES_GROUP.SPGRPCD = SITETREE.SPGRPCD links the species reference table record to the site tree species group code.
11.13	REF_STATE_ELEV	Reference State Elevation Table	<p>Reference state elevation table. This table contains information about minimum and maximum elevation found within a State.</p> <ul style="list-style-type: none"> • REF_STATE_ELEV.STATECD = SURVEY.STATECD links the State elevation reference record to the survey record.
11.35	REF_TREE_CARBON_RATIO_DEAD	Reference Tree Carbon Ratio Dead Table	Reference tree carbon ratio dead table. This table stores mean carbon ratios by decay class and softwood/hardwood classification. These carbon ratios are used by FIA for the "National Scale Volume and Biomass" (NSVB) system to estimate aboveground carbon in standing dead trees. Refer to appendix K for information on FIA volume, biomass, and carbon estimates.

Section	Oracle table name	Table name	Description
11.36	REF_TREE_DECAY_PR_OP	Reference Tree Decay Proportion Table	Reference tree decay proportion table. This table stores density reduction factors by decay class and softwood/hardwood classification. These values are used by FIA for the "National Scale Volume and Biomass" (NSVB) system to estimate loss of mass for a decayed standing dead trees (compared to a live tree) and applied to stem wood, stem bark, and branch biomass. Refer to appendix K for information on FIA volume, biomass, and carbon estimation.
11.37	REF_TREE_SND_DEAD_CR_PROP	Reference Tree Standing Dead Crown Ratio Proportion Table	Reference tree decay proportion table. This table stores mean crown ratio values by ecoregion province and softwood/hardwood classification. These values are used by FIA for the "National Scale Volume and Biomass" (NSVB) system when accounting for volume and biomass loss due to broken tops for standing dead trees.
11.14	REF_UNIT	Reference Unit Table	Reference unit table. This table contains the description for each survey unit in a State. <ul style="list-style-type: none"> REF_UNIT.STATECD = PLOT.STATECD and REF_UNIT.VALUE = PLOT.UNITCD links the survey unit description (MEANING) to the PLOT record.
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3.9	SEEDLING	Seedling Table	Seedling table. This table provides a count of the number of live trees of a species found on a microplot that are less than 1 inch in diameter but at least 6 inches in length for conifer species or at least 12 inches in length for hardwood species. <ul style="list-style-type: none"> SEEDLING.PLT_CN = PLOT.CN links the seedling records to the unique plot record. SEEDLING.PLT_CN = COND.PLT_CN and SEEDLING.CON DID = COND.CON DID links the condition record to the seedling record.
6.3	SEEDLING_REGEN	Seedling Regeneration Table	Seedling regeneration table. This table contains provides information on the seedling count by condition, species, source, and length class for the tree regeneration study. <ul style="list-style-type: none"> SEEDLING_REGEN.PLT_CN = PLOT.CN links the unique plot record to the seedling regeneration records. SEEDLING_REGEN.PLT_CN = COND.PLT_CN and SEEDLING_REGEN.CON DID = COND.CON DID links the regeneration seedling records to the unique condition record.
3.10	SITETREE	Site Tree Table	Site tree table. This table provides information on the site tree(s) collected in order to calculate site index and/or site productivity information for a condition. <ul style="list-style-type: none"> SITETREE.PLT_CN = PLOT.CN links the site tree records to the unique plot record. SITETREE.PLT_CN = COND.PLT_CN and SITETREE.CON DID = COND.CON DID links the site tree record(s) to the unique condition class record.

Section	Oracle table name	Table name	Description
8.2	SUBP_SOIL_SAMPLE_LAYER	Subplot Soil Sample Layer Table	Subplot soil sample layer table. This table contains information about the bulk density, percent carbon and nitrogen content, and carbon and nitrogen content per acre for each soil profile layer type associated with a soil sample location.
8.1	SUBP_SOIL_SAMPLE_LOC	Subplot Soil Sample Location Table	Subplot soil sample location table. This table contains information about soil sample status and method, depth to restriction, and total carbon and nitrogen per acre, 3 inches.
2.6	SUBPLOT	Subplot Table	<p>Subplot table. This table describes the features of a single subplot. There are multiple subplots per 1-acre field plot and there can be multiple conditions sampled on each subplot.</p> <ul style="list-style-type: none"> • SUBPLOT.PLT_CN = PLOT.CN links the unique plot record to the subplot records. • SUBPLOT.PLT_CN = COND.PLT_CN and SUBPLOT.MACRCOND = COND.CON DID links the macroplot conditions to the condition class record. • SUBPLOT.PLT_CN = COND.PLT_CN and SUBPLOT.SUBPCOND = COND.CON DID links the subplot conditions to the condition class record. • SUBPLOT.PLT_CN = COND.PLT_CN and SUBPLOT.MICRCOND = COND.CON DID links the microplot conditions to the condition class record.
2.7	SUBP_COND	Subplot Condition Table	<p>Subplot condition table. This table contains information about the proportion of a subplot in a condition.</p> <ul style="list-style-type: none"> • SUBP_COND.PLT_CN = PLOT.CN links the subplot condition class record to the plot table. • SUBP_COND.PLT_CN = COND.PLT_CN and SUBP_COND.CON DID = COND.CON DID links the condition class records found on the four subplots to the subplot description.
2.9	SUBP_COND_CHNG_MTRX	Subplot Condition Change Matrix	<p>Subplot condition change matrix table. This table contains information about the mix of current and previous conditions that occupy the same area on the subplot.</p> <ul style="list-style-type: none"> • SUBP_COND_CHNG_MTRX.PLT_CN = PLOT.CN links the subplot condition change matrix records to the unique plot record. • SUBP_COND_CHNG_MTRX.PREV_PLT_CN = PLOT.PREV_PLT_CN links the subplot condition change matrix records to the unique previous plot record.

Section	Oracle table name	Table name	Description
6.2	SUBPLOT_REGEN	Subplot Regeneration Table	<p>Subplot regeneration table. This table provides information on the subplot survey status and the site survey limitations, if any, for the tree regeneration study.</p> <ul style="list-style-type: none"> • SUBPLOT_REGEN.PLT_CN = PLOT.CN links the unique plot record to the subplot regeneration records. • SUBPLOT_REGEN.PLT_CN = SUBPLOT.PLT_CN and SUBPLOT_REGEN.SUBP = SUBPLOT.SUBP links the subplot record to the subplot regeneration record.
2.1	SURVEY	Survey Table	<p>Survey table. This table contains one record for each year an inventory is conducted in a State for annual inventory or one record for each periodic inventory.</p> <ul style="list-style-type: none"> • SURVEY.CN = PLOT.SRV_CN links the unique inventory record for a State and year to the plot records.
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3.1	TREE	Tree Table	<p>Tree table. This table provides information for each tree 1 inch in diameter and larger found on a microplot, subplot, or <i>core optional</i> macroplot.</p> <ul style="list-style-type: none"> • TREE.PLT_CN = PLOT.CN links the tree records to the unique plot record. • TREE.PLT_CN = COND.PLT_CN and TREE.CON DID = COND.CON DID links the tree records to the unique condition record.
3.6	TREE_GRM_BEGIN	Tree Growth, Removal, and Mortality Begin Table	<p>Tree growth, removal, and mortality begin table. This table contains information for remeasured trees where values have been calculated for the beginning of the remeasurement period. Only those trees where information was recalculated for time 1 (T1) are included. The information in this table is used to produce growth, removal and mortality estimates on remeasured trees.</p> <ul style="list-style-type: none"> • TREE_GRM_BEGIN.TRE_CN = TREE.TRE_CN links the records in this table to the corresponding tree record in the TREE table.
3.3	TREE_GRM_COMPONENT	Tree Growth, Removal, and Mortality Component Table	<p>Tree growth, removal, and mortality component table. This table stores information used to compute growth, removals, and mortality estimates for remeasurement trees. Each remeasurement tree has a single record in this table.</p> <ul style="list-style-type: none"> • TREE_GRM_COMPONENT.TRE_CN = TREE.TRE_CN links the records in this table to the corresponding tree record in the TREE table.

Section	Oracle table name	Table name	Description
3.7	TREE_GRM_ESTN	Tree Growth, Removal, and Mortality Estimation Table	<p>Tree growth, removal, and mortality estimation table. This table contains information used to produce estimates of growth, removals and mortality.</p> <ul style="list-style-type: none"> • TREE_GRM_ESTN.PLT_CN = PLOT.CN links the tree GRM estimation records to the unique plot record. • TREE_GRM_ESTN.TRE_CN = TREE.CN links the tree GRM estimation records to the unique tree record.
3.5	TREE_GRM_MIDPT	Tree Growth, Removal, and Mortality Midpoint Table	<p>Tree growth, removal, and mortality midpoint table. This table contains information about a remeasured tree at the midpoint of the remeasurement period. It does not contain a record for every tree. Midpoint estimates are computed for trees that experience mortality, removal, or land use diversion or reversion. The information in this table is used to compute growth, removal, and mortality estimates on remeasurement trees.</p> <ul style="list-style-type: none"> • TREE_GRM_MIDPT.TRE_CN = TREE.TRE_CN links the records in this table to the corresponding tree record in the TREE table.
3.4	TREE_GRM_THRESHOLD	Tree Growth, Removal, and Mortality Threshold Table	<p>Tree growth, removal, and mortality threshold table. This table stores information about ingrowth trees at specific tree threshold sizes.</p> <ul style="list-style-type: none"> • TREE_GRM_THRESHOLD.TRE_CN = TREE.CN links the tree GRM threshold records to the unique tree record.
3.2	TREE_WOODLAND_STEMS	Tree Woodland Stems Table	<p>Tree woodland stems table. This table stores data for the individual stems of a woodland species tree. Individual woodland stem diameter measurements contribute to the calculation of the diameter stored on the parent TREE table record.</p> <ul style="list-style-type: none"> • TREE_WOODLAND_STEMS.TRE_CN = TREE.CN links a woodland stems record to the corresponding unique tree record.
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Index of Column Names

The following table contains an alphabetized list of all of the column names (attributes) in the database tables included within this user guide. The Oracle table name and descriptive name associated with each attribute are also listed. The "Subsection" number indicates the location of the attribute within this user guide. The "Field Guide section" number indicates the location of the attribute within the FIA National Core Field Guide. A dash means there is no field guide section for the attribute.

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M	N	O	P
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Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
A				
11.4.3	-	ABBR	REF_FOREST_TYPE_GROUP	Abbreviation
11.1.6	-	ACTIVE	REF_POP_ATTRIBUTE	Active
3.1.22	5.15	ACTUALHT	TREE	Actual height
3.6.10	-	ACTUALHT	TREE_GRM_BEGIN	Actual height
3.5.10	-	ACTUALHT	TREE_GRM_MIDPT	Actual height
3.4.11	-	ACTUALHT	TREE_GRM_THRESHOLD	Actual height
3.1.134	-	ACTUALHT_CALC	TREE	Actual height, calculated
3.1.135	-	ACTUALHT_CALC_CD	TREE	Actual height, calculated, code
2.5.15	-	ADFORCD	COND	Administrative forest code
10.2.67	-	ADJ_EXPALL	PLOTSNAP	Adjustment factor for EXPALL evaluation

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
10.2.81	-	ADJ_EXPCHNG_MACR	PLOTSNAP	Macroplot adjustment factor for EXPCHNG evaluation
10.2.83	-	ADJ_EXPCHNG_MICR	PLOTSNAP	Microplot adjustment factor for EXPCHNG evaluation
10.2.82	-	ADJ_EXPCHNG_SUBP	PLOTSNAP	Subplot adjustment factor for EXPCHNG evaluation
10.2.68	-	ADJ_EXPCURR	PLOTSNAP	Adjustment factor for EXPCURR evaluation
10.2.84	-	ADJ_EXPDWM_CWD	PLOTSNAP	Adjustment factor for coarse woody debris estimates using EXPDWM evaluation
10.2.87	-	ADJ_EXPDWM_DUFF	PLOTSNAP	Adjustment factor for duff, litter, and fuelbed estimates using EXPDWM evaluation
10.2.86	-	ADJ_EXPDWM_FWD_LG	PLOTSNAP	Adjustment factor for large fine woody debris estimates using EXPDWM evaluation
10.2.85	-	ADJ_EXPDWM_FWD_SM	PLOTSNAP	Adjustment factor for small fine woody debris estimates using EXPDWM evaluation
10.2.88	-	ADJ_EXPDWM_PILE	PLOTSNAP	Adjustment factor for pile estimates using EXPDWM evaluation
10.2.93	-	ADJ_EXPGRNDLYR_MICROQUAD	PLOTSNAP	Microquadrat adjustment factor for estimates using EXPGRNDLYR evaluation type
10.2.72	-	ADJ_EXPGROW_MACR	PLOTSNAP	Macroplot adjustment factor for EXPGROW evaluation
10.2.74	-	ADJ_EXPGROW_MICR	PLOTSNAP	Microplot adjustment factor for EXPGROW evaluation
10.2.73	-	ADJ_EXPGROW_SUBP	PLOTSNAP	Subplot adjustment factor for EXPGROW evaluation
10.2.90	-	ADJ_EXPINV_SUBP	PLOTSNAP	Subplot adjustment factor for estimates using EXPINV evaluation
10.2.75	-	ADJ_EXPMORT_MACR	PLOTSNAP	Macroplot adjustment factor for EXPMORT evaluation

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
10.2.77	-	ADJ_EXPMORT_MICR	PLOTSNAP	Microplot adjustment factor for EXPMORT evaluation
10.2.76	-	ADJ_EXPMORT_SUBP	PLOTSNAP	Subplot adjustment factor for EXPMORT evaluation
10.2.91	-	ADJ_EXPP2VEG_SUBP	PLOTSNAP	Subplot adjustment factor for estimates using EXPP2VEG evaluation
10.2.89	-	ADJ_EXPREGEN_MICR	PLOTSNAP	Microplot adjustment factor for estimates using EXPREGEN evaluation
10.2.78	-	ADJ_EXPREMV_MACR	PLOTSNAP	Macroplot adjustment factor for EXPREMV evaluation
10.2.80	-	ADJ_EXPREMV_MICR	PLOTSNAP	Microplot adjustment factor for EXPREMV evaluation
10.2.79	-	ADJ_EXPREMV_SUBP	PLOTSNAP	Subplot adjustment factor for EXPREMV evaluation
10.2.92	-	ADJ_EXPSOIL	PLOTSNAP	Adjustment factor for EXPSOIL evaluation
10.2.69	-	ADJ_EXPVOL_MACR	PLOTSNAP	Macroplot adjustment factor for EXPVOL evaluation
10.2.71	-	ADJ_EXPVOL_MICR	PLOTSNAP	Microplot adjustment factor for EXPVOL evaluation
10.2.70	-	ADJ_EXPVOL_SUBP	PLOTSNAP	Subplot adjustment factor for EXPVOL evaluation
9.7.15	-	ADJ_FACTOR_CWD	POP_STRATUM	Adjustment factor for coarse woody debris
9.7.18	-	ADJ_FACTOR_DUFF	POP_STRATUM	Adjustment factor for the duff and litter layer
9.7.17	-	ADJ_FACTOR_FWD_LG	POP_STRATUM	Adjustment factor for large fine woody debris
9.7.16	-	ADJ_FACTOR_FWD_SM	POP_STRATUM	Adjustment factor for small fine woody debris
9.7.29	-	ADJ_FACTOR_GRNDLYR_MICROQ_UAD	POP_STRATUM	Adjustment factor for ground cover layer on the microquadrat
9.7.27	-	ADJ_FACTOR_INV_SUBP	POP_STRATUM	Adjustment factor for invasive species on the subplot
9.7.12	-	ADJ_FACTOR_MACR	POP_STRATUM	Adjustment factor for the macroplot
9.7.14	-	ADJ_FACTOR_MICR	POP_STRATUM	Adjustment factor for the microplot

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
9.7.28	-	ADJ_FACTOR_P2VEG_SUBP	POP_STRATUM	Adjustment factor for Phase 2 vegetation profile on the subplot
9.7.25	-	ADJ_FACTOR_PILE	POP_STRATUM	Adjustment factor for piles
9.7.26	-	ADJ_FACTOR_REGEN_MICR	POP_STRATUM	Adjustment factor for tree regeneration indicator on the microplot
9.7.30	-	ADJ_FACTOR_SOIL	POP_STRATUM	Adjustment factor for soil points sampled
9.7.13	-	ADJ_FACTOR_SUBP	POP_STRATUM	Adjustment factor for the subplot
2.5.103	-	ADMIN_WITHDRAWN_CD	COND	Administratively withdrawn code
2.5.106	2.5.33	AFFORESTATION_CD	COND	Current afforestation code
2.5.118	-	AGE_BASIS_CD_PNWRS	COND	Age basis code, Pacific Northwest Research Station
3.10.33	-	AGE_DETERMINATION_METHOD_PNWRS	SITETREE	Age determination method, Pacific Northwest Research Station
3.9.31	-	AGECD_RMRS	SEEDLING	Seedling age code, Rocky Mountain Research Station
3.10.32	-	AGECHKCD_RMRS	SITETREE	Radial growth and tree age check code, Rocky Mountain Research Station
3.1.148	-	AGECHKCD_RMRS	TREE	Radial growth and tree age check code, Rocky Mountain Research Station
3.10.14	7.2.5	AGEDIA	SITETREE	Tree age at diameter
3.1.27	5.21	AGENTCD	TREE	Cause of death (agent) code
3.1.146	-	AGENTCD_NERS	TREE	General damage / cause of death (agent) code, Northeastern Research Station
11.3.6	-	ALLOWED_IN_FIELD	REF_FOREST_TYPE	Allowed in field
11.28.6	-	ALLOWED_IN_FIELD	REF_FVS_LOC_NAME	Allowed in field
11.27.6	-	ALLOWED_IN_FIELD	REF_FVS_VAR_NAME	Allowed in field
10.1.21	-	ALP_ADFORCD	PLOTGEOM	Administrative forest code
2.5.53	-	ALSTK	COND	All-live-tree stocking percent
2.5.37	-	ALSTKCD	COND	All live stocking code
3.3.8	-	ANN_DIA_GROWTH	TREE_GRM_COMPONENT	Computed annual diameter growth
3.3.9	-	ANN_HT_GROWTH	TREE_GRM_COMPONENT	Computed annual height growth

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
2.1.8	-	ANN_INVENTORY	SURVEY	Annual inventory
3.7.16	-	ANN_NET_GROWTH	TREE_GRM_ESTN	Average annual net growth estimate
9.1.11	-	AREA_SOURCE	POP_ESTN_UNIT	Area source
9.1.10	-	AREA_USED	POP_ESTN_UNIT	Area used to calculate all expansion factors
9.1.8	-	AREALAND_EU	POP_ESTN_UNIT	Land area within the estimation unit
9.1.9	-	AREATOT_EU	POP_ESTN_UNIT	Total area within the estimation unit
2.5.34	-	ASPECT	COND	Condition aspect
2.6.17	3.9	ASPECT	SUBPLOT	Subplot aspect
11.1.2	-	ATTRIBUTE_DESCR	REF_POP_ATTRIBUTE	Attribute description
9.3.3	-	ATTRIBUTE_NBR	POP_EVAL_ATTRIBUTE	Attribute number
11.1.1	-	ATTRIBUTE_NBR	REF_POP_ATTRIBUTE	Attribute number
11.30.4	-	ATTRIBUTE_NBR	REF_DIFFERENCE_TEST_PER_ACRE	Attribute number
11.31.4	-	ATTRIBUTE_NBR	REF_DIFFERENCE_TEST_TOTALS	Attribute number
11.10.4	-	AUTHOR	REF_HABTYP_PUBLICATION	Author of publication
5.8.96	-	AVG_WOOD_DENSITY	COND_DWM_CALC	Average wood density
5.6.12	-	AZIMUTH	DWM_RESIDUALPILE	Azimuth
3.10.19	7.2.8	AZIMUTH	SITETREE	Azimuth
3.1.12	5.4	AZIMUTH	TREE	Azimuth
		B		
2.5.51	-	BALIVE	COND	Basal area per acre of live trees
3.6.24	-	BALIVE	TREE_GRM_BEGIN	Basal area per acre of live trees
3.5.24	-	BALIVE	TREE_GRM_MIDPT	Basal area per acre of live trees
3.4.25	-	BALIVE	TREE_GRM_THRESHOLD	Basal area per acre of live trees
11.36.5	-	BARK_LOSS_PROP	REF_TREE_DECAY_PROP	Bark loss proportion
11.36.6	-	BRANCH_LOSS_PROP	REF_TREE_DECAY_PROP	Branch loss proportion
11.5.24	-	BARK_SPGR_GREENVOL_DRYWT	REF_SPECIES	Green specific gravity of bark
11.5.25	-	BARK_SPGR_GREENVOL_DRYWT_CIT	REF_SPECIES	Citation for BARK_SPGR_GREENVOL_DRYWT
11.5.30	-	BARK_VOL_PCT	REF_SPECIES	Bark volume as a percent of wood volume

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
11.5.59	-	BARK_VOL_PCT_CIT	REF_SPECIES	Citation for BARK_VOL_PCT
3.1.63	-	BFSND	TREE	Board-foot-cull soundness
3.1.147	-	BFSNDCD_NERS	TREE	Board-foot soundness code, Northeastern Research Station
3.1.56	-	BHAGE	TREE	Breast height age
3.1.66	-	BOLEHT	TREE	Bole height
3.1.100	-	BORED_CD_PNWRS	TREE	Tree bored code, Pacific Northwest Research Station
3.1.143	-	BOUGHS_AVAILABLE_NCNS	TREE	Balsam fir boughs available, North Central Research Station
3.1.144	-	BOUGHS_HRVST_NCNS	TREE	Balsam fir boughs harvested, North Central Research Station
8.2.46	-	BRAY1_P	SUBP_SOIL_SAMPLE_LAYER	Bray 1 phosphorus
6.1.8	-	BROWSE_IMPACT	PLOT_REGEN	Browse impact
11.38.7	-	BULKDENSITY_COEFF_A	REF_GRND_LYR	Bulk density coefficient a
11.38.8	-	BULKDENSITY_COEFF_B	REF_GRND_LYR	Bulk density coefficient b
11.38.6	-	BULKDENSITY_COEFF_M	REF_GRND_LYR	Bulk density coefficient m
8.2.26	-	BULK_DENSITY	SUBP_SOIL_SAMPLE_LAYER	Bulk density
8.2.28	-	BULK_DENSITY_FINE	SUBP_SOIL_SAMPLE_LAYER	Bulk density of fine soil fraction
7.2.26	-	BULKDENS	GRND_LYR_FNCTL_GRP	Functional group bulk density
		C		
3.7.34	-	C	TREE_GRM_ESTN	Cut
8.2.49	-	C_INORG_PCT	SUBP_SOIL_SAMPLE_LAYER	Inorganic carbon percent
8.2.51	-	C_MG_AC	SUBP_SOIL_SAMPLE_LAYER	Carbon content per acre
8.2.52	-	C_MIN3_MG_AC	SUBP_SOIL_SAMPLE_LAYER	Carbon content 3-inch depth per acre
8.2.48	-	C_ORG_PCT	SUBP_SOIL_SAMPLE_LAYER	Organic carbon percent
11.5.12	-	C_SPGRPCD	REF_SPECIES	Caribbean Islands species group code
8.1.28	-	C_TOT_3IN_MG_AC	SUBP_SOIL_SAMPLE_LOC	Total carbon per acre, 3 inches depth
8.2.50	-	C_TOTAL_PCT	SUBP_SOIL_SAMPLE_LAYER	Total carbon percent
2.5.96	-	CANOPY_CVR_SAMPLE_METHOD_CD	COND	Canopy cover sample method code
5.2.24	-	CARBON	DWM_COARSE_WOODY_DEB_RIS	Carbon weight of the piece

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
5.6.22	-	CARBON	DWM_RESIDUAL_PILE	Carbon weight of the residual pile
7.2.28	-	CARBON	GRND_LYR_FNCTL_GRP	Functional group carbon
5.2.55	-	CARBON_AC_COND	DWM_COARSE_WOODY_DEB_RIS	Carbon per acre based on condition transect length actually measured, unadjusted
5.2.54	-	CARBON_AC_PLOT	DWM_COARSE_WOODY_DEB_RIS	Carbon per acre based on plot transect length actually measured, unadjusted
5.2.53	-	CARBON_AC_UNADJ	DWM_COARSE_WOODY_DEB_RIS	Carbon per acre based on target plot transect length, unadjusted
3.1.96	-	CARBON_AG	TREE	Aboveground carbon of wood and bark
3.6.63	-	CARBON_AG	TREE_GRM_BEGIN	Aboveground carbon of wood and bark at T1
3.5.63	-	CARBON_AG	TREE_GRM_MIDPT	Aboveground carbon of wood and bark at the midpoint
3.4.64	-	CARBON_AG	TREE_GRM_THRESHOLD	Aboveground carbon of wood and bark at the threshold
3.1.97	-	CARBON_BG	TREE	Belowground carbon
3.6.64	-	CARBON_BG	TREE_GRM_BEGIN	Belowground carbon at T1
3.5.64	-	CARBON_BG	TREE_GRM_MIDPT	Belowground carbon at the midpoint
3.4.65	-	CARBON_BG	TREE_GRM_THRESHOLD	Belowground carbon at the threshold
2.5.67	-	CARBON_DOWN_DEAD	COND	Carbon in down dead
2.5.68	-	CARBON_LITTER	COND	Carbon in litter
11.38.4	-	CARBON_PCT	REF_GRND_LYR	Carbon percent
11.35.4	-	CARBON_RATIO	REF_TREE_CARBON_RATIO_DEAD	Wood carbon fraction
11.5.74	-	CARBON_RATIO_LIVE	REF_SPECIES	Wood carbon fraction
2.5.69	-	CARBON_SOIL_ORG	COND	Carbon in soil organic material
2.5.70	-	CARBON_UNDERSTORY_AG	COND	Carbon in understory aboveground
2.5.71	-	CARBON_UNDERSTORY_BG	COND	Carbon in understory belowground
11.6.8	-	CATEGORY	REF_PLANT_DICTIONARY	Category
3.1.162	-	CAVITY_USE_PNWRS	TREE	Cavity presence, Pacific Northwest Research Station

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
3.1.25	5.17	CCLCD	TREE	Crown class code
3.10.34	-	CCLCD_RMRS	SITETREE	Crown class code, Rocky Mountain Research Station
3.7.40	-	CD	TREE_GRM_ESTN	Cull decrement
3.1.52	12.9	CDENCD	TREE	Crown density code
3.1.53	12.10	CDIEBKCD	TREE	Crown dieback code
3.1.123	-	CENTROID_DIA	TREE	Centroid diameter (Pacific Islands)
3.1.124	-	CENTROID_DIA_HT	TREE	Calculated centroid diameter height (Pacific Islands)
3.1.125	-	CENTROID_DIA_HT_ACTUAL	TREE	Actual centroid diameter height (Pacific Islands)
3.1.64	-	CFSND	TREE	Cubic-foot-cull soundness
2.5.104	2.5.36	CHAINING_CD	COND	Chaining code
11.2.5	-	CHANGE_EVAL_TYP	REF_POP_EVAL_TYP_DESCR	Change evaluation type
5.2.33	-	CHARRED_CD	DWM_COARSE_WOODY_DEB_RIS	Charred by fire code
3.7.42	-	CI	TREE_GRM_ESTN	Cull increment
11.11.2	-	CITATION	REF_CITATION	Citation
11.11.1	-	CITATION_NBR	REF_CITATION	Citation number
11.16.35	-	CITATION_NBR	REF_NVCS_HIERARCHY_STRICT	Citation number
11.7.4	-	CLASS	REF_SPECIES_GROUP	Class
3.1.50	12.6	CLIGHTCD	TREE	Crown light exposure code
2.5.1	-	CN	COND	Sequence number
5.8.1	-	CN	COND_DWM_CALC	Sequence number
2.3.5	-	CN	COUNTY	Sequence number
5.2.1	-	CN	DWM_COARSE_WOODY_DEB_RIS	Sequence number
5.3.1	-	CN	DWM_DUFF_LITTER_FUEL	Sequence number
5.4.1	-	CN	DWM_FINE_WOODY_DEBRIS	Sequence number
5.5.1	-	CN	DWM_MICROPLOT_FUEL	Sequence number
5.6.1	-	CN	DWM_RESIDUAL_PILE	Sequence number
5.7.1	-	CN	DWM_TRANSECT_SEGMENT	Sequence number
5.1.1	-	CN	DWM_VISIT	Sequence number
7.1.1	-	CN	GRND_CVR	Sequence number
7.2.1	-	CN	GRND_LYR_FNCTL_GRP	Sequence number
7.3.1	-	CN	GRND_LYR_MICROQUAD	Sequence number
4.1.1	-	CN	INVASIVE_SUBPLOT_SPP	Sequence number
4.3.1	-	CN	P2VEG_SUBP_STRUCTURE	Sequence number

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
4.2.1	-	CN	P2VEG_SUBPLOT_SPP	Sequence number
2.4.1	-	CN	PLOT	Sequence number
6.1.1	-	CN	PLOT_REGEN	Sequence number
10.1.1	-	CN	PLOTGEOM	Sequence number
10.2.1	-	CN	PLOTSNAP	Sequence number
9.1.1	-	CN	POP_ESTN_UNIT	Sequence number
9.2.1	-	CN	POP_EVAL	Sequence number
9.3.1	-	CN	POP_EVAL_ATTRIBUTE	Sequence number
9.4.1	-	CN	POP_EVAL_GRP	Sequence number
9.5.1	-	CN	POP_EVAL_TYP	Sequence number
9.6.1	-	CN	POP_PLOT_STRATUM_ASSGN	Sequence number
9.7.1	-	CN	POP_STRATUM	Sequence number
11.30.1	-	CN	REF_DIFFERENCE_TEST_PER_ACRES	Sequence number
2.2.1	-	CN	PROJECT	Sequence number
11.31.1	-	CN	REF_DIFFERENCE_TEST_TOTALS	Sequence number
11.28.1	-	CN	REF_FVS_LOC_NAME	Sequence number
11.27.1	-	CN	REF_FVS_VAR_NAME	Sequence number
11.33.1	-	CN	REF_GRM_TYPE	Sequence number
11.38.1	-	CN	REF_GRND_LYR	Sequence number
11.9.1	-	CN	REF_HABTYP_DESCRIPTION	Sequence number
11.10.1	-	CN	REF_HABTYP_PUBLICATION	Sequence number
11.8.1	-	CN	REF_INVASIVE_SPECIES	Sequence number
11.17.1	-	CN	REF_NVCS_LEVEL_1_CODES	Sequence number
11.18.1	-	CN	REF_NVCS_LEVEL_2_CODES	Sequence number
11.19.1	-	CN	REF_NVCS_LEVEL_3_CODES	Sequence number
11.20.1	-	CN	REF_NVCS_LEVEL_4_CODES	Sequence number
11.21.1	-	CN	REF_NVCS_LEVEL_5_CODES	Sequence number
11.22.1	-	CN	REF_NVCS_LEVEL_6_CODES	Sequence number
11.23.1	-	CN	REF_NVCS_LEVEL_7_CODES	Sequence number
11.24.1	-	CN	REF_NVCS_LEVEL_8_CODES	Sequence number
11.6.1	-	CN	REF_PLANT_DICTIONARY	Sequence number
11.2.1	-	CN	REF_POP_EVAL_TYP_DESCR	Sequence number
11.32.1	-	CN	REF_SIEQN	Sequence number
11.35.1	-	CN	REF_TREE_CARBON_RATIO_DEAD	Sequence number
11.36.1	-	CN	REF_TREE_DECAY_PROP	Sequence number
11.37.1	-	CN	REF_TREE_STND_DEAD_CR_PROP	Sequence number

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
3.9.1	-	CN	SEEDLING	Sequence number
6.3.1	-	CN	SEEDLING_REGEN	Sequence number
3.10.1	-	CN	SITETREE	Sequence number
2.7.1	-	CN	SUBP_COND	Sequence number
2.9.1	-	CN	SUBP_COND_CHNG_MTRX	Sequence number
8.2.1	-	CN	SUBP_SOIL_SAMPLE_LAYER	Sequence number
8.1.1	-	CN	SUBP_SOIL_SAMPLE_LOC	Sequence number
2.6.1	-	CN	SUBPLOT	Sequence number
6.2.1	-	CN	SUBPLOT_REGEN	Sequence number
2.1.1	-	CN	SURVEY	Sequence number
3.1.1	-	CN	TREE	Sequence number
3.7.1	-	CN	TREE_GRM_ESTN	Sequence number
3.2.1	-	CN	TREE_WOODLAND_STEMS	Sequence number
5.8.10	-	CND_CN	COND_DWM_CALC	Condition sequence number
6.3.3	-	CND_CN	SEEDLING_REGEN	Condition sequence number
8.2.27	-	COARSE_FRACTION_PCT	SUBP_SOIL_SAMPLE_LAYER	Coarse fraction percent
11.25.1	-	CODE	REF_DAMAGE_AGENT	Damage agent code
11.26.1	-	CODE	REF_DAMAGE_AGENT_GROUP	Damage agent group code
11.30.6	-	COMMENT_1	REF_DIFFERENCE_TEST_PER_ACRE	Comment 1
11.31.6	-	COMMENT_1	REF_DIFFERENCE_TEST_TOTALS	Comment 1
11.30.8	-	COMMENT_2	REF_DIFFERENCE_TEST_PER_ACRE	Comment 2
11.31.8	-	COMMENT_2	REF_DIFFERENCE_TEST_TOTALS	Comment 2
11.30.10	-	COMMENT_3	REF_DIFFERENCE_TEST_PER_ACRE	Comment 3
11.31.10	-	COMMENT_3	REF_DIFFERENCE_TEST_TOTALS	Comment 3
11.30.12	-	COMMENT_4	REF_DIFFERENCE_TEST_PER_ACRE	Comment 4
11.31.12	-	COMMENT_4	REF_DIFFERENCE_TEST_TOTALS	Comment 4
11.30.14	-	COMMENT_5	REF_DIFFERENCE_TEST_PER_ACRE	Comment 5
11.31.14	-	COMMENT_5	REF_DIFFERENCE_TEST_TOTALS	Comment 5
11.30.16	-	COMMENT_6	REF_DIFFERENCE_TEST_PER_ACRE	Comment 6

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
11.31.16	-	COMMENT_6	REF_DIFFERENCE_TEST_TOT_ALS	Comment 6
11.30.18	-	COMMENT_7	REF_DIFFERENCE_TEST_PER_ACRES	Comment 7
11.31.18	-	COMMENT_7	REF_DIFFERENCE_TEST_TOT_ALS	Comment 7
11.30.20	-	COMMENT_8	REF_DIFFERENCE_TEST_PER_ACRES	Comment 8
11.31.20	-	COMMENT_8	REF_DIFFERENCE_TEST_TOT_ALS	Comment 8
11.30.22	-	COMMENT_9	REF_DIFFERENCE_TEST_PER_ACRES	Comment 9
11.31.22	-	COMMENT_9	REF_DIFFERENCE_TEST_TOT_ALS	Comment 9
11.30.24	-	COMMENT_10	REF_DIFFERENCE_TEST_PER_ACRES	Comment 10
11.31.24	-	COMMENT_10	REF_DIFFERENCE_TEST_TOT_ALS	Comment 10
11.30.26	-	COMMENT_11	REF_DIFFERENCE_TEST_PER_ACRES	Comment 11
11.31.26	-	COMMENT_11	REF_DIFFERENCE_TEST_TOT_ALS	Comment 11
11.30.28	-	COMMENT_12	REF_DIFFERENCE_TEST_PER_ACRES	Comment 12
11.31.28	-	COMMENT_12	REF_DIFFERENCE_TEST_TOT_ALS	Comment 12
11.30.30	-	COMMENT_13	REF_DIFFERENCE_TEST_PER_ACRES	Comment 13
11.31.30	-	COMMENT_13	REF_DIFFERENCE_TEST_TOT_ALS	Comment 13
11.30.32	-	COMMENT_14	REF_DIFFERENCE_TEST_PER_ACRES	Comment 14
11.31.32	-	COMMENT_14	REF_DIFFERENCE_TEST_TOT_ALS	Comment 14
11.30.34	-	COMMENT_15	REF_DIFFERENCE_TEST_PER_ACRES	Comment 15
11.31.34	-	COMMENT_15	REF_DIFFERENCE_TEST_TOT_ALS	Comment 15
11.30.36	-	COMMENT_16	REF_DIFFERENCE_TEST_PER_ACRES	Comment 16
11.31.36	-	COMMENT_16	REF_DIFFERENCE_TEST_TOT_ALS	Comment 16
11.30.38	-	COMMENT_17	REF_DIFFERENCE_TEST_PER_ACRES	Comment 17
11.31.38	-	COMMENT_17	REF_DIFFERENCE_TEST_TOT_ALS	Comment 17

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
11.30.40	-	COMMENT_18	REF_DIFFERENCE_TEST_PER_ACRE	Comment 18
11.31.40	-	COMMENT_18	REF_DIFFERENCE_TEST_TOTALS	Comment 18
11.30.42	-	COMMENT_19	REF_DIFFERENCE_TEST_PER_ACRE	Comment 19
11.31.42	-	COMMENT_19	REF_DIFFERENCE_TEST_TOTALS	Comment 19
11.30.44	-	COMMENT_20	REF_DIFFERENCE_TEST_PER_ACRE	Comment 20
11.31.44	-	COMMENT_20	REF_DIFFERENCE_TEST_TOTALS	Comment 20
11.30.46	-	COMMENT_21	REF_DIFFERENCE_TEST_PER_ACRE	Comment 21
11.31.46	-	COMMENT_21	REF_DIFFERENCE_TEST_TOTALS	Comment 21
11.30.48	-	COMMENT_22	REF_DIFFERENCE_TEST_PER_ACRE	Comment 22
11.31.48	-	COMMENT_22	REF_DIFFERENCE_TEST_TOTALS	Comment 22
11.30.50	-	COMMENT_23	REF_DIFFERENCE_TEST_PER_ACRE	Comment 23
11.31.50	-	COMMENT_23	REF_DIFFERENCE_TEST_TOTALS	Comment 23
11.30.52	-	COMMENT_24	REF_DIFFERENCE_TEST_PER_ACRE	Comment 24
11.31.52	-	COMMENT_24	REF_DIFFERENCE_TEST_TOTALS	Comment 24
11.30.54	-	COMMENT_25	REF_DIFFERENCE_TEST_PER_ACRE	Comment 25
11.31.54	-	COMMENT_25	REF_DIFFERENCE_TEST_TOTALS	Comment 25
11.30.56	-	COMMENT_26	REF_DIFFERENCE_TEST_PER_ACRE	Comment 26
11.31.56	-	COMMENT_26	REF_DIFFERENCE_TEST_TOTALS	Comment 26
11.30.58	-	COMMENT_27	REF_DIFFERENCE_TEST_PER_ACRE	Comment 27
11.30.60	-	COMMENT_28	REF_DIFFERENCE_TEST_PER_ACRE	Comment 28
11.30.62	-	COMMENT_29	REF_DIFFERENCE_TEST_PER_ACRE	Comment 29
11.30.64	-	COMMENT_30	REF_DIFFERENCE_TEST_PER_ACRE	Comment 30
11.30.66	-	COMMENT_31	REF_DIFFERENCE_TEST_PER_ACRE	Comment 31

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
11.30.68	-	COMMENT_32	REF_DIFFERENCE_TEST_PER_ACRE	Comment 32
11.30.70	-	COMMENT_33	REF_DIFFERENCE_TEST_PER_ACRE	Comment 33
11.30.72	-	COMMENT_34	REF_DIFFERENCE_TEST_PER_ACRE	Comment 34
11.30.74	-	COMMENT_35	REF_DIFFERENCE_TEST_PER_ACRE	Comment 35
11.30.76	-	COMMENT_36	REF_DIFFERENCE_TEST_PER_ACRE	Comment 36
11.25.2	-	COMMON_NAME	REF_DAMAGE_AGENT	Common name of damage agent
11.9.5	-	COMMON_NAME	REF_HABTYP_DESCRIPTION	Common name
11.6.7	-	COMMON_NAME	REF_PLANT_DICTIONARY	Common name
11.5.2	-	COMMON_NAME	REF_SPECIES	Common name
5.6.32	-	COMPHT	DWM_RESIDUALPILE	Compacted height of the residual pile
11.30.2	-	COMPARISON	REF_DIFFERENCE_TEST_PER_ACRE	Comparison
11.31.2	-	COMPARISON	REF_DIFFERENCE_TEST_TOTALS	Comparison
11.30.3	-	COMPARISON_TYPE	REF_DIFFERENCE_TEST_PER_ACRE	Comparison type
11.31.3	-	COMPARISON_TYPE	REF_DIFFERENCE_TEST_TOTALS	Comparison type
3.7.10	-	COMPONENT	TREE_GRM_ESTN	Growth component type
2.4.60	-	CONDCHNGCD_RMRS	PLOT	Condition class change code, Rocky Mountain Research Station
2.5.10	2.4.3	COND_NONSAMPLE_REASON_CD	COND	Condition nonsampled reason code
2.5.119	-	COND_STATUS_CHNG_CD_RMRS	COND	Condition class status change code, Rocky Mountain Research Station
2.5.9	2.4.2	COND_STATUS_CD	COND	Condition status code
2.5.8	2.4.1	CONDID	COND	Condition class number
5.8.7	-	CONDID	COND_DWM_CALC	Condition class number
5.2.11	-	CONDID	DWM_COARSE_WOODY_DEBRIS	Condition class number
5.3.12	-	CONDID	DWM_DUFF_LITTER_FUEL	Condition class number
5.4.9	-	CONDID	DWM_FINE_WOODY_DEBRIS	Condition class number
5.6.10	-	CONDID	DWM_RESIDUALPILE	Condition class number
5.7.11	-	CONDID	DWM_TRANSECT_SEGMENT	Condition class number
7.3.14	-	CONDID	GRND_LYR_MICROQUAD	Condition class number

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
4.1.9	9.4	CONDID	INVASIVE_SUBPLOT_SPP	Condition class number
4.3.9	8.3.2	CONDID	P2VEG_SUBP_STRUCTURE	Condition class number
4.2.9	8.3.2	CONDID	P2VEG_SUBPLOT_SPP	Condition class number
3.9.9	6.3	CONDID	SEEDLING	Condition class number
6.3.11	-	CONDID	SEEDLING_REGEN	Condition class number
3.10.9	-	CONDID	SITETREE	Condition class number
2.7.9	-	CONDID	SUBP_COND	Condition class number
2.9.6	-	CONDID	SUBP_COND_CHNG_MTRX	Condition class number
8.1.13	-	CONDID	SUBP_SOIL_SAMPLE_LOC	Condition class number
3.1.11	5.3	CONDID	TREE	Condition class number
2.6.15	-	CONDLIST	SUBPLOT	Subplot/macroplot condition list
5.8.13	-	CONDPROP_CWD	COND_DWM_CALC	Proportion of coarse woody debris transects in the condition
5.8.17	-	CONDPROP_DUFF	COND_DWM_CALC	Proportion of sample points used to measure duff, litter, and fuelbed in the condition
5.8.16	-	CONDPROP_FWD_LG	COND_DWM_CALC	Proportion of fine woody debris transects used to sample large-sized pieces in the condition
5.8.15	-	CONDPROP_FWD_MD	COND_DWM_CALC	Proportion of fine woody debris transects used to sample medium-sized pieces in the condition
5.8.14	-	CONDPROP_FWD_SM	COND_DWM_CALC	Proportion of fine woody debris transects used to sample small-sized pieces in the condition
5.8.110	-	CONDPROP_PILE	COND_DWM_CALC	Proportion of piles plot area or transect lengths in the condition
2.5.29	-	CONDPROP_UNADJ	COND	Condition proportion unadjusted
3.1.173	-	CONEPRESCD1	TREE	Cone presence code 1
3.1.174	-	CONEPRESCD2	TREE	Cone presence code 2
3.1.175	-	CONEPRESCD3	TREE	Cone presence code 3
2.4.28	-	CONGCD	PLOT	Congressional district code
10.1.9	-	CONGCD	PLOTGEOM	Congressional district code
8.1.18	-	CORE_BOTTOM_CD	SUBP_SOIL_SAMPLE_LOC	Core bottom code
8.1.17	-	CORE_LENGTH	SUBP_SOIL_SAMPLE_LOC	Soil core length

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
3.1.163	-	CORE_LENGTH_PNWRS	TREE	Length of measured core, Pacific Northwest Research Station
8.1.16	-	CORE_SIZE	SUBP_SOIL_SAMPLE_LOC	Soil core size
3.9.32	-	COUNTCHKCD_RMRS	SEEDLING	Seedling count check code, Rocky Mountain Research Station
2.5.6	-	COUNTYCD	COND	County code
5.8.3	-	COUNTYCD	COND_DWM_CALC	County code
2.3.3	-	COUNTYCD	COUNTY	County code
5.2.5	-	COUNTYCD	DWM_COARSE_WOODY_DEB_RIS	County code
5.3.5	-	COUNTYCD	DWM_DUFF_LITTER_FUEL	County code
5.4.5	-	COUNTYCD	DWM_FINE_WOODY_DEBRIS	County code
5.5.5	-	COUNTYCD	DWM_MICROPLOT_FUEL	County code
5.6.5	-	COUNTYCD	DWM_RESIDUALPILE	County code
5.7.5	-	COUNTYCD	DWM_TRANSECT_SEGMENT	County code
5.1.5	-	COUNTYCD	DWM_VISIT	County code
7.1.6	-	COUNTYCD	GRND_CVR	County code
7.2.3	-	COUNTYCD	GRND_LYR_FNCTL_GRP	County code
7.3.9	-	COUNTYCD	GRND_LYR_MICROQUAD	County code
4.1.6	-	COUNTYCD	INVASIVE_SUBPLOT_SPP	County code
4.3.5	-	COUNTYCD	P2VEG_SUBP_STRUCTURE	County code
4.2.6	-	COUNTYCD	P2VEG_SUBPLOT_SPP	County code
2.4.8	1.2	COUNTYCD	PLOT	County code
6.1.6	-	COUNTYCD	PLOT_REGEN	County code
10.1.5	-	COUNTYCD	PLOTGEOM	County code
10.2.8	-	COUNTYCD	PLOTSNAP	County code
9.6.7	-	COUNTYCD	POP_PLOT_STRATUM_ASSGN	County code
3.9.6	-	COUNTYCD	SEEDLING	County code
6.3.8	-	COUNTYCD	SEEDLING_REGEN	County code
3.10.7	-	COUNTYCD	SITETREE	County code
2.7.6	-	COUNTYCD	SUBP_COND	County code
8.2.5	-	COUNTYCD	SUBP_SOIL_SAMPLE_LAYER	County code
8.1.4	-	COUNTYCD	SUBP_SOIL_SAMPLE_LOC	County code
2.6.7	-	COUNTYCD	SUBPLOT	County code
6.2.7	-	COUNTYCD	SUBPLOT_REGEN	County Code
3.1.7	-	COUNTYCD	TREE	County code
3.2.6	-	COUNTYCD	TREE_WOODLAND_STEMS	County code
2.3.4	-	COUNTYNM	COUNTY	County name

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
7.2.16	-	COVER_CLASS_CD	GRND_LYR_FNCTL_GRP	Cover class code (Interior Alaska)
5.2.25	-	COVER_PCT	DWM_COARSE_WOODY_DEB_RIS	Percent cover represented by each coarse woody debris piece
4.1.13	9.7	COVER_PCT	INVASIVE_SUBPLOT_SPP	Cover percent
4.3.12	-	COVER_PCT	P2VEG_SUBP_STRUCTURE	Cover percent (canopy cover percent)
4.2.15	8.5.4	COVER_PCT	P2VEG_SUBPLOT_SPP	Cover percent (species canopy layer)
5.2.32	-	COVER_PCT_RGN	DWM_COARSE_WOODY_DEB_RIS	Percent cover, represented by each coarse woody debris piece, regional protocol
3.1.49	12.7	CPOS_CD	TREE	Crown position code
3.1.24	5.19	CR	TREE	Compacted crown ratio
3.6.11	-	CR	TREE_GRM_BEGIN	Compacted crown ratio
3.5.11	-	CR	TREE_GRM_MIDPT	Compacted crown ratio
3.4.12	-	CR	TREE_GRM_THRESHOLD	Compacted crown ratio
11.37.4	-	CR_MEAN	REF_TREE_STND_DEAD_CR_PROP	Crown ratio mean
2.5.120	-	CRCOV_PCT_RMRS	COND	Live crown cover percent, Rocky Mountain Research Station
3.8.2	-	CREATED_BY	BEGINEND	Created by
2.5.72	-	CREATED_BY	COND	Created by
5.8.97	-	CREATED_BY	COND_DWM_CALC	Created by
2.3.6	-	CREATED_BY	COUNTY	Created by
5.2.35	-	CREATED_BY	DWM_COARSE_WOODY_DEB_RIS	Created by
5.3.15	-	CREATED_BY	DWM_DUFF_LITTER_FUEL	Created by
5.4.25	-	CREATED_BY	DWM_FINE_WOODY_DEBRIS	Created by
5.5.18	-	CREATED_BY	DWM_MICROPLOT_FUEL	Created by
5.6.26	-	CREATED_BY	DWM_RESIDUALPILE	Created by
5.7.18	-	CREATED_BY	DWM_TRANSECT_SEGMENT	Created by
5.1.13	-	CREATED_BY	DWM_VISIT	Created by
7.1.15	-	CREATED_BY	GRND_CVR	Created by
7.2.21	-	CREATED_BY	GRND_LYR_FNCTL_GRP	Created by
7.3.21	-	CREATED_BY	GRND_LYR_MICROQUAD	Created by
4.1.14	-	CREATED_BY	INVASIVE_SUBPLOT_SPP	Created by
4.3.13	-	CREATED_BY	P2VEG_SUBP_STRUCTURE	Created by
4.2.16	-	CREATED_BY	P2VEG_SUBPLOT_SPP	Created by

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
2.4.32	-	CREATED_BY	PLOT	Created by
6.1.9	-	CREATED_BY	PLOT_REGEN	Created by
10.1.15	-	CREATED_BY	PLOTGEOM	Created by
10.2.34	-	CREATED_BY	PLOTSNAP	Created by
9.1.14	-	CREATED_BY	POP_ESTN_UNIT	Created by
9.2.16	-	CREATED_BY	POP_EVAL	Created by
9.3.5	-	CREATED_BY	POP_EVAL_ATTRIBUTE	Created by
9.4.7	-	CREATED_BY	POP_EVAL_GRP	Created by
9.5.5	-	CREATED_BY	POP_EVAL_TYP	Created by
9.6.13	-	CREATED_BY	POP_PLOT_STRATUM_ASSGN	Created by
9.7.19	-	CREATED_BY	POP_STRATUM	Created by
2.2.4	-	CREATED_BY	PROJECT	Created by
11.11.3	-	CREATED_BY	REF_CITATION	Created by
11.25.5	-	CREATED_BY	REF_DAMAGE_AGENT	Created by
11.26.3	-	CREATED_BY	REF_DAMAGE_AGENT_GROUP	Created by
11.30.78	-	CREATED_BY	REF_DIFFERENCE_TEST_PER_ACRE	Created by
11.31.58	-	CREATED_BY	REF_DIFFERENCE_TEST_TOTALS	Created by
11.12.4	-	CREATED_BY	REF_FIADB_VERSION	Created by
11.3.7	-	CREATED_BY	REF_FOREST_TYPE	Created by
11.4.17	-	CREATED_BY	REF_FOREST_TYPE_GROUP	Created by
11.28.7	-	CREATED_BY	REF_FVS_LOC_NAME	Created by
11.27.7	-	CREATED_BY	REF_FVS_VAR_NAME	Created by
11.33.10	-	CREATED_BY	REF_GRM_TYPE	Created by
11.9.7	-	CREATED_BY	REF_HABTYP_DESCRIPTION	Created by
11.10.7	-	CREATED_BY	REF_HABTYP_PUBLICATION	Created by
11.34.4	-	CREATED_BY	REF_INTL_TO_DOYLE_FACTOR	Created by
11.8.11	-	CREATED_BY	REF_INVASIVE_SPECIES	Created by
11.16.36	-	CREATED_BY	REF_NVCS_HIERARCHY_STRUCT	Created by
11.17.8	-	CREATED_BY	REF_NVCS_LEVEL_1_CODES	Created by
11.18.8	-	CREATED_BY	REF_NVCS_LEVEL_2_CODES	Created by
11.19.8	-	CREATED_BY	REF_NVCS_LEVEL_3_CODES	Created by
11.20.8	-	CREATED_BY	REF_NVCS_LEVEL_4_CODES	Created by
11.21.8	-	CREATED_BY	REF_NVCS_LEVEL_5_CODES	Created by
11.22.8	-	CREATED_BY	REF_NVCS_LEVEL_6_CODES	Created by
11.23.8	-	CREATED_BY	REF_NVCS_LEVEL_7_CODES	Created by

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
11.24.8	-	CREATED_BY	REF_NVCS_LEVEL_8_CODES	Created by
11.29.3	-	CREATED_BY	REF_OWNGRPCD	Created by
11.6.34	-	CREATED_BY	REF_PLANT_DICTIONARY	Created by
11.1.10	-	CREATED_BY	REF_POP_ATTRIBUTE	Created by
11.2.7	-	CREATED_BY	REF_POP_EVAL_TYP_DESCR	Created by
11.15.6	-	CREATED_BY	REF_RESEARCH_STATION	Created by
11.32.6	-	CREATED_BY	REF_SIEQN	Created by
11.13.6	-	CREATED_BY	REF_STATE_ELEV	Created by
11.14.4	-	CREATED_BY	REF_UNIT	Created by
3.9.15	-	CREATED_BY	SEEDLING	Created by
6.3.17	-	CREATED_BY	SEEDLING_REGEN	Created by
3.10.24	-	CREATED_BY	SITETREE	Created by
2.7.10	-	CREATED_BY	SUBP_COND	Created by
2.9.10	-	CREATED_BY	SUBP_COND_CHNG_MTRX	Created by
8.2.56	-	CREATED_BY	SUBP_SOIL_SAMPLE_LAYER	Created by
8.1.31	-	CREATED_BY	SUBP_SOIL_SAMPLE_LOC	Created by
2.6.20	-	CREATED_BY	SUBPLOT	Created by
6.2.14	-	CREATED_BY	SUBPLOT_REGEN	Created by
2.1.10	-	CREATED_BY	SURVEY	Created by
3.1.71	-	CREATED_BY	TREE	Created by
3.6.67	-	CREATED_BY	TREE_GRM_BEGIN	Created by
3.3.77	-	CREATED_BY	TREE_GRM_COMPONENT	Created by
3.7.44	-	CREATED_BY	TREE_GRM_ESTN	Created by
3.5.67	-	CREATED_BY	TREE_GRM_MIDPT	Created by
3.4.68	-	CREATED_BY	TREE_GRM_THRESHOLD	Created by
3.2.16	-	CREATED_BY	TREE_WOODLAND_STEMS	Created by
3.8.3	-	CREATED_DATE	BEGINEND	Created date
2.5.73	-	CREATED_DATE	COND	Created date
5.8.98	-	CREATED_DATE	COND_DWM_CALC	Created date
2.3.7	-	CREATED_DATE	COUNTY	Created date
5.2.36	-	CREATED_DATE	DWM_COARSE_WOODY_DEB_RIS	Created date
5.3.16	-	CREATED_DATE	DWM_DUFF_LITTER_FUEL	Created date
5.4.26	-	CREATED_DATE	DWM_FINE_WOODY_DEBRIS	Created date
5.5.19	-	CREATED_DATE	DWM_MICROPLOT_FUEL	Created date
5.6.27	-	CREATED_DATE	DWM_RESIDUALPILE	Created date
5.7.19	-	CREATED_DATE	DWM_TRANSECT_SEGMENT	Created date
5.1.14	-	CREATED_DATE	DWM_VISIT	Created date
7.1.16	-	CREATED_DATE	GRND_CVR	Created date

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
7.2.22	-	CREATED_DATE	GRND_LYR_FNCTL_GRP	Created date
7.3.22	-	CREATED_DATE	GRND_LYR_MICROQUAD	Created date
4.1.15	-	CREATED_DATE	INVASIVE_SUBPLOT_SPP	Created date
4.3.14	-	CREATED_DATE	P2VEG_SUBP_STRUCTURE	Created date
4.2.17	-	CREATED_DATE	P2VEG_SUBPLOT_SPP	Created date
2.4.33	-	CREATED_DATE	PLOT	Created date
6.1.10	-	CREATED_DATE	PLOT_REGEN	Created date
10.1.16	-	CREATED_DATE	PLOTGEOM	Created date
10.2.35	-	CREATED_DATE	PLOTSNAP	Created date
9.1.15	-	CREATED_DATE	POP_ESTN_UNIT	Created date
9.2.17	-	CREATED_DATE	POP_EVAL	Created date
9.3.6	-	CREATED_DATE	POP_EVAL_ATTRIBUTE	Created date
9.4.8	-	CREATED_DATE	POP_EVAL_GRP	Created date
9.5.6	-	CREATED_DATE	POP_EVAL_TYP	Created date
9.6.14	-	CREATED_DATE	POP_PLOT_STRATUM_ASSGN	Created date
9.7.20	-	CREATED_DATE	POP_STRATUM	Created date
2.2.5	-	CREATED_DATE	PROJECT	Created date
11.11.4	-	CREATED_DATE	REF_CITATION	Created date
11.25.6	-	CREATED_DATE	REF_DAMAGE_AGENT	Created date
11.26.4	-	CREATED_DATE	REF_DAMAGE_AGENT_GROUP	Created date
11.30.79	-	CREATED_DATE	REF_DIFFERENCE_TEST_PER_ACRE	Created date
11.31.59	-	CREATED_DATE	REF_DIFFERENCE_TEST_TOTALS	Created date
11.12.5	-	CREATED_DATE	REF_FIADB_VERSION	Created date
11.3.8	-	CREATED_DATE	REF_FOREST_TYPE	Created date
11.4.18	-	CREATED_DATE	REF_FOREST_TYPE_GROUP	Created date
11.28.8	-	CREATED_DATE	REF_FVS_LOC_NAME	Created date
11.27.8	-	CREATED_DATE	REF_FVS_VAR_NAME	Created date
11.33.11	-	CREATED_DATE	REF_GRM_TYPE	Created date
11.38.9	-	CREATED_DATE	REF_GRND_LYR	Created date
11.9.8	-	CREATED_DATE	REF_HABTYP_DESCRIPTION	Created date
11.10.8	-	CREATED_DATE	REF_HABTYP_PUBLICATION	Created date
11.34.5	-	CREATED_DATE	REF_INTL_TO_DOYLE_FACTOR	Created date
11.8.12	-	CREATED_DATE	REF_INVASIVE_SPECIES	Created date
11.16.37	-	CREATED_DATE	REF_NVCS_HIERARCHY_STRUCT	Created date
11.17.9	-	CREATED_DATE	REF_NVCS_LEVEL_1_CODES	Created date

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
11.18.9	-	CREATED_DATE	REF_NVCS_LEVEL_2_CODES	Created date
11.19.9	-	CREATED_DATE	REF_NVCS_LEVEL_3_CODES	Created date
11.20.9	-	CREATED_DATE	REF_NVCS_LEVEL_4_CODES	Created date
11.21.9	-	CREATED_DATE	REF_NVCS_LEVEL_5_CODES	Created date
11.22.9	-	CREATED_DATE	REF_NVCS_LEVEL_6_CODES	Created date
11.23.9	-	CREATED_DATE	REF_NVCS_LEVEL_7_CODES	Created date
11.24.9	-	CREATED_DATE	REF_NVCS_LEVEL_8_CODES	Created date
11.29.4	-	CREATED_DATE	REF_OWNGRPCD	Created date
11.6.35	-	CREATED_DATE	REF_PLANT_DICTIONARY	Created date
11.1.11	-	CREATED_DATE	REF_POP_ATTRIBUTE	Created date
11.2.8	-	CREATED_DATE	REF_POP_EVAL_TYP_DESCR	Created date
11.15.7	-	CREATED_DATE	REF_RESEARCH_STATION	Created date
11.32.7	-	CREATED_DATE	REF_SIEQN	Created date
11.5.78	-	CREATED_DATE	REF_SPECIES	Created date
11.7.5	-	CREATED_DATE	REF_SPECIES_GROUP	Created date
11.13.7	-	CREATED_DATE	REF_STATE_ELEV	Created date
11.14.5	-	CREATED_DATE	REF_UNIT	Created date
3.9.16	-	CREATED_DATE	SEEDLING	Created date
6.3.18	-	CREATED_DATE	SEEDLING_REGEN	Created date
3.10.25	-	CREATED_DATE	SITETREE	Created date
2.7.11	-	CREATED_DATE	SUBP_COND	Created date
2.9.11	-	CREATED_DATE	SUBP_COND_CHNG_MTRX	Created date
8.2.57	-	CREATED_DATE	SUBP_SOIL_SAMPLE_LAYER	Created date
8.1.32	-	CREATED_DATE	SUBP_SOIL_SAMPLE_LOC	Created date
2.6.21	-	CREATED_DATE	SUBPLOT	Created date
6.2.15	-	CREATED_DATE	SUBPLOT_REGEN	Created date
2.1.11	-	CREATED_DATE	SURVEY	Created date
3.1.72	-	CREATED_DATE	TREE	Created date
3.6.68	-	CREATED_DATE	TREE_GRM_BEGIN	Created date
3.3.78	-	CREATED_DATE	TREE_GRM_COMPONENT	Created date
3.7.45	-	CREATED_DATE	TREE_GRM_ESTN	Created date
3.5.68	-	CREATED_DATE	TREE_GRM_MIDPT	Created date
3.4.69	-	CREATED_DATE	TREE_GRM_THRESHOLD	Created date
3.2.17	-	CREATED_DATE	TREE_WOODLAND_STEMS	Created date
3.8.4	-	CREATED_IN_INSTANCE	BEGINEND	Created in instance
2.5.74	-	CREATED_IN_INSTANCE	COND	Created in instance
5.8.99	-	CREATED_IN_INSTANCE	COND_DWM_CALC	Created in instance
2.3.8	-	CREATED_IN_INSTANCE	COUNTY	Created in instance

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
5.2.37	-	CREATED_IN_INSTANCE	DWM_COARSE_WOODY_DEBRIS	Created in instance
5.3.17	-	CREATED_IN_INSTANCE	DWM_DUFF_LITTER_FUEL	Created in instance
5.4.27	-	CREATED_IN_INSTANCE	DWM_FINE_WOODY_DEBRIS	Created in instance
5.5.20	-	CREATED_IN_INSTANCE	DWM_MICROPLOT_FUEL	Created in instance
5.6.28	-	CREATED_IN_INSTANCE	DWM_RESIDUALPILE	Created in instance
5.7.20	-	CREATED_IN_INSTANCE	DWM_TRANSECT_SEGMENT	Created in instance
5.1.15	-	CREATED_IN_INSTANCE	DWM_VISIT	Created in instance
7.1.17	-	CREATED_IN_INSTANCE	GRND_CVR	Created in instance
7.2.23	-	CREATED_IN_INSTANCE	GRND_LRY_FNCTL_GRP	Created in instance
7.3.23	-	CREATED_IN_INSTANCE	GRND_LYR_MICROQUAD	Created in instance
4.1.16	-	CREATED_IN_INSTANCE	INVASIVE_SUBPLOT_SPP	Created in instance
4.3.15	-	CREATED_IN_INSTANCE	P2VEG_SUBP_STRUCTURE	Created in instance
4.2.18	-	CREATED_IN_INSTANCE	P2VEG_SUBPLOT_SPP	Created in instance
2.4.34	-	CREATED_IN_INSTANCE	PLOT	Created in instance
6.1.11	-	CREATED_IN_INSTANCE	PLOT_REGEN	Created in instance
10.1.17	-	CREATED_IN_INSTANCE	PLOTGEOM	Created in instance
10.2.36	-	CREATED_IN_INSTANCE	PLOTSNAP	Created in instance
9.1.16	-	CREATED_IN_INSTANCE	POP_ESTN_UNIT	Created in instance
9.2.18	-	CREATED_IN_INSTANCE	POP_EVAL	Created in instance
9.3.7	-	CREATED_IN_INSTANCE	POP_EVAL_ATTRIBUTE	Created in instance
9.4.9	-	CREATED_IN_INSTANCE	POP_EVAL_GRP	Created in instance
9.5.7	-	CREATED_IN_INSTANCE	POP_EVAL_TYP	Created in instance
9.6.15	-	CREATED_IN_INSTANCE	POP_PLOT_STRATUM_ASSGN	Created in instance
9.7.21	-	CREATED_IN_INSTANCE	POP_STRATUM	Created in instance
2.2.6	-	CREATED_IN_INSTANCE	PROJECT	Created in instance
11.11.5	-	CREATED_IN_INSTANCE	REF_CITATION	Created in instance
11.25.7	-	CREATED_IN_INSTANCE	REF_DAMAGE_AGENT	Created in instance
11.26.5	-	CREATED_IN_INSTANCE	REF_DAMAGE_AGENT_GROUP	Created in instance
11.30.80	-	CREATED_IN_INSTANCE	REF_DIFFERENCE_TEST_PER_ACRE	Created in instance
11.31.60	-	CREATED_IN_INSTANCE	REF_DIFFERENCE_TEST_TOTALS	Created in instance
11.12.6	-	CREATED_IN_INSTANCE	REF_FIADB_VERSION	Created in instance
11.3.9	-	CREATED_IN_INSTANCE	REF_FOREST_TYPE	Created in instance
11.4.19	-	CREATED_IN_INSTANCE	REF_FOREST_TYPE_GROUP	Created in instance
11.28.9	-	CREATED_IN_INSTANCE	REF_FVS_LOC_NAME	Created in instance
11.27.9	-	CREATED_IN_INSTANCE	REF_FVS_VAR_NAME	Created in instance
11.33.12	-	CREATED_IN_INSTANCE	REF_GRM_TYPE	Created in instance

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
11.9.9	-	CREATED_IN_INSTANCE	REF_HABTYP_DESCRIPTION	Created in instance
11.10.9	-	CREATED_IN_INSTANCE	REF_HABTYP_PUBLICATION	Created in instance
11.34.6	-	CREATED_IN_INSTANCE	REF_INTL_TO_DOYLE_FACTO_R	Created in instance
11.8.13	-	CREATED_IN_INSTANCE	REF_INVASIVE_SPECIES	Created in instance
11.16.38	-	CREATED_IN_INSTANCE	REF_NVCS_HIERARCHY_STRICT	Created in instance
11.17.10	-	CREATED_IN_INSTANCE	REF_NVCS_LEVEL_1_CODES	Created in instance
11.18.10	-	CREATED_IN_INSTANCE	REF_NVCS_LEVEL_2_CODES	Created in instance
11.19.10	-	CREATED_IN_INSTANCE	REF_NVCS_LEVEL_3_CODES	Created in instance
11.20.10	-	CREATED_IN_INSTANCE	REF_NVCS_LEVEL_4_CODES	Created in instance
11.21.10	-	CREATED_IN_INSTANCE	REF_NVCS_LEVEL_5_CODES	Created in instance
11.22.10	-	CREATED_IN_INSTANCE	REF_NVCS_LEVEL_6_CODES	Created in instance
11.23.10	-	CREATED_IN_INSTANCE	REF_NVCS_LEVEL_7_CODES	Created in instance
11.24.10	-	CREATED_IN_INSTANCE	REF_NVCS_LEVEL_8_CODES	Created in instance
11.29.5	-	CREATED_IN_INSTANCE	REF_OWNRPCD	Created in instance
11.6.36	-	CREATED_IN_INSTANCE	REF_PLANT_DICTIONARY	Created in instance
11.1.13	-	CREATED_IN_INSTANCE	REF_POP_ATTRIBUTE	Created in instance
11.2.9	-	CREATED_IN_INSTANCE	REF_POP_EVAL_TYP_DESCR	Created in instance
11.15.8	-	CREATED_IN_INSTANCE	REF_RESEARCH_STATION	Created in instance
11.32.8	-	CREATED_IN_INSTANCE	REF_SIEQN	Created in instnace
11.13.8	-	CREATED_IN_INSTANCE	REF_STATE_ELEV	Created in instance
11.14.6	-	CREATED_IN_INSTANCE	REF_UNIT	Created in instance
3.9.17	-	CREATED_IN_INSTANCE	SEEDLING	Created in instance
6.3.19	-	CREATED_IN_INSTANCE	SEEDLING_REGEN	Created in instance
3.10.26	-	CREATED_IN_INSTANCE	SITETREE	Created in instance
2.7.12	-	CREATED_IN_INSTANCE	SUBP_COND	Created in instance
2.9.12	-	CREATED_IN_INSTANCE	SUBP_COND_CHNG_MTRX	Created in instance
8.2.58	-	CREATED_IN_INSTANCE	SUBP_SOIL_SAMPLE_LAYER	Created in instance
8.1.33	-	CREATED_IN_INSTANCE	SUBP_SOIL_SAMPLE_LOC	Created in instance
2.6.22	-	CREATED_IN_INSTANCE	SUBPLOT	Created in instance
6.2.16	-	CREATED_IN_INSTANCE	SUBPLOT_REGEN	Created in instance
2.1.12	-	CREATED_IN_INSTANCE	SURVEY	Created in instance
3.1.73	-	CREATED_IN_INSTANCE	TREE	Created in instance
3.6.69	-	CREATED_IN_INSTANCE	TREE_GRM_BEGIN	Created in instance
3.3.89	-	CREATED_IN_INSTANCE	TREE_GRM_COMPONENT	Created in instance
3.7.46	-	CREATED_IN_INSTANCE	TREE_GRM_ESTN	Created in instance
3.5.69	-	CREATED_IN_INSTANCE	TREE_GRM_MIDPT	Created in instance
3.4.70	-	CREATED_IN_INSTANCE	TREE_GRM_THRESHOLD	Created in instance

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
3.2.18	-	CREATED_IN_INSTANCE	TREE_WOODLAND_STEMS	Created in instance
2.6.35	-	CROWN_CLOSURE_ME_NERS	SUBPLOT	Crown closure (Maine), Northeastern Research Station
5.1.11	-	CRWTYPCD	DWM_VISIT	Crew type code
2.4.3	-	CTY_CN	PLOT	County sequence number
10.2.3	-	CTY_CN	PLOTSNAP	County sequence number
3.1.28	-	CULL	TREE	Rotten and missing cull
3.6.14	-	CULL	TREE_GRM_BEGIN	Rotten and missing cull
3.5.14	-	CULL	TREE_GRM_MIDPT	Rotten and missing cull
3.4.15	-	CULL	TREE_GRM_THRESHOLD	Rotten and missing cull
3.1.136	-	CULL_BF_ROTEN	TREE	Rotten/missing board-foot cull of the sawlog
3.1.137	-	CULL_BF_ROTEN_CD	TREE	Rotten/missing board-foot cull of the sawlog code
3.1.138	-	CULL_BF_ROUGH	TREE	Rough board-foot cull of the sawlog
3.1.139	-	CULL_BF_ROUGH_CD	TREE	Rough board-foot cull of the sawlog code
3.1.81	5.13	CULL_FLD	TREE	Rotten/missing cull, field recorded
3.1.61	-	CULLBF	TREE	Board-foot cull
3.1.62	-	CULLCF	TREE	Cubic-foot cull
3.1.58	-	CULLDEAD	TREE	Dead cull
3.1.59	-	CULLFORM	TREE	Form cull
3.6.16	-	CULLFORM	TREE_GRM_BEGIN	Form cull
3.5.16	-	CULLFORM	TREE_GRM_MIDPT	Form cull
3.4.17	-	CULLFORM	TREE_GRM_THRESHOLD	Form cull
3.1.60	-	CULLMSTOP	TREE	Missing top cull
3.6.17	-	CULLMSTOP	TREE_GRM_BEGIN	Missing top cull
3.5.17	-	CULLMSTOP	TREE_GRM_MIDPT	Missing top cull
3.4.18	-	CULLMSTOP	TREE_GRM_THRESHOLD	Missing top cull
3.1.164	-	CULTURALLY_KILLED_PNWRS	TREE	Culturally killed code, Pacific Northwest Research Station
3.1.51	12.8	CVIGORCD	TREE	Crown vigor code (sapling)
7.1.10	-	CVR_PCT	GRND_CVR	Cover percent
5.8.32	-	CWD_CARBON_ADJ	COND_DWM_CALC	Coarse woody debris carbon density, adjusted
5.8.30	-	CWD_CARBON_COND	COND_DWM_CALC	Coarse woody debris carbon density in the condition

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
5.8.31	-	CWD_CARBON_UNADJ	COND_DWM_CALC	Coarse woody debris carbon density, unadjusted
11.5.63	-	CWD_DECAY_RATIO1	REF_SPECIES	Coarse woody debris decay ratio 1
11.5.64	-	CWD_DECAY_RATIO2	REF_SPECIES	Coarse woody debris decay ratio 2
11.5.65	-	CWD_DECAY_RATIO3	REF_SPECIES	Coarse woody debris decay ratio 3
11.5.66	-	CWD_DECAY_RATIO4	REF_SPECIES	Coarse woody debris decay ratio 4
11.5.67	-	CWD_DECAY_RATIO5	REF_SPECIES	Coarse woody debris decay ratio 5
5.8.29	-	CWD_DRYBIO_ADJ	COND_DWM_CALC	Coarse woody debris biomass per acre, adjusted
5.8.27	-	CWD_DRYBIO_COND	COND_DWM_CALC	Coarse woody debris biomass per acre in the condition
5.8.28	-	CWD_DRYBIO_UNADJ	COND_DWM_CALC	Coarse woody debris biomass per acre, unadjusted
5.8.23	-	CWD_LPA_ADJ	COND_DWM_CALC	Number of coarse woody debris logs (pieces) per acre, adjusted
5.8.21	-	CWD_LPA_COND	COND_DWM_CALC	Number of coarse woody debris logs (pieces) per acre in the condition
5.8.22	-	CWD_LPA_UNADJ	COND_DWM_CALC	Number of coarse woody debris logs (pieces) per acre, unadjusted
5.2.41	-	CWD_SAMPLE_METHOD	DWM_COARSE_WOODY_DEBRIS	Coarse woody debris sample method
5.1.19	-	CWD_SAMPLE_METHOD	DWM_VISIT	Coarse woody debris sample method
5.8.20	-	CWD_TL_ADJ	COND_DWM_CALC	Coarse woody debris transect length, adjusted
5.8.18	-	CWD_TL_COND	COND_DWM_CALC	Coarse woody debris transect length in the condition
5.8.19	-	CWD_TL_UNADJ	COND_DWM_CALC	Coarse woody debris transect length, unadjusted
5.8.26	-	CWD_VOLCF_ADJ	COND_DWM_CALC	Coarse woody debris cubic-foot volume per acre, adjusted
5.8.24	-	CWD_VOLCF_COND	COND_DWM_CALC	Coarse woody debris cubic-foot volume per acre in the condition

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
5.8.25	-	CWD_VOLCF_UNADJ	COND_DWM_CALC	Coarse woody debris cubic-foot volume per acre, unadjusted
5.2.21	10.4.3. 12	CWDHSTCD	DWM_COARSE_WOODY_DEB_RIS	Coarse woody debris history code
5.2.9	-	CWDID	DWM_COARSE_WOODY_DEB_RIS	Coarse woody debris piece (log) number
2.5.78	-	CYCLE	COND	Inventory cycle number
5.8.103	-	CYCLE	COND_DWM_CALC	Inventory cycle number
7.1.13	-	CYCLE	GRND_CVR	Inventory cycle number
7.2.8	-	CYCLE	GRND_LYR_FNCTL_GRP	Inventory cycle number
7.3.4	-	CYCLE	GRND_LYR_MICROQUAD	Inventory cycle number
4.1.20	-	CYCLE	INVASIVE_SUBPLOT_SPP	Inventory cycle number
4.3.19	-	CYCLE	P2VEG_SUBP_STRUCTURE	Inventory cycle number
4.2.22	-	CYCLE	P2VEG_SUBPLOT_SPP	Inventory cycle number
2.4.45	-	CYCLE	PLOT	Inventory cycle number
6.1.15	-	CYCLE	PLOT_REGEN	Inventory cycle number
10.2.47	-	CYCLE	PLOTSNAP	Inventory cycle number
3.9.23	-	CYCLE	SEEDLING	Inventory cycle number
6.3.23	-	CYCLE	SEEDLING_REGEN	Inventory cycle number
3.10.30	-	CYCLE	SITETREE	Inventory cycle number
2.7.21	-	CYCLE	SUBP_COND	Inventory cycle number
8.2.9	-	CYCLE	SUBP_SOIL_SAMPLE_LAYER	Inventory cycle number
8.1.8	-	CYCLE	SUBP_SOIL_SAMPLE_LOC	Inventory cycle number
2.6.26	-	CYCLE	SUBPLOT	Inventory cycle number
6.2.20	-	CYCLE	SUBPLOT_REGEN	Inventory cycle number
2.1.16	-	CYCLE	SURVEY	Inventory cycle number
3.1.98	-	CYCLE	TREE	Inventory cycle number
3.2.14	-	CYCLE	TREE_WOODLAND_STEMS	Inventory cycle number
D				
3.7.38	-	D	TREE_GRM_ESTN	Diversion
11.25.11	-	DAG_CODE	REF_DAMAGE_AGENT	Damage agent group code
3.1.120	5.20.1	DAMAGE_AGENT_CD1	TREE	Damage agent code 1
3.9.25	6.6.1 (SRS)	DAMAGE_AGENT_CD1_SRS	SEEDLING	Damage agent code 1 (Caribbean Islands), Southern Research Station
3.1.130	5.36.1 (SRS)	DAMAGE_AGENT_CD1_SRS	TREE	Damage agent code 1 (Caribbean Islands), Southern Research Station

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
3.10.35	-	DAMAGE_AGENT_CD1_RMRS	SITETREE	Damage agent code 1, Rocky Mountain Research Station
3.1.121	5.20.2	DAMAGE_AGENT_CD2	TREE	Damage agent code 2
3.9.27	6.6.1 (SRS)	DAMAGE_AGENT_CD2_SRS	SEEDLING	Damage agent code 2 (Caribbean Islands), Southern Research Station
3.1.131	5.36.1 (SRS)	DAMAGE_AGENT_CD2_SRS	TREE	Damage agent code 2 (Caribbean Islands), Southern Research Station
3.10.36	-	DAMAGE_AGENT_CD2_RMRS	SITETREE	Damage agent code 2, Rocky Mountain Research Station
3.1.122	5.20.3	DAMAGE_AGENT_CD3	TREE	Damage agent code 3
3.9.29	6.6.1 (SRS)	DAMAGE_AGENT_CD3_SRS	SEEDLING	Damage agent code 3 (Caribbean Islands), Southern Research Station
3.1.132	5.36.1 (SRS)	DAMAGE_AGENT_CD3_SRS	TREE	Damage agent code 3 (Caribbean Islands), Southern Research Station
3.10.37	-	DAMAGE_AGENT_CD3_RMRS	SITETREE	Damage agent code 3, Rocky Mountain Research Station
3.1.29	-	DAMLOC1	TREE	Damage location 1
3.1.101	-	DAMLOC1_PNWRS	TREE	Damage location 1, Pacific Northwest Research Station
3.1.32	-	DAMLOC2	TREE	Damage location 2
3.1.102	-	DAMLOC2_PNWRS	TREE	Damage location 2, Pacific Northwest Research Station
3.1.31	-	DAMSEV1	TREE	Damage severity 1
3.1.34	-	DAMSEV2	TREE	Damage severity 2
3.1.30	-	DAMTYP1	TREE	Damage type 1
3.1.33	-	DAMTYP2	TREE	Damage type 2
5.2.15	10.4.2. 6	DECAYCD	DWM_COARSE_WOODY_DEB RIS	Decay class code
5.6.33	10.5.7	DECAYCD	DWM_RESIDUALPILE	Decay class code of the residual pile
11.35.3	-	DECAYCD	REF_TREE_CARBON_RATIO_DEAD	Decay class code
11.36.2	-	DECAYCD	REF_TREE_DECAY_PROP	Decay class code
3.1.35	5.23	DECAYCD	TREE	Decay class code
3.6.18	-	DECAYCD	TREE_GRM_BEGIN	Decay class code
3.5.18	-	DECAYCD	TREE_GRM_MIDPT	Decay class code

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
3.4.19	-	DECAYCD	TREE_GRM_THRESHOLD	Decay class code
2.4.39	1.14	DECLINATION	PLOT	Declination
10.2.41	-	DECLINATION	PLOTSNAP	Declination
5.6.13	-	DENSITY	DWM_RESIDUAL_PILE	Density
11.36.4	-	DENSITY_PROP	REF_TREE_DECAY_PROP	Density proportion
7.2.17	-	DEPTH_CLASS_CD	GRND_LYR_FNCTL_GRP	Depth class code (Interior Alaska)
11.12.3	-	DESCR	REF_FIADB_VERSION	Version description
11.26.2	-	DESCRIPTION	REF_DAMAGE_AGENT_GROUP	Damage agent group description
2.4.17	-	DESIGNCD	PLOT	Design code
10.2.17	-	DESIGNCD	PLOTSNAP	Design code
2.4.56	-	DESIGNCD_P2A	PLOT	Design code periodic to annual
5.5.12	-	DHRBCD	DWM_MICROPLOT_FUEL	Dead herb code
5.5.17	-	DHRBHT	DWM_MICROPLOT_FUEL	Dead herb height
3.10.12	7.2.3	DIA	SITETREE	Diameter
3.1.18	5.9.2	DIA	TREE	Current diameter
3.6.8	-	DIA	TREE_GRM_BEGIN	Diameter at T1
3.5.8	-	DIA	TREE_GRM_MIDPT	Midpoint diameter
3.4.9	-	DIA	TREE_GRM_THRESHOLD	Threshold diameter
3.2.11	-	DIA	TREE_WOODLAND_STEMS	Woodland stem diameter
11.34.1	-	DIA_2INCH_CLASS	REF_INTL_TO_DOYLE_FACTOR	Diameter class
3.3.5	-	DIA_BEGIN	TREE_GRM_COMPONENT	Beginning diameter
3.7.24	-	DIA_BEGIN	TREE_GRM_ESTN	Beginning diameter
3.7.25	-	DIA_BEGIN_RECALC	TREE_GRM_ESTN	Recalculated diameter
3.3.7	-	DIA_END	TREE_GRM_COMPONENT	Ending diameter
3.7.26	-	DIA_END	TREE_GRM_ESTN	Ending diameter
3.1.165	-	DIA_EST_PNWRS	TREE	Standing dead estimated diameter, Pacific Northwest Research Station
3.3.6	-	DIA_MIDPT	TREE_GRM_COMPONENT	Midpoint diameter
3.7.27	-	DIA_MIDPT	TREE_GRM_ESTN	Midpoint diameter
3.7.28	-	DIA_THRESHOLD	TREE_GRM_ESTN	Threshold diameter
3.1.45	5.12	DIACHECK	TREE	Diameter check code
3.1.106	-	DIACHECK_PNWRS	TREE	Diameter check, Pacific Northwest Research Station
3.1.19	-	DIAHTCD	TREE	Diameter height code
3.6.13	-	DIAHTCD	TREE_GRM_BEGIN	Diameter height code

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
3.5.13	-	DIAHTCD	TREE_GRM_MIDPT	Diameter height code
3.4.14	-	DIAHTCD	TREE_GRM_THRESHOLD	Diameter height code
3.1.119	-	DIEBACK_SEVERITY_SRS	TREE	Dieback severity, Southern Research Station
3.1.118	-	DISEASE_SRS	TREE	Disease, Southern Research Station
3.10.20	7.2.9	DIST	SITETREE	Horizontal distance
3.1.13	5.5	DIST	TREE	Horizontal distance
5.3.28	-	DL_STATUS_CD	DWM_DUFF_LITTER_FUEL	Duff and litter sample status code
5.3.21	-	DLF_SAMPLE_METHOD	DWM_DUFF_LITTER_FUEL	Duff, litter, fuelbed sample method
5.1.22	-	DLF_SAMPLE_METHOD	DWM_VISIT	Duff, litter, fuelbed sample method
3.1.104	-	DMG_AGENT1_CD_PNWRS	TREE	Damage agent 1, Pacific Northwest Research Station
3.1.105	-	DMG_AGENT2_CD_PNWRS	TREE	Damage agent 2, Pacific Northwest Research Station
3.1.106	-	DMG_AGENT3_CD_PNWRS	TREE	Damage agent 3, Pacific Northwest Research Station
2.5.121	-	DOMINANT_SPECIES1_PNWRS	COND	Dominant tree species 1 (Pacific Islands), Pacific Northwest Research Station
2.5.122	-	DOMINANT_SPECIES2_PNWRS	COND	Dominant tree species 2 (Pacific Islands), Pacific Northwest Research Station
2.5.123	-	DOMINANT_SPECIES3_PNWRS	COND	Dominant tree species 3 (Pacific Islands), Pacific Northwest Research Station
5.2.23	-	DRYBIO	DWM_COARSE_WOODY_DEB_RIS	Dry biomass of the piece
5.6.21	-	DRYBIO	DWM_RESIDUALPILE	Dry biomass of the residual pile
5.2.52	-	DRYBIO_AC_COND	DWM_COARSE_WOODY_DEB_RIS	Dry biomass per acre based on condition transect length actually measured, unadjusted
5.2.51	-	DRYBIO_AC_PLOT	DWM_COARSE_WOODY_DEB_RIS	Dry biomass per acre based on plot transect length actually measured, unadjusted

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
5.2.50	-	DRYBIO_AC_UNADJ	DWM_COARSE_WOODY_DEB RIS	Dry biomass per acre based on target plot transect length, unadjusted
3.1.133	-	DRYBIO_AG	TREE	Aboveground dry biomass of wood and bark
3.6.61	-	DRYBIO_AG	TREE_GRM_BEGIN	Aboveground dry biomass of wood and bark at T1
3.5.61	-	DRYBIO_AG	TREE_GRM_MIDPT	Aboveground dry biomass of wood and bark at the midpoint
3.4.62	-	DRYBIO_AG	TREE_GRM_THRESHOLD	Aboveground dry biomass of wood and bark at the threshold
3.1.95	-	DRYBIO_BG	TREE	Belowground dry biomass
3.6.62	-	DRYBIO_BG	TREE_GRM_BEGIN	Belowground dry biomass at T1
3.5.62	-	DRYBIO_BG	TREE_GRM_MIDPT	Belowground dry biomass at the midpoint
3.4.63	-	DRYBIO_BG	TREE_GRM_THRESHOLD	Belowground dry biomass at the threshold
3.1.93	-	DRYBIO_BOLE	TREE	Dry biomass of wood in the merchantable bole
3.6.57	-	DRYBIO_BOLE	TREE_GRM_BEGIN	Dry biomass of wood in the merchantable bole at T1
3.5.57	-	DRYBIO_BOLE	TREE_GRM_MIDPT	Dry biomass of wood in the merchantable bole at the midpoint
3.4.58	-	DRYBIO_BOLE	TREE_GRM_THRESHOLD	Dry biomass of wood in the merchantable bole at the threshold
3.1.198	-	DRYBIO_BOLE_BARK	TREE	Dry biomass of bark in the merchantable bole
3.6.58	-	DRYBIO_BOLE_BARK	TREE_GRM_BEGIN	Dry biomass of bark in the merchantable bole at T1
3.5.58	-	DRYBIO_BOLE_BARK	TREE_GRM_MIDPT	Dry biomass of bark in the merchantable bole at the midpoint
3.4.59	-	DRYBIO_BOLE_BARK	TREE_GRM_THRESHOLD	Dry biomass of bark in the merchantable bole at the threshold
3.1.199	-	DRYBIO_BRANCH	TREE	Dry biomass of branches
3.6.59	-	DRYBIO_BRANCH	TREE_GRM_BEGIN	Dry biomass of branches at T1
3.5.59	-	DRYBIO_BRANCH	TREE_GRM_MIDPT	Dry biomass of branches at the midpoint

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
3.4.60	-	DRYBIO_BRANCH	TREE_GRM_THRESHOLD	Dry biomass of branches at the threshold
3.1.200	-	DRYBIO_FOLIAGE	TREE	Dry biomass of foliage
3.6.60	-	DRYBIO_FOLIAGE	TREE_GRM_BEGIN	Dry biomass of foliage at T1
3.5.60	-	DRYBIO_FOLIAGE	TREE_GRM_MIDPT	Dry biomass of foliage at the midpoint
3.4.61	-	DRYBIO_FOLIAGE	TREE_GRM_THRESHOLD	Dry biomass of foliage at the threshold
3.1.129	-	DRYBIO_SAWLOG	TREE	Dry biomass of wood in the sawlog portion of a sawtimber tree
3.6.65	-	DRYBIO_SAWLOG	TREE_GRM_BEGIN	Dry biomass of wood in the sawlog portion of a sawtimber tree at T1
3.5.65	-	DRYBIO_SAWLOG	TREE_GRM_MIDPT	Dry biomass of wood in the sawlog portion of a sawtimber tree at the midpoint
3.4.66	-	DRYBIO_SAWLOG	TREE_GRM_THRESHOLD	Dry biomass of wood in the sawlog portion of a sawtimber tree at the threshold
3.1.201	-	DRYBIO_SAWLOG_BARK	TREE	Dry biomass of bark in the sawlog portion of a sawtimber tree
3.6.66	-	DRYBIO_SAWLOG_BARK	TREE_GRM_BEGIN	Dry biomass of bark in the sawlog portion of a sawtimber tree at T1
3.5.66	-	DRYBIO_SAWLOG_BARK	TREE_GRM_MIDPT	Dry biomass of bark in the sawlog portion of a sawtimber tree at the midpoint
3.4.67	-	DRYBIO_SAWLOG_BARK	TREE_GRM_THRESHOLD	Dry biomass of bark in the sawlog portion of a sawtimber tree at the threshold
3.1.195	-	DRYBIO_STEM	TREE	Dry biomass of wood in the total stem
3.6.53	-	DRYBIO_STEM	TREE_GRM_BEGIN	Dry biomass of wood in the total stem at T1
3.5.53	-	DRYBIO_STEM	TREE_GRM_MIDPT	Dry biomass of wood in the total stem at the midpoint
3.4.54	-	DRYBIO_STEM	TREE_GRM_THRESHOLD	Dry biomass of wood in the total stem at the threshold

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
3.1.196	-	DRYBIO_STEM_BARK	TREE	Dry biomass of bark in the total stem
3.6.54	-	DRYBIO_STEM_BARK	TREE_GRM_BEGIN	Dry biomass of bark in the total stem at T1
3.5.54	-	DRYBIO_STEM_BARK	TREE_GRM_MIDPT	Dry biomass of bark in the total stem at the midpoint
3.4.55	-	DRYBIO_STEM_BARK	TREE_GRM_THRESHOLD	Dry biomass of bark in the total stem at the threshold
3.1.94	-	DRYBIO_STUMP	TREE	Dry biomass of wood in the stump
3.6.55	-	DRYBIO_STUMP	TREE_GRM_BEGIN	Dry biomass of wood in the stump at T1
3.5.55	-	DRYBIO_STUMP	TREE_GRM_MIDPT	Dry biomass of wood in the stump at the midpoint
3.4.56	-	DRYBIO_STUMP	TREE_GRM_THRESHOLD	Dry biomass of wood in the stump at the threshold
3.1.197	-	DRYBIO_STUMP_BARK	TREE	Dry biomass of bark in the stump
3.6.56	-	DRYBIO_STUMP_BARK	TREE_GRM_BEGIN	Dry biomass of bark in the stump at T1
3.5.56	-	DRYBIO_STUMP_BARK	TREE_GRM_MIDPT	Dry biomass of bark in the total stem at the midpoint
3.4.57	-	DRYBIO_STUMP_BARK	TREE_GRM_THRESHOLD	Dry biomass of bark in the total stem at the threshold
7.2.27	-	DRYBIOT	GRND_LYR_FNCTL_GRP	Functional group biomass
11.5.47	-	WOOD_SPGR_GREENVOL_DRYWT	REF_SPECIES	Dry weight to green weight conversion
5.5.10	-	DSHRBCD	DWM_MICROPLOT_FUEL	Dead shrub code
5.5.15	-	DSHRBHT	DWM_MICROPLOT_FUEL	Dead shrub height
2.5.38	2.5.15	DSTRBCD1	COND	Disturbance code 1
2.5.124	-	DSTRBCD1_P2A	COND	Disturbance code 1, periodic to annual
2.5.40	2.5.17	DSTRBCD2	COND	Disturbance code 2
2.5.125	-	DSTRBCD2_P2A	COND	Disturbance code 2, periodic to annual
2.5.42	2.5.19	DSTRBCD3	COND	Disturbance code 3
2.5.126	-	DSTRBCD3_P2A	COND	Disturbance code 3, periodic to annual
2.5.39	2.5.16	DSTRBYR1	COND	Disturbance year 1
2.5.127	-	DSTRBYR1_P2A	COND	Disturbance year 1, periodic to annual
2.5.41	2.5.18	DSTRBYR2	COND	Disturbance year 2
2.5.128	-	DSTRBYR2_P2A	COND	Disturbance year 2, periodic to annual

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
2.5.43	2.5.20	DSTRBYR3	COND	Disturbance year 3
2.5.129	-	DSTRBYR3_P2A	COND	Disturbance year 3, periodic to annual
5.8.88	-	DUFF_BIOMASS	COND_DWM_CALC	Average duff biomass per acre in the condition
5.8.89	-	DUFF_CARBON	COND_DWM_CALC	Average duff carbon density in the condition
11.4.5	-	DUFF_CARBON_RATIO	REF_FOREST_TYPE_GROUP	Duff carbon ratio
11.4.4	-	DUFF_DENSITY	REF_FOREST_TYPE_GROUP	Duff density
5.8.87	-	DUFF_DEPTH	COND_DWM_CALC	Average duff depth in the condition
5.3.22	-	DUFF_METHOD	DWM_DUFF_LITTER_FUEL	Duff measurement method
5.3.23	-	DUFF_NONSAMPLE_REASON_CD	DWM_DUFF_LITTER_FUEL	Duff nonsampled reason code
5.8.95	-	DUFF_TC_ADJ	COND_DWM_CALC	Number of duff, litter, and fuelbed sampling points on the entire plot, adjusted
5.8.93	-	DUFF_TC_COND	COND_DWM_CALC	Number of duff, litter, and fuelbed sampling points in the condition
5.8.94	-	DUFF_TC_UNADJ	COND_DWM_CALC	Number of duff, litter, and fuelbed sampling points on the entire plot, unadjusted
5.3.12	-	DUFFDEP	DWM_DUFF_LITTER_FUEL	Duff depth
11.6.11	-	DURATION	REF_PLANT_DICTIONARY	Duration
11.5.68	-	DWM_CARBON_RATIO	REF_SPECIES	Down woody debris carbon ratio
2.5.108	-	DWM_FUELBED_TYP_CD	COND	DWM condition fuelbed type code
5.1.25	1.25.2	DWM_NBR_SUBP	DWM_VISIT	DWM number of subplots
5.1.26	1.25.3	DWM_NBR_SUBP_TRANSECT	DWM_VISIT	DWM number of transects on subplot
5.1.24	1.25.1	DWM_SAMPLING_STATUS_CD	DWM_VISIT	DWM sampling status code
5.1.27	1.25.5	DWM_SUBPLIST	DWM_VISIT	DWM subplot list
5.1.28	-	DWM_TRANSECT_LENGTH	DWM_VISIT	DWM transect length
E				
11.5.10	-	E_SPGRPCD	REF_SPECIES	Eastern species group code
8.2.32	-	ECEC	SUBP_SOIL_SAMPLE_LAYER	Effective cation exchange capacity
2.4.47	-	ECO_UNIT_PNW	PLOT	Ecological unit, Pacific Northwest Research Station

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
10.2.49	-	ECO_UNIT_PNW	PLOTSNAP	Ecological unit, Pacific Northwest Research Station
11.37.2	-	ECOPROV	REF_TREE_STND_DEAD_CR_PROP	Ecoregion province
2.4.27	-	ECOSUBCD	PLOT	Ecological subsection code
10.1.10	-	ECOSUBCD	PLOTGEOM	Ecological subsection code
2.4.22	-	ELEV	PLOT	Elevation
10.2.22	-	ELEV	PLOTSNAP	Elevation
2.4.40	-	EMAP_HEX	PLOT	EMAP hexagon
10.1.12	-	EMAP_HEX	PLOTGEOM	EMAP hexagon
10.2.42	-	EMAP_HEX	PLOTSNAP	EMAP hexagon
11.8.7	-	END_DATE	REF_INVASIVE_SPECIES	End date
9.2.10	-	END_INVYR	POP_EVAL	End inventory year
11.33.5	-	END_INVYR	REF_GRM_TYPE	End inventory year
3.1.160	-	EPIPHYTE_PNWRS	TREE	Epiphyte loading (Pacific Islands), Pacific Northwest Research Station
3.7.19	-	EST_BEGIN	TREE_GRM_ESTN	Beginning estimate
3.7.20	-	EST_BEGIN_RECALC	TREE_GRM_ESTN	Recalculated beginning estimate
3.7.21	-	EST_END	TREE_GRM_ESTN	Ending estimate
3.7.22	-	EST_MIDPT	TREE_GRM_ESTN	Midpoint estimate
3.7.23	-	EST_THRESHOLD	TREE_GRM_ESTN	Threshold estimate
3.7.7	-	ESTIMATE	TREE_GRM_ESTN	Base attribute that is being estimated
9.2.14	-	ESTN_METHOD	POP_EVAL	Estimation method
3.7.8	-	ESTN_TYPE	TREE_GRM_ESTN	Estimation type of the tree
9.1.5	-	ESTN_UNIT	POP_ESTN_UNIT	Estimation unit
9.6.11	-	ESTN_UNIT	POP_PLOT_STRATUM_ASSGN	Estimation unit
9.7.5	-	ESTN_UNIT	POP_STRATUM	Estimation unit
9.7.2	-	ESTN_UNIT_CN	POP_STRATUM	Estimation unit sequence number
9.1.6	-	ESTN_UNIT_DESCR	POP_ESTN_UNIT	Estimation unit description
3.7.9	-	ESTN_UNITS	TREE_GRM_ESTN	Estimation unit of measurement
9.1.2	-	EVAL_CN	POP_ESTN_UNIT	Evaluation sequence number
9.3.2	-	EVAL_CN	POP_EVAL_ATTRIBUTE	Evaluation sequence number
9.5.3	-	EVAL_CN	POP_EVAL_TYP	Evaluation sequence number

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
9.2.5	-	EVAL_DESCR	POP_EVAL	Evaluation description
10.2.52	-	EVAL_GRP	PLOTSNAP	Evaluation group
9.4.3	-	EVAL_GRP	POP_EVAL_GRP	Evaluation group
10.2.51	-	EVAL_GRP_CN	PLOTSNAP	Evaluation group sequence number
9.2.2	-	EVAL_GRP_CN	POP_EVAL	Evaluation group sequence number
9.5.2	-	EVAL_GRP_CN	POP_EVAL_TYP	Evaluation group sequence number
9.4.4	-	EVAL_GRP_DESCR	POP_EVAL_GRP	Evaluation group description
9.5.4	-	EVAL_TYP	POP_EVAL_TYP	Evaluation type
11.1.3	-	EVAL_TYP	REF_POP_ATTRIBUTE	Evaluation type
11.2.3	-	EVAL_TYP	REF_POP_EVAL_TYP_DESCR	Evaluation type
11.2.13	-	EVAL_TYP_CD	REF_POP_EVAL_TYP_DESCR	Evaluation type code
11.2.6	-	EVAL_TYP_DESCR	REF_POP_EVAL_TYP_DESCR	Evaluation type descriptor
11.2.4	-	EVAL_TYP_LABEL	REF_POP_EVAL_TYP_DESCR	Evaluation type label
5.8.8	-	VALID	COND_DWM_CALC	Evaluation identifier
9.1.4	-	VALID	POP_ESTN_UNIT	Evaluation identifier
9.2.4	-	VALID	POP_EVAL	Evaluation identifier
9.6.10	-	VALID	POP_PLOT_STRATUM_ASSGN	Evaluation identifier
9.7.4	-	VALID	POP_STRATUM	Evaluation identifier
8.2.33	-	EXCHNG_AL	SUBP_SOIL_SAMPLE_LAYER	Exchangeable aluminum
8.2.34	-	EXCHNG_CA	SUBP_SOIL_SAMPLE_LAYER	Exchangeable calcium
8.2.35	-	EXCHNG_CD	SUBP_SOIL_SAMPLE_LAYER	Exchangeable cadmium
8.2.36	-	EXCHNG_CU	SUBP_SOIL_SAMPLE_LAYER	Exchangeable copper
8.2.37	-	EXCHNG_FE	SUBP_SOIL_SAMPLE_LAYER	Exchangeable iron
8.2.38	-	EXCHNG_K	SUBP_SOIL_SAMPLE_LAYER	Exchangeable potassium
8.2.39	-	EXCHNG_MG	SUBP_SOIL_SAMPLE_LAYER	Exchangeable magnesium
8.2.40	-	EXCHNG_MN	SUBP_SOIL_SAMPLE_LAYER	Exchangeable manganese
8.2.41	-	EXCHNG_NA	SUBP_SOIL_SAMPLE_LAYER	Exchangeable sodium
8.2.42	-	EXCHNG_NI	SUBP_SOIL_SAMPLE_LAYER	Exchangeable nickel
8.2.43	-	EXCHNG_PB	SUBP_SOIL_SAMPLE_LAYER	Exchangeable lead
8.2.44	-	EXCHNG_S	SUBP_SOIL_SAMPLE_LAYER	Exchangeable sulfur
8.2.45	-	EXCHNG_ZN	SUBP_SOIL_SAMPLE_LAYER	Exchangeable zinc
10.2.53	-	EXPALL	PLOTSNAP	Expansion factor for EXPALL evaluation
10.2.59	-	EXPCHNG	PLOTSNAP	Expansion factor for EXPCHNG evaluation
10.2.65	-	EXPCRWN	PLOTSNAP	Expansion factor for EXPCRWN evaluation

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
10.2.54	-	EXPCURR	PLOTSNAP	Expansion factor for EXPCURR evaluation
10.2.60	-	EXPDWIM	PLOTSNAP	Expansion factor for EXPDWIM evaluation
10.2.66	-	EXPGRNDLYR	PLOTSNAP	Expansion factor for EXPGRNDLYR evaluation
10.2.56	-	EXPGROW	PLOTSNAP	Expansion factor for EXPGROW evaluation
10.2.62	-	EXPINV	PLOTSNAP	Expansion for EXPINV evaluation.
10.2.57	-	EXPMORT	PLOTSNAP	Expansion factor for EXPMORT evaluation
9.7.11	-	EXPNS	POP_STRATUM	Expansion factor
10.2.63	-	EXPP2VEG	PLOTSNAP	Expansion factor for EXPP2VEG evaluation
10.2.61	-	EXPREGEN	PLOTSNAP	Expansion factor for EXPREGEN evaluation
10.2.58	-	EXPREMV	PLOTSNAP	Expansion factor for EXPREMV evaluation
10.2.64	-	EXPSOIL	PLOTSNAP	Expansion factor for EXPSOIL evaluation
10.2.55	-	EXPVOL	PLOTSNAP	Expansion factor for EXPVOL evaluation
		F		
11.6.31	-	F	REF_PLANT_DICTIONARY	Forma indicator
11.34.3	-	FACTOR	REF_INTL_TO_DOYLE_FACTO R	Factor
11.6.9	-	FAMILY	REF_PLANT_DICTIONARY	Family
10.1.13	-	FIPSCOUNTY	PLOTGEOM	FIPS county code
2.5.86	-	FIRE_SRS	COND	Fire, Southern Research Station
2.5.52	-	FLDAGE	COND	Field-recorded stand age
2.5.21	2.5.4	FLDSZCD	COND	Field stand-size class code
2.5.17	2.5.3	FLDTYPCD	COND	Field forest type code
2.5.130	-	FLDTYPCD_30	COND	Field forest type code, version 3.0
2.5.131	-	FOREST_COMMUNITY_PNWRS	COND	Forest type (Pacific Islands), Pacific Northwest Research Station
2.5.158	2.4.3	FOREST_COND_STATUS_CHANGE _CD	COND	Forest land condition class status code
11.5.16	-	FOREST_TYPE_SPGRPCD	REF_SPECIES	Forest type species group code

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
2.5.14	-	FORINDCD	COND	Private owner industrial status code
11.6.32	-	FORMA	REF_PLANT_DICTIONARY	Forma
3.1.67	-	FORMCL	TREE	Form class
2.5.16	-	FORTYPCD	COND	Forest type code
2.5.55	-	FORTYPCDCALC	COND	Forest type code calculated
5.8.85	-	FUEL_BIOMASS	COND_DWM_CALC	Average fuelbed biomass per acre in the condition
5.8.86	-	FUEL_CARBON	COND_DWM_CALC	Average fuelbed carbon density in the condition
5.8.84	-	FUEL_DEPTH	COND_DWM_CALC	Average fuelbed depth in the condition
5.3.26	10.7.10	FUELBED_METHOD	DWM_DUFF_LITTER_FUEL	Fuelbed measurement method
5.3.27	10.7.7	FUELBED_NONSAMPLE_REASON_CD	DWM_DUFF_LITTER_FUEL	Fuelbed nonsampled reason code
5.3.14	-	FUELDEPTH	DWM_DUFF_LITTER_FUEL	Fuelbed depth
7.2.14	-	FUNCTIONAL_GROUP_CD	GRND_LYR_FNCTL_GRP	Functional group code (Interior Alaska)
11.38.3	-	FUNCTIONAL_GROUP_CD	REF_GRND_LYR	Functional group code
7.2.15	-	FUNCTIONAL_GROUP_UNCERTAIN	GRND_LYR_FNCTL_GRP	Functional group uncertain (Interior Alaska)
2.4.61	-	FUTFORCD_RMRS	PLOT	Future forest potential code, Rocky Mountain Research Station
10.1.26	-	FVS_DISTRICT	PLOTGEOM	Forest vegetation simulator district code
10.1.25	-	FVS_FOREST	PLOTGEOM	Forest vegetation simulator forest code
10.1.23	-	FVS_LOC_CD	PLOTGEOM	Forest vegetation simulator location code
11.28.2	-	FVS_LOC_CD	REF_FVS_LOC_NAME	Forest vegetation simulator location code
11.28.3	-	FVS_LOC_CD_NAME	REF_FVS_LOC_NAME	Forest vegetation simulator location code name
10.1.24	-	FVS_REGION	PLOTGEOM	Forest vegetation simulator region code
11.27.3	-	FVS_VAR_NAME	REF_FVS_VAR_NAME	Forest vegetation simulator variant name
10.1.22	-	FVS_VARIANT	PLOTGEOM	Forest vegetation simulator variant
11.27.2	-	FVS_VARIANT	REF_FVS_VAR_NAME	Forest vegetation simulator variant

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
11.4.12	-	FWD_CARBON_RATIO	REF_FOREST_TYPE_GROUP	Fine woody debris carbon ratio
11.4.13	-	FWD_DECAY_RATIO	REF_FOREST_TYPE_GROUP	Fine woody debris decay ratio
11.4.11	-	FWD_DENSITY	REF_FOREST_TYPE_GROUP	Fine woody debris density
11.4.16	-	FWD_LARGE_QMD	REF_FOREST_TYPE_GROUP	Large fine woody debris quadratic mean diameter
5.8.71	-	FWD_LG_CARBON_ADJ	COND_DWM_CALC	Large-size class fine woody debris carbon density, adjusted
5.8.69	-	FWD_LG_CARBON_COND	COND_DWM_CALC	Large-size class fine woody debris carbon density in the condition
5.8.70	-	FWD_LG_CARBON_UNADJ	COND_DWM_CALC	Large-size class fine woody debris carbon density, unadjusted
5.8.62	-	FWD_LG_CNT_COND	COND_DWM_CALC	Large-size class fine woody debris pieces count in the condition
5.8.68	-	FWD_LG_DRYBIO_ADJ	COND_DWM_CALC	Large-size class fine woody debris biomass per acre, adjusted
5.8.66	-	FWD_LG_DRYBIO_COND	COND_DWM_CALC	Large-size class fine woody debris biomass per acre in the condition
5.8.67	-	FWD_LG_DRYBIO_UNADJ	COND_DWM_CALC	Large-size class fine woody debris biomass per acre, unadjusted
5.8.61	-	FWD_LG_TL_ADJ	COND_DWM_CALC	Large-size class fine woody debris transect length, adjusted
5.8.59	-	FWD_LG_TL_COND	COND_DWM_CALC	Large-size class fine woody debris transect length in the condition
5.8.60	-	FWD_LG_TL_UNADJ	COND_DWM_CALC	Large-size class fine woody debris transect length, unadjusted
5.8.65	-	FWD_LG_VOLCF_ADJ	COND_DWM_CALC	Large-size class fine woody debris cubic-foot volume per acre, adjusted
5.8.63	-	FWD_LG_VOLCF_COND	COND_DWM_CALC	Large-size class fine woody debris cubic-foot volume per acre in the condition
5.8.64	-	FWD_LG_VOLCF_UNADJ	COND_DWM_CALC	Large-size class fine woody debris cubic-foot volume per acre, unadjusted

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
5.8.58	-	FWD_MD_CARBON_ADJ	COND_DWM_CALC	Medium-size class fine woody debris carbon density, adjusted
5.8.56	-	FWD_MD_CARBON_COND	COND_DWM_CALC	Medium-size class fine woody debris carbon density in the condition
5.8.57	-	FWD_MD_CARBON_UNADJ	COND_DWM_CALC	Medium-size class fine woody debris carbon density, unadjusted
5.8.49	-	FWD_MD_CNT_COND	COND_DWM_CALC	Medium-size class fine woody debris pieces count in the condition
5.8.55	-	FWD_MD_DRYBIO_ADJ	COND_DWM_CALC	Medium-size class fine woody debris biomass per acre, adjusted
5.8.53	-	FWD_MD_DRYBIO_COND	COND_DWM_CALC	Medium-size class fine woody debris biomass per acre in the condition
5.8.54	-	FWD_MD_DRYBIO_UNADJ	COND_DWM_CALC	Medium-size class fine woody debris biomass per acre, unadjusted
5.8.48	-	FWD_MD_TL_ADJ	COND_DWM_CALC	Medium-size class fine woody debris transect length, adjusted
5.8.46	-	FWD_MD_TL_COND	COND_DWM_CALC	Medium-size class fine woody debris transect length in the condition
5.8.47	-	FWD_MD_TL_UNADJ	COND_DWM_CALC	Medium-size class fine woody debris transect length, unadjusted
5.8.52	-	FWD_MD_VOLCF_ADJ	COND_DWM_CALC	Medium-size class fine woody debris cubic-foot volume per acre, adjusted
5.8.50	-	FWD_MD_VOLCF_COND	COND_DWM_CALC	Medium-size class fine woody debris cubic-foot volume per acre in the condition
5.8.51	-	FWD_MD_VOLCF_UNADJ	COND_DWM_CALC	Medium-size class fine woody debris cubic-foot volume per acre, unadjusted
11.4.15	-	FWD_MEDIUM_QMD	REF_FOREST_TYPE_GROUP	Medium fine woody debris quadratic mean diameter
5.4.32	10.6.5	FWD_NONSAMPLE_REASN_CD	DWM_FINE_WOODY_DEBRIS	Fine woody debris nonsampled reason code
5.4.33	-	FWD_SAMPLE_METHOD	DWM_FINE_WOODY_DEBRIS	Fine woody debris sample method

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
5.1.20	-	FWD_SAMPLE_METHOD	DWM_VISIT	Fine woody debris sample method
5.8.45	-	FWD_SM_CARBON_ADJ	COND_DWM_CALC	Small-size class fine woody debris carbon , adjusted
5.8.43	-	FWD_SM_CARBON_COND	COND_DWM_CALC	Small-size class fine woody debris carbon density in the condition
5.8.44	-	FWD_SM_CARBON_UNADJ	COND_DWM_CALC	Small-size class fine woody debris carbon density, unadjusted
5.8.36	-	FWD_SM_CNT_COND	COND_DWM_CALC	Small-size class fine woody debris pieces count in the condition
5.8.42	-	FWD_SM_DRYBIO_ADJ	COND_DWM_CALC	Small-size class fine woody debris biomass per acre, adjusted
5.8.40	-	FWD_SM_DRYBIO_COND	COND_DWM_CALC	Small-size class fine woody debris biomass per acre in the condition
5.8.41	-	FWD_SM_DRYBIO_UNADJ	COND_DWM_CALC	Small-size class fine woody debris biomass per acre, unadjusted
5.8.35	-	FWD_SM_TL_ADJ	COND_DWM_CALC	Small-size class fine woody debris transect length, adjusted
5.8.33	-	FWD_SM_TL_COND	COND_DWM_CALC	Small-size class fine woody debris transect length in the condition
5.8.34	-	FWD_SM_TL_UNADJ	COND_DWM_CALC	Small-size class fine woody debris transect length, unadjusted
5.8.39	-	FWD_SM_VOLCF_ADJ	COND_DWM_CALC	Small-size class fine woody debris cubic-foot volume per acre, adjusted
5.8.37	-	FWD_SM_VOLCF_COND	COND_DWM_CALC	Small-size class fine woody debris cubic-foot volume per acre in the condition
5.8.38	-	FWD_SM_VOLCF_UNADJ	COND_DWM_CALC	Small-size class fine woody debris cubic-foot volume per acre, unadjusted
11.4.14	-	FWD_SMALL_QMD	REF_FOREST_TYPE_GROUP	Small fine woody debris quadratic mean diameter
5.4.31	10.6.4	FWD_STATUS_CD	DWM_FINE_WOODY_DEBRIS	Fine woody debris sample status
		G		
3.7.35	-	G_C	TREE_GRM_ESTN	Cut growth
3.7.41	-	G_CD	TREE_GRM_ESTN	Cull decrement growth

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
3.7.43	-	G_CI	TREE_GRM_ESTN	Cull increment growth
3.7.39	-	G_D	TREE_GRM_ESTN	Diversion growth
3.7.31	-	G_I	TREE_GRM_ESTN	Growth on ingrowth
3.7.33	-	G_M	TREE_GRM_ESTN	Mortality growth
3.7.37	-	G_R	TREE_GRM_ESTN	Reversion growth
3.7.29	-	G_S	TREE_GRM_ESTN	Survivor growth
11.6.16	-	GENERA_BINOMIAL_AUTHOR	REF_PLANT_DICTIONARY	Genera binomial author
11.6.20	-	GENUS	REF_PLANT_DICTIONARY	Genus
11.5.4	-	GENUS	REF_SPECIES	Genus
2.5.87	-	GRAZING_SRS	COND	Grazing, Southern Research Station
11.33.17	-	GRM_BUILD_LOCATION	REF_GRM_TYPE	Growth, removal, and mortality build location
11.33.6	-	GRM_TYP	REF_GRM_TYPE	Growth, removal, and mortality type
7.1.11	-	GRND_CVR_SEG	GRND_CVR	Ground cover segment number
7.1.12	-	GRND_CVR_TYP	GRND_CVR	Ground cover type
7.2.24	-	GRND_LYR_CONFIG	GRND_LYR_FNCTL_GRP	Ground layer configuration name
11.38.2	-	GRND_LYR_CONFIG	REF_GRND_LYR	Ground layer configuration name
2.5.73	-	GRND_LYR_SAMPLING_STATUS_CD	PLOT	Ground layer sampling status code
2.5.74	-	GRND_LYR_SAMPLING_METHOD_CD	PLOT	Ground layer sampling method code
2.5.81	-	GROUND_LAND_CLASS_PNW	COND	Present ground land class, Pacific Northwest Research Station
2.6.36	-	GROUND_TRAN PTS_BARE_RMRS	SUBPLOT	Ground surface cover transect points - bare ground, Rocky Mountain Research Station
2.6.37	-	GROUND_TRAN PTS_CRYP_RMRS	SUBPLOT	Ground surface cover transect points - cryptogamic crust, Rocky Mountain Research Station
2.6.38	-	GROUND_TRAN PTS_DEV_RMRS	SUBPLOT	Ground surface cover transect points - developed land, Rocky Mountain Research Station
2.6.39	-	GROUND_TRAN PTS_LICHEN_RM RS	SUBPLOT	Ground surface cover transect points - lichen, Rocky Mountain Research Station

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
2.6.40	-	GROUND_TRAN PTS_LITTER_RM RS	SUBPLOT	Ground surface cover transect points - litter, Rocky Mountain Research Station
2.6.41	-	GROUND_TRAN PTS_MOSS_RM RS	SUBPLOT	Ground surface cover transect points - moss, Rocky Mountain Research Station
2.6.42	-	GROUND_TRAN PTS_NOTSAMP_RM RS	SUBPLOT	Ground surface cover transect points - not sampled, Rocky Mountain Research Station
2.6.43	-	GROUND_TRAN PTS_OTHER_RM RS	SUBPLOT	Ground surface cover transect points - other cover, Rocky Mountain Research Station
2.6.44	-	GROUND_TRAN PTS_PEIS_RM RS	SUBPLOT	Ground surface cover transect points - permanent ice and snow, Rocky Mountain Research Station
2.6.45	-	GROUND_TRAN PTS_ROAD_RM RS	SUBPLOT	Ground surface cover transect points - road, Rocky Mountain Research Station
2.6.46	-	GROUND_TRAN PTS_ROCK_RM RS	SUBPLOT	Ground surface cover transect points - rock, Rocky Mountain Research Station
2.6.47	-	GROUND_TRAN PTS_TRIS_RM RS	SUBPLOT	Ground surface cover transect points - transient ice and snow, Rocky Mountain Research Station
2.6.48	-	GROUND_TRAN PTS_VEG_RM RS	SUBPLOT	Ground surface cover transect points - basal vegetation, Rocky Mountain Research Station
2.6.49	-	GROUND_TRAN PTS_WATER_RM RS	SUBPLOT	Ground surface cover transect points - water, Rocky Mountain Research Station
2.6.50	-	GROUND_TRAN PTS_WOOD_RM RS	SUBPLOT	Ground surface cover transect points - wood, Rocky Mountain Research Station
2.4.23	-	GROW_TYP_CD	PLOT	Type of annual volume growth code
10.2.23	-	GROW_TYP_CD	PLOTSNAP	Type of annual volume growth code

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
11.33.7	-	GROW_TYP_CD	REF_GRM_TYPE	Type of annual volume growth code
3.3.56	-	GROWBFSL_FOREST	TREE_GRM_COMPONENT	Net annual merchantable board-foot growth of a sawtimber tree on forest land
3.3.68	-	GROWBFSL_TIMBER	TREE_GRM_COMPONENT	Net annual merchantable board-foot growth of a sawtimber tree on timberland
3.3.54	-	GROWCFAL_FOREST	TREE_GRM_COMPONENT	Net annual sound cubic-foot growth of a live tree for the all live estimation type on forest land
3.3.66	-	GROWCFAL_TIMBER	TREE_GRM_COMPONENT	Net annual sound cubic-foot growth of a live tree for the all live estimation type on timberland
3.3.55	-	GROWCFGS_FOREST	TREE_GRM_COMPONENT	Net annual merchantable cubic-foot stem wood growth of a growing-stock tree on forest land
3.3.67	-	GROWCFGS_TIMBER	TREE_GRM_COMPONENT	Net annual merchantable cubic-foot stem wood growth of a growing-stock tree on timberland
9.2.13	-	GROWTH_ACCT	POP_EVAL	Growth accounting
11.1.7	-	GROWTH_ACCT	REF_POP_ATTRIBUTE	Growth accounting
11.6.10	-	GROWTH_HABIT	REF_PLANT_DICTIONARY	Growth habit
4.3.10	-	GROWTH_HABIT_CD	P2VEG_SUBP_STRUCTURE	Growth habit code (vegetation structure growth habit)
4.2.13	8.5.1	GROWTH_HABIT_CD	P2VEG_SUBPLOT_SPP	Growth habit code (species growth habit)
3.3.53	-	GROWTSAL_FOREST	TREE_GRM_COMPONENT	Net annual sound cubic-foot total-stem growth of a live tree for the all live estimation type on forest land
3.3.65	-	GROWTSAL_TIMBER	TREE_GRM_COMPONENT	Net annual sound cubic-foot total-stem wood growth of a live tree for the all live estimation type on timberland
2.5.54	-	GSSTK	COND	Growing-stock stocking percent

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name	
2.5.36	-	GSSTKCD	COND	Growing-stock stocking code	
3.1.166	-	GST_PNWRS	TREE	Growth sample tree, Pacific Northwest Research Station	
		H			
11.9.2	-	HABTYP_CD	REF_HABTYP_DESCRIPTION	Habitat type code	
2.5.56	-	HABTYP_CD1	COND	Habitat type code 1	
2.5.58	-	HABTYP_CD1_DESCR_PUB_CD	COND	Habitat type code 1 description publication code	
2.5.57	-	HABTYP_CD1_PUB_CD	COND	Habitat type code 1 publication code	
2.5.59	-	HABTYP_CD2	COND	Habitat type code 2	
2.5.61	-	HABTYP_CD2_DESCR_PUB_CD	COND	Habitat type code 2 description publication code	
2.5.60	-	HABTYP_CD2_PUB_CD	COND	Habitat type code 2 publication code	
2.5.88	-	HARVEST_TYPE1_SRS	COND	Harvest type code 1, Southern Research Station	
2.5.89	-	HARVEST_TYPE2_SRS	COND	Harvest type code 2, Southern Research Station	
2.5.90	-	HARVEST_TYPE3_SRS	COND	Harvest type code 3, Southern Research Station	
5.6.14	-	HEIGHT1	DWM_RESIDUALPILE	Height first measurement	
5.6.17	-	HEIGHT2	DWM_RESIDUALPILE	Height second measurement	
11.17.3	-	HIERARCHY_LEVEL	REF_NVCS_LEVEL_1_CODES	Hierarchy level	
11.18.3	-	HIERARCHY_LEVEL	REF_NVCS_LEVEL_2_CODES	Hierarchy level	
11.19.3	-	HIERARCHY_LEVEL	REF_NVCS_LEVEL_3_CODES	Hierarchy level	
11.20.3	-	HIERARCHY_LEVEL	REF_NVCS_LEVEL_4_CODES	Hierarchy level	
11.21.3	-	HIERARCHY_LEVEL	REF_NVCS_LEVEL_5_CODES	Hierarchy level	
11.22.3	-	HIERARCHY_LEVEL	REF_NVCS_LEVEL_6_CODES	Hierarchy level	
11.23.3	-	HIERARCHY_LEVEL	REF_NVCS_LEVEL_7_CODES	Hierarchy level	
11.24.3	-	HIERARCHY_LEVEL	REF_NVCS_LEVEL_8_CODES	Hierarchy level	
11.17.4	-	HIERARCHY_LEVEL_LABEL	REF_NVCS_LEVEL_1_CODES	Hierarchy level label	
11.18.4	-	HIERARCHY_LEVEL_LABEL	REF_NVCS_LEVEL_2_CODES	Hierarchy level label	
11.19.4	-	HIERARCHY_LEVEL_LABEL	REF_NVCS_LEVEL_3_CODES	Hierarchy level label	
11.20.4	-	HIERARCHY_LEVEL_LABEL	REF_NVCS_LEVEL_4_CODES	Hierarchy level label	
11.21.4	-	HIERARCHY_LEVEL_LABEL	REF_NVCS_LEVEL_5_CODES	Hierarchy level label	
11.22.4	-	HIERARCHY_LEVEL_LABEL	REF_NVCS_LEVEL_6_CODES	Hierarchy level label	

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
11.23.4	-	HIERARCHY_LEVEL_LABEL	REF_NVCS_LEVEL_7_CODES	Hierarchy level label
11.24.4	-	HIERARCHY_LEVEL_LABEL	REF_NVCS_LEVEL_8_CODES	Hierarchy level label
11.16.1	-	HIERARCHY_VERSION	REF_NVCS_HIERARCHY_STRICT	Hierarchy version
11.13.5	-	HIGHEST_POINT	REF_STATE_ELEV	Highest point
8.1.19	-	HOLE_DEPTH	SUBP_SOIL_SAMPLE_LOC	Hole depth
5.2.42	10.4.3. 8.2	HOLLOW_DIA	DWM_COARSE_WOODY_DEBRIS	Hollow diameter at the point of intersection
5.2.20	10.4.3. 10	HOLLOWCD	DWM_COARSE_WOODY_DEBRIS	Hollow code
5.6.34	10.5.4	HORIZ_BEGNDIST	DWM_RESIDUAL_PILE	Beginning horizontal distance of the residual pile
5.7.16	10.3.4	HORIZ_BEGNDIST	DWM_TRANSECT_SEGMENT	Beginning horizontal distance of the transect segment
5.2.13	10.4.3. 5	HORIZ_DIST	DWM_COARSE_WOODY_DEBRIS	Horizontal distance
5.2.43	-	HORIZ_DIST_CD	DWM_COARSE_WOODY_DEBRIS	Horizontal distance code
5.6.35	10.5.5	HORIZ_ENDDIST	DWM_RESIDUAL_PILE	Ending horizontal distance of the residual pile
5.7.17	10.3.5	HORIZ_ENDDIST	DWM_TRANSECT_SEGMENT	Ending horizontal distance of the transect segment
5.7.15	-	HORIZ_LENGTH	DWM_TRANSECT_SEGMENT	Horizontal length of the transect segment
3.1.69	-	HRDWD_CLUMP_CD	TREE	Hardwood clump code
3.10.13	7.24	HT	SITETREE	Total height
3.1.20	5.14	HT	TREE	Total height
3.6.9	-	HT	TREE_GRM_BEGIN	Total height
3.5.9	-	HT	TREE_GRM_MIDPT	Total height
3.4.10	-	HT	TREE_GRM_THRESHOLD	Total height
3.1.68	-	HTCALC	TREE	Current height calculated
3.1.21	5.16	HTCD	TREE	Height method code
3.1.78	5.24	HTDMP	TREE	Height to diameter measurement point
3.6.20	-	HTDMP	TREE_GRM_BEGIN	Height to diameter measurement point
3.5.20	-	HTDMP	TREE_GRM_MIDPT	Height to diameter measurement point
3.4.21	-	HTDMP	TREE_GRM_THRESHOLD	Height to diameter measurement point
10.1.11	-	HUC	PLOTGEOM	Hydrologic unit code

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name		
		I	I			
3.7.30	-	I	TREE_GRM_ESTN	Ingrowth		
3.1.167	-	INC10YR_PNWRS	TREE	10-year increment, Pacific Northwest Research Station		
3.1.169	-	INC5YR_PNWRS	TREE	5-year increment, Pacific Northwest Research Station		
3.1.168	-	INC5YRHT_PNWRS	TREE	5-year height growth, Pacific Northwest Research Station		
5.2.44	10.4.3. 11	INCLINATION	DWM_COARSE_WOODY_DEB_RIS	Piece inclination		
2.5.101	-	INDUSTRIALCD_FIADB	COND	Industrial code in FIADB		
11.12.2	-	INSTALL_TYPE	REF_FIADB_VERSION	Install type		
2.4.44	-	INTENSITY	PLOT	Intensity		
10.2.46	-	INTENSITY	PLOTSNAP	Intensity		
11.8.4	-	INV_GROUP_CD	REF_INVASIVE_SPECIES	Invasive group code		
7.2.7	-	INV_VST_NBR	GRND_LYR_FNCTL_GRP	Inventory visit number		
7.3.7	-	INV_VST_NBR	GRND_LYR_MICROQUAD	Inventory visit number		
8.2.8	-	INV_VST_NBR	SUBP_SOIL_SAMPLE_LAYER	Inventory visit number		
8.1.6	-	INV_VST_NBR	SUBP_SOIL_SAMPLE_LOC	Inventory visit number		
2.6.34	-	INVASIVE_NONSAMPLE_REASON_CD	SUBPLOT	Invasive nonsampled reason code		
2.4.54	-	INVASIVE_SAMPLING_STATUS_CD	PLOT	Invasive sampling status code		
2.4.55	-	INVASIVE_SPECIMEN_RULE_CD	PLOT	Invasive specimen rule code		
2.6.33	-	INVASIVE_SUBP_STATUS_CD	SUBPLOT	Invasive subplot status code		
2.5.3	-	INVYR	COND	Inventory year		
5.8.6	-	INVYR	COND_DWM_CALC	Inventory year		
5.2.3	-	INVYR	DWM_COARSE_WOODY_DEB_RIS	Inventory year		
5.3.3	-	INVYR	DWM_DUFF_LITTER_FUEL	Inventory year		
5.4.3	-	INVYR	DWM_FINE_WOODY_DEBRIS	Inventory year		
5.5.3	-	INVYR	DWM_MICROPLOT_FUEL	Inventory year		
5.6.3	-	INVYR	DWM_RESIDUALPILE	Inventory year		
5.7.3	-	INVYR	DWM_TRANSECT_SEGMENT	Inventory year		
5.1.3	-	INVYR	DWM_VISIT	Inventory year		
7.1.3	-	INVYR	GRND_CVR	Inventory year		
7.2.6	-	INVYR	GRND_LYR_FNCTL_GRP	Inventory year		

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
7.3.6	-	INVYR	GRND_LYR_MICROQUAD	Inventory year
4.1.3	-	INVYR	INVASIVE_SUBPLOT_SPP	Inventory year
4.3.7	-	INVYR	P2VEG_SUBP_STRUCTURE	Inventory year
4.2.3	-	INVYR	P2VEG_SUBPLOT_SPP	Inventory year
2.4.5	-	INVYR	PLOT	Inventory year
6.1.3	-	INVYR	PLOT_REGEN	Inventory year
10.1.3	-	INVYR	PLOTGEOM	Inventory year
10.2.5	-	INVYR	PLOTSNAP	Inventory year
9.6.5	-	INVYR	POP_PLOT_STRATUM_ASSGN	Inventory year
3.9.3	-	INVYR	SEEDLING	Inventory year
6.3.5	-	INVYR	SEEDLING_REGEN	Inventory year
3.10.4	-	INVYR	SITETREE	Inventory year
2.7.3	-	INVYR	SUBP_COND	Inventory year
8.2.7	-	INVYR	SUBP_SOIL_SAMPLE_LAYER	Inventory year
8.1.7	-	INVYR	SUBP_SOIL_SAMPLE_LOC	Inventory year
2.6.4	-	INVYR	SUBPLOT	Inventory year
6.2.4	-	INVYR	SUBPLOT_REGEN	Inventory year
2.1.2	-	INVYR	SURVEY	Inventory year
3.1.4	-	INVYR	TREE	Inventory year
3.7.3	-	INVYR	TREE_GRM_ESTN	Inventory year
3.2.3	-	INVYR	TREE_WOODLAND_STEMS	Inventory year
		J		
11.5.18	-	JENKINS_SAPLING_ADJUSTMENT	REF_SPECIES	Jenkins sapling adjustment factor
11.5.17	-	JENKINS_SPGRPCD	REF_SPECIES	Jenkins species group code
		K		
2.4.16	1.10	KINDCD	PLOT	Sample kind code
10.2.16	-	KINDCD	PLOTSNAP	Sample kind code
2.4.30	-	KINDCD_NC	PLOT	Sample kind code, North Central
10.2.32	-	KINDCD_NC	PLOTSNAP	Sample kind code, North Central
		L		
11.2.2	-	LABEL_ORDER	REF_POP_EVAL_TYP_DESCR	Label order
3.7.6	-	LAND_BASIS	TREE_GRM_ESTN	Land basis for estimate
11.1.8	-	LAND_BASIS	REF_POP_ATTRIBUTE	Land basis
2.5.150	2.5.28	LAND_COVER_CLASS_CD	COND	Land cover class code
2.5.105	-	LAND_COVER_CLASS_CD_RET	COND	Land cover class, retired

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
9.2.11	-	LAND_ONLY	POP_EVAL	Land only
2.5.91	-	LAND_USE_SRS	COND	Land use, Southern Research Station
2.5.132	-	LAND_USECD_RMRS	COND	Land use code, Rocky Mountain Research Station
5.2.45	10.4.3. 14	LARGE_END_DIA_CLASS	DWM_COARSE_WOODY_DEB RIS	Large end diameter class code
5.4.22	-	LARGE_TL_COND	DWM_FINE_WOODY_DEBRIS	Large-size class transect length in condition
5.4.23	-	LARGE_TL_PLOT	DWM_FINE_WOODY_DEBRIS	Large-size class transect length on plot
5.4.24	-	LARGE_TL_UNADJ	DWM_FINE_WOODY_DEBRIS	Large-size class transect length on plot, unadjusted
5.4.13	-	LARGECT	DWM_FINE_WOODY_DEBRIS	Large-size class count
5.2.18	-	LARGEDIA	DWM_COARSE_WOODY_DEB RIS	Large diameter
2.4.20	1.19.8	LAT	PLOT	Latitude
10.1.7	-	LAT	PLOTGEOM	Latitude
10.2.20	-	LAT	PLOTSNAP	Latitude
4.3.11	-	LAYER	P2VEG_SUBP_STRUCTURE	Layer (layer distribution of growth habits)
4.2.14	8.5.5	LAYER	P2VEG_SUBPLOT_SPP	Layer (species vegetation layer)
8.2.18	-	LAYER_COLLECTED_CD	SUBP_SOIL_SAMPLE_LAYER	Layer collected code
8.2.17	-	LAYER_THICKNESS	SUBP_SOIL_SAMPLE_LAYER	Layer thickness
8.2.15	-	LAYER_TYPE	SUBP_SOIL_SAMPLE_LAYER	Layer type
5.2.19	-	LENGTH	DWM_COARSE_WOODY_DEB RIS	Length of the piece
5.2.46	-	LENGTH_CD	DWM_COARSE_WOODY_DEB RIS	Coarse woody debris length code
6.3.15	-	LENGTH_CLASS_CD	SEEDLING_REGEN	Length class code
5.6.16	-	LENGTH1	DWM_RESIDUALPILE	Length first measurement
5.6.19	-	LENGTH2	DWM_RESIDUALPILE	Length second measurement
5.3.13	-	LITTDEP	DWM_DUFF_LITTER_FUEL	Litter depth
5.8.91	-	LITTER_BIOMASS	COND_DWM_CALC	Average litter biomass per acre in the condition
5.8.92	-	LITTER_CARBON	COND_DWM_CALC	Average litter carbon density in the condition
11.4.7	-	LITTER_CARBON_RATIO	REF_FOREST_TYPE_GROUP	Litter carbon ratio
11.4.6	-	LITTER_DENSITY	REF_FOREST_TYPE_GROUP	Litter density
5.8.90	-	LITTER_DEPTH	COND_DWM_CALC	Average litter depth in the condition

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
5.3.24	10.7.10	LITTER_METHOD	DWM_DUFF_LITTER_FUEL	Litter measurement method
5.3.25	10.7.7	LITTER_NONSAMPLE_REASON_CD	DWM_DUFF_LITTER_FUEL	Litter nonsampled reason code
5.5.13	-	LITTERCD	DWM_MICROPLOT_FUEL	Litter code
2.5.97	-	LIVE_CANOPY_CVR_PCT	COND	Live canopy cover percent
2.5.98	-	LIVE_MISSING_CANOPY_CVR_PCT	COND	Live plus missing canopy cover percent
9.2.7	-	LOCATION_NM	POP_EVAL	Location name
2.4.21	1.19.9	LON	PLOT	Longitude
10.1.8	-	LON	PLOTGEOM	Longitude
10.2.21	-	LON	PLOTSNAP	Longitude
11.13.4	-	LOWEST_POINT	REF_STATE_ELEV	Lowest point
5.2.28	-	LPA_COND	DWM_COARSE_WOODY_DEB_RIS	Number of logs (pieces) per acre in the condition, unadjusted
5.2.31	-	LPA_COND_RGN	DWM_COARSE_WOODY_DEB_RIS	Number of logs (pieces) per acre in the condition, unadjusted, regional protocol
5.2.27	-	LPA_PLOT	DWM_COARSE_WOODY_DEB_RIS	Number of logs (pieces) per acre on the plot, unadjusted
5.2.30	-	LPA_PLOT_RGN	DWM_COARSE_WOODY_DEB_RIS	Number of logs (pieces) per acre on the plot, unadjusted, regional protocol
5.2.26	-	LPA_UNADJ	DWM_COARSE_WOODY_DEB_RIS	Number of logs (pieces) per acre, unadjusted
5.2.29	-	LPA_UNADJ_RGN	DWM_COARSE_WOODY_DEB_RIS	Number of logs (pieces) per acre, unadjusted, regional protocol
5.5.11	-	LVHRBCD	DWM_MICROPLOT_FUEL	Live herb code
5.5.16	-	LVHRBHT	DWM_MICROPLOT_FUEL	Live herb height
5.5.9	-	LVSHRBCD	DWM_MICROPLOT_FUEL	Live shrub code
5.5.14	-	LVSHRBHT	DWM_MICROPLOT_FUEL	Live shrub height
M				
3.7.32	-	M	TREE_GRM_ESTN	Mortality
2.6.14	-	MACRCOND	SUBPLOT	Macroplot center condition
2.7.18	-	MACRCOND_PROP	SUBP_COND	Macroplot-condition proportion
2.4.43	1.20	MACRO_BREAKPOINT_DIA	PLOT	Macroplot breakpoint diameter

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
10.2.45	-	MACRO_BREAKPOINT_DIA	PLOTSNAP	Macroplot breakpoint diameter
2.5.32	-	MACRPROP_UNADJ	COND	Macroplot proportion unadjusted
2.5.133	-	MAICF	COND	Mean annual increment cubic feet
11.5.14	-	MAJOR_SPGRPCD	REF_SPECIES	Major species group code
2.4.29	1.12	MANUAL	PLOT	Manual (field guide) version number
10.2.29	-	MANUAL	PLOTSNAP	Manual (field guide) version number
2.4.57	-	MANUAL_DB	PLOT	Manual version of the data
10.2.30	-	MANUAL_DB	PLOTSNAP	Manual version of the data
11.3.5	-	MANUAL_END	REF_FOREST_TYPE	Manual end
11.28.5	-	MANUAL_END	REF_FVS_LOC_NAME	Manual end
11.27.5	-	MANUAL_END	REF_FVS_VAR_NAME	Manual end
11.8.9	-	MANUAL_END	REF_INVASIVE_SPECIES	Manual end
2.4.62	-	MANUAL_NCRS	PLOT	Manual (field guide) version number, North Central Research Station
2.4.63	-	MANUAL_NERS	PLOT	Manual (field guide) version number, Northeastern Research Station
2.4.64	-	MANUAL_RMRS	PLOT	Manual (field guide) version number, Rocky Mountain Research Station
11.3.4	-	MANUAL_START	REF_FOREST_TYPE	Manual start
11.28.4	-	MANUAL_START	REF_FVS_LOC_NAME	Manual start
11.27.4	-	MANUAL_START	REF_FVS_VAR_NAME	Manual start
11.8.8	-	MANUAL_START	REF_INVASIVE_SPECIES	Manual start
2.5.18	-	MAPDEN	COND	Mapping density
3.1.176	-	MASTCD	TREE	Mast code
11.13.3	-	MAX_ELEV	REF_STATE_ELEV	Maximum elevation
11.5.28	-	MC_PCT_GREEN_BARK	REF_SPECIES	Moisture content of green bark as a percent of oven-dry weight
11.5.29	-	MC_PCT_GREEN_BARK_CIT	REF_SPECIES	Citation for MC_PCT_GREEN_BARK
11.5.26	-	MC_PCT_GREEN_WOOD	REF_SPECIES	Moisture content of green wood as a percent of oven-dry weight

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
11.5.27	-	MC_PCT_GREEN_WOOD_CIT	REF_SPECIES	Citation for MC_PCT_GREEN_WOOD
11.3.2	-	MEANING	REF_FOREST_TYPE	Meaning
11.4.2	-	MEANING	REF_FOREST_TYPE_GROUP	Meaning
11.17.6	-	MEANING	REF_NVCS_LEVEL_1_CODES	Meaning
11.18.6	-	MEANING	REF_NVCS_LEVEL_2_CODES	Meaning
11.19.6	-	MEANING	REF_NVCS_LEVEL_3_CODES	Meaning
11.20.6	-	MEANING	REF_NVCS_LEVEL_4_CODES	Meaning
11.21.6	-	MEANING	REF_NVCS_LEVEL_5_CODES	Meaning
11.22.6	-	MEANING	REF_NVCS_LEVEL_6_CODES	Meaning
11.23.6	-	MEANING	REF_NVCS_LEVEL_7_CODES	Meaning
11.24.6	-	MEANING	REF_NVCS_LEVEL_8_CODES	Meaning
11.29.2	-	MEANING	REF_OWNGRPCD	Owner group code meaning
11.14.3	-	MEANING	REF_UNIT	Meaning
5.1.7	-	MEASDAY	DWM_VISIT	Measurement day
2.4.14	1.13.3	MEASDAY	PLOT	Measurement day
10.2.14	-	MEASDAY	PLOTSNAP	Measurement day
5.1.8	-	MEASMON	DWM_VISIT	Measurement month
2.4.13	1.13.2	MEASMON	PLOT	Measurement month
10.2.13	-	MEASMON	PLOTSNAP	Measurement month
5.8.5	-	MEASYEAR	COND_DWM_CALC	Measurement year
5.2.10	-	MEASYEAR	DWM_COARSE_WOODY_DEBRIS	Measurement year
5.3.10	-	MEASYEAR	DWM_DUFF_LITTER_FUEL	Measurement year
5.4.10	-	MEASYEAR	DWM_FINE_WOODY_DEBRIS	Measurement year
5.5.8	-	MEASYEAR	DWM_MICROPLOT_FUEL	Measurement year
5.6.9	-	MEASYEAR	DWM_RESIDUALPILE	Measurement year
5.7.10	-	MEASYEAR	DWM_TRANSECT_SEGMENT	Measurement year
5.1.9	-	MEASYEAR	DWM_VISIT	Measurement year
2.4.12	1.13.1	MEASYEAR	PLOT	Measurement year
10.2.12	-	MEASYEAR	PLOTSNAP	Measurement year
5.4.19	-	MEDIUM_TL_COND	DWM_FINE_WOODY_DEBRIS	Medium-size class transect length in condition
5.4.20	-	MEDIUM_TL_PLOT	DWM_FINE_WOODY_DEBRIS	Medium-size class transect length on plot
5.4.21	-	MEDIUM_TL_UNADJ	DWM_FINE_WOODY_DEBRIS	Medium-size class transect length on plot, unadjusted
5.4.12	-	MEDIUMCT	DWM_FINE_WOODY_DEBRIS	Medium-size class count
3.10.21	-	METHOD	SITETREE	Site tree method code

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
3.3.13	-	MICR_COMPONENT_AL_FOREST	TREE_GRM_COMPONENT	Trees with DIA \geq 1.0 inch - growth component for the all live estimation type on forest land
3.3.33	-	MICR_COMPONENT_AL_TIMBER	TREE_GRM_COMPONENT	Trees with DIA \geq 1.0 inch - growth component for the all live estimation type on timberland
5.5.24	-	MICR_SAMPLE_METHOD	DWM_MICROPLOT_FUEL	Microplot sample method
5.1.21	-	MICR_SAMPLE_METHOD	DWM_VISIT	Microplot sample method
3.3.14	-	MICR_SUBTYP_GRM_AL_FOREST	TREE_GRM_COMPONENT	Trees with DIA \geq 1.0 inch - plot type for GRM for the all live estimation type on forest land
3.3.34	-	MICR_SUBPTYP_GRM_AL_TIMBER	TREE_GRM_COMPONENT	Trees with DIA \geq 1.0 inch - plot type for GRM for the all live estimation type on timberland
3.3.15	-	MICR_TPAGROW_UNADJ_AL_FOR EST	TREE_GRM_COMPONENT	Trees with DIA \geq 1.0 inch - unadjusted trees per acre for growth for the all live estimation type on forest land
3.3.35	-	MICR_TPAGROW_UNADJ_AL_TIM BER	TREE_GRM_COMPONENT	Trees with DIA \geq 1.0 inch - unadjusted trees per acre for growth for the all live estimation type on timberland
3.3.17	-	MICR_TPAMORT_UNADJ_AL_FORE ST	TREE_GRM_COMPONENT	Trees with DIA \geq 1.0 inch - unadjusted trees per acre per year for mortality for the all live estimation type on forest land
3.3.37	-	MICR_TPAMORT_UNADJ_AL_TIMB ER	TREE_GRM_COMPONENT	Trees with DIA \geq 1.0 inch - unadjusted trees per acre per year for mortality for the all live estimation type on timberland
3.3.16	-	MICR_TPAREMV_UNADJ_AL_FORE ST	TREE_GRM_COMPONENT	Trees with DIA \geq 1.0 inch - unadjusted trees per acre per year for removals for the all live estimation type on forest land
3.3.36	-	MICR_TPAREMV_UNADJ_AL_TIMB ER	TREE_GRM_COMPONENT	Trees with DIA \geq 1.0 inch - unadjusted trees per acre per year for removals for the all live estimation type on timberland
2.6.12	3.7	MICRCOND	SUBPLOT	Microplot center condition

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
2.7.16	-	MICRCOND_PROP	SUBP_COND	Microplot-condition proportion
2.4.38	-	MICROPLOT_LOC	PLOT	Microplot location
10.2.40	-	MICROPLOT_LOC	PLOTSNAP	Microplot location
6.2.13	-	MICROPLOT_SITE_LIMITATIONS	SUBPLOT_REGEN	Microplot site limitations
2.5.30	-	MICRPROP_UNADJ	COND	Microplot proportion unadjusted
7.2.13	-	MICROQUAD	GRND_LYR_FNCTL_GRP	Microquadrat number (Interior Alaska)
7.3.13	-	MICROQUAD	GRND_LYR_MICROQUAD	Microquadrat number (Interior Alaska)
7.3.15	-	MICROQUAD_STATUS_CD	GRND_LYR_MICROQUAD	Microquadrat status code (Interior Alaska)
11.13.2	-	MIN_ELEV	REF_STATE_ELEV	Minimum elevation
3.1.80	5.26	MIST_CL_CD	TREE	Mistletoe class code
3.1.107	-	MIST_CL_CD_PNWRS	TREE	Leafy mistletoe class code, Pacific Northwest Research Station
2.5.62	-	MIXEDCONFCD	COND	Mixed conifer code
3.8.5	-	MODIFIED_BY	BEGINEND	Modified by
2.5.75	-	MODIFIED_BY	COND	Modified by
5.8.100	-	MODIFIED_BY	COND_DWM_CALC	Modified by
2.3.9	-	MODIFIED_BY	COUNTY	Modified by
5.2.38	-	MODIFIED_BY	DWM_COARSE_WOODY_DEB_RIS	Modified by
5.3.18	-	MODIFIED_BY	DWM_DUFF_LITTER_FUEL	Modified by
5.4.28	-	MODIFIED_BY	DWM_FINE_WOODY_DEBRIS	Modified by
5.5.21	-	MODIFIED_BY	DWM_MICROPLOT_FUEL	Modified by
5.6.29	-	MODIFIED_BY	DWM_RESIDUALPILE	Modified by
5.7.21	-	MODIFIED_BY	DWM_TRANSECT_SEGMENT	Modified by
5.1.16	-	MODIFIED_BY	DWM_VISIT	Modified by
7.1.18	-	MODIFIED_BY	GRND_CVR	Modified by
7.2.18	-	MODIFIED_BY	GRND_LYR_FNCTL_GRP	Modified by
7.3.18	-	MODIFIED_BY	GRND_LYR_MICROQUAD	Modified by
4.1.17	-	MODIFIED_BY	INVASIVE_SUBPLOT_SPP	Modified by
4.3.16	-	MODIFIED_BY	P2VEG_SUBP_STRUCTURE	Modified by
4.2.19	-	MODIFIED_BY	P2VEG_SUBPLOT_SPP	Modified by
2.4.35	-	MODIFIED_BY	PLOT	Modified by
6.1.12	-	MODIFIED_BY	PLOT_REGEN	Modified by
10.1.18	-	MODIFIED_BY	PLOTGEOM	Modified by
10.2.37	-	MODIFIED_BY	PLOTSNAP	Modified by

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
9.1.17	-	MODIFIED_BY	POP_ESTN_UNIT	Modified by
9.2.19	-	MODIFIED_BY	POP_EVAL	Modified by
9.3.8	-	MODIFIED_BY	POP_EVAL_ATTRIBUTE	Modified by
9.4.10	-	MODIFIED_BY	POP_EVAL_GRP	Modified by
9.5.8	-	MODIFIED_BY	POP_EVAL_TYP	Modified by
9.6.16	-	MODIFIED_BY	POP_PLOT_STRATUM_ASSGN	Modified by
9.7.22	-	MODIFIED_BY	POP_STRATUM	Modified by
2.2.7	-	MODIFIED_BY	PROJECT	Modified by
11.11.6	-	MODIFIED_BY	REF_CITATION	Modified by
11.25.8	-	MODIFIED_BY	REF_DAMAGE_AGENT	Modified by
11.26.6	-	MODIFIED_BY	REF_DAMAGE_AGENT_GROUP	Modified by
11.30.81	-	MODIFIED_BY	REF_DIFFERENCE_TEST_PER_ACRE	Modified by
11.31.61	-	MODIFIED_BY	REF_DIFFERENCE_TEST_TOTALS	Modified by
11.12.7	-	MODIFIED_BY	REF_FIADB_VERSION	Modified by
11.3.10	-	MODIFIED_BY	REF_FOREST_TYPE	Modified by
11.4.20	-	MODIFIED_BY	REF_FOREST_TYPE_GROUP	Modified by
11.28.10	-	MODIFIED_BY	REF_FVS_LOC_NAME	Modified by
11.27.10	-	MODIFIED_BY	REF_FVS_VAR_NAME	Modified by
11.33.13	-	MODIFIED_BY	REF_GRM_TYPE	Modified by
11.9.10	-	MODIFIED_BY	REF_HABTYP_DESCRIPTION	Modified by
11.10.10	-	MODIFIED_BY	REF_HABTYP_PUBLICATION	Modified by
11.34.7	-	MODIFIED_BY	REF_INTL_TO_DOYLE_FACTOR	Modified by
11.8.14	-	MODIFIED_BY	REF_INVASIVE_SPECIES	Modified by
11.16.39	-	MODIFIED_BY	REF_NVCS_HIERARCHY_STRUCT	Modified by
11.17.11	-	MODIFIED_BY	REF_NVCS_LEVEL_1_CODES	Modified by
11.18.11	-	MODIFIED_BY	REF_NVCS_LEVEL_2_CODES	Modified by
11.19.11	-	MODIFIED_BY	REF_NVCS_LEVEL_3_CODES	Modified by
11.20.11	-	MODIFIED_BY	REF_NVCS_LEVEL_4_CODES	Modified by
11.21.11	-	MODIFIED_BY	REF_NVCS_LEVEL_5_CODES	Modified by
11.22.11	-	MODIFIED_BY	REF_NVCS_LEVEL_6_CODES	Modified by
11.23.11	-	MODIFIED_BY	REF_NVCS_LEVEL_7_CODES	Modified by
11.24.11	-	MODIFIED_BY	REF_NVCS_LEVEL_8_CODES	Modified by
11.29.6	-	MODIFIED_BY	REF_OWNGRPCD	Modified by
11.6.37	-	MODIFIED_BY	REF_PLANT_DICTIONARY	Modified by
11.1.13	-	MODIFIED_BY	REF_POP_ATTRIBUTE	Modified by

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
11.2.10	-	MODIFIED_BY	REF_POP_EVAL_TYP_DESCR	Modified by
11.15.9	-	MODIFIED_BY	REF_RESEARCH_STATION	Modified by
11.32.9	-	MODIFIED_BY	REF_SIEQN	Modified by
11.13.9	-	MODIFIED_BY	REF_STATE_ELEV	Modified by
11.14.7	-	MODIFIED_BY	REF_UNIT	Modified by
3.9.18	-	MODIFIED_BY	SEEDLING	Modified by
6.3.20	-	MODIFIED_BY	SEEDLING_REGEN	Modified by
3.10.27	-	MODIFIED_BY	SITETREE	Modified by
2.7.13	-	MODIFIED_BY	SUBP_COND	Modified by
2.9.13	-	MODIFIED_BY	SUBP_COND_CHNG_MTRX	Modified by
8.2.59	-	MODIFIED_BY	SUBP_SOIL_SAMPLE_LAYER	Modified by
8.1.34	-	MODIFIED_BY	SUBP_SOIL_SAMPLE_LOC	Modified by
2.6.23	-	MODIFIED_BY	SUBPLOT	Modified by
6.2.17	-	MODIFIED_BY	SUBPLOT_REGEN	Modified by
2.1.13	-	MODIFIED_BY	SURVEY	Modified by
3.1.74	-	MODIFIED_BY	TREE	Modified by
3.6.70	-	MODIFIED_BY	TREE_GRM_BEGIN	Modified by
3.3.80	-	MODIFIED_BY	TREE_GRM_COMPONENT	Modified by
3.7.47	-	MODIFIED_BY	TREE_GRM_ESTN	Modified by
3.5.70	-	MODIFIED_BY	TREE_GRM_MIDPT	Modified by
3.4.71	-	MODIFIED_BY	TREE_GRM_THRESHOLD	Modified by
3.2.19	-	MODIFIED_BY	TREE_WOODLAND_STEMS	Modified by
3.8.6	-	MODIFIED_DATE	BEGINEND	Modified date
2.5.76	-	MODIFIED_DATE	COND	Modified date
5.8.101	-	MODIFIED_DATE	COND_DWM_CALC	Modified date
2.3.10	-	MODIFIED_DATE	COUNTY	Modified date
5.2.39	-	MODIFIED_DATE	DWM_COARSE_WOODY_DEB_RIS	Modified date
5.3.19	-	MODIFIED_DATE	DWM_DUFF_LITTER_FUEL	Modified date
5.4.29	-	MODIFIED_DATE	DWM_FINE_WOODY_DEBRIS	Modified date
5.5.22	-	MODIFIED_DATE	DWM_MICROPLOT_FUEL	Modified date
5.6.31	-	MODIFIED_DATE	DWM_RESIDUAL_PILE	Modified date
5.7.23	-	MODIFIED_DATE	DWM_TRANSECT_SEGMENT	Modified date
5.1.17	-	MODIFIED_DATE	DWM_VISIT	Modified date
7.1.19	-	MODIFIED_DATE	GRND_CVR	Modified date
7.2.19	-	MODIFIED_DATE	GRND_LYR_FNCTL_GRP	Modified date
7.3.19	-	MODIFIED_DATE	GRND_LYR_MICROQUAD	Modified date
4.1.18	-	MODIFIED_DATE	INVASIVE_SUBPLOT_SPP	Modified date
4.3.17	-	MODIFIED_DATE	P2VEG_SUBP_STRUCTURE	Modified date

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
4.2.20	-	MODIFIED_DATE	P2VEG_SUBPLOT_SPP	Modified date
2.4.36	-	MODIFIED_DATE	PLOT	Modified date
6.1.13	-	MODIFIED_DATE	PLOT_REGEN	Modified date
10.1.19	-	MODIFIED_DATE	PLOTGEOM	Modified date
10.2.38	-	MODIFIED_DATE	PLOTSNAP	Modified date
9.1.18	-	MODIFIED_DATE	POP_ESTN_UNIT	Modified date
9.2.20	-	MODIFIED_DATE	POP_EVAL	Modified date
9.3.9	-	MODIFIED_DATE	POP_EVAL_ATTRIBUTE	Modified date
9.4.11	-	MODIFIED_DATE	POP_EVAL_GRP	Modified date
9.5.9	-	MODIFIED_DATE	POP_EVAL_TYP	Modified date
9.6.17	-	MODIFIED_DATE	POP_PLOT_STRATUM_ASSGN	Modified date
9.7.23	-	MODIFIED_DATE	POP_STRATUM	Modified date
2.2.8	-	MODIFIED_DATE	PROJECT	Modified date
11.11.7	-	MODIFIED_DATE	REF_CITATION	Modified date
11.25.9	-	MODIFIED_DATE	REF_DAMAGE_AGENT	Modified date
11.26.7	-	MODIFIED_DATE	REF_DAMAGE_AGENT_GROUP	Modified date
11.30.82	-	MODIFIED_DATE	REF_DIFFERENCE_TEST_PER_ACRE	Modified date
11.31.62	-	MODIFIED_DATE	REF_DIFFERENCE_TEST_TOTALS	Modified date
11.12.8	-	MODIFIED_DATE	REF_FIADB_VERSION	Modified date
11.3.11	-	MODIFIED_DATE	REF_FOREST_TYPE	Modified date
11.4.21	-	MODIFIED_DATE	REF_FOREST_TYPE_GROUP	Modified date
11.28.11	-	MODIFIED_DATE	REF_FVS_LOC_NAME	Modified date
11.27.11	-	MODIFIED_DATE	REF_FVS_VAR_NAME	Modified date
11.33.14	-	MODIFIED_DATE	REF_GRM_TYPE	Modified date
11.38.10	-	MODIFIED_DATE	REF_GRND_LYR	Modified date
11.9.11	-	MODIFIED_DATE	REF_HABTYP_DESCRIPTION	Modified date
11.10.11	-	MODIFIED_DATE	REF_HABTYP_PUBLICATION	Modified date
11.34.8	-	MODIFIED_DATE	REF_INTL_TO_DOYLE_FACTOR	Modified date
11.8.15	-	MODIFIED_DATE	REF_INVASIVE_SPECIES	Modified date
11.16.40	-	MODIFIED_DATE	REF_NVCS_HIERARCHY_STRUCT	Modified date
11.17.12	-	MODIFIED_DATE	REF_NVCS_LEVEL_1_CODES	Modified date
11.18.12	-	MODIFIED_DATE	REF_NVCS_LEVEL_2_CODES	Modified date
11.19.12	-	MODIFIED_DATE	REF_NVCS_LEVEL_3_CODES	Modified date
11.20.12	-	MODIFIED_DATE	REF_NVCS_LEVEL_4_CODES	Modified date
11.21.12	-	MODIFIED_DATE	REF_NVCS_LEVEL_5_CODES	Modified date

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
11.22.12	-	MODIFIED_DATE	REF_NVCS_LEVEL_6_CODES	Modified date
11.23.12	-	MODIFIED_DATE	REF_NVCS_LEVEL_7_CODES	Modified date
11.24.12	-	MODIFIED_DATE	REF_NVCS_LEVEL_8_CODES	Modified date
11.29.7	-	MODIFIED_DATE	REF_OWNGRPCD	Modified date
11.6.38	-	MODIFIED_DATE	REF_PLANT_DICTIONARY	Modified date
11.1.14	-	MODIFIED_DATE	REF_POP_ATTRIBUTE	Modified date
11.2.11	-	MODIFIED_DATE	REF_POP_EVAL_TYP_DESCR	Modified date
11.15.10	-	MODIFIED_DATE	REF_RESEARCH_STATION	Modified date
11.32.10	-	MODIFIED_DATE	REF_SIEQN	Modified date
11.5.81	-	MODIFIED_DATE	REF_SPECIES	Modified date
11.7.6	-	MODIFIED_DATE	REF_SPECIES_GROUP	Modified date
11.13.10	-	MODIFIED_DATE	REF_STATE_ELEV	Modified date
11.14.8	-	MODIFIED_DATE	REF_UNIT	Modified date
3.9.19	-	MODIFIED_DATE	SEEDLING	Modified date
6.3.21	-	MODIFIED_DATE	SEEDLING_REGEN	Modified date
3.10.28	-	MODIFIED_DATE	SITETREE	Modified date
2.7.14	-	MODIFIED_DATE	SUBP_COND	Modified date
2.9.14	-	MODIFIED_DATE	SUBP_COND_CHNG_MTRX	Modified date
8.2.60	-	MODIFIED_DATE	SUBP_SOIL_SAMPLE_LAYER	Modified date
8.1.35	-	MODIFIED_DATE	SUBP_SOIL_SAMPLE_LOC	Modified date
2.6.24	-	MODIFIED_DATE	SUBPLOT	Modified date
6.2.18	-	MODIFIED_DATE	SUBPLOT_REGEN	Modified date
2.1.14	-	MODIFIED_DATE	SURVEY	Modified date
3.1.75	-	MODIFIED_DATE	TREE	Modified date
3.6.71	-	MODIFIED_DATE	TREE_GRM_BEGIN	Modified date
3.3.81	-	MODIFIED_DATE	TREE_GRM_COMPONENT	Modified date
3.7.48	-	MODIFIED_DATE	TREE_GRM_ESTN	Modified date
3.5.71	-	MODIFIED_DATE	TREE_GRM_MIDPT	Modified date
3.4.72	-	MODIFIED_DATE	TREE_GRM_THRESHOLD	Modified date
3.2.20	-	MODIFIED_DATE	TREE_WOODLAND_STEMS	Modified date
3.8.7	-	MODIFIED_IN_INSTANCE	BEGINEND	Modified in instance
2.5.77	-	MODIFIED_IN_INSTANCE	COND	Modified in instance
5.8.102	-	MODIFIED_IN_INSTANCE	COND_DWM_CALC	Modified in instance
2.3.11	-	MODIFIED_IN_INSTANCE	COUNTY	Modified in instance
5.2.40	-	MODIFIED_IN_INSTANCE	DWM_COARSE_WOODY_DEB_RIS	Modified in instance
5.3.20	-	MODIFIED_IN_INSTANCE	DWM_DUFF_LITTER_FUEL	Modified in instance
5.4.30	-	MODIFIED_IN_INSTANCE	DWM_FINE_WOODY_DEBRIS	Modified in instance
5.5.23	-	MODIFIED_IN_INSTANCE	DWM_MICROPLOT_FUEL	Modified in instance

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
5.6.30	-	MODIFIED_IN_INSTANCE	DWM_RESIDUAL_PILE	Modified in instance
5.7.22	-	MODIFIED_IN_INSTANCE	DWM_TRANSECT_SEGMENT	Modified in instance
5.1.18	-	MODIFIED_IN_INSTANCE	DWM_VISIT	Modified in instance
7.1.20	-	MODIFIED_IN_INSTANCE	GRND_CVR	Modified in instance
7.2.20	-	MODIFIED_IN_INSTANCE	GRND_LYR_FNCTL_GRP	Modified in instance
7.3.20	-	MODIFIED_IN_INSTANCE	GRND_LYR_MICROQUAD	Modified in instance
4.1.19	-	MODIFIED_IN_INSTANCE	INVASIVE_SUBPLOT_SPP	Modified in instance
4.3.18	-	MODIFIED_IN_INSTANCE	P2VEG_SUBP_STRUCTURE	Modified in instance
4.2.21	-	MODIFIED_IN_INSTANCE	P2VEG_SUBPLOT_SPP	Modified in instance
2.4.37	-	MODIFIED_IN_INSTANCE	PLOT	Modified in instance
6.1.14	-	MODIFIED_IN_INSTANCE	PLOT_REGEN	Modified in instance
10.1.20	-	MODIFIED_IN_INSTANCE	PLOTGEOM	Modified in instance
10.2.39	-	MODIFIED_IN_INSTANCE	PLOTSNAP	Modified in instance
9.1.19	-	MODIFIED_IN_INSTANCE	POP_ESTN_UNIT	Modified in instance
9.2.21	-	MODIFIED_IN_INSTANCE	POP_EVAL	Modified in instance
9.3.10	-	MODIFIED_IN_INSTANCE	POP_EVAL_ATTRIBUTE	Modified in instance
9.4.12	-	MODIFIED_IN_INSTANCE	POP_EVAL_GRP	Modified in instance
9.5.10	-	MODIFIED_IN_INSTANCE	POP_EVAL_TYP	Modified in instance
9.6.18	-	MODIFIED_IN_INSTANCE	POP_PLOT_STRATUM_ASSGN	Modified in instance
9.7.24	-	MODIFIED_IN_INSTANCE	POP_STRATUM	Modified in instance
2.2.9	-	MODIFIED_IN_INSTANCE	PROJECT	Modified in instnace
11.11.8	-	MODIFIED_IN_INSTANCE	REF_CITATION	Modified in instance
11.25.10	-	MODIFIED_IN_INSTANCE	REF_DAMAGE_AGENT	Modified in instance
11.26.8	-	MODIFIED_IN_INSTANCE	REF_DAMAGE_AGENT_GROUP	Modified in instance
11.30.83	-	MODIFIED_IN_INSTANCE	REF_DIFFERENCE_TEST_PER_ACRE	Modified in instance
11.31.63	-	MODIFIED_IN_INSTANCE	REF_DIFFERENCE_TEST_TOTALS	Modified in instance
11.12.9	-	MODIFIED_IN_INSTANCE	REF_FIADB_VERSION	Modified in instance
11.3.12	-	MODIFIED_IN_INSTANCE	REF_FOREST_TYPE	Modified in instance
11.4.22	-	MODIFIED_IN_INSTANCE	REF_FOREST_TYPE_GROUP	Modified in instance
11.28.12	-	MODIFIED_IN_INSTANCE	REF_FVS_LOC_NAME	Modified in instance
11.27.12	-	MODIFIED_IN_INSTANCE	REF_FVS_VAR_NAME	Modified in instance
11.33.15	-	MODIFIED_IN_INSTANCE	REF_GRM_TYPE	Modified in instance
11.9.12	-	MODIFIED_IN_INSTANCE	REF_HABTYP_DESCRIPTION	Modified in instance
11.10.12	-	MODIFIED_IN_INSTANCE	REF_HABTYP_PUBLICATION	Modified in instance
11.34.9	-	MODIFIED_IN_INSTANCE	REF_INTL_TO_DOYLE_FACTO R	Modified in instance
11.8.16	-	MODIFIED_IN_INSTANCE	REF_INVASIVE_SPECIES	Modified in instance

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
11.16.41	-	MODIFIED_IN_INSTANCE	REF_NVCS_HIERARCHY_STRUCT	Modified in instance
11.17.13	-	MODIFIED_IN_INSTANCE	REF_NVCS_LEVEL_1_CODES	Modified in instance
11.18.13	-	MODIFIED_IN_INSTANCE	REF_NVCS_LEVEL_2_CODES	Modified in instance
11.19.13	-	MODIFIED_IN_INSTANCE	REF_NVCS_LEVEL_3_CODES	Modified in instance
11.20.13	-	MODIFIED_IN_INSTANCE	REF_NVCS_LEVEL_4_CODES	Modified in instance
11.21.13	-	MODIFIED_IN_INSTANCE	REF_NVCS_LEVEL_5_CODES	Modified in instance
11.22.13	-	MODIFIED_IN_INSTANCE	REF_NVCS_LEVEL_6_CODES	Modified in instance
11.23.13	-	MODIFIED_IN_INSTANCE	REF_NVCS_LEVEL_7_CODES	Modified in instance
11.24.13	-	MODIFIED_IN_INSTANCE	REF_NVCS_LEVEL_8_CODES	Modified in instance
11.29.8	-	MODIFIED_IN_INSTANCE	REF_OWNGRPCD	Modified in instance
11.6.39	-	MODIFIED_IN_INSTANCE	REF_PLANT_DICTIONARY	Modified in instance
11.1.15	-	MODIFIED_IN_INSTANCE	REF_POP_ATTRIBUTE	Modified in instance
11.2.12	-	MODIFIED_IN_INSTANCE	REF_POP_EVAL_TYP_DESCR	Modified in instance
11.15.11	-	MODIFIED_IN_INSTANCE	REF_RESEARCH_STATION	Modified in instance
11.32.11	-	MODIFIED_IN_INSTANCE	REF_SIEQN	Modified in instance
11.13.11	-	MODIFIED_IN_INSTANCE	REF_STATE_ELEV	Modified in instance
11.14.9	-	MODIFIED_IN_INSTANCE	REF_UNIT	Modified in instance
3.9.20	-	MODIFIED_IN_INSTANCE	SEEDLING	Modified in instance
6.3.22	-	MODIFIED_IN_INSTANCE	SEEDLING_REGEN	Modified in instance
3.10.29	-	MODIFIED_IN_INSTANCE	SITETREE	Modified in instance
2.7.15	-	MODIFIED_IN_INSTANCE	SUBP_COND	Modified in instance
2.9.15	-	MODIFIED_IN_INSTANCE	SUBP_COND_CHNG_MTRX	Modified in instance
8.2.61	-	MODIFIED_IN_INSTANCE	SUBP_SOIL_SAMPLE_LAYER	Modified in instance
8.1.36	-	MODIFIED_IN_INSTANCE	SUBP_SOIL_SAMPLE_LOC	Modified in instance
2.6.25	-	MODIFIED_IN_INSTANCE	SUBPLOT	Modified in instance
6.2.19	-	MODIFIED_IN_INSTANCE	SUBPLOT_REGEN	Modified in instance
2.1.15	-	MODIFIED_IN_INSTANCE	SURVEY	Modified in instance
3.1.76	-	MODIFIED_IN_INSTANCE	TREE	Modified in instance
3.6.72	-	MODIFIED_IN_INSTANCE	TREE_GRM_BEGIN	Modified in instance
3.3.82	-	MODIFIED_IN_INSTANCE	TREE_GRM_COMPONENT	Modified in instance
3.7.49	-	MODIFIED_IN_INSTANCE	TREE_GRM_ESTN	Modified in instance
3.5.72	-	MODIFIED_IN_INSTANCE	TREE_GRM_MIDPT	Modified in instance
3.4.73	-	MODIFIED_IN_INSTANCE	TREE_GRM_THRESHOLD	Modified in instance
3.2.21	-	MODIFIED_IN_INSTANCE	TREE_WOODLAND_STEMS	Modified in instance
2.4.24	-	MORT_TYP_CD	PLOT	Type of annual mortality volume code
10.2.24	-	MORT_TYP_CD	PLOTSNAP	Type of annual mortality volume code

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
11.33.8	-	MORT_TYP_CD	REF_GRM_TYPE	Type of annual mortality volume code
3.7.18	-	MORTALITY	TREE_GRM_ESTN	Mortality estimate
3.3.64	-	MORTBFSL_FOREST	TREE_GRM_COMPONENT	Merchantable board-foot wood volume of a sawtimber tree for mortality purposes on forest land
3.3.76	-	MORTBFSL_TIMBER	TREE_GRM_COMPONENT	Merchantable board-foot wood volume of a sawtimber tree for mortality purposes on timberland
3.1.77	5.7.3	MORTCD	TREE	Mortality code
3.3.62	-	MORTCFAL_FOREST	TREE_GRM_COMPONENT	Sound cubic-foot stem wood volume of a tree for mortality purposes for the all live estimation type on forest land
3.3.74	-	MORTCFAL_TIMBER	TREE_GRM_COMPONENT	Sound cubic-foot stem wood volume of a tree for mortality purposes for the all live estimation type on timberland
3.3.63	-	MORTCFG_S_FOREST	TREE_GRM_COMPONENT	Merchantable cubic-foot stem wood volume of a growing-stock tree for mortality purposes on forest land
3.3.75	-	MORTCFG_S_TIMBER	TREE_GRM_COMPONENT	Merchantable cubic-foot stem wood volume of a growing-stock tree for mortality purposes on timberland
3.3.61	-	MORTTSAL_FOREST	TREE_GRM_COMPONENT	Sound cubic-foot total-stem wood volume of a tree for mortality purposes for the all live estimation type on forest land
3.3.73	-	MORTTSAL_TIMBER	TREE_GRM_COMPONENT	Sound cubic-foot total-stem wood volume of a tree for mortality purposes for the all live estimation type on timberland
3.1.46	5.22	MORTYR	TREE	Mortality year
7.2.25	-	MQUADPAC_UNADJ	GRND_LYR_FNCTL_GRP	Microquadrat area expansion to acre, unadjusted

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
2.5.156	-	MQUADPROP_UNADJ	COND	Microquadrat proportion unadjusted
		N		
8.2.54	-	N_MG_AC	SUBP_SOIL_SAMPLE_LAYER	Nitrogen content per acre
8.2.55	-	N_MIN3_MG_AC	SUBP_SOIL_SAMPLE_LAYER	Nitrogen content 3-inch depth per acre
8.1.29	-	N_TOT_3IN_MG_AC	SUBP_SOIL_SAMPLE_LOC	Total nitrogen per acre, 3 inches depth
8.2.53	-	N_TOTAL_PCT	SUBP_SOIL_SAMPLE_LAYER	Total nitrogen percent
2.2.3	-	NAME	PROJECT	Project name
11.7.2	-	NAME	REF_SPECIES_GROUP	Name
2.5.99	-	NBR_LIVE_STEMS	COND	Number of live stems
11.6.6	-	NEW_SCIENTIFIC_NAME	REF_PLANT_DICTIONARY	New scientific name
11.6.5	-	NEW_SYMBOL	REF_PLANT_DICTIONARY	New symbol
2.5.95	-	NF_COND_NONSAMPLE_REASN_CD	COND	Nonforest condition nonsampled reason code
2.5.94	-	NF_COND_STATUS_CD	COND	Nonforest condition status code
2.4.51	-	NF_PLOT_NONSAMPLE_REASN_CD	PLOT	Nonforest plot nonsampled reason code
2.4.50	-	NF_PLOT_STATUS_CD	PLOT	Nonforest plot status code
2.4.49	-	NF_SAMPLING_STATUS_CD	PLOT	Nonforest sampling status code
2.6.30	-	NF_SUBP_NONSAMPLE_REASN_CD	SUBPLOT	Nonforest subplot/macroplot nonsampled reason code
2.6.29	-	NF_SUBP_STATUS_CD	SUBPLOT	Nonforest subplot/macroplot status code
7.2.29	-	NITROGEN	GRND_LYR_FNCTL_GRP	Functional group nitrogen
11.38.5	-	NITROGEN_PCT	REF_GRND_LYR	Nitrogen percent
2.7.20	-	NONFR_INCL_PCT_MACRO	SUBP_COND	Nonforest inclusions percentage of macroplot
2.7.19	-	NONFR_INCL_PCT_SUBP	SUBP_COND	Nonforest inclusions percentage of subplot
11.17.7	-	NOTE	REF_NVCS_LEVEL_1_CODES	Note
11.18.7	-	NOTE	REF_NVCS_LEVEL_2_CODES	Note
11.19.7	-	NOTE	REF_NVCS_LEVEL_3_CODES	Note
11.20.7	-	NOTE	REF_NVCS_LEVEL_4_CODES	Note
11.21.7	-	NOTE	REF_NVCS_LEVEL_5_CODES	Note
11.22.7	-	NOTE	REF_NVCS_LEVEL_6_CODES	Note
11.23.7	-	NOTE	REF_NVCS_LEVEL_7_CODES	Note

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
11.24.7	-	NOTE	REF_NVCS_LEVEL_8_CODES	Note
9.2.15	-	NOTES	POP_EVAL	Notes
9.4.6	-	NOTES	POP_EVAL_GRP	Notes
11.8.10	-	NOTES	REF_INVASIVE_SPECIES	Notes
11.6.33	-	NOTES	REF_PLANT_DICTIONARY	Notes
11.1.4	-	NOTES	REF_POP_ATTRIBUTE	Notes
2.1.9	1.21	NOTES	SURVEY	Notes
11.17.5	-	NVCS_CODE	REF_NVCS_LEVEL_1_CODES	NVCS code
11.18.5	-	NVCS_CODE	REF_NVCS_LEVEL_2_CODES	NVCS code
11.19.5	-	NVCS_CODE	REF_NVCS_LEVEL_3_CODES	NVCS code
11.20.5	-	NVCS_CODE	REF_NVCS_LEVEL_4_CODES	NVCS code
11.21.5	-	NVCS_CODE	REF_NVCS_LEVEL_5_CODES	NVCS code
11.22.5	-	NVCS_CODE	REF_NVCS_LEVEL_6_CODES	NVCS code
11.23.5	-	NVCS_CODE	REF_NVCS_LEVEL_7_CODES	NVCS code
11.24.5	-	NVCS_CODE	REF_NVCS_LEVEL_8_CODES	NVCS code
2.5.109	-	NVCS_PRIMARY_CLASS	COND	Primary class
2.5.110	-	NVCS_LEVEL_1_CD	COND	Level 1 code of the NVCS
11.16.4	-	NVCS_LEVEL_1_CD	REF_NVCS_HIERARCHY_STRICT	Level 1 code of the NVCS
11.16.3	-	NVCS_LEVEL_1_LABEL	REF_NVCS_HIERARCHY_STRICT	Level 1 label of the NVCS
11.16.19	-	NVCS_LEVEL_1_MEANING	REF_NVCS_HIERARCHY_STRICT	Level 1 meaning of the NVCS
11.16.27	-	NVCS_LEVEL_1_NOTE	REF_NVCS_HIERARCHY_STRICT	Level 1 note of the NVCS
2.5.111	-	NVCS_LEVEL_2_CD	COND	Level 2 code of the NVCS
11.16.6	-	NVCS_LEVEL_2_CD	REF_NVCS_HIERARCHY_STRICT	Level 2 code of the NVCS
11.16.5	-	NVCS_LEVEL_2_LABEL	REF_NVCS_HIERARCHY_STRICT	Level 2 label of the NVCS
11.16.20	-	NVCS_LEVEL_2_MEANING	REF_NVCS_HIERARCHY_STRICT	Level 2 meaning of the NVCS
11.16.28	-	NVCS_LEVEL_2_NOTE	REF_NVCS_HIERARCHY_STRICT	Level 2 note of the NVCS
2.5.112	-	NVCS_LEVEL_3_CD	COND	Level 3 code of the NVCS
11.16.8	-	NVCS_LEVEL_3_CD	REF_NVCS_HIERARCHY_STRICT	Level 3 code of the NVCS
11.16.7	-	NVCS_LEVEL_3_LABEL	REF_NVCS_HIERARCHY_STRICT	Level 3 label of the NVCS
11.16.21	-	NVCS_LEVEL_3_MEANING	REF_NVCS_HIERARCHY_STRICT	Level 3 meaning of the NVCS

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
11.16.29	-	NVCS_LEVEL_3_NOTE	REF_NVCS_HIERARCHY_STRICT	Level 3 note of the NVCS
2.5.113	-	NVCS_LEVEL_4_CD	COND	Level 4 code of the NVCS
11.16.10	-	NVCS_LEVEL_4_CD	REF_NVCS_HIERARCHY_STRICT	Level 4 code of the NVCS
11.16.9	-	NVCS_LEVEL_4_LABEL	REF_NVCS_HIERARCHY_STRICT	Level 4 label of the NVCS
11.16.22	-	NVCS_LEVEL_4_MEANING	REF_NVCS_HIERARCHY_STRICT	Level 4 meaning of the NVCS
11.16.30	-	NVCS_LEVEL_4_NOTE	REF_NVCS_HIERARCHY_STRICT	Level 4 note of the NVCS
2.5.114	-	NVCS_LEVEL_5_CD	COND	Level 5 code of the NVCS
11.16.12	-	NVCS_LEVEL_5_CD	REF_NVCS_HIERARCHY_STRICT	Level 5 code of the NVCS
11.16.11	-	NVCS_LEVEL_5_LABEL	REF_NVCS_HIERARCHY_STRICT	Level 5 label of the NVCS
11.16.23	-	NVCS_LEVEL_5_MEANING	REF_NVCS_HIERARCHY_STRICT	Level 5 meaning of the NVCS
11.16.31	-	NVCS_LEVEL_5_NOTE	REF_NVCS_HIERARCHY_STRICT	Level 5 note of the NVCS
2.5.115	-	NVCS_LEVEL_6_CD	COND	Level 6 code of the NVCS
11.16.14	-	NVCS_LEVEL_6_CD	REF_NVCS_HIERARCHY_STRICT	Level 6 code of the NVCS
11.16.13	-	NVCS_LEVEL_6_LABEL	REF_NVCS_HIERARCHY_STRICT	Level 6 label of the NVCS
11.16.24	-	NVCS_LEVEL_6_MEANING	REF_NVCS_HIERARCHY_STRICT	Level 6 meaning of the NVCS
11.16.32	-	NVCS_LEVEL_6_NOTE	REF_NVCS_HIERARCHY_STRICT	Level 6 note of the NVCS
2.5.116	-	NVCS_LEVEL_7_CD	COND	Level 7 code of the NVCS
11.16.16	-	NVCS_LEVEL_7_CD	REF_NVCS_HIERARCHY_STRICT	Level 7 code of the NVCS
11.16.15	-	NVCS_LEVEL_7_LABEL	REF_NVCS_HIERARCHY_STRICT	Level 7 label of the NVCS
11.16.25	-	NVCS_LEVEL_7_MEANING	REF_NVCS_HIERARCHY_STRICT	Level 7 meaning of the NVCS
11.16.33	-	NVCS_LEVEL_7_NOTE	REF_NVCS_HIERARCHY_STRICT	Level 7 note of the NVCS
2.5.117	-	NVCS_LEVEL_8_CD	COND	Level 8 code of the NVCS
11.16.18	-	NVCS_LEVEL_8_CD	REF_NVCS_HIERARCHY_STRICT	Level 8 code of the NVCS
11.16.17	-	NVCS_LEVEL_8_LABEL	REF_NVCS_HIERARCHY_STRICT	Level 8 label of the NVCS

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name	
11.16.26	-	NVCS_LEVEL_8_MEANING	REF_NVCS_HIERARCHY_STRICT	Level 8 meaning of the NVCS	
11.16.34	-	NVCS_LEVEL_8_NOTE	REF_NVCS_HIERARCHY_STRICT	Level 8 note of the NVCS	
		O			
8.2.47	-	OLSEN_P	SUBP_SOIL_SAMPLE_LAYER	Olsen phosphorus	
3.8.1	-	ONEORTWO	BEGINEND	One or two	
2.5.92	-	OPERABILITY_SRS	COND	Operability, Southern Research Station	
5.2.34	-	ORNTCD_PNWRS	DWM_COARSE_WOODY_DEBRIS	Orientation code, Pacific Northwest Research Station	
2.5.12	2.5.7	OWNCD	COND	Owner class code	
2.5.13	2.5.2	OWNGRPCD	COND	Owner group code	
11.29.1	-	OWNGRPCD	REF_OWNGRPCD	Owner group code	
2.5.100	2.5.8	OWNSUBCD	COND	Owner subclass code	
		P			
11.5.13	-	P_SPGRPCD	REF_SPECIES	Pacific Islands species group code	
9.1.12	-	P1PNTCNT_EU	POP_ESTN_UNIT	Phase 1 point count for the estimation unit	
9.7.9	-	P1POINTCNT	POP_STRATUM	Phase 1 point count	
9.1.13	-	P1SOURCE	POP_ESTN_UNIT	Phase 1 source	
2.6.19	-	P2A_GRM_FLG	SUBPLOT	Periodic to annual growth, removal, and mortality flag	
3.1.84	-	P2A_GRM_FLG	TREE	Periodic to annual growth, removal, and mortality flag	
2.4.25	-	P2PANEL	PLOT	Phase 2 panel number	
10.2.25	-	P2PANEL	PLOTSNAP	Phase 2 panel number	
9.7.10	-	P2POINTCNT	POP_STRATUM	Phase 2 point count	
2.4.53	1.22.2	P2VEG_SAMPLING_LEVEL_DETAIL_CD	PLOT	P2 vegetation sampling level detail code	
2.4.52	1.22.1	P2VEG_SAMPLING_STATUS_CD	PLOT	P2 vegetation sampling status code	
2.6.32	3.13	P2VEG_SUBP_NONSAMPLE_REAS_N_CD	SUBPLOT	P2 vegetation subplot nonsampled reason code	
2.6.31	3.12	P2VEG_SUBP_STATUS_CD	SUBPLOT	P2 vegetation subplot status code	
2.1.3	-	P3_OZONE_IND	SURVEY	Phase 3 ozone indicator	
2.4.26	-	P3PANEL	PLOT	Phase 3 panel number	
10.2.26	-	P3PANEL	PLOTSNAP	Phase 3 panel number	

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
2.4.65	-	PAC_ISLAND_PNWRS	PLOT	Pacific Island name (Pacific Islands), Pacific Northwest Research Station
3.9.26	6.6.2 (SRS)	PCT_AFFECTED_DAMAGE_AGENT_1_SRS	SEEDLING	Percent affected by damage agent 1 (Caribbean Islands), Southern Research Station
3.9.28	6.6.2 (SRS)	PCT_AFFECTED_DAMAGE_AGENT_2_SRS	SEEDLING	Percent affected by damage agent 2 (Caribbean Islands), Southern Research Station
3.9.30	6.6.2 (SRS)	PCT_AFFECTED_DAMAGE_AGENT_3_SRS	SEEDLING	Percent affected by damage agent 3 (Caribbean Islands), Southern Research Station
2.5.134	-	PCTBARE_RMRS	COND	Percent bare ground, Rocky Mountain Research Station
8.2.31	-	PH_CACL2	SUBP_SOIL_SAMPLE_LAYER	pH in calcium chloride solution
8.2.30	-	PH_H2O	SUBP_SOIL_SAMPLE_LAYER	pH in water
5.8.12	-	PHASE	COND_DWM_CALC	Phase
2.5.35	2.5.27	PHYSCLCD	COND	Physiographic class code
5.6.8	-	PILE	DWM_RESIDUAL_PILE	Pile number
5.8.83	-	PILE_CARBON_ADJ	COND_DWM_CALC	Carbon density of piles, adjusted
5.8.81	-	PILE_CARBON_COND	COND_DWM_CALC	Carbon density of piles in the condition
11.4.9	-	PILE_CARBON_RATIO	REF_FOREST_TYPE_GROUP	Pile carbon ratio
5.8.82	-	PILE_CARBON_UNADJ	COND_DWM_CALC	Carbon density of piles, unadjusted
11.4.10	-	PILE_DECAY_RATIO	REF_FOREST_TYPE_GROUP	Pile decay ratio
11.4.8	-	PILE_DENSITY	REF_FOREST_TYPE_GROUP	Pile density
5.8.80	-	PILE_DRYBIO_ADJ	COND_DWM_CALC	Biomass per acre of piles, adjusted
5.8.78	-	PILE_DRYBIO_COND	COND_DWM_CALC	Biomass per acre of piles in the condition
5.8.79	-	PILE_DRYBIO_UNADJ	COND_DWM_CALC	Biomass per acre of piles, unadjusted
5.8.74	-	PILE_SAMPLE_AREA_ADJ	COND_DWM_CALC	Plot area sampled for piles in all conditions, adjusted
5.8.72	-	PILE_SAMPLE_AREA_COND	COND_DWM_CALC	Condition area sampled for piles
5.8.73	-	PILE_SAMPLE_AREA_UNADJ	COND_DWM_CALC	Plot area sampled for piles in all conditions, unadjusted

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
5.6.36	-	PILE_SAMPLE_METHOD	DWM_RESIDUAL_PILE	Pile sample method
5.1.23	-	PILE_SAMPLE_METHOD	DWM_VISIT	Pile sample method
5.8.109	-	PILE_TL_ADJ	COND_DWM_CALC	Piles transect length, adjusted
5.8.107	-	PILE_TL_COND	COND_DWM_CALC	Piles transect length in the condition
5.8.108	-	PILE_TL_UNADJ	COND_DWM_CALC	Piles transect length, unadjusted
5.8.77	-	PILE_VOLCF_ADJ	COND_DWM_CALC	Cubic-foot volume per acre of piles, adjusted
5.8.75	-	PILE_VOLCF_COND	COND_DWM_CALC	Cubic-foot volume per acre of piles in the condition
5.8.76	-	PILE_VOLCF_UNADJ	COND_DWM_CALC	Cubic-foot volume per acre of piles, unadjusted
5.4.15	-	PILESCD	DWM_FINE_WOODY_DEBRIS	Piles code
2.5.82	-	PLANT_STOCKABILITY_FACTOR_PNW	COND	Plant stockability factor, Pacific Northwest Research Station
2.5.7	-	PLOT	COND	Plot number
5.8.4	-	PLOT	COND_DWM_CALC	Plot number
5.2.6	-	PLOT	DWM_COARSE_WOODY_DEBRIS	Plot number
5.3.6	-	PLOT	DWM_DUFF_LITTER_FUEL	Plot number
5.4.6	-	PLOT	DWM_FINE_WOODY_DEBRIS	Plot number
5.5.6	-	PLOT	DWM_MICROPLOT_FUEL	Plot number
5.6.6	-	PLOT	DWM_RESIDUAL_PILE	Plot number
5.7.6	-	PLOT	DWM_TRANSECT_SEGMENT	Plot number
5.1.6	-	PLOT	DWM_VISIT	Plot number
7.1.7	-	PLOT	GRND_CVR	Plot number
7.2.4	-	PLOT	GRND_LYR_FNCTL_GRP	Plot number
7.3.10	-	PLOT	GRND_LYR_MICROQUAD	Plot number
4.1.7	-	PLOT	INVASIVE_SUBPLOT_SPP	Plot number
4.3.6	-	PLOT	P2VEG_SUBP_STRUCTURE	Plot number
4.2.7	-	PLOT	P2VEG_SUBPLOT_SPP	Plot number
2.4.9	1.3	PLOT	PLOT	Plot number
6.1.7	-	PLOT	PLOT_REGEN	Plot number
10.1.6	-	PLOT	PLOTGEOM	Plot number
10.2.9	-	PLOT	PLOTSNAP	Plot number
9.6.8	-	PLOT	POP_PLOT_STRATUM_ASSGN	Plot number
3.9.7	-	PLOT	SEEDLING	Plot number
6.3.9	-	PLOT	SEEDLING_REGEN	Plot number

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
3.10.8	-	PLOT	SITETREE	Plot number
2.7.7	-	PLOT	SUBP_COND	Plot number
8.2.6	-	PLOT	SUBP_SOIL_SAMPLE_LAYER	Plot number
8.1.5	-	PLOT	SUBP_SOIL_SAMPLE_LOC	Plot number
2.6.8	-	PLOT	SUBPLOT	Plot number
6.2.8	-	PLOT	SUBPLOT_REGEN	Plot number
3.1.8	-	PLOT	TREE	Plot number
3.2.7	-	PLOT	TREE_WOODLAND_STEMS	Plot number
2.4.11	1.7	PLOT_NONSAMPLE_REASN_CD	PLOT	Plot nonsampled reason code
10.2.11	-	PLOT_NONSAMPLE_REASN_CD	PLOTSNAP	Plot nonsampled reason code
2.4.66	-	PLOT_SEASON_NERS	PLOT	Plot accessible season, Northeastern Research Station
2.4.10	1.4	PLOT_STATUS_CD	PLOT	Plot status code
10.2.10	-	PLOT_STATUS_CD	PLOTSNAP	Plot status code
2.5.2	-	PLT_CN	COND	Plot sequence number
5.8.9	-	PLT_CN	COND_DWM_CALC	Plot sequence number
5.2.2	-	PLT_CN	DWM_COARSE_WOODY_DEB_RIS	Plot sequence number
5.3.2	-	PLT_CN	DWM_DUFF_LITTER_FUEL	Plot sequence number
5.4.2	-	PLT_CN	DWM_FINE_WOODY_DEBRIS	Plot sequence number
5.5.2	-	PLT_CN	DWM_MICROPLOT_FUEL	Plot sequence number
5.6.2	-	PLT_CN	DWM_RESIDUALPILE	Plot sequence number
5.7.2	-	PLT_CN	DWM_TRANSECT_SEGMENT	Plot sequence number
5.1.2	-	PLT_CN	DWM_VISIT	Plot sequence number
7.1.2	-	PLT_CN	GRND_CVR	Plot sequence number
7.2.5	-	PLT_CN	GRND_LYR_FNCTL_GRP	Plot sequence number
7.3.2	-	PLT_CN	GRND_LYR_MICROQUAD	Plot sequence number
4.1.2	-	PLT_CN	INVASIVE_SUBPLOT_SPP	Plot sequence number
4.3.2	-	PLT_CN	P2VEG_SUBP_STRUCTURE	Plot sequence number
4.2.2	-	PLT_CN	P2VEG_SUBPLOT_SPP	Plot sequence number
6.1.2	-	PLT_CN	PLOT_REGEN	Plot sequence number
9.6.3	-	PLT_CN	POP_PLOT_STRATUM_ASSGN	Plot sequence number
3.9.2	-	PLT_CN	SEEDLING	Plot sequence number
6.3.2	-	PLT_CN	SEEDLING_REGEN	Plot sequence number
3.10.2	-	PLT_CN	SITETREE	Plot sequence number
2.7.2	-	PLT_CN	SUBP_COND	Plot sequence number
2.9.5	-	PLT_CN	SUBP_COND_CHNG_MTRX	Plot sequence number

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
8.2.3	-	PLT_CN	SUBP_SOIL_SAMPLE_LAYER	Plot sequence number
8.1.2	-	PLT_CN	SUBP_SOIL_SAMPLE_LOC	Plot sequence number
2.6.2	-	PLT_CN	SUBPLOT	Plot sequence number
6.2.2	-	PLT_CN	SUBPLOT_REGEN	Plot sequence number
3.1.2	-	PLT_CN	TREE	Plot sequence number
3.6.3	-	PLT_CN	TREE_GRM_BEGIN	Plot sequence number
3.3.3	-	PLT_CN	TREE_GRM_COMPONENT	Plot sequence number
3.7.4	-	PLT_CN	TREE_GRM_ESTN	Plot sequence number
3.5.3	-	PLT_CN	TREE_GRM_MIDPT	Plot sequence number
3.4.3	-	PLT_CN	TREE_GRM_THRESHOLD	Plot sequence number
3.2.2	-	PLT_CN	TREE_WOODLAND_STEMS	Plot sequence number
2.6.11	3.3	POINT_NONSAMPLE_REASON_CD	SUBPLOT	Point nonsampled reason code
5.6.25	-	PPA_COND	DWM_RESIDUALPILE	Piles per acre, unadjusted, for condition estimates
5.6.24	-	PPA_PLOT	DWM_RESIDUALPILE	Piles per acre, unadjusted, for plot estimates
5.6.23	-	PPA_UNADJ	DWM_RESIDUALPILE	Piles per acre, unadjusted, for population estimates
2.4.67	-	PRECIPITATION	PLOT	Precipitation
2.5.50	-	PRESNFCD	COND	Present nonforest code
3.1.202	-	PREV_ACTUALHT_FLD	TREE	Previous actual height
3.1.149	-	PREV_ACTUALHT_RMRS	TREE	Previous actual height, Rocky Mountain Research Station
2.5.107	2.5.34	PREV_AFFORESTATION_CD	COND	Previous afforestation code
3.1.150	-	PREV_AGECHKCD_RMRS	TREE	Previous radial growth and tree age check code, Rocky Mountain Research Station
3.1.151	-	PREV_BHAGE_RMRS	TREE	Previous breast height age, Rocky Mountain Research Station
3.1.203	-	PREV_HT_FLD	TREE	Previous total height
3.1.152	-	PREV_HT_RMRS	TREE	Previous total length, Rocky Mountain Research Station
2.4.68	-	PREV_MICROPLOT_LOC_RMRS	PLOT	Previous microplot location, Rocky Mountain Research Station
2.4.69	-	PREV_PLOT_STATUS_CD_RMRS	PLOT	Previous plot status code, Rocky Mountain Research Station

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
2.4.4	-	PREV_PLT_CN	PLOT	Previous plot sequence number
10.2.4	-	PREV_PLT_CN	PLOTSNAP	Previous plot sequence number
2.9.7	-	PREV_PLT_CN	SUBP_COND_CHNG_MTRX	Previous plot sequence number
3.1.117	-	PREV_PNTN_SRS	TREE	Previous periodic prism point, tree number, Southern Research Station
2.6.3	-	PREV_SBP_CN	SUBPLOT	Previous subplot sequence number
3.10.3	-	PREV_SIT_CN	SITETREE	Previous site tree sequence number
3.1.90	5.6	PREV_STATUS_CD	TREE	Previous tree status code
2.6.51	-	PREV_STATUSCD_RMRS	SUBPLOT	Previous subplot status code, Rocky Mountain Research Station
3.1.153	-	PREV_TOTAGE_RMRS	TREE	Previous total age, Rocky Mountain Research Station
3.1.3	-	PREV_TRE_CN	TREE	Previous tree sequence number
3.6.2	-	PREV_TRE_CN	TREE_GRM_BEGIN	Previous tree sequence number
3.3.2	-	PREV_TRE_CN	TREE_GRM_COMPONENT	Previous tree sequence number
3.5.2	-	PREV_TRE_CN	TREE_GRM_MIDPT	Previous tree sequence number
3.4.2	-	PREV_TRE_CN	TREE_GRM_THRESHOLD	Previous tree sequence number
3.1.154	-	PREV_TREECLCD_RMRS	TREE	Previous tree class code, Rocky Mountain Research Station
3.1.91	5.10	PREV_WLDSTEM	TREE	Previous woodland stem count
2.9.8	-	PREVCOND	SUBP_COND_CHNG_MTRX	Previous condition class number
3.1.14	-	PREVCOND	TREE	Previous condition class number
3.1.83	5.9.1	PREVDIA	TREE	Previous diameter
3.1.140	-	PREVDIA_FLD	TREE	Previous diameter, field
11.16.2	-	PRIMARY_CLASS	REF_NVCS_HIERARCHY_STRUCT	Primary class
11.17.2	-	PRIMARY_CLASS	REF_NVCS_LEVEL_1_CODES	Primary class
11.18.2	-	PRIMARY_CLASS	REF_NVCS_LEVEL_2_CODES	Primary class
11.19.2	-	PRIMARY_CLASS	REF_NVCS_LEVEL_3_CODES	Primary class

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
11.20.2	-	PRIMARY_CLASS	REF_NVCS_LEVEL_4_CODES	Primary class
11.21.2	-	PRIMARY_CLASS	REF_NVCS_LEVEL_5_CODES	Primary class
11.22.2	-	PRIMARY_CLASS	REF_NVCS_LEVEL_6_CODES	Primary class
11.23.2	-	PRIMARY_CLASS	REF_NVCS_LEVEL_7_CODES	Primary class
11.24.2	-	PRIMARY_CLASS	REF_NVCS_LEVEL_8_CODES	Primary class
2.1.18	-	PRJ_CN	SURVEY	Project sequence number
2.5.28	-	PROP_BASIS	COND	Proportion basis
11.9.3	-	PUB_CD	REF_HABTYP_DESCRIPTION	Publication code
11.10.2	-	PUB_CD	REF_HABTYP_PUBLICATION	Publication code
		Q		
5.1.29	-	QA_STATUS	DWM_VISIT	Quality assurance status
2.4.31	1.17	QA_STATUS	PLOT	Quality assurance status
10.2.33	-	QA_STATUS	PLOTSNAP	Quality assurance status
5.1.10	-	QASTATCD	DWM_VISIT	Quality assurance status code
2.5.135	-	QMD_RMRS	COND	Quadratic mean diameter, Rocky Mountain Research Station
11.6.18	-	QUADRINOMIAL_AUTHOR	REF_PLANT_DICTIONARY	Quadrinomial author
		R		
3.7.36	-	R	TREE_GRM_ESTN	Reversion
3.1.155	-	RADAGECD_RMRS	TREE	Radial growth / age code, Rocky Mountain Research Station
3.1.156	-	RADGRW_RMRS	TREE	Radial growth, Rocky Mountain Research Station
2.5.136	-	RANGETYPCD_RMRS	COND	Range type code (existing vegetation classification), Rocky Mountain Research Station
2.4.18	1.15	RDDISTCD	PLOT	Horizontal distance to improved road code
10.2.18	-	RDDISTCD	PLOTSNAP	Horizontal distance to improved road code
3.1.82	5.7.1	RECONCILECD	TREE	Reconcile code
6.2.22	-	REGEN_MICR_STATUS_CD	SUBPLOT_REGEN	Regeneration microplot status code
6.2.11	-	REGEN_NONSAMPLE_REASN_CD	SUBPLOT_REGEN	Regeneration nonsampled reason code
6.2.10	-	REGEN_SUBP_STATUS_CD	SUBPLOT_REGEN	Regeneration subplot status code
11.7.3	-	REGION	REF_SPECIES_GROUP	Region

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
3.7.17	-	REMOVALS	TREE_GRM_ESTN	Removal estimate
2.4.15	-	REMPER	PLOT	Remeasurement period
10.2.15	-	REMPER	PLOTSNAP	Remeasurement period
3.7.12	-	REMPER	TREE_GRM_ESTN	Remeasurement period
11.33.9	-	REMV_TYP_CD	REF_GRM_TYPE	Type of annual removals volume code
3.3.60	-	REMVBFSL_FOREST	TREE_GRM_COMPONENT	Merchantable board-foot wood volume of a sawtimber tree for removal purposes on forest land
3.3.72	-	REMVBFSL_TIMBER	TREE_GRM_COMPONENT	Merchantable board-foot wood volume of a sawtimber tree for removal purposes on timberland
3.3.58	-	REMVCFAL_FOREST	TREE_GRM_COMPONENT	Sound cubic-foot stem wood volume of a live tree for removal purposes for the all live estimation type on forest land
3.3.70	-	REMVCFAL_TIMBER	TREE_GRM_COMPONENT	Sound cubic-foot stem wood volume of a live tree for removal purposes for the all live estimation type on timberland
3.3.59	-	REMVCFGS_FOREST	TREE_GRM_COMPONENT	Merchantable cubic-foot stem wood volume of a growing-stock tree for removal purposes on forest land
3.3.71	-	REMVCFGS_TIMBER	TREE_GRM_COMPONENT	Merchantable cubic-foot stem wood volume of a growing-stock tree for removal purposes on timberland
3.3.57	-	REMVTSAI_FOREST	TREE_GRM_COMPONENT	Sound cubic-foot total-stem wood volume of a live tree for removal purposes for the all live estimation type on forest land
3.3.69	-	REMVTSAI_TIMBER	TREE_GRM_COMPONENT	Sound cubic-foot total-stem wood volume of a live tree for removal purposes for the all live estimation type on timberland
9.2.8	-	REPORT_YEAR_NM	POP_EVAL	Report year name
2.5.11	2.5.1	RESERVCD	COND	Reserved status code

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
2.5.102	-	RESERVCD_5	COND	Reserved status code field, versions 1.0-5.0
8.1.24	-	RESTRICTION_DEPTH_1	SUBP_SOIL_SAMPLE_LOC	Restriction depth 1
8.1.25	-	RESTRICTION_DEPTH_2	SUBP_SOIL_SAMPLE_LOC	Restriction depth 2
8.1.26	-	RESTRICTION_DEPTH_3	SUBP_SOIL_SAMPLE_LOC	Restriction depth 3
8.1.27	-	RESTRICTION_DEPTH_4	SUBP_SOIL_SAMPLE_LOC	Restriction depth 4
8.1.20	-	RESTRICTION_DEPTH_CD_1	SUBP_SOIL_SAMPLE_LOC	Restriction depth code 1
8.1.21	-	RESTRICTION_DEPTH_CD_2	SUBP_SOIL_SAMPLE_LOC	Restriction depth code 2
8.1.22	-	RESTRICTION_DEPTH_CD_3	SUBP_SOIL_SAMPLE_LOC	Restriction depth code 3
8.1.23	-	RESTRICTION_DEPTH_CD_4	SUBP_SOIL_SAMPLE_LOC	Restriction depth code 4
2.4.70	-	REUSECD1	PLOT	Recreation use code 1 (Pacific Islands)
2.4.71	-	REUSECD2	PLOT	Recreation use code 2 (Pacific Islands)
2.4.72	-	REUSECD3	PLOT	Recreation use code 3 (Pacific Islands)
3.1.170	-	RING_COUNT_INNER_2INCHES_PNWRS	TREE	Number of rings in inner 2 inches, Pacific Northwest Research Station
3.1.171	-	RING_COUNT_PNWRS	TREE	Number of rings, Pacific Northwest Research Station
10.1.14	-	ROADLESSCD	PLOTGEOM	Roadless code
2.6.28	-	ROOT_DIS_SEV_CD_PNWRS	SUBPLOT	Root disease severity rating code, Pacific Northwest Research Station
3.1.161	-	ROOT_HT_PNWRS	TREE	Rooting height (Pacific Islands), Pacific Northwest Research Station
2.6.52	-	ROOTSEVCD_RMRS	SUBPLOT	Root disease severity rating code, Rocky Mountain Research Station
3.1.79	5.25	ROUGHCULL	TREE	Rough cull
3.6.15	-	ROUGHCULL	TREE_GRM_BEGIN	Rough cull
3.5.15	-	ROUGHCULL	TREE_GRM_MIDPT	Rough cull
3.4.16	-	ROUGHCULL	TREE_GRM_THRESHOLD	Rough cull
11.15.3	-	RS	REF_RESEARCH_STATION	Research station abbreviation
5.8.106	-	RSCD	COND_DWM_CALC	Region or Station code
9.1.3	-	RSCD	POP_ESTN_UNIT	Region or Station code
9.2.3	-	RSCD	POP_EVAL	Region or Station code
9.4.2	-	RSCD	POP_EVAL_GRP	Region or Station code

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
9.6.9	-	RSCD	POP_PLOT_STRATUM_ASSGN	Region or Station code
9.7.3	-	RSCD	POP_STRATUM	Region or Station code
2.2.2	-	RSCD	PROJECT	Region or Station code
11.33.2	-	RSCD	REF_GRM_TYPE	Region or Station code
11.15.2	-	RSCD	REF_RESEARCH_STATION	Region or Station code
2.1.7	-	RSCD	SURVEY	Region or Station code
5.4.14	-	RSNCTCD	DWM_FINE_WOODY_DEBRIS	Reason count code
		S		
3.1.47	-	SALVCD	TREE	Salvable dead code
2.4.41	-	SAMP_METHOD_CD	PLOT	Sample method code
10.2.43	-	SAMP_METHOD_CD	PLOTSNAP	Sample method code
8.2.14	-	SAMPLE_DIA	SUBP_SOIL_SAMPLE_LAYER	Sample diameter
8.2.13	-	SAMPLER_TYPE	SUBP_SOIL_SAMPLE_LAYER	Sampler type
3.1.159	-	SAPLING_FUSIFORM_SRS	TREE	Sapling fusiform, Southern Research Station
3.1.65	-	SAWHT	TREE	Sawlog height
6.2.3	-	SBP_CN	SUBPLOT_REGEN	Subplot sequence number
6.3.4	-	SCD_CN	SEEDLING_REGEN	Subplot condition sequence number
11.25.3	-	SCIENTIFIC_NAME	REF_DAMAGE_AGENT	Scientific name of damage agent
11.9.4	-	SCIENTIFIC_NAME	REF_HABTYP_DESCRIPTION	Scientific name
11.5.8	-	SCIENTIFIC_NAME	REF_SPECIES	Scientific name
11.6.4	-	SCIENTIFIC_NAME	REF_PLANT_DICTIONARY	Scientific name
11.6.15	-	SCIENTIFIC_NAME_W_AUTHOR	REF_PLANT_DICTIONARY	Scientific name with author
11.30.5	-	SCRIPT	REF_DIFFERENCE_TEST_PER_ACRE	Script
11.31.5	-	SCRIPT	REF_DIFFERENCE_TEST_TOTALS	Script
2.5.139	-	SDI_RMRS	COND	Stand density index for the condition, Rocky Mountain Research Station
2.5.137	-	SDIMAX_RMRS	COND	Stand density index maximum, Rocky Mountain Research Station
2.5.138	-	SDIPCT_RMRS	COND	Stand density index percent, Rocky Mountain Research Station
6.3.14	-	SEEDLING_SOURCE_CD	SEEDLING_REGEN	Seedling source code
6.3.16	-	SEEDLINGCOUNT	SEEDLING_REGEN	Count of qualifying seedlings

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
5.7.9	-	SEGMNT	DWM_TRANSECT_SEGMENT	Segment number
5.7.25	10.3.7	SEGMNT_NONSAMPLE_REASON_CD	DWM_TRANSECT_SEGMENT	Segment nonsampled reason code
5.7.24	10.3.6	SEGMNT_STATUS_CD	DWM_TRANSECT_SEGMENT	Segment sample status code
3.1.108	-	SEVERITY1_CD_PNWRS	TREE	Damage severity 1, Pacific Northwest Research Station
3.1.109	-	SEVERITY1A_CD_PNWRS	TREE	Damage severity 1A, Pacific Northwest Research Station
3.1.110	-	SEVERITY1B_CD_PNWRS	TREE	Damage severity 1B, Pacific Northwest Research Station
3.1.111	-	SEVERITY2_CD_PNWRS	TREE	Damage severity 2, Pacific Northwest Research Station
3.1.112	-	SEVERITY2A_CD_PNWRS	TREE	Damage severity 2A, Pacific Northwest Research Station
3.1.113	-	SEVERITY2B_CD_PNWRS	TREE	Damage severity 2B, Pacific Northwest Research Station
3.1.114	-	SEVERITY3_CD_PNWRS	TREE	Damage severity 3, Pacific Northwest Research Station
11.5.20	-	SFTWD_HRDWD	REF_SPECIES	Softwood or hardwood
11.35.2	-	SFTWD_HRDWD	REF_TREE_CARBON_RATIO_DEAD	Softwood or hardwood
11.36.3	-	SFTWD_HRDWD	REF_TREE_DECAY_PROP	Softwood or hardwood
11.37.3	-	SFTWD_HRDWD	REF_TREE_STND_DEAD_CR_PROP	Softwood or hardwood
5.6.11	-	SHAPECD	DWM_RESIDUALPILE	Shape code
11.5.3	-	SHARED_COMMON_NAME_IND	REF_SPECIES	Shared common name indicator
2.5.24	-	SIBASE	COND	Site index base age
3.10.17	-	SIBASE	SITETREE	Site index base age
3.10.38	-	SIBASE_AGE_PNWRS	SITETREE	Site index equation base age, Pacific Northwest Research Station
2.5.153	-	SIBASE_FVS	COND	Site index base age used by the Forest Vegetation Simulator
3.10.49	-	SIBASE_FVS	SITETREE	Site index base age used by the Forest Vegetation Simulator

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
2.5.23	-	SICOND	COND	Site index for the condition
2.5.152	-	SICOND_FVS	COND	Site index for the condition, used by the Forest Vegetation Simulator
11.32.5	-	SIEQN_AGE_BASIS	REF_SIEQN	Base age basis
11.32.4	-	SIEQN_LOC_DESC_FSVEG	REF_SIEQN	Site index equation coverage area in FSVeg
2.5.151	-	SIEQN_REF_CD	COND	Site index equation reference code
11.32.2	-	SIEQN_REF_CD	REF_SIEQN	Site index equation reference code
3.10.47	-	SIEQN_REF_CD	SITETREE	Site index equation reference code
11.32.3	-	SIEQN_REF_NOTES	REF_SIEQN	Site index equation references and notes
2.5.155	-	SIEQN_REF_CD_FVS	COND	Site index equation reference code used by the Forest Vegetation Simulator
3.10.50	-	SIEQN_REF_CD_FVS	SITETREE	Site index equation reference code used by the Forest Vegetation Simulator
2.5.25	-	SISP	COND	Site index species code
2.5.154	-	SISP_FVS	COND	Site index species code used by the Forest Vegetation Simulator
3.10.40	-	SITE_AGE_TREE_STATUS_PNWRS	SITETREE	Site age tree status, Pacific Northwest Research Station
3.10.41	-	SITE_AGE_TREE_TYPE_PNWRS	SITETREE	Site age tree type, Pacific Northwest Research Station
3.10.42	-	SITE_TREE_METHOD_PNWRS	SITETREE	Site tree selection method, Pacific Northwest Research Station
2.5.66	-	SITECL_METHOD	COND	Site class method
2.5.22	-	SITECLCD	COND	Site productivity class code
2.5.64	-	SITECLCDEST	COND	Site productivity class code estimated
3.10.39	-	SITETRCD_RMRS	SITETREE	Site tree code, Rocky Mountain Research Station
11.5.19	-	SITETREE	REF_SPECIES	Site tree
2.5.65	-	SITETREE_TREE	COND	Site tree tree number
3.10.16	-	SITREE	SITETREE	Site index for the tree

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
3.1.70	-	SITREE	TREE	Calculated site index
3.6.23	-	SITREE	TREE_GRM_BEGIN	Calculated site index
3.5.23	-	SITREE	TREE_GRM_MIDPT	Calculated site index
3.4.24	-	SITREE	TREE_GRM_THRESHOLD	Calculated site index
3.10.43	-	SITREE_EQU_NO_PNWRS	SITETREE	Site index equation number, Pacific Northwest Research Station
3.10.22	-	SITREE_EST	SITETREE	Estimated site index for the tree
3.10.48	-	SITREE_FVS	SITETREE	Site index base age used by the Forest Vegetation Simulator
5.2.12	-	SLOPDIST	DWM_COARSE_WOODY_DEB RIS	Slope distance
2.5.33	-	SLOPE	COND	Condition percent slope
5.4.34	-	SLOPE	DWM_FINE_WOODY_DEBRIS	Transect percent slope
5.7.14	-	SLOPE	DWM_TRANSECT_SEGMENT	Transect percent slope
2.6.16	3.8	SLOPE	SUBPLOT	Subplot percent slope
5.7.12	-	SLOPE_BEGNDIST	DWM_TRANSECT_SEGMENT	Beginning slope distance of the transect segment
5.7.13	-	SLOPE_ENDDIST	DWM_TRANSECT_SEGMENT	Ending slope distance of the transect segment
5.4.16	-	SMALL_TL_COND	DWM_FINE_WOODY_DEBRIS	Small-size class transect length in condition
5.4.17	-	SMALL_TL_PLOT	DWM_FINE_WOODY_DEBRIS	Small-size class transect length on plot
5.4.18	-	SMALL_TL_UNADJ	DWM_FINE_WOODY_DEBRIS	Small-size class transect length on plot, unadjusted
5.4.11	10.6.6	SMALLCT	DWM_FINE_WOODY_DEBRIS	Small-size class count
5.2.17	10.4.3. 8.3	SMALLDIA	DWM_COARSE_WOODY_DEB RIS	Small diameter
5.1.12	-	SMPKNDCD	DWM_VISIT	Sample kind code
5.3.9	-	SMPLOCCD	DWM_DUFF_LITTER_FUEL	Sample location code
3.1.172	-	SNAG_DIS_CD_PNWRS	TREE	Snag reason for disappearance code, Pacific Northwest Research Station
7.3.16	-	SNOW_COVER_PCT	GRND_LYR_MICROQUAD	Percent snow cover (Interior Alaska)
11.34.2	-	SOFTWOOD	REF_INTL_TO_DOYLE_FACTO R	Softwood or hardwood
2.5.80	-	SOIL_ROOTING_DEPTH_PNW	COND	Soil rooting depth, Pacific Northwest Research Station

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
8.2.16	-	SOIL_SAMP_PER_AC	SUBP_SOIL_SAMPLE_LAYER	Soil sample area expansion factor
2.5.157	-	SOILPROP_UNADJ	COND	Soil proportion unadjusted
8.1.14	-	SOILS_SAMPLE_METHOD_CD	SUBP_SOIL_SAMPLE_LOC	Soils sample method code
8.1.15	-	SOILS_SAMPLE_STATUS_CD	SUBP_SOIL_SAMPLE_LOC	Soils sample status code
5.2.14	10.4.3. 7	SPCD	DWM_COARSE_WOODY_DEB_RIS	Species code
5.6.37	10.5.8	SPCD	DWM_RESIDUAL_PILE	Species code for the residual pile
11.5.1	-	SPCD	REF_SPECIES	Species code
3.9.10	6.2	SPCD	SEEDLING	Species code
6.3.12	-	SPCD	SEEDLING_REGEN	Species code
3.10.11	7.2.2	SPCD	SITETREE	Species code
3.1.16	5.8	SPCD	TREE	Species code
3.6.6	-	SPCD	TREE_GRM_BEGIN	Species code
3.5.6	-	SPCD	TREE_GRM_MIDPT	Species code
3.4.7	-	SPCD	TREE_GRM_THRESHOLD	Species code
11.6.22	-	SPECIES	REF_PLANT_DICTIONARY	Species
11.5.5	-	SPECIES	REF_SPECIES	Species
11.5.9	-	SPECIES_SYMBOL	REF_SPECIES	Species symbol
11.7.1	-	SPGRPCD	REF_SPECIES_GROUP	Species group code
3.9.11	-	SPGRPCD	SEEDLING	Species group code
6.3.13	-	SPGRPCD	SEEDLING_REGEN	Species group code
3.10.15	-	SPGRPCD	SITETREE	Species group code
3.1.17	-	SPGRPCD	TREE	Species group code
11.30.7	-	SQL_COL_1	REF_DIFFERENCE_TEST_PER_ACRE	SQL script section for column 1
11.31.7	-	SQL_COL_1	REF_DIFFERENCE_TEST_TOT_ALS	SQL script section for column 1
11.30.9	-	SQL_COL_2	REF_DIFFERENCE_TEST_PER_ACRE	SQL script section for column 2
11.31.9	-	SQL_COL_2	REF_DIFFERENCE_TEST_TOT_ALS	SQL script section for column 2
11.30.11	-	SQL_COL_3	REF_DIFFERENCE_TEST_PER_ACRE	SQL script section for column 3
11.31.11	-	SQL_COL_3	REF_DIFFERENCE_TEST_TOT_ALS	SQL script section for column 3
11.30.13	-	SQL_COL_4	REF_DIFFERENCE_TEST_PER_ACRE	SQL script section for column 4
11.31.13	-	SQL_COL_4	REF_DIFFERENCE_TEST_TOT_ALS	SQL script section for column 4

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
11.30.15	-	SQL_COL_5	REF_DIFFERENCE_TEST_PER_ACRES	SQL script section for column 5
11.31.15	-	SQL_COL_5	REF_DIFFERENCE_TEST_TOTALS	SQL script section for column 5
11.30.17	-	SQL_COL_6	REF_DIFFERENCE_TEST_PER_ACRES	SQL script section for column 6
11.31.17	-	SQL_COL_6	REF_DIFFERENCE_TEST_TOTALS	SQL script section for column 6
11.30.19	-	SQL_COL_7	REF_DIFFERENCE_TEST_PER_ACRES	SQL script section for column 7
11.31.19	-	SQL_COL_7	REF_DIFFERENCE_TEST_TOTALS	SQL script section for column 7
11.30.21	-	SQL_COL_8	REF_DIFFERENCE_TEST_PER_ACRES	SQL script section for column 8
11.31.21	-	SQL_COL_8	REF_DIFFERENCE_TEST_TOTALS	SQL script section for column 8
11.30.23	-	SQL_COL_9	REF_DIFFERENCE_TEST_PER_ACRES	SQL script section for column 9
11.31.23	-	SQL_COL_9	REF_DIFFERENCE_TEST_TOTALS	SQL script section for column 9
11.30.25	-	SQL_COL_10	REF_DIFFERENCE_TEST_PER_ACRES	SQL script section for column 10
11.31.25	-	SQL_COL_10	REF_DIFFERENCE_TEST_TOTALS	SQL script section for column 10
11.30.27	-	SQL_COL_11	REF_DIFFERENCE_TEST_PER_ACRES	SQL script section for column 11
11.31.27	-	SQL_COL_11	REF_DIFFERENCE_TEST_TOTALS	SQL script section for column 11
11.30.29	-	SQL_COL_12	REF_DIFFERENCE_TEST_PER_ACRES	SQL script section for column 12
11.31.29	-	SQL_COL_12	REF_DIFFERENCE_TEST_TOTALS	SQL script section for column 12
11.30.31	-	SQL_COL_13	REF_DIFFERENCE_TEST_PER_ACRES	SQL script section for column 13
11.31.31	-	SQL_COL_13	REF_DIFFERENCE_TEST_TOTALS	SQL script section for column 13
11.30.33	-	SQL_COL_14	REF_DIFFERENCE_TEST_PER_ACRES	SQL script section for column 14
11.31.33	-	SQL_COL_14	REF_DIFFERENCE_TEST_TOTALS	SQL script section for column 14
11.30.35	-	SQL_COL_15	REF_DIFFERENCE_TEST_PER_ACRES	SQL script section for column 15
11.31.35	-	SQL_COL_15	REF_DIFFERENCE_TEST_TOTALS	SQL script section for column 15
11.30.37	-	SQL_COL_16	REF_DIFFERENCE_TEST_PER_ACRES	SQL script section for column 16

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
11.31.37	-	SQL_COL_16	REF_DIFFERENCE_TEST_TOT_ALS	SQL script section for column 16
11.30.39	-	SQL_COL_17	REF_DIFFERENCE_TEST_PER_ACRES	SQL script section for column 17
11.31.39	-	SQL_COL_17	REF_DIFFERENCE_TEST_TOT_ALS	SQL script section for column 17
11.30.41	-	SQL_COL_18	REF_DIFFERENCE_TEST_PER_ACRES	SQL script section for column 18
11.31.41	-	SQL_COL_18	REF_DIFFERENCE_TEST_TOT_ALS	SQL script section for column 18
11.30.43	-	SQL_COL_19	REF_DIFFERENCE_TEST_PER_ACRES	SQL script section for column 19
11.31.43	-	SQL_COL_19	REF_DIFFERENCE_TEST_TOT_ALS	SQL script section for column 19
11.30.45	-	SQL_COL_20	REF_DIFFERENCE_TEST_PER_ACRES	SQL script section for column 20
11.31.45	-	SQL_COL_20	REF_DIFFERENCE_TEST_TOT_ALS	SQL script section for column 20
11.30.47	-	SQL_COL_21	REF_DIFFERENCE_TEST_PER_ACRES	SQL script section for column 21
11.31.47	-	SQL_COL_21	REF_DIFFERENCE_TEST_TOT_ALS	SQL script section for column 21
11.30.49	-	SQL_COL_22	REF_DIFFERENCE_TEST_PER_ACRES	SQL script section for column 22
11.31.49	-	SQL_COL_22	REF_DIFFERENCE_TEST_TOT_ALS	SQL script section for column 22
11.30.51	-	SQL_COL_23	REF_DIFFERENCE_TEST_PER_ACRES	SQL script section for column 23
11.31.51	-	SQL_COL_23	REF_DIFFERENCE_TEST_TOT_ALS	SQL script section for column 23
11.30.53	-	SQL_COL_24	REF_DIFFERENCE_TEST_PER_ACRES	SQL script section for column 24
11.31.53	-	SQL_COL_24	REF_DIFFERENCE_TEST_TOT_ALS	SQL script section for column 24
11.30.55	-	SQL_COL_25	REF_DIFFERENCE_TEST_PER_ACRES	SQL script section for column 25
11.31.55	-	SQL_COL_25	REF_DIFFERENCE_TEST_TOT_ALS	SQL script section for column 25
11.30.57	-	SQL_COL_26	REF_DIFFERENCE_TEST_PER_ACRES	SQL script section for column 26
11.31.57	-	SQL_COL_26	REF_DIFFERENCE_TEST_TOT_ALS	SQL script section for column 26
11.30.59	-	SQL_COL_27	REF_DIFFERENCE_TEST_PER_ACRES	SQL script section for column 27
11.30.61	-	SQL_COL_28	REF_DIFFERENCE_TEST_PER_ACRES	SQL script section for column 28

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
11.30.63	-	SQL_COL_29	REF_DIFFERENCE_TEST_PER_ACRE	SQL script section for column 29
11.30.65	-	SQL_COL_30	REF_DIFFERENCE_TEST_PER_ACRE	SQL script section for column 30
11.30.67	-	SQL_COL_31	REF_DIFFERENCE_TEST_PER_ACRE	SQL script section for column 31
11.30.69	-	SQL_COL_32	REF_DIFFERENCE_TEST_PER_ACRE	SQL script section for column 32
11.30.71	-	SQL_COL_33	REF_DIFFERENCE_TEST_PER_ACRE	SQL script section for column 33
11.30.73	-	SQL_COL_34	REF_DIFFERENCE_TEST_PER_ACRE	SQL script section for column 34
11.30.75	-	SQL_COL_35	REF_DIFFERENCE_TEST_PER_ACRE	SQL script section for column 35
11.30.77	-	SQL_COL_36	REF_DIFFERENCE_TEST_PER_ACRE	SQL script section for column 36
11.1.5	-	SQL_QUERY	REF_POP_ATTRIBUTE	SQL estimate script
11.1.9	-	SQL_QUERY_SE	REF_POP_ATTRIBUTE	SQL estimate script with sampling error
2.4.2	-	SRV_CN	PLOT	Survey sequence number
10.2.2	-	SRV_CN	PLOTSNAP	Survey sequence number
11.6.23	-	SSP	REF_PLANT_DICTIONARY	Subspecies indicator
8.2.2	-	SSSL_CN	SUBP_SOIL_SAMPLE_LAYER	Subplot soil sample location sequence number
2.5.93	-	STAND_STRUCTURE_SRS	COND	Stand structure, Southern Research Station
2.5.140	-	STAND_STRUCTURE_ME_NERS	COND	Stand structure (Maine), Northeastern Research Station
3.1.89	5.7.2	STANDING_DEAD_CD	TREE	Standing dead code
3.6.12	-	STANDING_DEAD_CD	TREE_GRM_BEGIN	Standing dead code
3.5.12	-	STANDING_DEAD_CD	TREE_GRM_MIDPT	Standing dead code
3.4.13	-	STANDING_DEAD_CD	TREE_GRM_THRESHOLD	Standing dead code
11.8.6	-	START_DATE	REF_INVASIVE_SPECIES	Start date
9.2.9	-	START_INVYR	POP_EVAL	Start inventory year
11.33.4	-	START_INVYR	REF_GRM_TYPE	Start inventory year
11.15.5	-	STATE_ABBR	REF_RESEARCH_STATION	State abbreviation
11.6.14	-	STATE_AND_PROVINCE	REF_PLANT_DICTIONARY	State and province
11.6.13	-	STATE_DISTRIBUTION	REF_PLANT_DICTIONARY	State distribution
11.15.4	-	STATE_NAME	REF_RESEARCH_STATION	State name
2.1.5	-	STATEAB	SURVEY	State abbreviation
2.5.4	-	STATECD	COND	State code
5.8.2	-	STATECD	COND_DWM_CALC	State code

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
2.3.1	-	STATECD	COUNTY	State code
5.2.4	-	STATECD	DWM_COARSE_WOODY_DEB RIS	State code
5.3.4	-	STATECD	DWM_DUFF_LITTER_FUEL	State code
5.4.4	-	STATECD	DWM_FINE_WOODY_DEBRIS	State code
5.5.4	-	STATECD	DWM_MICROPLOT_FUEL	State code
5.6.4	-	STATECD	DWM_RESIDUAL_PILE	State code
5.7.4	-	STATECD	DWM_TRANSECT_SEGMENT	State code
5.1.4	-	STATECD	DWM_VISIT	State code
7.1.4	-	STATECD	GRND_CVR	State code
7.2.2	-	STATECD	GRND_LYR_FNCTL_GRP	State code
7.3.3	-	STATECD	GRND_LYR_MICROQUAD	State code
4.1.4	-	STATECD	INVASIVE_SUBPLOT_SPP	State code
4.3.3	-	STATECD	P2VEG_SUBP_STRUCTURE	State code
4.2.4	-	STATECD	P2VEG_SUBPLOT_SPP	State code
2.4.6	1.1	STATECD	PLOT	State code
6.1.4	-	STATECD	PLOT_REGEN	State code
10.1.2	-	STATECD	PLOTGEOM	State code
10.2.6	-	STATECD	PLOTSNAP	State code
9.1.7	-	STATECD	POP_ESTN_UNIT	State code
9.2.6	-	STATECD	POP_EVAL	State code
9.3.4	-	STATECD	POP_EVAL_ATTRIBUTE	State code
9.4.5	-	STATECD	POP_EVAL_GRP	State code
9.6.4	-	STATECD	POP_PLOT_STRATUM_ASSGN	State code
9.7.8	-	STATECD	POP_STRATUM	State code
11.33.3	-	STATECD	REF_GRM_TYPE	State code
11.8.2	-	STATECD	REF_INVASIVE_SPECIES	State code
11.15.1	-	STATECD	REF_RESEARCH_STATION	State code
11.13.1	-	STATECD	REF_STATE_ELEV	State code
11.14.1	-	STATECD	REF_UNIT	State code
3.9.4	-	STATECD	SEEDLING	State code
6.3.6	-	STATECD	SEEDLING_REGEN	State code
3.10.5	-	STATECD	SITETREE	State code
2.7.4	-	STATECD	SUBP_COND	State code
2.9.2	-	STATECD	SUBP_COND_CHNG_MTRX	State code
8.2.4	-	STATECD	SUBP_SOIL_SAMPLE_LAYER	State code
8.1.3	-	STATECD	SUBP_SOIL_SAMPLE_LOC	State code
2.6.5	-	STATECD	SUBPLOT	State code
6.2.5	-	STATECD	SUBPLOT_REGEN	State code

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
2.1.4	-	STATECD	SURVEY	State code
3.1.5	-	STATECD	TREE	State code
3.6.4	-	STATECD	TREE_GRM_BEGIN	State code
3.3.4	-	STATECD	TREE_GRM_COMPONENT	State code
3.7.2	-	STATECD	TREE_GRM_ESTN	State code
3.5.4	-	STATECD	TREE_GRM_MIDPT	State code
3.4.4	-	STATECD	TREE_GRM_THRESHOLD	State code
3.2.4	-	STATECD	TREE_WOODLAND_STEMS	State code
2.1.6	-	STATENM	SURVEY	State name
3.1.15	-	STATUSCD	TREE	Status code
3.6.7	-	STATUSCD	TREE_GRM_BEGIN	Status code
3.5.7	-	STATUSCD	TREE_GRM_MIDPT	Status code
3.4.8	-	STATUSCD	TREE_GRM_THRESHOLD	Status code
3.2.12	-	STATUSCD	TREE_WOODLAND_STEMS	Woodland stem status code
2.5.19	2.5.14	STDAGE	COND	Stand age
2.5.26	-	STDORGCD	COND	Stand origin code
3.6.22	-	STDORGCD	TREE_GRM_BEGIN	Stand origin code
3.5.22	-	STDORGCD	TREE_GRM_MIDPT	Stand origin code
3.4.23	-	STDORGCD	TREE_GRM_THRESHOLD	Stand origin code
2.5.27	-	STDORGSP	COND	Stand origin species code
2.5.20	2.5.4	STDSZCD	COND	Stand-size class code
3.2.13	-	STEM_NBR	TREE_WOODLAND_STEMS	Woodland stem number
2.5.83	-	STND_COND_CD_PNWRS	COND	Stand condition code, Pacific Northwest Research Station
2.5.84	-	STND_STRUC_CD_PNWRS	COND	Stand structure code, Pacific Northwest Research Station
3.9.12	-	STOCKING	SEEDLING	Tree stocking
3.1.36	-	STOCKING	TREE	Tree stocking
11.5.15	-	STOCKING_SPGRPCD	REF_SPECIES	Stocking species group code
5.8.11	-	STRATUM_CN	COND_DWM_CALC	Stratum sequence number
9.6.2	-	STRATUM_CN	POP_PLOT_STRATUM_ASSGN	Stratum sequence number
9.7.7	-	STRATUM_DESCR	POP_STRATUM	Stratum description
9.6.12	-	STRATUMCD	POP_PLOT_STRATUM_ASSGN	Stratum code
9.7.6	-	STRATUMCD	POP_STRATUM	Stratum code
2.5.85	-	STUMP_CD_PNWRS	COND	Stump code, Pacific Northwest Research Station

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
2.5.79	-	SUBCYCLE	COND	Inventory subcycle number
5.8.104	-	SUBCYCLE	COND_DWM_CALC	Inventory subcycle number
7.1.14	-	SUBCYCLE	GRND_CVR	Inventory subcycle number
7.2.9	-	SUBCYCLE	GRND_LYR_FNCTL_GRP	Inventory subcycle number
7.3.5	-	SUBCYCLE	GRND_LYR_MICROQUAD	Inventory subcycle number
4.1.21	-	SUBCYCLE	INVASIVE_SUBPLOT_SPP	Inventory subcycle number
4.3.20	-	SUBCYCLE	P2VEG_SUBP_STRUCTURE	Inventory subcycle number
4.2.23	-	SUBCYCLE	P2VEG_SUBPLOT_SPP	Inventory subcycle number
2.4.46	-	SUBCYCLE	PLOT	Inventory subcycle number
6.1.16	-	SUBCYCLE	PLOT_REGEN	Inventory subcycle number
10.2.48	-	SUBCYCLE	PLOTSNAP	Inventory subcycle number
3.9.24	-	SUBCYCLE	SEEDLING	Inventory subcycle number
6.3.24	-	SUBCYCLE	SEEDLING_REGEN	Inventory subcycle number
3.10.31	-	SUBCYCLE	SITETREE	Inventory subcycle number
2.7.22	-	SUBCYCLE	SUBP_COND	Inventory subcycle number
8.2.10	-	SUBCYCLE	SUBP_SOIL_SAMPLE_LAYER	Inventory subcycle number
8.1.9	-	SUBCYCLE	SUBP_SOIL_SAMPLE_LOC	Inventory subcycle number
2.6.27	-	SUBCYCLE	SUBPLOT	Inventory subcycle number
6.2.21	-	SUBCYCLE	SUBPLOT_REGEN	Inventory subcycle number
2.1.17	-	SUBCYCLE	SURVEY	Inventory subcycle number
3.1.99	-	SUBCYCLE	TREE	Inventory subcycle number
3.2.15	-	SUBCYCLE	TREE_WOODLAND_STEMS	Inventory subcycle number
5.2.7	-	SUBP	DWM_COARSE_WOODY_DEB_RIS	Subplot number

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
5.3.8	-	SUBP	DWM_DUFF_LITTER_FUEL	Subplot number
5.4.8	-	SUBP	DWM_FINE_WOODY_DEBRIS	Subplot number
5.5.7	-	SUBP	DWM_MICROPLOT_FUEL	Subplot number
5.6.7	-	SUBP	DWM_RESIDUALPILE	Subplot number
5.7.7	-	SUBP	DWM_TRANSECT_SEGMENT	Subplot number
7.1.8	-	SUBP	GRND_CVR	Subplot number
7.2.11	-	SUBP	GRND_LYR_FNCTL_GRP	Subplot number
7.3.11	-	SUBP	GRND_LYR_MICROQUAD	Subplot number
4.1.8	9.3	SUBP	INVASIVE_SUBPLOT_SPP	Subplot number
4.3.8	8.3.1	SUBP	P2VEG_SUBP_STRUCTURE	Subplot number
4.2.8	-	SUBP	P2VEG_SUBPLOT_SPP	Subplot number
3.9.8	6.1	SUBP	SEEDLING	Subplot number
6.3.10	-	SUBP	SEEDLING_REGEN	Subplot number
3.10.18	7.2.7	SUBP	SITETREE	Subplot number
2.7.8	-	SUBP	SUBP_COND	Subplot number
2.9.3	-	SUBP	SUBP_COND_CHNG_MTRX	Subplot number
8.2.11	-	SUBP	SUBP_SOIL_SAMPLE_LAYER	Subplot number
8.1.11	-	SUBP	SUBP_SOIL_SAMPLE_LOC	Subplot number
2.6.9	3.1	SUBP	SUBPLOT	Subplot number
6.2.9	-	SUBP	SUBPLOT_REGEN	Subplot number
3.1.9	5.1	SUBP	TREE	Subplot number
3.2.8	-	SUBP	TREE_WOODLAND_STEMS	Subplot number
3.3.18	-	SUBP_COMPONENT_AL_FOREST	TREE_GRM_COMPONENT	Trees with DIA ≥ 5.0 inches - growth component for the all live estimation type on forest land
3.3.38	-	SUBP_COMPONENT_AL_TIMBER	TREE_GRM_COMPONENT	Trees with DIA ≥ 5.0 inches - growth component for the all live estimation type on timberland
3.3.23	-	SUBP_COMPONENT_GS_FOREST	TREE_GRM_COMPONENT	Trees with DIA ≥ 5.0 inches - growth component for the growing-stock estimation type on forest land
3.3.43	-	SUBP_COMPONENT_GS_TIMBER	TREE_GRM_COMPONENT	Trees with DIA ≥ 5.0 inches - growth component for the growing-stock estimation type on timberland
3.3.28	-	SUBP_COMPONENT_SL_FOREST	TREE_GRM_COMPONENT	Trees with DIA ≥ 5.0 inches - growth component for the sawtimber estimation type on forest land

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
3.3.48	-	SUBP_COMPONENT_SL_TIMBER	TREE_GRM_COMPONENT	Trees with DIA ≥ 5.0 inches - growth component for the sawtimber estimation type on timberland
2.4.42	1.9	SUBP_EXAMINE_CD	PLOT	Subplots examined code
10.2.44	-	SUBP_EXAMINE_CD	PLOTSNAP	Subplots examined code
2.6.10	3.2	SUBP_STATUS_CD	SUBPLOT	Subplot/macroplot status code
3.3.19	-	SUBP_SUBPTYP_GRM_AL_FOREST	TREE_GRM_COMPONENT	Trees with DIA ≥ 5.0 inches - plot type for GRM for the all live estimation type on forest land
3.3.39	-	SUBP_SUBPTYP_GRM_AL_TIMBER	TREE_GRM_COMPONENT	Trees with DIA ≥ 5.0 inches - plot type for GRM for the all live estimation type on timberland
3.3.24	-	SUBP_SUBPTYP_GRM_GS_FOREST	TREE_GRM_COMPONENT	Trees with DIA ≥ 5.0 inches - plot type for GRM for the growing-stock estimation type on forest land
3.3.44	-	SUBP_SUBPTYP_GRM_GS_TIMBER	TREE_GRM_COMPONENT	Trees with DIA ≥ 5.0 inches - plot type for GRM for the growing-stock estimation type on timberland
3.3.29	-	SUBP_SUBPTYP_GRM_SL_FOREST	TREE_GRM_COMPONENT	Trees with DIA ≥ 5.0 inches - plot type for GRM for the sawtimber estimation type on forest land
3.3.49	-	SUBP_SUBPTYP_GRM_SL_TIMBER	TREE_GRM_COMPONENT	Trees with DIA ≥ 5.0 inches - plot type for GRM for the sawtimber estimation type on timberland
3.3.20	-	SUBP_TPAGROW_UNADJ_AL_FOR EST	TREE_GRM_COMPONENT	Trees with DIA ≥ 5.0 inches - unadjusted trees per acre for growth for the all live estimation type on forest land
3.3.40	-	SUBP_TPAGROW_UNADJ_AL_TIM BER	TREE_GRM_COMPONENT	Trees with DIA ≥ 5.0 inches - unadjusted trees per acre for growth for the all live estimation type on timberland
3.3.25	-	SUBP_TPAGROW_UNADJ_GS_FOR EST	TREE_GRM_COMPONENT	Trees with DIA ≥ 5.0 inches - unadjusted trees per acre for growth for the growing-stock estimation type on forest land

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
3.3.45	-	SUBP_TPAGROW_UNADJ_GS_TIMBER	TREE_GRM_COMPONENT	Trees with DIA \geq 5.0 inches - unadjusted trees per acre for growth for the growing-stock estimation type on timberland
3.3.30	-	SUBP_TPAGROW_UNADJ_SL_FOR EST	TREE_GRM_COMPONENT	Trees with DIA \geq 5.0 inches - unadjusted trees per acre for growth for the sawtimber estimation type on forest land
3.3.50	-	SUBP_TPAGROW_UNADJ_SL_TIM BER	TREE_GRM_COMPONENT	Trees with DIA \geq 5.0 inches - unadjusted trees per acre for growth for the sawtimber estimation type on timberland
3.3.22	-	SUBP_TPAMORT_UNADJ_AL_FORE ST	TREE_GRM_COMPONENT	Trees with DIA \geq 5.0 inches - unadjusted trees per acre per year for mortality for the all live estimation type on forest land
3.3.42	-	SUBP_TPAMORT_UNADJ_AL_TIMB ER	TREE_GRM_COMPONENT	Trees with DIA \geq 5.0 inches - unadjusted trees per acre per year for mortality for the all live estimation type on timberland
3.3.27	-	SUBP_TPAMORT_UNADJ_GS_FOR EST	TREE_GRM_COMPONENT	Trees with DIA \geq 5.0 inches - unadjusted trees per acre per year for mortality for the growing-stock estimation type on forest land
3.3.47	-	SUBP_TPAMORT_UNADJ_GS_TIMB ER	TREE_GRM_COMPONENT	Trees with DIA \geq 5.0 inches - unadjusted trees per acre per year for mortality for the growing-stock estimation type on timberland
3.3.32	-	SUBP_TPAMORT_UNADJ_SL_FORE ST	TREE_GRM_COMPONENT	Trees with DIA \geq 5.0 inches - unadjusted trees per acre per year for mortality for the sawtimber estimation type on forest land
3.3.52	-	SUBP_TPAMORT_UNADJ_SL_TIMB ER	TREE_GRM_COMPONENT	Trees with DIA \geq 5.0 inches - unadjusted trees per acre per year for mortality for the sawtimber estimation type on timberland
3.3.21	-	SUBP_TPAREMV_UNADJ_AL_FORE ST	TREE_GRM_COMPONENT	Trees with DIA \geq 5.0 inches - unadjusted trees per acre per year for removals for the all live estimation type on forest land

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
3.3.41	-	SUBP_TPAREMV_UNADJ_AL_TIMBER	TREE_GRM_COMPONENT	Trees with DIA ≥ 5.0 inches - unadjusted trees per acre per year for removals for the all live estimation type on timberland
3.3.26	-	SUBP_TPAREMV_UNADJ_GS_FOREST	TREE_GRM_COMPONENT	Trees with DIA ≥ 5.0 inches - unadjusted trees per acre per year for removals for the growing-stock estimation type on forest land
3.3.46	-	SUBP_TPAREMV_UNADJ_GS_TIMBER	TREE_GRM_COMPONENT	Trees with DIA ≥ 5.0 inches - unadjusted trees per acre per year for removals for the growing-stock estimation type on timberland
3.3.31	-	SUBP_TPAREMV_UNADJ_SL_FOREST	TREE_GRM_COMPONENT	Trees with DIA ≥ 5.0 inches - unadjusted trees per acre per year for removals for the sawtimber estimation type on forest land
3.3.51	-	SUBP_TPAREMV_UNADJ_SL_TIMBER	TREE_GRM_COMPONENT	Trees with DIA ≥ 5.0 inches - unadjusted trees per acre per year for removals for the sawtimber estimation type on timberland
2.4.58	-	SUBPANEL	PLOT	Subpanel
10.2.31	-	SUBPANEL	PLOTSNAP	Subpanel
2.6.13	3.6	SUBPCOND	SUBPLOT	Subplot center condition
2.7.17	-	SUBPCOND_PROP	SUBP_COND	Subplot-condition proportion
6.2.12	-	SUBPLOT_SITE_LIMITATIONS	SUBPLOT_REGEN	Subplot site limitations
2.5.31	-	SUBPPROP_UNADJ	COND	Subplot proportion unadjusted
2.9.4	-	SUBPTYP	SUBP_COND_CHNG_MTRX	Plot type code
3.6.5	-	SUBPTYP	TREE_GRM_BEGIN	Plot type code
3.5.5	-	SUBPTYP	TREE_GRM_MIDPT	Plot type code
3.4.6	-	SUBPTYP	TREE_GRM_THRESHOLD	Plot type code
3.3.10	-	SUBPTYP_BEGIN	TREE_GRM_COMPONENT	Beginning plot type code
3.3.12	-	SUBPTYP_END	TREE_GRM_COMPONENT	Ending plot type code
3.3.11	-	SUBPTYP_MIDPT	TREE_GRM_COMPONENT	Midpoint plot type code
2.9.9	-	SUBPTYP_PROP_CHNG	SUBP_COND_CHNG_MTRX	Plot type proportion change
11.6.25	-	SUBSPECIES	REF_PLANT_DICTIONARY	Subspecies
11.5.7	-	SUBSPECIES	REF_SPECIES	Subspecies

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
3.7.11	-	SUBTYP_GRM	TREE_GRM_ESTN	Subplot type used for GRM estimation
11.6.29	-	SUBVAR	REF_PLANT_DICTIONARY	Subvariety indicator
11.6.30	-	SUBVARIETY	REF_PLANT_DICTIONARY	Subvariety
11.8.3	-	SYMBOL	REF_INVASIVE_SPECIES	Symbol
11.6.3	-	SYMBOL	REF_PLANT_DICTIONARY	Symbol
11.6.2	-	SYMBOL_TYPE	REF_PLANT_DICTIONARY	Symbol type
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8.2.29	-	TEXTURE_CD	SUBP_SOIL_SAMPLE_LAYER	Texture code
11.25.4	-	THRESHOLD	REF_DAMAGE_AGENT	Threshold for damage agent
3.4.5	-	THRESHOLD_TYPE	TREE_GRM_THRESHOLD	Threshold type
11.1.4	-	EVAL_TYP	REF_POP_ATTRIBUTE	Timberland
9.2.12	-	TIMBERLAND_ONLY	POP_EVAL	Timberland only
11.33.16	-	TIMBERLAND_ONLY	REF_GRM_TYPE	Timberland only
11.10.3	-	TITLE	REF_HABTYP_PUBLICATION	Title of publication
2.4.48	-	TOPO_POSITION_PNW	PLOT	Topographic position, Pacific Northwest Research Station
10.2.50	-	TOPO_POSITION_PNW	PLOTSNAP	Topographic position, Pacific Northwest Research Station
3.9.14	-	TOTAGE	SEEDLING	Total age
3.1.57	-	TOTAGE	TREE	Total age
3.9.22	-	TPA_UNADJ	SEEDLING	Trees per acre unadjusted
6.3.25	-	TPA_UNADJ	SEEDLING_REGEN	Trees per acre unadjusted
3.1.92	-	TPA_UNADJ	TREE	Trees per acre unadjusted
3.7.13	-	TPAGROW_UNADJ	TREE_GRM_ESTN	Growth trees per acre unadjusted
3.7.15	-	TPAMORT_UNADJ	TREE_GRM_ESTN	Mortality trees per acre per year unadjusted
3.7.14	-	TPAREMV_UNADJ	TREE_GRM_ESTN	Removal trees per acre per year unadjusted
7.3.17	-	TRAMPLING	GRND_LYR_MICROQUAD	Trampling code (Interior Alaska)
3.1.54	12.11	TRANSCD	TREE	Foliage transparency code
5.2.16	-	TRANSdia	DWM_COARSE_WOODY_DEB_RIS	Transect diameter
5.2.8	-	TRANSECT	DWM_COARSE_WOODY_DEB_RIS	Transect
5.3.7	-	TRANSECT	DWM_DUFF_LITTER_FUEL	Transect
5.4.7	-	TRANSECT	DWM_FINE_WOODY_DEBRIS	Transect

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
5.6.38	-	TRANSECT	DWM_RESIDUAL_PILE	Transect
5.7.8	-	TRANSECT	DWM_TRANSECT_SEGMENT	Transect
7.1.9	-	TRANSECT	GRND_CVR	Transect number
7.2.12	-	TRANSECT	GRND_LYR_FNCTL_GRP	Transect (Interior Alaska)
7.3.12	-	TRANSECT	GRND_LYR_MICROQUAD	Transect (Interior Alaska)
5.7.26	-	TRANSECT_LENGTH	DWM_TRANSECT_SEGMENT	Transect length
3.3.1	-	TRE_CN	TREE_GRM_COMPONENT	Tree sequence number
3.6.1	-	TRE_CN	TREE_GRM_BEGIN	Tree sequence number
3.7.5	-	TRE_CN	TREE_GRM_ESTN	Tree sequence number
3.5.1	-	TRE_CN	TREE_GRM_MIDPT	Tree sequence number
3.4.1	-	TRE_CN	TREE_GRM_THRESHOLD	Tree sequence number
3.2.10	-	TRE_CN	TREE_WOODLAND_STEMS	Tree sequence number
3.10.10	-	TREE	SITETREE	Site tree number
3.1.10	5.2	TREE	TREE	Tree number
3.2.9	-	TREE	TREE_WOODLAND_STEMS	Woodland tree number
3.10.45	-	TREE_ACT_RMRS	SITETREE	Actual tree number, Rocky Mountain Research Station
3.1.142	-	TREE_GRADE_NCRS	TREE	Tree grade, North Central Research Station
3.1.23	-	TREECLCD	TREE	Tree class code
3.6.19	-	TREECLCD	TREE_GRM_BEGIN	Tree class code
3.5.19	-	TREECLCD	TREE_GRM_MIDPT	Tree class code
3.4.20	-	TREECLCD	TREE_GRM_THRESHOLD	Tree class code
3.1.141	-	TREECLCD_31_NCRS	TREE	Tree class code (version 3.1), North Central Research Station
3.1.145	-	TREECLCD_31_NERS	TREE	Tree class code (version 3.1), Northeastern Research Station
3.1.87	-	TREECLCD_NCRS	TREE	Tree class code, North Central Research Station
3.1.85	-	TREECLCD_NERS	TREE	Tree class code, Northeastern Research Station
3.10.44	-	TREECLCD_RMRS	SITETREE	Tree class code, Rocky Mountain Research Station
3.1.88	-	TREECLCD_RMRS	TREE	Tree class code, Rocky Mountain Research Station
3.1.86	-	TREECLCD_SRS	TREE	Tree class code, Southern Research Station
3.9.13	6.4	TREECOUNT	SEEDLING	Tree count for seedlings
3.9.21	-	TREECOUNT_CALC	SEEDLING	Tree count used in calculations

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
3.1.26	-	TREEGRCD	TREE	Tree grade code
3.1.55	-	TREEHISTCD	TREE	Tree history code
2.5.141	-	TREES_PRESENT_NCNS	COND	Trees present on nonforest, North Central Research Station
2.5.142	-	TREES_PRESENT_NERS	COND	Trees present on nonforest, Northeastern Research Station
11.6.17	-	TRINOMIAL_AUTHOR	REF_PLANT_DICTIONARY	Trinomial author
2.5.44	2.5.21	TRTCD1	COND	Treatment code 1
2.5.143	-	TRTCD1_P2A	COND	Treatment code 1, periodic to annual
2.5.46	2.5.23	TRTCD2	COND	Treatment code 2
2.5.144	-	TRTCD2_P2A	COND	Treatment code 2, periodic to annual
2.5.48	2.5.25	TRTCD3	COND	Treatment code 3
2.5.145	-	TRTCD3_P2A	COND	Treatment code 3, periodic to annual
2.5.146	-	TRTOPCD	COND	Treatment opportunity code
2.5.45	2.5.22	TRTYR1	COND	Treatment year 1
2.5.147	-	TRTYR1_P2A	COND	Treatment year 1, periodic to annual
2.5.47	2.5.24	TRTYR2	COND	Treatment year 2
2.5.148	-	TRTYR2_P2A	COND	Treatment year 2, periodic to annual
2.5.49	2.5.26	TRTYR3	COND	Treatment year 3
2.5.149	-	TRTYR3_P2A	COND	Treatment year 3, periodic to annual
11.10.5	-	TYPE	REF_HABTYP_PUBLICATION	Type of publication
11.3.3	-	TYPGRPCD	REF_FOREST_TYPE	Forest type group code
		U		
3.1.48	5.18, 12.5	UNCRCRD	TREE	Uncompacted live crown ratio
4.1.11	9.6	UNIQUE_SP_NBR	INVASIVE_SUBPLOT_SPP	Unique species number
4.2.11	8.5.3	UNIQUE_SP_NBR	P2VEG_SUBPLOT_SPP	Unique species number
2.5.5	-	UNITCD	COND	Survey unit code
5.8.105	-	UNITCD	COND_DWM_CALC	Survey unit code
2.3.2	-	UNITCD	COUNTY	Survey unit code
7.1.5	-	UNITCD	GRND_CVR	Survey unit code
7.2.10	-	UNITCD	GRND_LYR_FNCTL_GRP	Survey unit code
7.3.8	-	UNITCD	GRND_LYR_MICROQUAD	Survey unit code
4.1.5	-	UNITCD	INVASIVE_SUBPLOT_SPP	Survey unit code

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
4.3.4	-	UNITCD	P2VEG_SUBP_STRUCTURE	Survey unit code
4.2.5	-	UNITCD	P2VEG_SUBPLOT_SPP	Survey unit code
2.4.7	-	UNITCD	PLOT	Survey unit code
6.1.5	-	UNITCD	PLOT_REGEN	Survey unit code
10.1.4	-	UNITCD	PLOTGEOM	Survey unit code
10.2.7	-	UNITCD	PLOTSNAP	Survey unit code
9.6.6	-	UNITCD	POP_PLOT_STRATUM_ASSGN	Survey unit code
3.9.5	-	UNITCD	SEEDLING	Survey unit code
6.3.7	-	UNITCD	SEEDLING_REGEN	Survey unit code
3.10.6	-	UNITCD	SITETREE	Survey unit code
2.7.5	-	UNITCD	SUBP_COND	Survey unit code
8.1.10	-	UNITCD	SUBP_SOIL_SAMPLE_LOC	Survey unit code
2.6.6	-	UNITCD	SUBPLOT	Survey unit code
6.2.6	-	UNITCD	SUBPLOT_REGEN	Survey unit code
3.1.6	-	UNITCD	TREE	Survey unit code
3.2.5	-	UNITCD	TREE_WOODLAND_STEMS	Survey unit code
11.8.5	-	UNITCD_LIST	REF_INVASIVE_SPECIES	Unit code list
3.1.115	-	UNKNOWN_DAMTYP1_PNWRS	TREE	Unknown damage type 1, Pacific Northwest Research Station
3.1.116	-	UNKNOWN_DAMTYP2_PNWRS	TREE	Unknown damage type 2, Pacific Northwest Research Station
3.1.126	-	UPPER_DIA	TREE	Upper stem diameter (Pacific Islands)
3.1.127	-	UPPER_DIA_HT	TREE	Upper stem diameter height (Pacific Islands)
11.6.12	-	US_NATIVITY	REF_PLANT_DICTIONARY	United States nativity
8.1.30	-	USED_IN_ESTIMATION_CD	SUBP_SOIL_SAMPLE_LOC	Used in estimation code
		V		
11.9.6	-	VALID	REF_HABTYP_DESCRIPTION	Valid
11.10.6	-	VALID	REF_HABTYP_PUBLICATION	Valid
3.10.23	-	VALIDCD	SITETREE	Validity code
11.3.1	-	VALUE	REF_FOREST_TYPE	Value
11.4.1	-	VALUE	REF_FOREST_TYPE_GROUP	Value
11.14.2	-	VALUE	REF_UNIT	Value
11.6.26	-	VAR	REF_PLANT_DICTIONARY	Variety indicator
11.6.28	-	VARIETY	REF_PLANT_DICTIONARY	Variety
11.5.6	-	VARIETY	REF_SPECIES	Variety

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
4.1.10	-	VEG_FLDSPCD	INVASIVE_SUBPLOT_SPP	Vegetation field species code
4.2.10	-	VEG_FLDSPCD	P2VEG_SUBPLOT_SPP	Vegetation field species code
4.1.12	9.5	VEG_SPCD	INVASIVE_SUBPLOT_SPP	Vegetation species code
4.2.12	8.5.2	VEG_SPCD	P2VEG_SUBPLOT_SPP	Vegetation species code
11.12.1	-	VERSION	REF_FIADB_VERSION	Version identifier
2.5.63	-	VOL_LOC_GRP	COND	Volume location group
3.1.43	-	VOLBFRGS	TREE	Gross board-foot wood volume in the sawlog portion of a sawtimber tree
3.6.49	-	VOLBFRGS	TREE_GRM_BEGIN	Gross board-foot wood volume in the sawlog portion of a sawtimber tree at T1
3.5.49	-	VOLBFRGS	TREE_GRM_MIDPT	Gross board-foot wood volume in the sawlog portion of a sawtimber tree at the midpoint
3.4.50	-	VOLBFRGS	TREE_GRM_THRESHOLD	Gross board-foot wood volume in the sawlog portion of a sawtimber tree at the threshold
3.1.42	-	VOLBFNET	TREE	Net board-foot wood volume in the sawlog portion of a sawtimber tree
3.6.50	-	VOLBFNET	TREE_GRM_BEGIN	Net board-foot wood volume in the sawlog portion of a sawtimber tree at T1
3.5.50	-	VOLBFNET	TREE_GRM_MIDPT	Net board-foot wood volume in the sawlog portion of a sawtimber tree at the midpoint
3.4.51	-	VOLBFNET	TREE_GRM_THRESHOLD	Net board-foot wood volume in the sawlog portion of a sawtimber tree at the threshold
3.1.157	-	VOLBSGRS	TREE	Gross board-foot wood volume in the sawlog portion of a sawtimber tree (Scribner Rule)
3.6.51	-	VOLBSGRS	TREE_GRM_BEGIN	Gross board-foot wood volume in the sawlog portion of a sawtimber tree at T1 (Scribner Rule)

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
3.5.51	-	VOLBSGRS	TREE_GRM_MIDPT	Gross board-foot wood volume in the sawlog portion of a sawtimber tree at the midpoint (Scribner Rule)
3.4.52	-	VOLBSGRS	TREE_GRM_THRESHOLD	Gross board-foot wood volume in the sawlog portion of a sawtimber tree at the threshold (Scribner Rule)
3.1.158	-	VOLBSNET	TREE	Net board-foot wood volume in the sawlog portion of a sawtimber tree (Scribner Rule)
3.6.52	-	VOLBSNET	TREE_GRM_BEGIN	Net board-foot wood volume in the sawlog portion of a sawtimber tree at T1 (Scribner Rule)
3.5.52	-	VOLBSNET	TREE_GRM_MIDPT	Net board-foot wood volume in the sawlog portion of a sawtimber tree at the midpoint (Scribner Rule)
3.4.53	-	VOLBSNET	TREE_GRM_THRESHOLD	Net board-foot wood volume in the sawlog portion of a sawtimber tree at the threshold (Scribner Rule)
5.2.22	-	VOLCF	DWM_COARSE_WOODY_DEB_RIS	Gross cubic-foot volume of the piece
5.6.20	-	VOLCF	DWM_RESIDUALPILE	Gross cubic-foot volume of the residual pile
5.2.49	-	VOLCF_AC_COND	DWM_COARSE_WOODY_DEB_RIS	Gross cubic-foot volume per acre based on condition transect length actually measured, unadjusted
5.2.48	-	VOLCF_AC_PLOT	DWM_COARSE_WOODY_DEB_RIS	Gross cubic-foot volume per acre based on plot transect length actually measured, unadjusted
5.2.47	-	VOLCF_AC_UNADJ	DWM_COARSE_WOODY_DEB_RIS	Gross cubic-foot volume per acre based on target plot transect length, unadjusted
3.1.39	-	VOLCFGRS	TREE	Gross cubic-foot stem wood volume
3.6.33	-	VOLCFGRS	TREE_GRM_BEGIN	Gross cubic-foot stem wood volume at T1

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
3.5.33	-	VOLCFGRS	TREE_GRM_MIDPT	Gross cubic-foot stem wood volume at the midpoint
3.4.34	-	VOLCFGRS	TREE_GRM_THRESHOLD	Gross cubic-foot stem wood volume at the threshold
3.1.185	-	VOLCFGRS_BARK	TREE	Gross cubic-foot stem bark volume
3.6.34	-	VOLCFGRS_BARK	TREE_GRM_BEGIN	Gross cubic-foot stem bark volume at T1
3.5.34	-	VOLCFGRS_BARK	TREE_GRM_MIDPT	Gross cubic-foot stem bark volume at the midpoint
3.4.35	-	VOLCFGRS_BARK	TREE_GRM_THRESHOLD	Gross cubic-foot stem bark volume at the threshold
3.1.181	-	VOLCFGRS_STUMP	TREE	Gross cubic-foot stump wood volume
3.6.29	-	VOLCFGRS_STUMP	TREE_GRM_BEGIN	Gross cubic-foot stump wood volume at T1
3.5.29	-	VOLCFGRS_STUMP	TREE_GRM_MIDPT	Gross cubic-foot stump wood volume at the midpoint
3.4.30	-	VOLCFGRS_STUMP	TREE_GRM_THRESHOLD	Gross cubic-foot stump wood volume at the threshold
3.1.182	-	VOLCFGRS_STUMP_BARK	TREE	Gross cubic-foot stump bark volume
3.6.30	-	VOLCFGRS_STUMP_BARK	TREE_GRM_BEGIN	Gross cubic-foot stump bark volume at T1
3.5.30	-	VOLCFGRS_STUMP_BARK	TREE_GRM_MIDPT	Gross cubic-foot stump bark volume at the midpoint
3.4.31	-	VOLCFGRS_STUMP_BARK	TREE_GRM_THRESHOLD	Gross cubic-foot stump bark volume at the threshold
3.1.186	-	VOLCFGRS_TOP	TREE	Gross cubic-foot stem-top wood volume
3.6.35	-	VOLCFGRS_TOP	TREE_GRM_BEGIN	Gross cubic-foot stem-top wood volume at T1
3.5.35	-	VOLCFGRS_TOP	TREE_GRM_MIDPT	Gross cubic-foot stem-top wood volume at the midpoint
3.4.36	-	VOLCFGRS_TOP	TREE_GRM_THRESHOLD	Gross cubic-foot stem-top wood volume at the threshold
3.1.187	-	VOLCFGRS_TOP_BARK	TREE	Gross cubic-foot stem-top bark volume

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
3.6.36	-	VOLCFG_RS_TOP_BARK	TREE_GRM_BEGIN	Gross cubic-foot stem-top bark volume at T1
3.5.36	-	VOLCFG_RS_TOP_BARK	TREE_GRM_MIDPT	Gross cubic-foot stem-top bark volume at the midpoint
3.4.37	-	VOLCFG_RS_TOP_BARK	TREE_GRM_THRESHOLD	Gross cubic-foot stem-top bark volume at the threshold
3.1.38	-	VOLCFNET	TREE	Net cubic-foot stem wood volume
3.6.41	-	VOLCFNET	TREE_GRM_BEGIN	Net cubic-foot stem wood volume at T1
3.5.41	-	VOLCFNET	TREE_GRM_MIDPT	Net cubic-foot stem wood volume at the midpoint
3.4.42	-	VOLCFNET	TREE_GRM_THRESHOLD	Net cubic-foot stem wood volume at the threshold
3.1.191	-	VOLCFNET_BARK	TREE	Net cubic-foot stem bark volume
3.6.42	-	VOLCFNET_BARK	TREE_GRM_BEGIN	Net cubic-foot stem bark volume at T1
3.5.42	-	VOLCFNET_BARK	TREE_GRM_MIDPT	Net cubic-foot stem bark volume at the midpoint
3.4.43	-	VOLCFNET_BARK	TREE_GRM_THRESHOLD	Net cubic-foot stem bark volume at the threshold
3.1.44	-	VOLCFSND	TREE	Sound cubic-foot stem wood volume
3.6.37	-	VOLCFSND	TREE_GRM_BEGIN	Sound cubic-foot stem wood volume at T1
3.5.37	-	VOLCFSND	TREE_GRM_MIDPT	Sound cubic-foot stem wood volume at the midpoint
3.4.38	-	VOLCFSND	TREE_GRM_THRESHOLD	Sound cubic-foot stem wood volume at the threshold
3.1.188	-	VOLCFSND_BARK	TREE	Sound cubic-foot stem bark volume
3.6.38	-	VOLCFSND_BARK	TREE_GRM_BEGIN	Sound cubic-foot stem bark volume at T1
3.5.38	-	VOLCFSND_BARK	TREE_GRM_MIDPT	Sound cubic-foot stem bark volume at the midpoint
3.4.39	-	VOLCFSND_BARK	TREE_GRM_THRESHOLD	Sound cubic-foot stem bark volume at the threshold
3.1.183	-	VOLCFSND_STUMP	TREE	Sound cubic-foot stump wood volume

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
3.6.31	-	VOLCFSND_STUMP	TREE_GRM_BEGIN	Sound cubic-foot stump wood volume at T1
3.5.31	-	VOLCFSND_STUMP	TREE_GRM_MIDPT	Sound cubic-foot stump wood volume at the midpoint
3.4.32	-	VOLCFSND_STUMP	TREE_GRM_THRESHOLD	Sound cubic-foot stump wood volume at the threshold
3.1.184	-	VOLCFSND_STUMP_BARK	TREE	Sound cubic-foot stump bark volume
3.6.32	-	VOLCFSND_STUMP_BARK	TREE_GRM_BEGIN	Sound cubic-foot stump bark volume at T1
3.5.32	-	VOLCFSND_STUMP_BARK	TREE_GRM_MIDPT	Sound cubic-foot stump bark volume at the midpoint
3.4.33	-	VOLCFSND_STUMP_BARK	TREE_GRM_THRESHOLD	Sound cubic-foot stump bark volume at the threshold
3.1.189	-	VOLCFSND_TOP	TREE	Sound cubic-foot stem-top wood volume
3.6.39	-	VOLCFSND_TOP	TREE_GRM_BEGIN	Sound cubic-foot stem-top wood volume at T1
3.5.39	-	VOLCFSND_TOP	TREE_GRM_MIDPT	Sound cubic-foot stem-top wood volume at the midpoint
3.4.40	-	VOLCFSND_TOP	TREE_GRM_THRESHOLD	Sound cubic-foot stem-top wood volume at the threshold
3.1.190	-	VOLCFSND_TOP_BARK	TREE	Sound cubic-foot stem-top bark volume
3.6.40	-	VOLCFSND_TOP_BARK	TREE_GRM_BEGIN	Sound cubic-foot stem-top bark volume at T1
3.5.40	-	VOLCFSND_TOP_BARK	TREE_GRM_MIDPT	Sound cubic-foot stem-top bark volume at the midpoint
3.4.41	-	VOLCFSND_TOP_BARK	TREE_GRM_THRESHOLD	Sound cubic-foot stem-top bark volume at the threshold
3.1.41	-	VOLCSGRS	TREE	Gross cubic-foot wood volume in the sawlog portion of a sawtimber tree
3.6.43	-	VOLCSGRS	TREE_GRM_BEGIN	Gross cubic-foot wood volume in the sawlog portion of a sawtimber tree at T1

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
3.5.43	-	VOLCSGRS	TREE_GRM_MIDPT	Gross cubic-foot wood volume in the sawlog portion of a sawtimber tree at the midpoint
3.4.44	-	VOLCSGRS	TREE_GRM_THRESHOLD	Gross cubic-foot wood volume in the sawlog portion of a sawtimber tree at the threshold
3.1.192	-	VOLCSGRS_BARK	TREE	Gross cubic-foot bark volume in the sawlog portion of a sawtimber tree
3.6.44	-	VOLCSGRS_BARK	TREE_GRM_BEGIN	Gross cubic-foot bark volume in the sawlog portion of a sawtimber tree at T1
3.5.44	-	VOLCSGRS_BARK	TREE_GRM_MIDPT	Gross cubic-foot bark volume in the sawlog portion of a sawtimber tree at the midpoint
3.4.45	-	VOLCSGRS_BARK	TREE_GRM_THRESHOLD	Gross cubic-foot bark volume in the sawlog portion of a sawtimber tree at the threshold
3.1.40	-	VOLCSNET	TREE	Net cubic-foot wood volume in the sawlog portion of a sawtimber tree
3.6.47	-	VOLCSNET	TREE_GRM_BEGIN	Net cubic-foot wood volume in the sawlog portion of a sawtimber tree at T1
3.5.47	-	VOLCSNET	TREE_GRM_MIDPT	Net cubic-foot wood volume in the sawlog portion of a sawtimber tree at the midpoint
3.4.48	-	VOLCSNET	TREE_GRM_THRESHOLD	Net cubic-foot wood volume in the sawlog portion of a sawtimber tree at the threshold
3.1.194	-	VOLCSNET_BARK	TREE	Net cubic-foot bark volume in the sawlog portion of a sawtimber tree
3.6.48	-	VOLCSNET_BARK	TREE_GRM_BEGIN	Net cubic-foot bark volume in the sawlog portion of a sawtimber tree at T1
3.5.48	-	VOLCSNET_BARK	TREE_GRM_MIDPT	Net cubic-foot bark volume in the sawlog portion of a sawtimber tree at the midpoint

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
3.4.49	-	VOLCSNET_BARK	TREE_GRM_THRESHOLD	Net cubic-foot bark volume in the sawlog portion of a sawtimber tree at the threshold
3.1.128	-	VOLCSSND	TREE	Sound cubic-foot wood volume in the sawlog portion of a sawtimber tree
3.6.45	-	VOLCSSND	TREE_GRM_BEGIN	Sound cubic-foot wood volume in the sawlog portion of a sawtimber tree at T1
3.5.45	-	VOLCSSND	TREE_GRM_MIDPT	Gross cubic-foot wood volume in the sawlog portion of a sawtimber tree at the midpoint
3.4.46	-	VOLCSSND	TREE_GRM_THRESHOLD	Gross cubic-foot wood volume in the sawlog portion of a sawtimber tree at the threshold
3.1.193	-	VOLCSSND_BARK	TREE	Sound cubic-foot bark volume in the sawlog portion of a sawtimber tree
3.6.46	-	VOLCSSND_BARK	TREE_GRM_BEGIN	Sound cubic-foot bark volume in the sawlog portion of a sawtimber tree at T1
3.5.46	-	VOLCSSND_BARK	TREE_GRM_MIDPT	Sound cubic-foot bark volume in the sawlog portion of a sawtimber tree at the midpoint
3.4.47	-	VOLCSSND_BARK	TREE_GRM_THRESHOLD	Sound cubic-foot bark volume in the sawlog portion of a sawtimber tree at the threshold
3.1.177	-	VOLTSGRS	TREE	Gross cubic-foot total-stem wood volume
3.6.25	-	VOLTSGRS	TREE_GRM_BEGIN	Gross cubic-foot total-stem wood volume at T1
3.5.25	-	VOLTSGRS	TREE_GRM_MIDPT	Gross cubic-foot total-stem wood volume at the midpoint
3.4.26	-	VOLTSGRS	TREE_GRM_THRESHOLD	Gross cubic-foot total-stem wood volume at the threshold
3.1.178	-	VOLTSGRS_BARK	TREE	Gross cubic-foot total-stem bark volume

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
3.6.26	-	VOLTSGRS_BARK	TREE_GRM_BEGIN	Gross cubic-foot total-stem bark volume at T1
3.5.26	-	VOLTSGRS_BARK	TREE_GRM_MIDPT	Gross cubic-foot total-stem bark volume at the midpoint
3.4.27	-	VOLTSGRS_BARK	TREE_GRM_THRESHOLD	Gross cubic-foot total-stem bark volume at the threshold
3.1.179	-	VOLTSSND	TREE	Sound cubic-foot total-stem wood volume
3.6.27	-	VOLTSSND	TREE_GRM_BEGIN	Sound cubic-foot total-stem wood volume at T1
3.5.27	-	VOLTSSND	TREE_GRM_MIDPT	Sound cubic-foot total-stem wood volume at the midpoint
3.4.28	-	VOLTSSND	TREE_GRM_THRESHOLD	Sound cubic-foot total-stem wood volume at the threshold
3.1.180	-	VOLTSSND_BARK	TREE	Sound cubic-foot total-stem bark volume
3.6.28	-	VOLTSSND_BARK	TREE_GRM_BEGIN	Sound cubic-foot total-stem bark volume at T1
3.5.28	-	VOLTSSND_BARK	TREE_GRM_MIDPT	Sound cubic-foot total-stem bark volume at the midpoint
3.4.29	-	VOLTSSND_BARK	TREE_GRM_THRESHOLD	Sound cubic-foot total-stem bark volume at the midpoint
8.2.12	-	VSTNBR	SUBP_SOIL_SAMPLE_LAYER	Visit number
8.1.12	-	VSTNBR	SUBP_SOIL_SAMPLE_LOC	Visit number
		W		
11.5.11	-	W_SPGRPCD	REF_SPECIES	Western species group code
8.2.23	-	WATER_CONTENT_PCT_FIELD_MOIST	SUBP_SOIL_SAMPLE_LAYER	Field-moist water content percent
8.2.24	-	WATER_CONTENT_PCT_RESIDUAL	SUBP_SOIL_SAMPLE_LAYER	Residual water content percent
8.2.25	-	WATER_CONTENT_PCT_TOTAL	SUBP_SOIL_SAMPLE_LAYER	Total water content percent
2.4.19	1.16	WATERCD	PLOT	Water on plot code
10.2.19	-	WATERCD	PLOTSNAP	Water on plot code
2.6.18	3.10	WATERDEP	SUBPLOT	Snow/water depth
3.1.37	5.11	WDLDSSTEM	TREE	Woodland tree species stem count

Subsection	Field Guide section	Column name (attribute)	Oracle table name	Descriptive name
3.6.21	-	WDLDSTEM	TREE_GRM_BEGIN	Woodland tree species stem count
3.5.21	-	WDLDSTEM	TREE_GRM_MIDPT	Woodland tree species stem count
3.4.22	-	WDLDSTEM	TREE_GRM_THRESHOLD	Woodland tree species stem count
5.6.15	-	WIDTH1	DWM_RESIDUALPILE	Width first measurement
5.6.18	-	WIDTH2	DWM_RESIDUALPILE	Width second measurement
11.5.22	-	WOOD_SPGR_GREENVOL_DRYWT	REF_SPECIES	Green specific gravity of wood
11.5.23	-	WOOD_SPGR_GREENVOL_DRYWT_CIT	REF_SPECIES	Citation for WOOD_SPGR_GREENVOL_DRYWT
11.5.21	-	WOODLAND	REF_SPECIES	Woodland species indicator
8.2.20	-	WT_AIR_DRY	SUBP_SOIL_SAMPLE_LAYER	Air-dry soil weight
8.2.19	-	WT_FIELD_MOIST	SUBP_SOIL_SAMPLE_LAYER	Field-moist soil weight
8.2.21	-	WT_OVEN_DRY	SUBP_SOIL_SAMPLE_LAYER	Oven-dry soil weight
8.2.22	-	WT_ROCK	SUBP_SOIL_SAMPLE_LAYER	Rock particle weight
		X		
11.6.19	-	XGENUS	REF_PLANT_DICTIONARY	Cross genus
11.6.21	-	XSPECIES	REF_PLANT_DICTIONARY	Cross species
11.6.24	-	XSUBSPECIES	REF_PLANT_DICTIONARY	Cross subspecies
11.6.27	-	XVARIETY	REF_PLANT_DICTIONARY	Cross variety
		Y		
3.10.46	-	YEAR AGE TAKEN	SITETREE	Year age taken
		Z		

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Appendix A: Quick Links

Forest Inventory and Analysis (FIA) - National:

Quick Link	Website (URL address)
FIA - National Program	https://www.fs.usda.gov/research/programs/fia
FIA - Nationwide Forest Inventory	https://www.fs.usda.gov/research/programs/nfi
FIA - Data and Tools	https://www.fs.usda.gov/research/programs/fia#data-and-tools
FIA - DataMart	https://apps.fs.usda.gov/fia/datamart/datamart.html
FIA - FIADB User Guides	https://www.fs.usda.gov/research/products/data-and-tools/tools/fia-datamart
FIA - Field Guides, Methods, and Procedures	https://www.fs.usda.gov/research/products/data-and-tools/tools/fia-datamart

FIA - Research Stations:

Quick Link	Website (URL address)
FIA - Northern Research Station	https://www.nrs.fs.usda.gov/fia/
FIA - Southern Research Station	https://www.fs.usda.gov/srsfia/
FIA - Rocky Mountain Research Station	https://www.fs.usda.gov/rm/ogden/
FIA - Pacific Northwest Research Station	https://www.fs.usda.gov/pnw/program/rma

USDA Forest Service:

Quick Link	Website (URL address)
USDA Forest Service	https://www.fs.usda.gov/
USDA Forest Service - FSGeodata Clearinghouse	https://data.fs.usda.gov/geodata/
USDA Forest Service - National Programs and Offices	https://www.fs.usda.gov/about-agency/national-programs-offices
USDA Forest Service - Research & Development	https://www.fs.usda.gov/research/
USDA Forest Service - Contact US	https://www.fs.usda.gov/about-agency/contact-us
USDA Forest Service - State, Private, and Tribal Forestry	https://www.fs.usda.gov/about-agency/state-private-forestry
USDA Forest Service - Understory (publications)	https://www.fs.usda.gov/research/understory

Other:

Quick Link	Website (URL address)
U.S. Geological Survey - National Water Information System (NWIS)	https://water.usgs.gov/GIS/huc.html

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Appendix B: State, Survey Unit, and County Codes

Appendix Contents:

Description
Ordered by State code
Pacific Islands
Caribbean Islands

Ordered by State code

State	State code	State abbreviation	Research station	Region or Station code
Alabama	1	AL	SRS	33
Alaska	2	AK	PNWRS-AK	27
Arizona	4	AZ	RMRS	22
Arkansas	5	AR	SRS	33
California	6	CA	PNWRS	26
Colorado	8	CO	RMRS	22
Connecticut	9	CT	NERS	24
Delaware	10	DE	NERS	24
Florida	12	FL	SRS	33
District of Columbia	11	DC	NERS	24
Georgia	13	GA	SRS	33
Hawaii	15	HI	PNWRS	26
Idaho	16	ID	RMRS	22
Illinois	17	IL	NCRS	23
Indiana	18	IN	NCRS	23
Iowa	19	IA	NCRS	23
Kansas	20	KS	NCRS	23
Kentucky	21	KY	SRS	33
Louisiana	22	LA	SRS	33
Maine	23	ME	NERS	24
Maryland	24	MD	NERS	24
Massachusetts	25	MA	NERS	24
Michigan	26	MI	NCRS	23
Minnesota	27	MN	NCRS	23

State	State code	State abbreviation	Research station	Region or Station code
Mississippi	28	MS	SRS	33
Missouri	29	MO	NCRS	23
Montana	30	MT	RMRS	22
Nebraska	31	NE	NCRS	23
Nevada	32	NV	RMRS	22
New Hampshire	33	NH	NERS	24
New Jersey	34	NJ	NERS	24
New Mexico	35	NM	RMRS	22
New York	36	NY	NERS	24
North Carolina	37	NC	SRS	33
North Dakota	38	ND	NCRS	23
Ohio	39	OH	NERS	24
Oklahoma	40	OK	SRS	33
Oregon	41	OR	PNWRS	26
Pennsylvania	42	PA	NERS	24
Rhode Island	44	RI	NERS	24
South Carolina	45	SC	SRS	33
South Dakota	46	SD	NCRS	23
Tennessee	47	TN	SRS	33
Texas	48	TX	SRS	33
Utah	49	UT	RMRS	22
Vermont	50	VT	NERS	24
Virginia	51	VA	SRS	33
Washington	53	WA	PNWRS	26
West Virginia	54	WV	NERS	24
Wisconsin	55	WI	NCRS	23
Wyoming	56	WY	RMRS	22
American Samoa	60	AS	PNWRS	26
Federated States of Micronesia	64	FM	PNWRS	26
Guam	66	GU	PNWRS	26
Marshall Islands	68	MH	PNWRS	26
Northern Mariana Islands	69	MP	PNWRS	26
Palau	70	PW	PNWRS	26
Puerto Rico	72	PR	SRS	33
US Virgin Islands	78	VI	SRS	33

Pacific Islands

The Pacific Islands group is defined based on the protocols and procedures used for data collection and compilation.

STATE_NAME	STATECD	STATE_ABBR	RS	RSCD
Hawaii	15	HI	PNWRS	26
American Samoa	60	AS	PNWRS	26
Federated States of Micronesia	64	FM	PNWRS	26
Guam	66	GU	PNWRS	26
Marshall Islands	68	MH	PNWRS	26
Northern Mariana Islands	69	MP	PNWRS	26
Palau	70	PW	PNWRS	26

Caribbean Islands

The Caribbean Islands group is defined based on the protocols and procedures used for data collection and compilation.

STATE_NAME	STATECD	STATE_ABBR	RS	RSCD
Puerto Rico	72	PR	SRS	33
US Virgin Islands	78	VI	SRS	33

Alabama

Alabama: State information

State name	State code	State abbreviation	Research station	Research or Station code
Alabama	1	AL	SRS	33

Alabama: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
1	1	Southwest-South	3	Baldwin
1	1	Southwest-South	39	Covington
1	1	Southwest-South	53	Escambia
1	1	Southwest-South	97	Mobile
1	1	Southwest-South	129	Washington
1	2	Southwest-North	23	Choctaw
1	2	Southwest-North	25	Clarke
1	2	Southwest-North	35	Conecuh
1	2	Southwest-North	91	Marengo
1	2	Southwest-North	99	Monroe
1	2	Southwest-North	119	Sumter
1	2	Southwest-North	131	Wilcox
1	3	Southeast	1	Autauga
1	3	Southeast	5	Barbour
1	3	Southeast	11	Bullock
1	3	Southeast	13	Butler
1	3	Southeast	17	Chambers
1	3	Southeast	21	Chilton
1	3	Southeast	31	Coffee
1	3	Southeast	41	Crenshaw
1	3	Southeast	45	Dale
1	3	Southeast	47	Dallas
1	3	Southeast	51	Elmore
1	3	Southeast	61	Geneva
1	3	Southeast	67	Henry
1	3	Southeast	69	Houston
1	3	Southeast	81	Lee
1	3	Southeast	85	Lowndes
1	3	Southeast	87	Macon
1	3	Southeast	101	Montgomery
1	3	Southeast	109	Pike
1	3	Southeast	113	Russell

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
1	3	Southeast	123	Tallapoosa
1	4	West Central	7	Bibb
1	4	West Central	57	Fayette
1	4	West Central	63	Greene
1	4	West Central	65	Hale
1	4	West Central	75	Lamar
1	4	West Central	93	Marion
1	4	West Central	105	Perry
1	4	West Central	107	Pickens
1	4	West Central	125	Tuscaloosa
1	5	North Central	9	Blount
1	5	North Central	15	Calhoun
1	5	North Central	19	Cherokee
1	5	North Central	27	Clay
1	5	North Central	29	Cleburne
1	5	North Central	37	Coosa
1	5	North Central	43	Cullman
1	5	North Central	55	Etowah
1	5	North Central	73	Jefferson
1	5	North Central	111	Randolph
1	5	North Central	115	St. Clair
1	5	North Central	117	Shelby
1	5	North Central	121	Talladega
1	5	North Central	127	Walker
1	5	North Central	133	Winston
1	6	North	33	Colbert
1	6	North	49	DeKalb
1	6	North	59	Franklin
1	6	North	71	Jackson
1	6	North	77	Lauderdale
1	6	North	79	Lawrence
1	6	North	83	Limestone
1	6	North	89	Madison
1	6	North	95	Marshall
1	6	North	103	Morgan

Alaska

Alaska: State information

State name	State code	State abbreviation	Research station	Research or Station code
Alaska	2	AK	PNWRS-AK	27

Alaska: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
2	1	Alaska	13	Aleutians East Borough
2	1	Alaska	16	Aleutians West Census Area
2	1	Alaska	20	Anchorage Borough
2	1	Alaska	50	Bethel Census Area
2	1	Alaska	60	Bristol Bay Borough
2	1	Alaska	68	Denali Borough
2	1	Alaska	70	Dillingham Census Area
2	1	Alaska	90	Fairbanks North Star Borough
2	1	Alaska	100	Haines Borough
2	1	Alaska	110	Juneau Borough
2	1	Alaska	122	Kenai Peninsula Borough
2	1	Alaska	130	Ketchikan Gateway Borough
2	1	Alaska	150	Kodiak Island Borough
2	1	Alaska	164	Lake and Peninsula Borough
2	1	Alaska	170	Matanuska-Susitna Borough
2	1	Alaska	180	Nome Census Area
2	1	Alaska	185	North Slope Borough
2	1	Alaska	188	Northwest Arctic Borough
2	1	Alaska	201	Prince of Wales-Outer Ketchikan Census Area
2	1	Alaska	220	Sitka Borough
2	1	Alaska	232	Skagway-Hoonah-Angoon Census Area
2	1	Alaska	240	Southeast Fairbanks Census Area
2	1	Alaska	261	Valdez-Cordova Census Area
2	1	Alaska	270	Wade Hampton Census Area
2	1	Alaska	280	Wrangell-Petersburg Census Area
2	1	Alaska	282	Yakutat Borough
2	1	Alaska	290	Yukon-Koyukuk Census Area

Arizona

Arizona: State information

State name	State code	State abbreviation	Research station	Research or Station code
Arizona	4	AZ	RMRS	22

Arizona: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
4	1	Southern	3	Cochise
4	1	Southern	9	Graham
4	1	Southern	11	Greenlee
4	1	Southern	12	La Paz
4	1	Southern	13	Maricopa
4	1	Southern	19	Pima
4	1	Southern	21	Pinal
4	1	Southern	23	Santa Cruz
4	1	Southern	27	Yuma
4	2	Northern	1	Apache
4	2	Northern	5	Coconino
4	2	Northern	7	Gila
4	2	Northern	15	Mohave
4	2	Northern	17	Navajo
4	2	Northern	25	Yavapai

Arkansas

Arkansas: State information

State name	State code	State abbreviation	Research station	Research or Station code
Arkansas	5	AR	SRS	33

Arkansas: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
5	1	South Delta	1	Arkansas
5	1	South Delta	17	Chicot
5	1	South Delta	41	Desho
5	1	South Delta	69	Jefferson
5	1	South Delta	77	Lee
5	1	South Delta	79	Lincoln
5	1	South Delta	85	Lonoke
5	1	South Delta	95	Monroe
5	1	South Delta	107	Phillips
5	1	South Delta	117	Prairie
5	2	North Delta	21	Clay
5	2	North Delta	31	Craighead
5	2	North Delta	35	Crittenden
5	2	North Delta	37	Cross
5	2	North Delta	55	Greene
5	2	North Delta	67	Jackson
5	2	North Delta	75	Lawrence
5	2	North Delta	93	Mississippi
5	2	North Delta	111	Poinsett
5	2	North Delta	123	St. Francis
5	2	North Delta	147	Woodruff
5	3	Southwest	3	Ashley
5	3	Southwest	11	Bradley
5	3	Southwest	13	Calhoun
5	3	Southwest	19	Clark
5	3	Southwest	25	Cleveland
5	3	Southwest	27	Columbia
5	3	Southwest	39	Dallas
5	3	Southwest	43	Drew
5	3	Southwest	53	Grant
5	3	Southwest	57	Hempstead
5	3	Southwest	59	Hot Spring

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
5	3	Southwest	61	Howard
5	3	Southwest	73	Lafayette
5	3	Southwest	81	Little River
5	3	Southwest	91	Miller
5	3	Southwest	99	Nevada
5	3	Southwest	103	Ouachita
5	3	Southwest	109	Pike
5	3	Southwest	133	Sevier
5	3	Southwest	139	Union
5	4	Ouachita	51	Garland
5	4	Ouachita	83	Logan
5	4	Ouachita	97	Montgomery
5	4	Ouachita	105	Perry
5	4	Ouachita	113	Polk
5	4	Ouachita	119	Pulaski
5	4	Ouachita	125	Saline
5	4	Ouachita	127	Scott
5	4	Ouachita	131	Sebastian
5	4	Ouachita	149	Yell
5	5	Ozark	5	Baxter
5	5	Ozark	7	Benton
5	5	Ozark	9	Boone
5	5	Ozark	15	Carroll
5	5	Ozark	23	Cleburne
5	5	Ozark	29	Conway
5	5	Ozark	33	Crawford
5	5	Ozark	45	Faulkner
5	5	Ozark	47	Franklin
5	5	Ozark	49	Fulton
5	5	Ozark	63	Independence
5	5	Ozark	65	Izard
5	5	Ozark	71	Johnson
5	5	Ozark	87	Madison
5	5	Ozark	89	Marion
5	5	Ozark	101	Newton
5	5	Ozark	115	Pope
5	5	Ozark	121	Randolph
5	5	Ozark	129	Searcy
5	5	Ozark	135	Sharp

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
5	5	Ozark	137	Stone
5	5	Ozark	141	Van Buren
5	5	Ozark	143	Washington
5	5	Ozark	145	White

California

California: State information

State name	State code	State abbreviation	Research station	Research or Station code
California	6	CA	PNWRS	26

California: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
6	1	North Coast	15	Del Norte
6	1	North Coast	23	Humboldt
6	1	North Coast	45	Mendocino
6	1	North Coast	97	Sonoma
6	2	North Interior	35	Lassen
6	2	North Interior	49	Modoc
6	2	North Interior	89	Shasta
6	2	North Interior	93	Siskiyou
6	2	North Interior	105	Trinity
6	3	Sacramento	7	Butte
6	3	Sacramento	11	Colusa
6	3	Sacramento	17	El Dorado
6	3	Sacramento	21	Glenn
6	3	Sacramento	33	Lake
6	3	Sacramento	55	Napa
6	3	Sacramento	57	Nevada
6	3	Sacramento	61	Placer
6	3	Sacramento	63	Plumas
6	3	Sacramento	67	Sacramento
6	3	Sacramento	91	Sierra
6	3	Sacramento	101	Sutter
6	3	Sacramento	103	Tehama
6	3	Sacramento	113	Yolo
6	3	Sacramento	115	Yuba
6	4	Central Coast	1	Alameda
6	4	Central Coast	13	Contra Costa
6	4	Central Coast	41	Marin
6	4	Central Coast	53	Monterey
6	4	Central Coast	69	San Benito
6	4	Central Coast	75	San Francisco
6	4	Central Coast	79	San Luis Obispo
6	4	Central Coast	81	San Mateo

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
6	4	Central Coast	83	Santa Barbara
6	4	Central Coast	85	Santa Clara
6	4	Central Coast	87	Santa Cruz
6	4	Central Coast	95	Solano
6	4	Central Coast	111	Ventura
6	5	San Joaquin	3	Alpine
6	5	San Joaquin	5	Amador
6	5	San Joaquin	9	Calaveras
6	5	San Joaquin	19	Fresno
6	5	San Joaquin	29	Kern
6	5	San Joaquin	31	Kings
6	5	San Joaquin	39	Madera
6	5	San Joaquin	43	Mariposa
6	5	San Joaquin	47	Merced
6	5	San Joaquin	51	Mono
6	5	San Joaquin	77	San Joaquin
6	5	San Joaquin	99	Stanislaus
6	5	San Joaquin	107	Tulare
6	5	San Joaquin	109	Tuolumne
6	6	Southern	25	Imperial
6	6	Southern	27	Inyo
6	6	Southern	37	Los Angeles
6	6	Southern	59	Orange
6	6	Southern	65	Riverside
6	6	Southern	71	San Bernardino
6	6	Southern	73	San Diego

Colorado

Colorado: State information

State name	State code	State abbreviation	Research station	Research or Station code
Colorado	8	CO	RMRS	22

Colorado: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
8	1	Northern Front Range	13	Boulder
8	1	Northern Front Range	14	Broomfield ^a
8	1	Northern Front Range	19	Clear Creek
8	1	Northern Front Range	35	Douglas
8	1	Northern Front Range	39	Elbert
8	1	Northern Front Range	41	El Paso
8	1	Northern Front Range	47	Gilpin
8	1	Northern Front Range	59	Jefferson
8	1	Northern Front Range	65	Lake
8	1	Northern Front Range	69	Larimer
8	1	Northern Front Range	93	Park
8	1	Northern Front Range	119	Teller
8	2	Southern Front Range	15	Chaffee
8	2	Southern Front Range	23	Costilla
8	2	Southern Front Range	27	Custer
8	2	Southern Front Range	43	Fremont
8	2	Southern Front Range	55	Huerfano
8	2	Southern Front Range	71	Las Animas
8	2	Southern Front Range	101	Pueblo
8	3	West Central	3	Alamosa
8	3	West Central	21	Conejos
8	3	West Central	37	Eagle
8	3	West Central	49	Grand
8	3	West Central	51	Gunnison
8	3	West Central	53	Hinsdale
8	3	West Central	57	Jackson
8	3	West Central	79	Mineral
8	3	West Central	97	Pitkin
8	3	West Central	105	Rio Grande
8	3	West Central	107	Routt
8	3	West Central	109	Saguache
8	3	West Central	111	San Juan

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
8	3	West Central	117	Summit
8	4	Western	7	Archuleta
8	4	Western	29	Delta
8	4	Western	33	Dolores
8	4	Western	45	Garfield
8	4	Western	67	La Plata
8	4	Western	77	Mesa
8	4	Western	81	Moffat
8	4	Western	83	Montezuma
8	4	Western	85	Montrose
8	4	Western	91	Ouray
8	4	Western	103	Rio Blanco
8	4	Western	113	San Miguel
8	5	Eastern	1	Adams
8	5	Eastern	5	Arapahoe
8	5	Eastern	9	Baca
8	5	Eastern	11	Bent
8	5	Eastern	17	Cheyenne
8	5	Eastern	25	Crowley
8	5	Eastern	31	Denver
8	5	Eastern	61	Kiowa
8	5	Eastern	63	Kit Carson
8	5	Eastern	73	Lincoln
8	5	Eastern	75	Logan
8	5	Eastern	87	Morgan
8	5	Eastern	89	Otero
8	5	Eastern	95	Phillips
8	5	Eastern	99	Prowers
8	5	Eastern	115	Sedgwick
8	5	Eastern	121	Washington
8	5	Eastern	123	Weld
8	5	Eastern	125	Yuma

^a Broomfield county is a new county in the 2010 census, but is not currently added to the REF_COUNTY table.

Connecticut

Connecticut: State information

State name	State code	State abbreviation	Research station	Research or Station code
Connecticut	9	CT	NRS	24

Connecticut: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
9	1	Connecticut	1	Fairfield
9	1	Connecticut	3	Hartford
9	1	Connecticut	5	Litchfield
9	1	Connecticut	7	Middlesex
9	1	Connecticut	9	New Haven
9	1	Connecticut	11	New London
9	1	Connecticut	13	Tolland
9	1	Connecticut	15	Windham

Delaware

Delaware: State information

State name	State code	State abbreviation	Research station	Research or Station code
Delaware	10	DE	NRS	24

Delaware: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
10	1	Delaware	1	Kent
10	1	Delaware	3	New Castle
10	1	Delaware	5	Sussex

District of Columbia

District of Columbia: State information

State name	State code	State abbreviation	Research station	Research or Station code
District of Columbia	11	DC	NRS	24

District of Columbia: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
11	1	District of Columbia	1	District of Columbia

Florida

Florida: State information

State name	State code	State abbreviation	Research station	Research or Station code
Florida	12	FL	SRS	33

Florida: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
12	1	Northeast	1	Alachua
12	1	Northeast	3	Baker
12	1	Northeast	7	Bradford
12	1	Northeast	19	Clay
12	1	Northeast	23	Columbia
12	1	Northeast	29	Dixie
12	1	Northeast	31	Duval
12	1	Northeast	35	Flagler
12	1	Northeast	41	Gilchrist
12	1	Northeast	47	Hamilton
12	1	Northeast	67	Lafayette
12	1	Northeast	75	Levy
12	1	Northeast	79	Madison
12	1	Northeast	83	Marion
12	1	Northeast	89	Nassau
12	1	Northeast	107	Putnam
12	1	Northeast	109	St. Johns
12	1	Northeast	121	Suwannee
12	1	Northeast	123	Taylor
12	1	Northeast	125	Union
12	1	Northeast	127	Volusia
12	2	Northwest	5	Bay
12	2	Northwest	13	Calhoun
12	2	Northwest	33	Escambia
12	2	Northwest	37	Franklin
12	2	Northwest	39	Gadsden
12	2	Northwest	45	Gulf
12	2	Northwest	59	Holmes
12	2	Northwest	63	Jackson
12	2	Northwest	65	Jefferson
12	2	Northwest	73	Leon
12	2	Northwest	77	Liberty

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
12	2	Northwest	91	Okaloosa
12	2	Northwest	113	Santa Rosa
12	2	Northwest	129	Wakulla
12	2	Northwest	131	Walton
12	2	Northwest	133	Washington
12	3	Central	9	Brevard
12	3	Central	17	Citrus
12	3	Central	27	DeSoto
12	3	Central	49	Hardee
12	3	Central	53	Hernando
12	3	Central	55	Highlands
12	3	Central	57	Hillsborough
12	3	Central	61	Indian River
12	3	Central	69	Lake
12	3	Central	81	Manatee
12	3	Central	93	Okeechobee
12	3	Central	95	Orange
12	3	Central	97	Osceola
12	3	Central	101	Pasco
12	3	Central	103	Pinellas
12	3	Central	105	Polk
12	3	Central	111	St. Lucie
12	3	Central	115	Sarasota
12	3	Central	117	Seminole
12	3	Central	119	Sumter
12	4	South	11	Broward
12	4	South	15	Charlotte
12	4	South	21	Collier
12	4	South	25	Dade
12	4	South	43	Glades
12	4	South	51	Hendry
12	4	South	71	Lee
12	4	South	85	Martin
12	4	South	87	Monroe
12	4	South	99	Palm Beach

Georgia

Georgia: State information

State name	State code	State abbreviation	Research station	Research or Station code
Georgia	13	GA	SRS	33

Georgia: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
13	1	Southeast	1	Appling
13	1	Southeast	3	Atkinson
13	1	Southeast	5	Bacon
13	1	Southeast	25	Brantley
13	1	Southeast	29	Bryan
13	1	Southeast	31	Bulloch
13	1	Southeast	39	Camden
13	1	Southeast	43	Candler
13	1	Southeast	49	Charlton
13	1	Southeast	51	Chatham
13	1	Southeast	65	Clinch
13	1	Southeast	69	Coffee
13	1	Southeast	91	Dodge
13	1	Southeast	101	Echols
13	1	Southeast	103	Effingham
13	1	Southeast	107	Emanuel
13	1	Southeast	109	Evans
13	1	Southeast	127	Glynn
13	1	Southeast	161	Jeff Davis
13	1	Southeast	165	Jenkins
13	1	Southeast	167	Johnson
13	1	Southeast	175	Laurens
13	1	Southeast	179	Liberty
13	1	Southeast	183	Long
13	1	Southeast	191	McIntosh
13	1	Southeast	209	Montgomery
13	1	Southeast	229	Pierce
13	1	Southeast	251	Screven
13	1	Southeast	267	Tattnall
13	1	Southeast	271	Telfair
13	1	Southeast	279	Toombs
13	1	Southeast	283	Treutlen

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
13	1	Southeast	299	Ware
13	1	Southeast	305	Wayne
13	1	Southeast	309	Wheeler
13	2	Southwest	7	Baker
13	2	Southwest	17	Ben Hill
13	2	Southwest	19	Berrien
13	2	Southwest	27	Brooks
13	2	Southwest	71	Colquitt
13	2	Southwest	75	Cook
13	2	Southwest	81	Crisp
13	2	Southwest	87	Decatur
13	2	Southwest	93	Dooly
13	2	Southwest	99	Early
13	2	Southwest	131	Grady
13	2	Southwest	155	Irwin
13	2	Southwest	173	Lanier
13	2	Southwest	185	Lowndes
13	2	Southwest	201	Miller
13	2	Southwest	205	Mitchell
13	2	Southwest	253	Seminole
13	2	Southwest	275	Thomas
13	2	Southwest	277	Tift
13	2	Southwest	287	Turner
13	2	Southwest	315	Wilcox
13	2	Southwest	321	Worth
13	3	Central	9	Baldwin
13	3	Central	21	Bibb
13	3	Central	23	Bleckley
13	3	Central	33	Burke
13	3	Central	35	Butts
13	3	Central	37	Calhoun
13	3	Central	53	Chattahoochee
13	3	Central	61	Clay
13	3	Central	73	Columbia
13	3	Central	79	Crawford
13	3	Central	95	Dougherty
13	3	Central	125	Glascock
13	3	Central	133	Greene
13	3	Central	141	Hancock

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
13	3	Central	145	Harris
13	3	Central	153	Houston
13	3	Central	159	Jasper
13	3	Central	163	Jefferson
13	3	Central	169	Jones
13	3	Central	171	Lamar
13	3	Central	177	Lee
13	3	Central	181	Lincoln
13	3	Central	189	McDuffie
13	3	Central	193	Macon
13	3	Central	197	Marion
13	3	Central	207	Monroe
13	3	Central	211	Morgan
13	3	Central	215	Muscogee
13	3	Central	225	Peach
13	3	Central	231	Pike
13	3	Central	235	Pulaski
13	3	Central	237	Putnam
13	3	Central	239	Quitman
13	3	Central	243	Randolph
13	3	Central	245	Richmond
13	3	Central	249	Schley
13	3	Central	259	Stewart
13	3	Central	261	Sumter
13	3	Central	263	Talbot
13	3	Central	265	Taliaferro
13	3	Central	269	Taylor
13	3	Central	273	Terrell
13	3	Central	289	Twiggs
13	3	Central	293	Upson
13	3	Central	301	Warren
13	3	Central	303	Washington
13	3	Central	307	Webster
13	3	Central	317	Wilkes
13	3	Central	319	Wilkinson
13	4	North Central	11	Banks
13	4	North Central	13	Barrow
13	4	North Central	45	Carroll
13	4	North Central	59	Clarke

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
13	4	North Central	63	Clayton
13	4	North Central	67	Cobb
13	4	North Central	77	Coweta
13	4	North Central	89	DeKalb
13	4	North Central	97	Douglas
13	4	North Central	105	Elbert
13	4	North Central	113	Fayette
13	4	North Central	117	Forsyth
13	4	North Central	119	Franklin
13	4	North Central	121	Fulton
13	4	North Central	135	Gwinnett
13	4	North Central	139	Hall
13	4	North Central	143	Haralson
13	4	North Central	147	Hart
13	4	North Central	149	Heard
13	4	North Central	151	Henry
13	4	North Central	157	Jackson
13	4	North Central	195	Madison
13	4	North Central	199	Meriwether
13	4	North Central	217	Newton
13	4	North Central	219	Oconee
13	4	North Central	221	Oglethorpe
13	4	North Central	223	Paulding
13	4	North Central	233	Polk
13	4	North Central	247	Rockdale
13	4	North Central	255	Spalding
13	4	North Central	285	Troup
13	4	North Central	297	Walton
13	5	North	15	Bartow
13	5	North	47	Catoosa
13	5	North	55	Chattooga
13	5	North	57	Cherokee
13	5	North	83	Dade
13	5	North	85	Dawson
13	5	North	111	Fannin
13	5	North	115	Floyd
13	5	North	123	Gilmer
13	5	North	129	Gordon
13	5	North	137	Habersham

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
13	5	North	187	Lumpkin
13	5	North	213	Murray
13	5	North	227	Pickens
13	5	North	241	Rabun
13	5	North	257	Stephens
13	5	North	281	Towns
13	5	North	291	Union
13	5	North	295	Walker
13	5	North	311	White
13	5	North	313	Whitfield

Hawaii

Hawaii: State information

State name	State code	State abbreviation	Research station	Research or Station code
Hawaii	15	HI	PNWRS	26

Hawaii: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
15	1	Hawaii	1	Hawaii
15	1	Hawaii	3	Honolulu
15	1	Hawaii	5	Kalawao
15	1	Hawaii	7	Kauai
15	1	Hawaii	9	Maui

Idaho

Idaho: State information

State name	State code	State abbreviation	Research station	Research or Station code
Idaho	16	ID	RMRS	22

Idaho: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
16	1	Northern	9	Benewah
16	1	Northern	17	Bonner
16	1	Northern	21	Boundary
16	1	Northern	35	Clearwater
16	1	Northern	49	Idaho
16	1	Northern	55	Kootenai
16	1	Northern	57	Latah
16	1	Northern	61	Lewis
16	1	Northern	69	Nez Perce
16	1	Northern	79	Shoshone
16	2	Southwestern	1	Ada
16	2	Southwestern	3	Adams
16	2	Southwestern	15	Boise
16	2	Southwestern	27	Canyon
16	2	Southwestern	39	Elmore
16	2	Southwestern	45	Gem
16	2	Southwestern	73	Owyhee
16	2	Southwestern	75	Payette
16	2	Southwestern	85	Valley
16	2	Southwestern	87	Washington
16	3	Southeastern	5	Bannock
16	3	Southeastern	7	Bear Lake
16	3	Southeastern	11	Bingham
16	3	Southeastern	13	Blaine
16	3	Southeastern	19	Bonneville
16	3	Southeastern	23	Butte
16	3	Southeastern	25	Camas
16	3	Southeastern	29	Caribou
16	3	Southeastern	31	Cassia
16	3	Southeastern	33	Clark
16	3	Southeastern	37	Custer
16	3	Southeastern	41	Franklin

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
16	3	Southeastern	43	Fremont
16	3	Southeastern	47	Gooding
16	3	Southeastern	51	Jefferson
16	3	Southeastern	53	Jerome
16	3	Southeastern	59	Lemhi
16	3	Southeastern	63	Lincoln
16	3	Southeastern	65	Madison
16	3	Southeastern	67	Minidoka
16	3	Southeastern	71	Oneida
16	3	Southeastern	77	Power
16	3	Southeastern	81	Teton
16	3	Southeastern	83	Twin Falls

Illinois

Illinois: State information

State name	State code	State abbreviation	Research station	Research or Station code
Illinois	17	IL	NRS	24

Illinois: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
17	1	Southern	3	Alexander
17	1	Southern	55	Franklin
17	1	Southern	59	Gallatin
17	1	Southern	65	Hamilton
17	1	Southern	69	Hardin
17	1	Southern	77	Jackson
17	1	Southern	87	Johnson
17	1	Southern	127	Massac
17	1	Southern	145	Perry
17	1	Southern	151	Pope
17	1	Southern	153	Pulaski
17	1	Southern	157	Randolph
17	1	Southern	165	Saline
17	1	Southern	181	Union
17	1	Southern	193	White
17	1	Southern	199	Williamson
17	2	Claypan	5	Bond
17	2	Claypan	13	Calhoun
17	2	Claypan	23	Clark
17	2	Claypan	25	Clay
17	2	Claypan	27	Clinton
17	2	Claypan	33	Crawford
17	2	Claypan	35	Cumberland
17	2	Claypan	47	Edwards
17	2	Claypan	49	Effingham
17	2	Claypan	51	Fayette
17	2	Claypan	61	Greene
17	2	Claypan	79	Jasper
17	2	Claypan	81	Jefferson
17	2	Claypan	83	Jersey
17	2	Claypan	101	Lawrence
17	2	Claypan	117	Macoupin

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
17	2	Claypan	119	Madison
17	2	Claypan	121	Marion
17	2	Claypan	133	Monroe
17	2	Claypan	135	Montgomery
17	2	Claypan	159	Richland
17	2	Claypan	163	St. Clair
17	2	Claypan	173	Shelby
17	2	Claypan	185	Wabash
17	2	Claypan	189	Washington
17	2	Claypan	191	Wayne
17	3	Prairie	1	Adams
17	3	Prairie	7	Boone
17	3	Prairie	9	Brown
17	3	Prairie	11	Bureau
17	3	Prairie	15	Carroll
17	3	Prairie	17	Cass
17	3	Prairie	19	Champaign
17	3	Prairie	21	Christian
17	3	Prairie	29	Coles
17	3	Prairie	31	Cook
17	3	Prairie	37	DeKalb
17	3	Prairie	39	De Witt
17	3	Prairie	41	Douglas
17	3	Prairie	43	DuPage
17	3	Prairie	45	Edgar
17	3	Prairie	53	Ford
17	3	Prairie	57	Fulton
17	3	Prairie	63	Grundy
17	3	Prairie	67	Hancock
17	3	Prairie	71	Henderson
17	3	Prairie	73	Henry
17	3	Prairie	75	Iroquois
17	3	Prairie	85	Jo Daviess
17	3	Prairie	89	Kane
17	3	Prairie	91	Kankakee
17	3	Prairie	93	Kendall
17	3	Prairie	95	Knox
17	3	Prairie	97	Lake
17	3	Prairie	99	La Salle

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
17	3	Prairie	103	Lee
17	3	Prairie	105	Livingston
17	3	Prairie	107	Logan
17	3	Prairie	109	McDonough
17	3	Prairie	111	McHenry
17	3	Prairie	113	McLean
17	3	Prairie	115	Macon
17	3	Prairie	123	Marshall
17	3	Prairie	125	Mason
17	3	Prairie	129	Menard
17	3	Prairie	131	Mercer
17	3	Prairie	137	Morgan
17	3	Prairie	139	Moultrie
17	3	Prairie	141	Ogle
17	3	Prairie	143	Peoria
17	3	Prairie	147	Piatt
17	3	Prairie	149	Pike
17	3	Prairie	155	Putnam
17	3	Prairie	161	Rock Island
17	3	Prairie	167	Sangamon
17	3	Prairie	169	Schuylerville
17	3	Prairie	171	Scott
17	3	Prairie	175	Stark
17	3	Prairie	177	Stephenson
17	3	Prairie	179	Tazewell
17	3	Prairie	183	Vermilion
17	3	Prairie	187	Warren
17	3	Prairie	195	Whiteside
17	3	Prairie	197	Will
17	3	Prairie	201	Winnebago
17	3	Prairie	203	Woodford

Indiana

Indiana: State information

State name	State code	State abbreviation	Research station	Research or Station code
Indiana	18	IN	NRS	24

Indiana: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
18	1	Lower Wabash	21	Clay
18	1	Lower Wabash	27	Daviess
18	1	Lower Wabash	51	Gibson
18	1	Lower Wabash	55	Greene
18	1	Lower Wabash	83	Knox
18	1	Lower Wabash	101	Martin
18	1	Lower Wabash	121	Parke
18	1	Lower Wabash	125	Pike
18	1	Lower Wabash	129	Posey
18	1	Lower Wabash	133	Putnam
18	1	Lower Wabash	153	Sullivan
18	1	Lower Wabash	163	Vanderburgh
18	1	Lower Wabash	165	Vermillion
18	1	Lower Wabash	167	Vigo
18	2	Knobs	13	Brown
18	2	Knobs	19	Clark
18	2	Knobs	25	Crawford
18	2	Knobs	37	Dubois
18	2	Knobs	43	Floyd
18	2	Knobs	61	Harrison
18	2	Knobs	71	Jackson
18	2	Knobs	93	Lawrence
18	2	Knobs	105	Monroe
18	2	Knobs	109	Morgan
18	2	Knobs	117	Orange
18	2	Knobs	119	Owen
18	2	Knobs	123	Perry
18	2	Knobs	143	Scott
18	2	Knobs	147	Spencer
18	2	Knobs	173	Warrick
18	2	Knobs	175	Washington
18	3	Upland Flats	29	Dearborn

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
18	3	Upland Flats	41	Fayette
18	3	Upland Flats	47	Franklin
18	3	Upland Flats	77	Jefferson
18	3	Upland Flats	79	Jennings
18	3	Upland Flats	115	Ohio
18	3	Upland Flats	137	Ripley
18	3	Upland Flats	155	Switzerland
18	3	Upland Flats	161	Union
18	4	Northern	1	Adams
18	4	Northern	3	Allen
18	4	Northern	5	Bartholomew
18	4	Northern	7	Benton
18	4	Northern	9	Blackford
18	4	Northern	11	Boone
18	4	Northern	15	Carroll
18	4	Northern	17	Cass
18	4	Northern	23	Clinton
18	4	Northern	31	Decatur
18	4	Northern	33	De Kalb
18	4	Northern	35	Delaware
18	4	Northern	39	Elkhart
18	4	Northern	45	Fountain
18	4	Northern	49	Fulton
18	4	Northern	53	Grant
18	4	Northern	57	Hamilton
18	4	Northern	59	Hancock
18	4	Northern	63	Hendricks
18	4	Northern	65	Henry
18	4	Northern	67	Howard
18	4	Northern	69	Huntington
18	4	Northern	73	Jasper
18	4	Northern	75	Jay
18	4	Northern	81	Johnson
18	4	Northern	85	Kosciusko
18	4	Northern	87	Lagrange
18	4	Northern	89	Lake
18	4	Northern	91	La Porte
18	4	Northern	95	Madison
18	4	Northern	97	Marion

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
18	4	Northern	99	Marshall
18	4	Northern	103	Miami
18	4	Northern	107	Montgomery
18	4	Northern	111	Newton
18	4	Northern	113	Noble
18	4	Northern	127	Porter
18	4	Northern	131	Pulaski
18	4	Northern	135	Randolph
18	4	Northern	139	Rush
18	4	Northern	141	St. Joseph
18	4	Northern	145	Shelby
18	4	Northern	149	Starke
18	4	Northern	151	Steuben
18	4	Northern	157	Tippecanoe
18	4	Northern	159	Tipton
18	4	Northern	169	Wabash
18	4	Northern	171	Warren
18	4	Northern	177	Wayne
18	4	Northern	179	Wells
18	4	Northern	181	White
18	4	Northern	183	Whitley

Iowa

Iowa: State information

State name	State code	State abbreviation	Research station	Research or Station code
Iowa	19	IA	NRS	24

Iowa: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
19	1	Northeastern	5	Allamakee
19	1	Northeastern	11	Benton
19	1	Northeastern	13	Black Hawk
19	1	Northeastern	17	Bremer
19	1	Northeastern	19	Buchanan
19	1	Northeastern	23	Butler
19	1	Northeastern	31	Cedar
19	1	Northeastern	37	Chickasaw
19	1	Northeastern	43	Clayton
19	1	Northeastern	45	Clinton
19	1	Northeastern	55	Delaware
19	1	Northeastern	61	Dubuque
19	1	Northeastern	65	Fayette
19	1	Northeastern	67	Floyd
19	1	Northeastern	75	Grundy
19	1	Northeastern	89	Howard
19	1	Northeastern	97	Jackson
19	1	Northeastern	103	Johnson
19	1	Northeastern	105	Jones
19	1	Northeastern	113	Linn
19	1	Northeastern	131	Mitchell
19	1	Northeastern	163	Scott
19	1	Northeastern	171	Tama
19	1	Northeastern	191	Winneshiek
19	2	Southeastern	7	Appanoose
19	2	Southeastern	15	Boone
19	2	Southeastern	39	Clarke
19	2	Southeastern	49	Dallas
19	2	Southeastern	51	Davis
19	2	Southeastern	53	Decatur
19	2	Southeastern	57	Des Moines
19	2	Southeastern	77	Guthrie

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
19	2	Southeastern	79	Hamilton
19	2	Southeastern	83	Hardin
19	2	Southeastern	87	Henry
19	2	Southeastern	95	Iowa
19	2	Southeastern	99	Jasper
19	2	Southeastern	101	Jefferson
19	2	Southeastern	107	Keokuk
19	2	Southeastern	111	Lee
19	2	Southeastern	115	Louisa
19	2	Southeastern	117	Lucas
19	2	Southeastern	121	Madison
19	2	Southeastern	123	Mahaska
19	2	Southeastern	125	Marion
19	2	Southeastern	127	Marshall
19	2	Southeastern	135	Monroe
19	2	Southeastern	139	Muscatine
19	2	Southeastern	153	Polk
19	2	Southeastern	157	Poweshiek
19	2	Southeastern	169	Story
19	2	Southeastern	177	Van Buren
19	2	Southeastern	179	Wapello
19	2	Southeastern	181	Warren
19	2	Southeastern	183	Washington
19	2	Southeastern	185	Wayne
19	2	Southeastern	187	Webster
19	3	Southwestern	1	Adair
19	3	Southwestern	3	Adams
19	3	Southwestern	9	Audubon
19	3	Southwestern	27	Carroll
19	3	Southwestern	29	Cass
19	3	Southwestern	47	Crawford
19	3	Southwestern	71	Fremont
19	3	Southwestern	73	Greene
19	3	Southwestern	85	Harrison
19	3	Southwestern	129	Mills
19	3	Southwestern	133	Monona
19	3	Southwestern	137	Montgomery
19	3	Southwestern	145	Page
19	3	Southwestern	155	Pottawattamie

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
19	3	Southwestern	159	Ringgold
19	3	Southwestern	165	Shelby
19	3	Southwestern	173	Taylor
19	3	Southwestern	175	Union
19	3	Southwestern	193	Woodbury
19	4	Northwestern	21	Buena Vista
19	4	Northwestern	25	Calhoun
19	4	Northwestern	33	Cerro Gordo
19	4	Northwestern	35	Cherokee
19	4	Northwestern	41	Clay
19	4	Northwestern	59	Dickinson
19	4	Northwestern	63	Emmet
19	4	Northwestern	69	Franklin
19	4	Northwestern	81	Hancock
19	4	Northwestern	91	Humboldt
19	4	Northwestern	93	Ida
19	4	Northwestern	109	Kossuth
19	4	Northwestern	119	Lyon
19	4	Northwestern	141	O'Brien
19	4	Northwestern	143	Osceola
19	4	Northwestern	147	Palo Alto
19	4	Northwestern	149	Plymouth
19	4	Northwestern	151	Pocahontas
19	4	Northwestern	161	Sac
19	4	Northwestern	167	Sioux
19	4	Northwestern	189	Winnebago
19	4	Northwestern	195	Worth
19	4	Northwestern	197	Wright

Kansas

Kansas: State information

State name	State code	State abbreviation	Research station	Research or Station code
Kansas	20	KS	NRS	24

Kansas: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
20	1	Northeastern	5	Atchison
20	1	Northeastern	13	Brown
20	1	Northeastern	27	Clay
20	1	Northeastern	41	Dickinson
20	1	Northeastern	43	Doniphan
20	1	Northeastern	45	Douglas
20	1	Northeastern	59	Franklin
20	1	Northeastern	61	Geary
20	1	Northeastern	85	Jackson
20	1	Northeastern	87	Jefferson
20	1	Northeastern	91	Johnson
20	1	Northeastern	103	Leavenworth
20	1	Northeastern	117	Marshall
20	1	Northeastern	121	Miami
20	1	Northeastern	131	Nemaha
20	1	Northeastern	139	Osage
20	1	Northeastern	149	Pottawatomie
20	1	Northeastern	161	Riley
20	1	Northeastern	177	Shawnee
20	1	Northeastern	197	Wabaunsee
20	1	Northeastern	201	Washington
20	1	Northeastern	209	Wyandotte
20	2	Southeastern	1	Allen
20	2	Southeastern	3	Anderson
20	2	Southeastern	11	Bourbon
20	2	Southeastern	15	Butler
20	2	Southeastern	17	Chase
20	2	Southeastern	19	Chautauqua
20	2	Southeastern	21	Cherokee
20	2	Southeastern	31	Coffey
20	2	Southeastern	35	Cowley
20	2	Southeastern	37	Crawford

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
20	2	Southeastern	49	Elk
20	2	Southeastern	73	Greenwood
20	2	Southeastern	99	Labette
20	2	Southeastern	107	Linn
20	2	Southeastern	111	Lyon
20	2	Southeastern	115	Marion
20	2	Southeastern	125	Montgomery
20	2	Southeastern	127	Morris
20	2	Southeastern	133	Neosho
20	2	Southeastern	205	Wilson
20	2	Southeastern	207	Woodson
20	3	Western	7	Barber
20	3	Western	9	Barton
20	3	Western	23	Cheyenne
20	3	Western	25	Clark
20	3	Western	29	Cloud
20	3	Western	33	Comanche
20	3	Western	39	Decatur
20	3	Western	47	Edwards
20	3	Western	51	Ellis
20	3	Western	53	Ellsworth
20	3	Western	55	Finney
20	3	Western	57	Ford
20	3	Western	63	Gove
20	3	Western	65	Graham
20	3	Western	67	Grant
20	3	Western	69	Gray
20	3	Western	71	Greeley
20	3	Western	75	Hamilton
20	3	Western	77	Harper
20	3	Western	79	Harvey
20	3	Western	81	Haskell
20	3	Western	83	Hodgeman
20	3	Western	89	Jewell
20	3	Western	93	Kearny
20	3	Western	95	Kingman
20	3	Western	97	Kiowa
20	3	Western	101	Lane
20	3	Western	105	Lincoln

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
20	3	Western	109	Logan
20	3	Western	113	McPherson
20	3	Western	119	Meade
20	3	Western	123	Mitchell
20	3	Western	129	Morton
20	3	Western	135	Ness
20	3	Western	137	Norton
20	3	Western	141	Osborne
20	3	Western	143	Ottawa
20	3	Western	145	Pawnee
20	3	Western	147	Phillips
20	3	Western	151	Pratt
20	3	Western	153	Rawlins
20	3	Western	155	Reno
20	3	Western	157	Republic
20	3	Western	159	Rice
20	3	Western	163	Rooks
20	3	Western	165	Rush
20	3	Western	167	Russell
20	3	Western	169	Saline
20	3	Western	171	Scott
20	3	Western	173	Sedgwick
20	3	Western	175	Seward
20	3	Western	179	Sheridan
20	3	Western	181	Sherman
20	3	Western	183	Smith
20	3	Western	185	Stafford
20	3	Western	187	Stanton
20	3	Western	189	Stevens
20	3	Western	191	Sumner
20	3	Western	193	Thomas
20	3	Western	195	Trego
20	3	Western	199	Wallace
20	3	Western	203	Wichita

Kentucky

Kentucky: State information

State name	State code	State abbreviation	Research station	Research or Station code
Kentucky	21	KY	SRS	33

Kentucky: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
21	1	Eastern	71	Floyd
21	1	Eastern	95	Harlan
21	1	Eastern	119	Knott
21	1	Eastern	131	Leslie
21	1	Eastern	133	Letcher
21	1	Eastern	159	Martin
21	1	Eastern	193	Perry
21	1	Eastern	195	Pike
21	2	Northern Cumberland	19	Boyd
21	2	Northern Cumberland	43	Carter
21	2	Northern Cumberland	63	Elliott
21	2	Northern Cumberland	89	Greenup
21	2	Northern Cumberland	115	Johnson
21	2	Northern Cumberland	127	Lawrence
21	2	Northern Cumberland	135	Lewis
21	2	Northern Cumberland	153	Magoffin
21	2	Northern Cumberland	165	Menifee
21	2	Northern Cumberland	175	Morgan
21	2	Northern Cumberland	197	Powell
21	2	Northern Cumberland	205	Rowan
21	2	Northern Cumberland	237	Wolfe
21	3	Southern Cumberland	13	Bell
21	3	Southern Cumberland	25	Breathitt
21	3	Southern Cumberland	51	Clay
21	3	Southern Cumberland	65	Estill
21	3	Southern Cumberland	109	Jackson
21	3	Southern Cumberland	121	Knox
21	3	Southern Cumberland	125	Laurel
21	3	Southern Cumberland	129	Lee
21	3	Southern Cumberland	147	McCreary
21	3	Southern Cumberland	189	Owsley
21	3	Southern Cumberland	203	Rockcastle

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
21	3	Southern Cumberland	235	Whitley
21	4	Bluegrass	5	Anderson
21	4	Bluegrass	11	Bath
21	4	Bluegrass	15	Boone
21	4	Bluegrass	17	Bourbon
21	4	Bluegrass	21	Boyle
21	4	Bluegrass	23	Bracken
21	4	Bluegrass	37	Campbell
21	4	Bluegrass	41	Carroll
21	4	Bluegrass	49	Clark
21	4	Bluegrass	67	Fayette
21	4	Bluegrass	69	Fleming
21	4	Bluegrass	73	Franklin
21	4	Bluegrass	77	Gallatin
21	4	Bluegrass	79	Garrard
21	4	Bluegrass	81	Grant
21	4	Bluegrass	97	Harrison
21	4	Bluegrass	103	Henry
21	4	Bluegrass	111	Jefferson
21	4	Bluegrass	113	Jessamine
21	4	Bluegrass	117	Kenton
21	4	Bluegrass	137	Lincoln
21	4	Bluegrass	151	Madison
21	4	Bluegrass	161	Mason
21	4	Bluegrass	167	Mercer
21	4	Bluegrass	173	Montgomery
21	4	Bluegrass	181	Nicholas
21	4	Bluegrass	185	Oldham
21	4	Bluegrass	187	Owen
21	4	Bluegrass	191	Pendleton
21	4	Bluegrass	201	Robertson
21	4	Bluegrass	209	Scott
21	4	Bluegrass	211	Shelby
21	4	Bluegrass	215	Spencer
21	4	Bluegrass	223	Trimble
21	4	Bluegrass	229	Washington
21	4	Bluegrass	239	Woodford
21	5	Pennyroyal	1	Adair
21	5	Pennyroyal	27	Breckinridge

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
21	5	Pennyroyal	29	Bullitt
21	5	Pennyroyal	45	Casey
21	5	Pennyroyal	53	Clinton
21	5	Pennyroyal	57	Cumberland
21	5	Pennyroyal	85	Grayson
21	5	Pennyroyal	87	Green
21	5	Pennyroyal	91	Hancock
21	5	Pennyroyal	93	Hardin
21	5	Pennyroyal	99	Hart
21	5	Pennyroyal	123	Larue
21	5	Pennyroyal	155	Marion
21	5	Pennyroyal	163	Meade
21	5	Pennyroyal	169	Metcalfe
21	5	Pennyroyal	179	Nelson
21	5	Pennyroyal	199	Pulaski
21	5	Pennyroyal	207	Russell
21	5	Pennyroyal	217	Taylor
21	5	Pennyroyal	231	Wayne
21	6	Western Coalfield	3	Allen
21	6	Western Coalfield	9	Barren
21	6	Western Coalfield	31	Butler
21	6	Western Coalfield	33	Caldwell
21	6	Western Coalfield	47	Christian
21	6	Western Coalfield	55	Crittenden
21	6	Western Coalfield	59	Daviess
21	6	Western Coalfield	61	Edmonson
21	6	Western Coalfield	101	Henderson
21	6	Western Coalfield	107	Hopkins
21	6	Western Coalfield	141	Logan
21	6	Western Coalfield	149	McLean
21	6	Western Coalfield	171	Monroe
21	6	Western Coalfield	177	Muhlenberg
21	6	Western Coalfield	183	Ohio
21	6	Western Coalfield	213	Simpson
21	6	Western Coalfield	219	Todd
21	6	Western Coalfield	225	Union
21	6	Western Coalfield	227	Warren
21	6	Western Coalfield	233	Webster
21	7	Western	7	Ballard

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
21	7	Western	35	Calloway
21	7	Western	39	Carlisle
21	7	Western	75	Fulton
21	7	Western	83	Graves
21	7	Western	105	Hickman
21	7	Western	139	Livingston
21	7	Western	143	Lyon
21	7	Western	145	McCracken
21	7	Western	157	Marshall
21	7	Western	221	Trigg

Louisiana

Louisiana: State information

State name	State code	State abbreviation	Research station	Research or Station code
Louisiana	22	LA	SRS	33

Louisiana: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
22	1	North Delta	25	Catahoula
22	1	North Delta	29	Concordia
22	1	North Delta	35	East Carroll
22	1	North Delta	41	Franklin
22	1	North Delta	65	Madison
22	1	North Delta	67	Morehouse
22	1	North Delta	83	Richland
22	1	North Delta	107	Tensas
22	1	North Delta	123	West Carroll
22	2	South Delta	1	Acadia
22	2	South Delta	5	Ascension
22	2	South Delta	7	Assumption
22	2	South Delta	9	Avoyelles
22	2	South Delta	23	Cameron
22	2	South Delta	45	Iberia
22	2	South Delta	47	Iberville
22	2	South Delta	51	Jefferson
22	2	South Delta	55	Lafayette
22	2	South Delta	57	Lafourche
22	2	South Delta	71	Orleans
22	2	South Delta	75	Plaquemines
22	2	South Delta	77	Pointe Coupee
22	2	South Delta	87	St. Bernard
22	2	South Delta	89	St. Charles
22	2	South Delta	93	St. James
22	2	South Delta	95	St. John the Baptist
22	2	South Delta	97	St. Landry
22	2	South Delta	99	St. Martin
22	2	South Delta	101	St. Mary
22	2	South Delta	109	Terrebonne
22	2	South Delta	113	Vermilion
22	2	South Delta	121	West Baton Rouge

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
22	2	South Delta	125	West Feliciana
22	3	Southwest	3	Allen
22	3	Southwest	11	Beauregard
22	3	Southwest	19	Calcasieu
22	3	Southwest	39	Evangeline
22	3	Southwest	43	Grant
22	3	Southwest	53	Jefferson Davis
22	3	Southwest	59	La Salle
22	3	Southwest	69	Natchitoches
22	3	Southwest	79	Rapides
22	3	Southwest	85	Sabine
22	3	Southwest	115	Vernon
22	4	Southeast	33	East Baton Rouge
22	4	Southeast	37	East Feliciana
22	4	Southeast	63	Livingston
22	4	Southeast	91	St. Helena
22	4	Southeast	103	St. Tammany
22	4	Southeast	105	Tangipahoa
22	4	Southeast	117	Washington
22	5	Northwest	13	Bienville
22	5	Northwest	15	Bossier
22	5	Northwest	17	Caddo
22	5	Northwest	21	Caldwell
22	5	Northwest	27	Claiborne
22	5	Northwest	31	De Soto
22	5	Northwest	49	Jackson
22	5	Northwest	61	Lincoln
22	5	Northwest	73	Ouachita
22	5	Northwest	81	Red River
22	5	Northwest	111	Union
22	5	Northwest	119	Webster
22	5	Northwest	127	Winn

Maine

Maine: State information

State name	State code	State abbreviation	Research station	Research or Station code
Maine	23	ME	NRS	24

Maine: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
23	1	Washington	29	Washington
23	2	Aroostook	3	Aroostook
23	3	Penobscot	19	Penobscot
23	4	Hancock	9	Hancock
23	5	Piscataquis	21	Piscataquis
23	6	Capitol Region	11	Kennebec
23	6	Capitol Region	13	Knox
23	6	Capitol Region	15	Lincoln
23	6	Capitol Region	27	Waldo
23	7	Somerset	25	Somerset
23	8	Casco Bay	1	Androscoggin
23	8	Casco Bay	5	Cumberland
23	8	Casco Bay	23	Sagadahoc
23	8	Casco Bay	31	York
23	9	Western Maine	7	Franklin
23	9	Western Maine	17	Oxford

Maryland

Maryland: State information

State name	State code	State abbreviation	Research station	Research or Station code
Maryland	24	MD	NRS	24

Maryland: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
24	2	North Central	3	Anne Arundel
24	2	North Central	5	Baltimore
24	2	North Central	11	Caroline
24	2	North Central	13	Carroll
24	2	North Central	15	Cecil
24	2	North Central	21	Frederick
24	2	North Central	25	Harford
24	2	North Central	27	Howard
24	2	North Central	29	Kent
24	2	North Central	31	Montgomery
24	2	North Central	33	Prince George's
24	2	North Central	35	Queen Anne's
24	2	North Central	41	Talbot
24	2	North Central	43	Washington
24	2	North Central	510	Baltimore city
24	3	Southern	9	Calvert
24	3	Southern	17	Charles
24	3	Southern	37	St. Mary's
24	4	Lower Eastern Shore	19	Dorchester
24	4	Lower Eastern Shore	39	Somerset
24	4	Lower Eastern Shore	45	Wicomico
24	4	Lower Eastern Shore	47	Worcester
24	5	Western	1	Allegany
24	5	Western	23	Garrett

Massachusetts

Massachusetts: State information

State name	State code	State abbreviation	Research station	Research or Station code
Massachusetts	25	MA	NRS	24

Massachusetts: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
25	1	Massachusetts	1	Barnstable
25	1	Massachusetts	3	Berkshire
25	1	Massachusetts	5	Bristol
25	1	Massachusetts	7	Dukes
25	1	Massachusetts	9	Essex
25	1	Massachusetts	11	Franklin
25	1	Massachusetts	13	Hampden
25	1	Massachusetts	15	Hampshire
25	1	Massachusetts	17	Middlesex
25	1	Massachusetts	19	Nantucket
25	1	Massachusetts	21	Norfolk
25	1	Massachusetts	23	Plymouth
25	1	Massachusetts	25	Suffolk
25	1	Massachusetts	27	Worcester

Michigan

Michigan: State information

State name	State code	State abbreviation	Research station	Research or Station code
Michigan	26	MI	NRS	24

Michigan: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
26	1	Eastern Upper Peninsula	3	Alger
26	1	Eastern Upper Peninsula	33	Chippewa
26	1	Eastern Upper Peninsula	41	Delta
26	1	Eastern Upper Peninsula	95	Luce
26	1	Eastern Upper Peninsula	97	Mackinac
26	1	Eastern Upper Peninsula	109	Menominee
26	1	Eastern Upper Peninsula	153	Schoolcraft
26	2	Western Upper Peninsula	13	Baraga
26	2	Western Upper Peninsula	43	Dickinson
26	2	Western Upper Peninsula	53	Gogebic
26	2	Western Upper Peninsula	61	Houghton
26	2	Western Upper Peninsula	71	Iron
26	2	Western Upper Peninsula	83	Keweenaw
26	2	Western Upper Peninsula	103	Marquette
26	2	Western Upper Peninsula	131	Ontonagon
26	3	Northern Lower Peninsula	1	Alcona
26	3	Northern Lower Peninsula	7	Alpena
26	3	Northern Lower Peninsula	9	Antrim
26	3	Northern Lower Peninsula	11	Arenac
26	3	Northern Lower Peninsula	17	Bay
26	3	Northern Lower Peninsula	19	Benzie
26	3	Northern Lower Peninsula	29	Charlevoix
26	3	Northern Lower Peninsula	31	Cheboygan
26	3	Northern Lower Peninsula	35	Clare
26	3	Northern Lower Peninsula	39	Crawford
26	3	Northern Lower Peninsula	47	Emmet
26	3	Northern Lower Peninsula	51	Gladwin
26	3	Northern Lower Peninsula	55	Grand Traverse
26	3	Northern Lower Peninsula	69	Iosco
26	3	Northern Lower Peninsula	73	Isabella
26	3	Northern Lower Peninsula	79	Kalkaska
26	3	Northern Lower Peninsula	85	Lake

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
26	3	Northern Lower Peninsula	89	Leelanau
26	3	Northern Lower Peninsula	101	Manistee
26	3	Northern Lower Peninsula	105	Mason
26	3	Northern Lower Peninsula	107	Mecosta
26	3	Northern Lower Peninsula	111	Midland
26	3	Northern Lower Peninsula	113	Missaukee
26	3	Northern Lower Peninsula	119	Montmorency
26	3	Northern Lower Peninsula	123	Newaygo
26	3	Northern Lower Peninsula	127	Oceana
26	3	Northern Lower Peninsula	129	Ogemaw
26	3	Northern Lower Peninsula	133	Osceola
26	3	Northern Lower Peninsula	135	Oscoda
26	3	Northern Lower Peninsula	137	Otsego
26	3	Northern Lower Peninsula	141	Presque Isle
26	3	Northern Lower Peninsula	143	Roscommon
26	3	Northern Lower Peninsula	165	Wexford
26	4	Southern Lower Peninsula	5	Allegan
26	4	Southern Lower Peninsula	15	Barry
26	4	Southern Lower Peninsula	21	Berrien
26	4	Southern Lower Peninsula	23	Branch
26	4	Southern Lower Peninsula	25	Calhoun
26	4	Southern Lower Peninsula	27	Cass
26	4	Southern Lower Peninsula	37	Clinton
26	4	Southern Lower Peninsula	45	Eaton
26	4	Southern Lower Peninsula	49	Genesee
26	4	Southern Lower Peninsula	57	Gratiot
26	4	Southern Lower Peninsula	59	Hillsdale
26	4	Southern Lower Peninsula	63	Huron
26	4	Southern Lower Peninsula	65	Ingham
26	4	Southern Lower Peninsula	67	Ionia
26	4	Southern Lower Peninsula	75	Jackson
26	4	Southern Lower Peninsula	77	Kalamazoo
26	4	Southern Lower Peninsula	81	Kent
26	4	Southern Lower Peninsula	87	Lapeer
26	4	Southern Lower Peninsula	91	Lenawee
26	4	Southern Lower Peninsula	93	Livingston
26	4	Southern Lower Peninsula	99	Macomb
26	4	Southern Lower Peninsula	115	Monroe
26	4	Southern Lower Peninsula	117	Montcalm

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
26	4	Southern Lower Peninsula	121	Muskegon
26	4	Southern Lower Peninsula	125	Oakland
26	4	Southern Lower Peninsula	139	Ottawa
26	4	Southern Lower Peninsula	145	Saginaw
26	4	Southern Lower Peninsula	147	St. Clair
26	4	Southern Lower Peninsula	149	St. Joseph
26	4	Southern Lower Peninsula	151	Sanilac
26	4	Southern Lower Peninsula	155	Shiawassee
26	4	Southern Lower Peninsula	157	Tuscola
26	4	Southern Lower Peninsula	159	Van Buren
26	4	Southern Lower Peninsula	161	Washtenaw
26	4	Southern Lower Peninsula	163	Wayne

Minnesota

Minnesota: State information

State name	State code	State abbreviation	Research station	Research or Station code
Minnesota	27	MN	NRS	24

Minnesota: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
27	1	Aspen-Birch	17	Carlton
27	1	Aspen-Birch	31	Cook
27	1	Aspen-Birch	71	Koochiching
27	1	Aspen-Birch	75	Lake
27	1	Aspen-Birch	137	St. Louis
27	2	Northern Pine	1	Aitkin
27	2	Northern Pine	5	Becker
27	2	Northern Pine	7	Beltrami
27	2	Northern Pine	21	Cass
27	2	Northern Pine	29	Clearwater
27	2	Northern Pine	35	Crow Wing
27	2	Northern Pine	57	Hubbard
27	2	Northern Pine	61	Itasca
27	2	Northern Pine	77	Lake of the Woods
27	2	Northern Pine	87	Mahnomen
27	2	Northern Pine	135	Roseau
27	2	Northern Pine	159	Wadena
27	3	Central Hardwood	3	Anoka
27	3	Central Hardwood	9	Benton
27	3	Central Hardwood	19	Carver
27	3	Central Hardwood	25	Chisago
27	3	Central Hardwood	37	Dakota
27	3	Central Hardwood	41	Douglas
27	3	Central Hardwood	45	Fillmore
27	3	Central Hardwood	49	Goodhue
27	3	Central Hardwood	53	Hennepin
27	3	Central Hardwood	55	Houston
27	3	Central Hardwood	59	Isanti
27	3	Central Hardwood	65	Kanabec
27	3	Central Hardwood	79	Le Sueur
27	3	Central Hardwood	95	Mille Lacs
27	3	Central Hardwood	97	Morrison

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
27	3	Central Hardwood	109	Olmsted
27	3	Central Hardwood	111	Otter Tail
27	3	Central Hardwood	115	Pine
27	3	Central Hardwood	123	Ramsey
27	3	Central Hardwood	131	Rice
27	3	Central Hardwood	139	Scott
27	3	Central Hardwood	141	Sherburne
27	3	Central Hardwood	145	Stearns
27	3	Central Hardwood	153	Todd
27	3	Central Hardwood	157	Wabasha
27	3	Central Hardwood	163	Washington
27	3	Central Hardwood	169	Winona
27	3	Central Hardwood	171	Wright
27	4	Prairie	11	Big Stone
27	4	Prairie	13	Blue Earth
27	4	Prairie	15	Brown
27	4	Prairie	23	Chippewa
27	4	Prairie	27	Clay
27	4	Prairie	33	Cottonwood
27	4	Prairie	39	Dodge
27	4	Prairie	43	Faribault
27	4	Prairie	47	Freeborn
27	4	Prairie	51	Grant
27	4	Prairie	63	Jackson
27	4	Prairie	67	Kandiyohi
27	4	Prairie	69	Kittson
27	4	Prairie	73	Lac qui Parle
27	4	Prairie	81	Lincoln
27	4	Prairie	83	Lyon
27	4	Prairie	85	McLeod
27	4	Prairie	89	Marshall
27	4	Prairie	91	Martin
27	4	Prairie	93	Meeker
27	4	Prairie	99	Mower
27	4	Prairie	101	Murray
27	4	Prairie	103	Nicollet
27	4	Prairie	105	Nobles
27	4	Prairie	107	Norman
27	4	Prairie	113	Pennington

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
27	4	Prairie	117	Pipestone
27	4	Prairie	119	Polk
27	4	Prairie	121	Pope
27	4	Prairie	125	Red Lake
27	4	Prairie	127	Redwood
27	4	Prairie	129	Renville
27	4	Prairie	133	Rock
27	4	Prairie	143	Sibley
27	4	Prairie	147	Steele
27	4	Prairie	149	Stevens
27	4	Prairie	151	Swift
27	4	Prairie	155	Traverse
27	4	Prairie	161	Waseca
27	4	Prairie	165	Watsonwan
27	4	Prairie	167	Wilkin
27	4	Prairie	173	Yellow Medicine

Mississippi

Mississippi: State information

State name	State code	State abbreviation	Research station	Research or Station code
Mississippi	28	MS	SRS	33

Mississippi: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
28	1	Delta	11	Bolivar
28	1	Delta	27	Coahoma
28	1	Delta	51	Holmes
28	1	Delta	53	Humphreys
28	1	Delta	55	Issaquena
28	1	Delta	83	Leflore
28	1	Delta	119	Quitman
28	1	Delta	125	Sharkey
28	1	Delta	133	Sunflower
28	1	Delta	135	Tallahatchie
28	1	Delta	143	Tunica
28	1	Delta	149	Warren
28	1	Delta	151	Washington
28	1	Delta	163	Yazoo
28	2	North	3	Alcorn
28	2	North	9	Benton
28	2	North	13	Calhoun
28	2	North	15	Carroll
28	2	North	17	Chickasaw
28	2	North	19	Choctaw
28	2	North	25	Clay
28	2	North	33	DeSoto
28	2	North	43	Grenada
28	2	North	57	Itawamba
28	2	North	71	Lafayette
28	2	North	81	Lee
28	2	North	87	Lowndes
28	2	North	93	Marshall
28	2	North	95	Monroe
28	2	North	97	Montgomery
28	2	North	105	Oktibbeha
28	2	North	107	Panola

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
28	2	North	115	Pontotoc
28	2	North	117	Prentiss
28	2	North	137	Tate
28	2	North	139	Tippah
28	2	North	141	Tishomingo
28	2	North	145	Union
28	2	North	155	Webster
28	2	North	161	Yalobusha
28	3	Central	7	Attala
28	3	Central	23	Clarke
28	3	Central	61	Jasper
28	3	Central	69	Kemper
28	3	Central	75	Lauderdale
28	3	Central	79	Leake
28	3	Central	99	Neshoba
28	3	Central	101	Newton
28	3	Central	103	Noxubee
28	3	Central	121	Rankin
28	3	Central	123	Scott
28	3	Central	127	Simpson
28	3	Central	129	Smith
28	3	Central	159	Winston
28	4	South	31	Covington
28	4	South	35	Forrest
28	4	South	39	George
28	4	South	41	Greene
28	4	South	45	Hancock
28	4	South	47	Harrison
28	4	South	59	Jackson
28	4	South	65	Jefferson Davis
28	4	South	67	Jones
28	4	South	73	Lamar
28	4	South	77	Lawrence
28	4	South	91	Marion
28	4	South	109	Pearl River
28	4	South	111	Perry
28	4	South	131	Stone
28	4	South	147	Walthall
28	4	South	153	Wayne

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
28	5	Southwest	1	Adams
28	5	Southwest	5	Amite
28	5	Southwest	21	Claiborne
28	5	Southwest	29	Copiah
28	5	Southwest	37	Franklin
28	5	Southwest	49	Hinds
28	5	Southwest	63	Jefferson
28	5	Southwest	85	Lincoln
28	5	Southwest	89	Madison
28	5	Southwest	113	Pike
28	5	Southwest	157	Wilkinson

Missouri

Missouri: State information

State name	State code	State abbreviation	Research station	Research or Station code
Missouri	29	MO	NRS	24

Missouri: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
29	1	Eastern Ozarks	17	Bollinger
29	1	Eastern Ozarks	23	Butler
29	1	Eastern Ozarks	35	Carter
29	1	Eastern Ozarks	55	Crawford
29	1	Eastern Ozarks	65	Dent
29	1	Eastern Ozarks	93	Iron
29	1	Eastern Ozarks	123	Madison
29	1	Eastern Ozarks	149	Oregon
29	1	Eastern Ozarks	179	Reynolds
29	1	Eastern Ozarks	181	Ripley
29	1	Eastern Ozarks	187	St. Francois
29	1	Eastern Ozarks	203	Shannon
29	1	Eastern Ozarks	221	Washington
29	1	Eastern Ozarks	223	Wayne
29	2	Southwestern Ozarks	9	Barry
29	2	Southwestern Ozarks	43	Christian
29	2	Southwestern Ozarks	67	Douglas
29	2	Southwestern Ozarks	91	Howell
29	2	Southwestern Ozarks	119	McDonald
29	2	Southwestern Ozarks	145	Newton
29	2	Southwestern Ozarks	153	Ozark
29	2	Southwestern Ozarks	209	Stone
29	2	Southwestern Ozarks	213	Taney
29	2	Southwestern Ozarks	215	Texas
29	2	Southwestern Ozarks	225	Webster
29	2	Southwestern Ozarks	229	Wright
29	3	Northwestern Ozarks	15	Benton
29	3	Northwestern Ozarks	29	Camden
29	3	Northwestern Ozarks	39	Cedar
29	3	Northwestern Ozarks	59	Dallas
29	3	Northwestern Ozarks	85	Hickory
29	3	Northwestern Ozarks	105	Laclede

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
29	3	Northwestern Ozarks	125	Maries
29	3	Northwestern Ozarks	131	Miller
29	3	Northwestern Ozarks	141	Morgan
29	3	Northwestern Ozarks	161	Phelps
29	3	Northwestern Ozarks	167	Polk
29	3	Northwestern Ozarks	169	Pulaski
29	3	Northwestern Ozarks	185	St. Clair
29	4	Prairie	1	Adair
29	4	Prairie	3	Andrew
29	4	Prairie	5	Atchison
29	4	Prairie	7	Audrain
29	4	Prairie	11	Barton
29	4	Prairie	13	Bates
29	4	Prairie	21	Buchanan
29	4	Prairie	25	Caldwell
29	4	Prairie	33	Carroll
29	4	Prairie	37	Cass
29	4	Prairie	41	Chariton
29	4	Prairie	45	Clark
29	4	Prairie	47	Clay
29	4	Prairie	49	Clinton
29	4	Prairie	53	Cooper
29	4	Prairie	57	Dade
29	4	Prairie	61	Daviess
29	4	Prairie	63	DeKalb
29	4	Prairie	75	Gentry
29	4	Prairie	77	Greene
29	4	Prairie	79	Grundy
29	4	Prairie	81	Harrison
29	4	Prairie	83	Henry
29	4	Prairie	87	Holt
29	4	Prairie	95	Jackson
29	4	Prairie	97	Jasper
29	4	Prairie	101	Johnson
29	4	Prairie	103	Knox
29	4	Prairie	107	Lafayette
29	4	Prairie	109	Lawrence
29	4	Prairie	111	Lewis
29	4	Prairie	113	Lincoln

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
29	4	Prairie	115	Linn
29	4	Prairie	117	Livingston
29	4	Prairie	121	Macon
29	4	Prairie	127	Marion
29	4	Prairie	129	Mercer
29	4	Prairie	137	Monroe
29	4	Prairie	147	Nodaway
29	4	Prairie	159	Pettis
29	4	Prairie	163	Pike
29	4	Prairie	165	Platte
29	4	Prairie	171	Putnam
29	4	Prairie	173	Ralls
29	4	Prairie	175	Randolph
29	4	Prairie	177	Ray
29	4	Prairie	195	Saline
29	4	Prairie	197	Schuylerville
29	4	Prairie	199	Scotland
29	4	Prairie	205	Shelby
29	4	Prairie	211	Sullivan
29	4	Prairie	217	Vernon
29	4	Prairie	227	Worth
29	5	Riverborder	19	Boone
29	5	Riverborder	27	Callaway
29	5	Riverborder	31	Cape Girardeau
29	5	Riverborder	51	Cole
29	5	Riverborder	69	Dunklin
29	5	Riverborder	71	Franklin
29	5	Riverborder	73	Gasconade
29	5	Riverborder	89	Howard
29	5	Riverborder	99	Jefferson
29	5	Riverborder	133	Mississippi
29	5	Riverborder	135	Moniteau
29	5	Riverborder	139	Montgomery
29	5	Riverborder	143	New Madrid
29	5	Riverborder	151	Osage
29	5	Riverborder	155	Pemiscot
29	5	Riverborder	157	Perry
29	5	Riverborder	183	St. Charles
29	5	Riverborder	186	Ste. Genevieve

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
29	5	Riverborder	189	St. Louis
29	5	Riverborder	201	Scott
29	5	Riverborder	207	Stoddard
29	5	Riverborder	219	Warren
29	5	Riverborder	510	St. Louis city

Montana

Montana: State information

State name	State code	State abbreviation	Research station	Research or Station code
Montana	30	MT	RMRS	22

Montana: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
30	1	Northwestern	29	Flathead
30	1	Northwestern	47	Lake
30	1	Northwestern	53	Lincoln
30	1	Northwestern	89	Sanders
30	2	Eastern	3	Big Horn
30	2	Eastern	5	Blaine
30	2	Eastern	9	Carbon
30	2	Eastern	11	Carter
30	2	Eastern	15	Chouteau
30	2	Eastern	17	Custer
30	2	Eastern	19	Daniels
30	2	Eastern	21	Dawson
30	2	Eastern	25	Fallon
30	2	Eastern	27	Fergus
30	2	Eastern	33	Garfield
30	2	Eastern	35	Glacier
30	2	Eastern	37	Golden Valley
30	2	Eastern	41	Hill
30	2	Eastern	51	Liberty
30	2	Eastern	55	McCone
30	2	Eastern	65	Musselshell
30	2	Eastern	69	Petroleum
30	2	Eastern	71	Phillips
30	2	Eastern	73	Pondera
30	2	Eastern	75	Powder River
30	2	Eastern	79	Prairie
30	2	Eastern	83	Richland
30	2	Eastern	85	Roosevelt
30	2	Eastern	87	Rosebud
30	2	Eastern	91	Sheridan
30	2	Eastern	95	Stillwater
30	2	Eastern	97	Sweet Grass

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
30	2	Eastern	99	Teton
30	2	Eastern	101	Toole
30	2	Eastern	103	Treasure
30	2	Eastern	105	Valley
30	2	Eastern	109	Wibaux
30	2	Eastern	111	Yellowstone
30	2	Eastern	113	Yellowstone National Park
30	3	Western	39	Granite
30	3	Western	61	Mineral
30	3	Western	63	Missoula
30	3	Western	81	Ravalli
30	4	West Central	7	Broadwater
30	4	West Central	13	Cascade
30	4	West Central	43	Jefferson
30	4	West Central	45	Judith Basin
30	4	West Central	49	Lewis and Clark
30	4	West Central	59	Meagher
30	4	West Central	77	Powell
30	4	West Central	107	Wheatland
30	5	Southwestern	1	Beaverhead
30	5	Southwestern	23	Deer Lodge
30	5	Southwestern	31	Gallatin
30	5	Southwestern	57	Madison
30	5	Southwestern	67	Park
30	5	Southwestern	93	Silver Bow

Nebraska

Nebraska: State information

State name	State code	State abbreviation	Research station	Research or Station code
Nebraska	31	NE	NRS	24

Nebraska: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
31	1	Eastern	1	Adams
31	1	Eastern	11	Boone
31	1	Eastern	19	Buffalo
31	1	Eastern	21	Burt
31	1	Eastern	23	Butler
31	1	Eastern	25	Cass
31	1	Eastern	27	Cedar
31	1	Eastern	35	Clay
31	1	Eastern	37	Colfax
31	1	Eastern	39	Cuming
31	1	Eastern	41	Custer
31	1	Eastern	43	Dakota
31	1	Eastern	47	Dawson
31	1	Eastern	51	Dixon
31	1	Eastern	53	Dodge
31	1	Eastern	55	Douglas
31	1	Eastern	59	Fillmore
31	1	Eastern	61	Franklin
31	1	Eastern	63	Frontier
31	1	Eastern	65	Furnas
31	1	Eastern	67	Gage
31	1	Eastern	73	Gosper
31	1	Eastern	77	Greeley
31	1	Eastern	79	Hall
31	1	Eastern	81	Hamilton
31	1	Eastern	83	Harlan
31	1	Eastern	87	Hitchcock
31	1	Eastern	93	Howard
31	1	Eastern	95	Jefferson
31	1	Eastern	97	Johnson
31	1	Eastern	99	Kearney
31	1	Eastern	109	Lancaster

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
31	1	Eastern	119	Madison
31	1	Eastern	121	Merrick
31	1	Eastern	125	Nance
31	1	Eastern	127	Nemaha
31	1	Eastern	129	Nuckolls
31	1	Eastern	131	Otoe
31	1	Eastern	133	Pawnee
31	1	Eastern	137	Phelps
31	1	Eastern	139	Pierce
31	1	Eastern	141	Platte
31	1	Eastern	143	Polk
31	1	Eastern	145	Red Willow
31	1	Eastern	147	Richardson
31	1	Eastern	151	Saline
31	1	Eastern	153	Sarpy
31	1	Eastern	155	Saunders
31	1	Eastern	159	Seward
31	1	Eastern	163	Sherman
31	1	Eastern	167	Stanton
31	1	Eastern	169	Thayer
31	1	Eastern	173	Thurston
31	1	Eastern	175	Valley
31	1	Eastern	177	Washington
31	1	Eastern	179	Wayne
31	1	Eastern	181	Webster
31	1	Eastern	185	York
31	2	Western	3	Antelope
31	2	Western	5	Arthur
31	2	Western	7	Banner
31	2	Western	9	Blaine
31	2	Western	13	Box Butte
31	2	Western	15	Boyd
31	2	Western	17	Brown
31	2	Western	29	Chase
31	2	Western	31	Cherry
31	2	Western	33	Cheyenne
31	2	Western	45	Dawes
31	2	Western	49	Deuel
31	2	Western	57	Dundy

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
31	2	Western	69	Garden
31	2	Western	71	Garfield
31	2	Western	75	Grant
31	2	Western	85	Hayes
31	2	Western	89	Holt
31	2	Western	91	Hooker
31	2	Western	101	Keith
31	2	Western	103	Keya Paha
31	2	Western	105	Kimball
31	2	Western	107	Knox
31	2	Western	111	Lincoln
31	2	Western	113	Logan
31	2	Western	115	Loup
31	2	Western	117	McPherson
31	2	Western	123	Morrill
31	2	Western	135	Perkins
31	2	Western	149	Rock
31	2	Western	157	Scotts Bluff
31	2	Western	161	Sheridan
31	2	Western	165	Sioux
31	2	Western	171	Thomas
31	2	Western	183	Wheeler

Nevada

Nevada: State information

State name	State code	State abbreviation	Research station	Research or Station code
Nevada	32	NV	RMRS	22

Nevada: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
32	1	Nevada	1	Churchill
32	1	Nevada	3	Clark
32	1	Nevada	5	Douglas
32	1	Nevada	7	Elko
32	1	Nevada	9	Esmeralda
32	1	Nevada	11	Eureka
32	1	Nevada	13	Humboldt
32	1	Nevada	15	Lander
32	1	Nevada	17	Lincoln
32	1	Nevada	19	Lyon
32	1	Nevada	21	Mineral
32	1	Nevada	23	Nye
32	1	Nevada	27	Pershing
32	1	Nevada	29	Storey
32	1	Nevada	31	Washoe
32	1	Nevada	33	White Pine
32	1	Nevada	510	Carson City

New Hampshire

New Hampshire: State information

State name	State code	State abbreviation	Research station	Research or Station code
New Hampshire	33	NH	NRS	24

New Hampshire: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
33	2	Northern	3	Carroll
33	2	Northern	7	Coos
33	2	Northern	9	Grafton
33	3	Southern	1	Belknap
33	3	Southern	5	Cheshire
33	3	Southern	11	Hillsborough
33	3	Southern	13	Merrimack
33	3	Southern	15	Rockingham
33	3	Southern	17	Strafford
33	3	Southern	19	Sullivan

New Jersey

New Jersey: State information

State name	State code	State abbreviation	Research station	Research or Station code
New Jersey	34	NJ	NRS	24

New Jersey: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
34	1	New Jersey	1	Atlantic
34	1	New Jersey	3	Bergen
34	1	New Jersey	5	Burlington
34	1	New Jersey	7	Camden
34	1	New Jersey	9	Cape May
34	1	New Jersey	11	Cumberland
34	1	New Jersey	13	Essex
34	1	New Jersey	15	Gloucester
34	1	New Jersey	17	Hudson
34	1	New Jersey	19	Hunterdon
34	1	New Jersey	21	Mercer
34	1	New Jersey	23	Middlesex
34	1	New Jersey	25	Monmouth
34	1	New Jersey	27	Morris
34	1	New Jersey	29	Ocean
34	1	New Jersey	31	Passaic
34	1	New Jersey	33	Salem
34	1	New Jersey	35	Somerset
34	1	New Jersey	37	Sussex
34	1	New Jersey	39	Union
34	1	New Jersey	41	Warren

New Mexico

New Mexico: State information

State name	State code	State abbreviation	Research station	Research or Station code
New Mexico	35	NM	RMRS	22

New Mexico: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
35	1	Northwestern	1	Bernalillo
35	1	Northwestern	6	Cibola
35	1	Northwestern	28	Los Alamos
35	1	Northwestern	31	McKinley
35	1	Northwestern	39	Rio Arriba
35	1	Northwestern	43	Sandoval
35	1	Northwestern	45	San Juan
35	1	Northwestern	49	Santa Fe
35	1	Northwestern	55	Taos
35	1	Northwestern	61	Valencia
35	2	Northeastern	7	Colfax
35	2	Northeastern	19	Guadalupe
35	2	Northeastern	21	Harding
35	2	Northeastern	33	Mora
35	2	Northeastern	37	Quay
35	2	Northeastern	47	San Miguel
35	2	Northeastern	57	Torrance
35	2	Northeastern	59	Union
35	3	Southwestern	3	Catron
35	3	Southwestern	13	Dona Ana
35	3	Southwestern	17	Grant
35	3	Southwestern	23	Hidalgo
35	3	Southwestern	29	Luna
35	3	Southwestern	51	Sierra
35	3	Southwestern	53	Socorro
35	4	Southeastern	5	Chaves
35	4	Southeastern	9	Curry
35	4	Southeastern	11	DeBaca
35	4	Southeastern	15	Eddy
35	4	Southeastern	25	Lea
35	4	Southeastern	27	Lincoln

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
35	4	Southeastern	35	Otero
35	4	Southeastern	41	Roosevelt

New York

New York: State information

State name	State code	State abbreviation	Research station	Research or Station code
New York	36	NY	NRS	24

New York: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
36	1	Adirondack	19	Clinton
36	1	Adirondack	33	Franklin
36	1	Adirondack	45	Jefferson
36	1	Adirondack	89	St. Lawrence
36	2	Lake Plain	11	Cayuga
36	2	Lake Plain	29	Erie
36	2	Lake Plain	37	Genesee
36	2	Lake Plain	51	Livingston
36	2	Lake Plain	53	Madison
36	2	Lake Plain	55	Monroe
36	2	Lake Plain	63	Niagara
36	2	Lake Plain	67	Onondaga
36	2	Lake Plain	69	Ontario
36	2	Lake Plain	73	Orleans
36	2	Lake Plain	75	Oswego
36	2	Lake Plain	99	Seneca
36	2	Lake Plain	117	Wayne
36	2	Lake Plain	121	Wyoming
36	2	Lake Plain	123	Yates
36	3	Western Adirondack	35	Fulton
36	3	Western Adirondack	43	Herkimer
36	3	Western Adirondack	49	Lewis
36	3	Western Adirondack	65	Oneida
36	4	Eastern Adirondack	31	Essex
36	4	Eastern Adirondack	41	Hamilton
36	4	Eastern Adirondack	113	Warren
36	5	Southwest Highlands	3	Allegany
36	5	Southwest Highlands	9	Cattaraugus
36	5	Southwest Highlands	13	Chautauqua
36	5	Southwest Highlands	101	Steuben
36	6	South-Central Highlands	7	Broome
36	6	South-Central Highlands	15	Chemung

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
36	6	South-Central Highlands	17	Chenango
36	6	South-Central Highlands	23	Cortland
36	6	South-Central Highlands	25	Delaware
36	6	South-Central Highlands	77	Otsego
36	6	South-Central Highlands	97	Schuyler
36	6	South-Central Highlands	107	Tioga
36	6	South-Central Highlands	109	Tompkins
36	7	Capitol District	1	Albany
36	7	Capitol District	21	Columbia
36	7	Capitol District	57	Montgomery
36	7	Capitol District	83	Rensselaer
36	7	Capitol District	91	Saratoga
36	7	Capitol District	93	Schenectady
36	7	Capitol District	115	Washington
36	8	Catskill-Lower Hudson	5	Bronx
36	8	Catskill-Lower Hudson	27	Dutchess
36	8	Catskill-Lower Hudson	39	Greene
36	8	Catskill-Lower Hudson	47	Kings
36	8	Catskill-Lower Hudson	59	Nassau
36	8	Catskill-Lower Hudson	61	New York
36	8	Catskill-Lower Hudson	71	Orange
36	8	Catskill-Lower Hudson	79	Putnam
36	8	Catskill-Lower Hudson	81	Queens
36	8	Catskill-Lower Hudson	85	Richmond
36	8	Catskill-Lower Hudson	87	Rockland
36	8	Catskill-Lower Hudson	95	Schoharie
36	8	Catskill-Lower Hudson	103	Suffolk
36	8	Catskill-Lower Hudson	105	Sullivan
36	8	Catskill-Lower Hudson	111	Ulster
36	8	Catskill-Lower Hudson	119	Westchester

North Carolina

North Carolina: State information

State name	State code	State abbreviation	Research station	Research or Station code
North Carolina	37	NC	SRS	33

North Carolina: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
37	1	Southern Coastal Plain	17	Bladen
37	1	Southern Coastal Plain	19	Brunswick
37	1	Southern Coastal Plain	47	Columbus
37	1	Southern Coastal Plain	51	Cumberland
37	1	Southern Coastal Plain	61	Duplin
37	1	Southern Coastal Plain	79	Greene
37	1	Southern Coastal Plain	85	Harnett
37	1	Southern Coastal Plain	93	Hoke
37	1	Southern Coastal Plain	101	Johnston
37	1	Southern Coastal Plain	103	Jones
37	1	Southern Coastal Plain	105	Lee
37	1	Southern Coastal Plain	107	Lenoir
37	1	Southern Coastal Plain	125	Moore
37	1	Southern Coastal Plain	129	New Hanover
37	1	Southern Coastal Plain	133	Onslow
37	1	Southern Coastal Plain	141	Pender
37	1	Southern Coastal Plain	153	Richmond
37	1	Southern Coastal Plain	155	Robeson
37	1	Southern Coastal Plain	163	Sampson
37	1	Southern Coastal Plain	165	Scotland
37	1	Southern Coastal Plain	191	Wayne
37	2	Northern Coastal Plain	13	Beaufort
37	2	Northern Coastal Plain	15	Bertie
37	2	Northern Coastal Plain	29	Camden
37	2	Northern Coastal Plain	31	Carteret
37	2	Northern Coastal Plain	41	Chowan
37	2	Northern Coastal Plain	49	Craven
37	2	Northern Coastal Plain	53	Currituck
37	2	Northern Coastal Plain	55	Dare
37	2	Northern Coastal Plain	65	Edgecombe
37	2	Northern Coastal Plain	73	Gates
37	2	Northern Coastal Plain	83	Halifax

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
37	2	Northern Coastal Plain	91	Hertford
37	2	Northern Coastal Plain	95	Hyde
37	2	Northern Coastal Plain	117	Martin
37	2	Northern Coastal Plain	127	Nash
37	2	Northern Coastal Plain	131	Northampton
37	2	Northern Coastal Plain	137	Pamlico
37	2	Northern Coastal Plain	139	Pasquotank
37	2	Northern Coastal Plain	143	Perquimans
37	2	Northern Coastal Plain	147	Pitt
37	2	Northern Coastal Plain	177	Tyrrell
37	2	Northern Coastal Plain	187	Washington
37	2	Northern Coastal Plain	195	Wilson
37	3	Piedmont	1	Alamance
37	3	Piedmont	3	Alexander
37	3	Piedmont	7	Anson
37	3	Piedmont	25	Cabarrus
37	3	Piedmont	33	Caswell
37	3	Piedmont	35	Catawba
37	3	Piedmont	37	Chatham
37	3	Piedmont	45	Cleveland
37	3	Piedmont	57	Davidson
37	3	Piedmont	59	Davie
37	3	Piedmont	63	Durham
37	3	Piedmont	67	Forsyth
37	3	Piedmont	69	Franklin
37	3	Piedmont	71	Gaston
37	3	Piedmont	77	Granville
37	3	Piedmont	81	Guilford
37	3	Piedmont	97	Iredell
37	3	Piedmont	109	Lincoln
37	3	Piedmont	119	Mecklenburg
37	3	Piedmont	123	Montgomery
37	3	Piedmont	135	Orange
37	3	Piedmont	145	Person
37	3	Piedmont	149	Polk
37	3	Piedmont	151	Randolph
37	3	Piedmont	157	Rockingham
37	3	Piedmont	159	Rowan
37	3	Piedmont	161	Rutherford

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
37	3	Piedmont	167	Stanly
37	3	Piedmont	169	Stokes
37	3	Piedmont	171	Surry
37	3	Piedmont	179	Union
37	3	Piedmont	181	Vance
37	3	Piedmont	183	Wake
37	3	Piedmont	185	Warren
37	3	Piedmont	197	Yadkin
37	4	Mountains	5	Alleghany
37	4	Mountains	9	Ashe
37	4	Mountains	11	Avery
37	4	Mountains	21	Buncombe
37	4	Mountains	23	Burke
37	4	Mountains	27	Caldwell
37	4	Mountains	39	Cherokee
37	4	Mountains	43	Clay
37	4	Mountains	75	Graham
37	4	Mountains	87	Haywood
37	4	Mountains	89	Henderson
37	4	Mountains	99	Jackson
37	4	Mountains	111	McDowell
37	4	Mountains	113	Macon
37	4	Mountains	115	Madison
37	4	Mountains	121	Mitchell
37	4	Mountains	173	Swain
37	4	Mountains	175	Transylvania
37	4	Mountains	189	Watauga
37	4	Mountains	193	Wilkes
37	4	Mountains	199	Yancey

North Dakota

North Dakota: State information

State name	State code	State abbreviation	Research station	Research or Station code
North Dakota	38	ND	NRS	24

North Dakota: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
38	1	Eastern	1	Adams
38	1	Eastern	3	Barnes
38	1	Eastern	5	Benson
38	1	Eastern	7	Billings
38	1	Eastern	9	Bottineau
38	1	Eastern	11	Bowman
38	1	Eastern	13	Burke
38	1	Eastern	15	Burleigh
38	1	Eastern	17	Cass
38	1	Eastern	19	Cavalier
38	1	Eastern	21	Dickey
38	1	Eastern	23	Divide
38	1	Eastern	25	Dunn
38	1	Eastern	27	Eddy
38	1	Eastern	29	Emmons
38	1	Eastern	31	Foster
38	1	Eastern	33	Golden Valley
38	1	Eastern	35	Grand Forks
38	1	Eastern	37	Grant
38	1	Eastern	39	Griggs
38	1	Eastern	41	Hettinger
38	1	Eastern	43	Kidder
38	1	Eastern	45	LaMoure
38	1	Eastern	47	Logan
38	1	Eastern	49	McHenry
38	1	Eastern	51	McIntosh
38	1	Eastern	53	McKenzie
38	1	Eastern	55	McLean
38	1	Eastern	57	Mercer
38	1	Eastern	59	Morton
38	1	Eastern	61	Mountrail
38	1	Eastern	63	Nelson

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
38	1	Eastern	65	Oliver
38	1	Eastern	67	Pembina
38	1	Eastern	69	Pierce
38	1	Eastern	71	Ramsey
38	1	Eastern	73	Ransom
38	1	Eastern	75	Renville
38	1	Eastern	77	Richland
38	1	Eastern	79	Rolette
38	1	Eastern	81	Sargent
38	1	Eastern	83	Sheridan
38	1	Eastern	85	Sioux
38	1	Eastern	87	Slope
38	1	Eastern	89	Stark
38	1	Eastern	91	Steele
38	1	Eastern	93	Stutsman
38	1	Eastern	95	Towner
38	1	Eastern	97	Traill
38	1	Eastern	99	Walsh
38	1	Eastern	101	Ward
38	1	Eastern	103	Wells
38	1	Eastern	105	Williams

Ohio

Ohio: State information

State name	State code	State abbreviation	Research station	Research or Station code
Ohio	39	OH	NRS	24

Ohio: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
39	1	South-Central	1	Adams
39	1	South-Central	15	Brown
39	1	South-Central	25	Clermont
39	1	South-Central	53	Gallia
39	1	South-Central	71	Highland
39	1	South-Central	79	Jackson
39	1	South-Central	87	Lawrence
39	1	South-Central	131	Pike
39	1	South-Central	141	Ross
39	1	South-Central	145	Scioto
39	2	Southeastern	9	Athens
39	2	Southeastern	73	Hocking
39	2	Southeastern	105	Meigs
39	2	Southeastern	115	Morgan
39	2	Southeastern	127	Perry
39	2	Southeastern	163	Vinton
39	2	Southeastern	167	Washington
39	3	East-Central	13	Belmont
39	3	East-Central	19	Carroll
39	3	East-Central	31	Coshocton
39	3	East-Central	59	Guernsey
39	3	East-Central	67	Harrison
39	3	East-Central	75	Holmes
39	3	East-Central	81	Jefferson
39	3	East-Central	111	Monroe
39	3	East-Central	119	Muskingum
39	3	East-Central	121	Noble
39	3	East-Central	157	Tuscarawas
39	4	Northeastern	5	Ashland
39	4	Northeastern	7	Ashtabula
39	4	Northeastern	29	Columbiana
39	4	Northeastern	35	Cuyahoga

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
39	4	Northeastern	43	Erie
39	4	Northeastern	55	Geauga
39	4	Northeastern	77	Huron
39	4	Northeastern	85	Lake
39	4	Northeastern	93	Lorain
39	4	Northeastern	99	Mahoning
39	4	Northeastern	103	Medina
39	4	Northeastern	133	Portage
39	4	Northeastern	139	Richland
39	4	Northeastern	151	Stark
39	4	Northeastern	153	Summit
39	4	Northeastern	155	Trumbull
39	4	Northeastern	169	Wayne
39	5	Southwestern	17	Butler
39	5	Southwestern	23	Clark
39	5	Southwestern	27	Clinton
39	5	Southwestern	37	Darke
39	5	Southwestern	45	Fairfield
39	5	Southwestern	47	Fayette
39	5	Southwestern	49	Franklin
39	5	Southwestern	57	Greene
39	5	Southwestern	61	Hamilton
39	5	Southwestern	89	Licking
39	5	Southwestern	97	Madison
39	5	Southwestern	109	Miami
39	5	Southwestern	113	Montgomery
39	5	Southwestern	129	Pickaway
39	5	Southwestern	135	Preble
39	5	Southwestern	165	Warren
39	6	Northwestern	3	Allen
39	6	Northwestern	11	Auglaize
39	6	Northwestern	21	Champaign
39	6	Northwestern	33	Crawford
39	6	Northwestern	39	Defiance
39	6	Northwestern	41	Delaware
39	6	Northwestern	51	Fulton
39	6	Northwestern	63	Hancock
39	6	Northwestern	65	Hardin
39	6	Northwestern	69	Henry

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
39	6	Northwestern	83	Knox
39	6	Northwestern	91	Logan
39	6	Northwestern	95	Lucas
39	6	Northwestern	101	Marion
39	6	Northwestern	107	Mercer
39	6	Northwestern	117	Morrow
39	6	Northwestern	123	Ottawa
39	6	Northwestern	125	Paulding
39	6	Northwestern	137	Putnam
39	6	Northwestern	143	Sandusky
39	6	Northwestern	147	Seneca
39	6	Northwestern	149	Shelby
39	6	Northwestern	159	Union
39	6	Northwestern	161	Van Wert
39	6	Northwestern	171	Williams
39	6	Northwestern	173	Wood
39	6	Northwestern	175	Wyandot

Oklahoma

Oklahoma: State information

State name	State code	State abbreviation	Research station	Research or Station code
Oklahoma	40	OK	SRS	33

Oklahoma: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
40	1	Southeast	5	Atoka
40	1	Southeast	13	Bryan
40	1	Southeast	23	Choctaw
40	1	Southeast	29	Coal
40	1	Southeast	61	Haskell
40	1	Southeast	77	Latimer
40	1	Southeast	79	Le Flore
40	1	Southeast	89	McCurtain
40	1	Southeast	121	Pittsburg
40	1	Southeast	127	Pushmataha
40	2	Northeast	1	Adair
40	2	Northeast	21	Cherokee
40	2	Northeast	41	Delaware
40	2	Northeast	91	McIntosh
40	2	Northeast	97	Mayes
40	2	Northeast	101	Muskogee
40	2	Northeast	115	Ottawa
40	2	Northeast	135	Sequoyah
40	3	North Central	35	Craig
40	3	North Central	37	Creek
40	3	North Central	105	Nowata
40	3	North Central	113	Osage
40	3	North Central	117	Pawnee
40	3	North Central	119	Payne
40	3	North Central	131	Rogers
40	3	North Central	143	Tulsa
40	3	North Central	145	Wagoner
40	3	North Central	147	Washington
40	4	South Central	19	Carter
40	4	South Central	27	Cleveland
40	4	South Central	49	Garvin
40	4	South Central	63	Hughes

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
40	4	South Central	69	Johnston
40	4	South Central	81	Lincoln
40	4	South Central	83	Logan
40	4	South Central	85	Love
40	4	South Central	87	McClain
40	4	South Central	95	Marshall
40	4	South Central	99	Murray
40	4	South Central	107	Okluskee
40	4	South Central	109	Oklahoma
40	4	South Central	111	Okmulgee
40	4	South Central	123	Pontotoc
40	4	South Central	125	Pottawatomie
40	4	South Central	133	Seminole
40	5	Southwest	9	Beckham
40	5	Southwest	11	Blaine
40	5	Southwest	15	Caddo
40	5	Southwest	17	Canadian
40	5	Southwest	31	Comanche
40	5	Southwest	33	Cotton
40	5	Southwest	39	Custer
40	5	Southwest	43	Dewey
40	5	Southwest	51	Grady
40	5	Southwest	55	Greer
40	5	Southwest	57	Harmon
40	5	Southwest	65	Jackson
40	5	Southwest	67	Jefferson
40	5	Southwest	73	Kingfisher
40	5	Southwest	75	Kiowa
40	5	Southwest	129	Roger Mills
40	5	Southwest	137	Stephens
40	5	Southwest	141	Tillman
40	5	Southwest	149	Washita
40	6	High Plains	7	Beaver
40	6	High Plains	25	Cimarron
40	6	High Plains	45	Ellis
40	6	High Plains	59	Harper
40	6	High Plains	139	Texas
40	7	Great Plains	3	Alfalfa
40	7	Great Plains	47	Garfield

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
40	7	Great Plains	53	Grant
40	7	Great Plains	71	Kay
40	7	Great Plains	93	Major
40	7	Great Plains	103	Noble
40	7	Great Plains	151	Woods
40	7	Great Plains	153	Woodward

Oregon

Oregon: State information

State name	State code	State abbreviation	Research station	Research or Station code
Oregon	41	OR	PNWRS	26

Oregon: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
41	0	Northwest	5	Clackamas
41	0	Northwest	7	Clatsop
41	0	Northwest	9	Columbia
41	0	Northwest	27	Hood River
41	0	Northwest	47	Marion
41	0	Northwest	51	Multnomah
41	0	Northwest	53	Polk
41	0	Northwest	57	Tillamook
41	0	Northwest	67	Washington
41	0	Northwest	71	Yamhill
41	1	West Central	3	Benton
41	1	West Central	39	Lane
41	1	West Central	41	Lincoln
41	1	West Central	43	Linn
41	2	Southwest	11	Coos
41	2	Southwest	15	Curry
41	2	Southwest	19	Douglas
41	2	Southwest	29	Jackson
41	2	Southwest	33	Josephine
41	3	Central	13	Crook
41	3	Central	17	Deschutes
41	3	Central	21	Gilliam
41	3	Central	31	Jefferson
41	3	Central	35	Klamath
41	3	Central	37	Lake
41	3	Central	55	Sherman
41	3	Central	65	Wasco
41	3	Central	69	Wheeler
41	4	Blue Mountains	1	Baker
41	4	Blue Mountains	23	Grant
41	4	Blue Mountains	25	Harney
41	4	Blue Mountains	45	Malheur

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
41	4	Blue Mountains	49	Morrow
41	4	Blue Mountains	59	Umatilla
41	4	Blue Mountains	61	Union
41	4	Blue Mountains	63	Wallowa

Pennsylvania

Pennsylvania: State information

State name	State code	State abbreviation	Research station	Research or Station code
Pennsylvania	42	PA	NRS	24

Pennsylvania: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
42	0	South Central	43	Dauphin
42	0	South Central	55	Franklin
42	0	South Central	57	Fulton
42	0	South Central	61	Huntingdon
42	0	South Central	67	Juniata
42	0	South Central	87	Mifflin
42	0	South Central	99	Perry
42	0	South Central	109	Snyder
42	0	South Central	119	Union
42	5	Western	3	Allegheny
42	5	Western	5	Armstrong
42	5	Western	7	Beaver
42	5	Western	19	Butler
42	5	Western	39	Crawford
42	5	Western	49	Erie
42	5	Western	59	Greene
42	5	Western	63	Indiana
42	5	Western	73	Lawrence
42	5	Western	85	Mercer
42	5	Western	125	Washington
42	5	Western	129	Westmoreland
42	6	North Central/Allegheny	23	Cameron
42	6	North Central/Allegheny	27	Centre
42	6	North Central/Allegheny	31	Clarion
42	6	North Central/Allegheny	33	Clearfield
42	6	North Central/Allegheny	35	Clinton
42	6	North Central/Allegheny	47	Elk
42	6	North Central/Allegheny	53	Forest
42	6	North Central/Allegheny	65	Jefferson
42	6	North Central/Allegheny	81	Lycoming
42	6	North Central/Allegheny	83	McKean
42	6	North Central/Allegheny	105	Potter

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
42	6	North Central/Allegheny	113	Sullivan
42	6	North Central/Allegheny	117	Tioga
42	6	North Central/Allegheny	121	Venango
42	6	North Central/Allegheny	123	Warren
42	7	Southwestern	9	Bedford
42	7	Southwestern	13	Blair
42	7	Southwestern	21	Cambria
42	7	Southwestern	51	Fayette
42	7	Southwestern	111	Somerset
42	8	Northeastern/Pocono	15	Bradford
42	8	Northeastern/Pocono	25	Carbon
42	8	Northeastern/Pocono	37	Columbia
42	8	Northeastern/Pocono	69	Lackawanna
42	8	Northeastern/Pocono	79	Luzerne
42	8	Northeastern/Pocono	89	Monroe
42	8	Northeastern/Pocono	93	Montour
42	8	Northeastern/Pocono	97	Northumberland
42	8	Northeastern/Pocono	103	Pike
42	8	Northeastern/Pocono	107	Schuylkill
42	8	Northeastern/Pocono	115	Susquehanna
42	8	Northeastern/Pocono	127	Wayne
42	8	Northeastern/Pocono	131	Wyoming
42	9	Southeastern	1	Adams
42	9	Southeastern	11	Berks
42	9	Southeastern	17	Bucks
42	9	Southeastern	29	Chester
42	9	Southeastern	41	Cumberland
42	9	Southeastern	45	Delaware
42	9	Southeastern	71	Lancaster
42	9	Southeastern	75	Lebanon
42	9	Southeastern	77	Lehigh
42	9	Southeastern	91	Montgomery
42	9	Southeastern	95	Northampton
42	9	Southeastern	101	Philadelphia
42	9	Southeastern	133	York

Rhode Island

Rhode Island: State information

State name	State code	State abbreviation	Research station	Research or Station code
Rhode Island	44	RI	NRS	24

Rhode Island: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
44	1	Rhode Island	1	Bristol
44	1	Rhode Island	3	Kent
44	1	Rhode Island	5	Newport
44	1	Rhode Island	7	Providence
44	1	Rhode Island	9	Washington

South Carolina

South Carolina: State information

State name	State code	State abbreviation	Research station	Research or Station code
South Carolina	45	SC	SRS	33

South Carolina: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
45	1	Southern Coastal Plain	3	Aiken
45	1	Southern Coastal Plain	5	Allendale
45	1	Southern Coastal Plain	9	Bamberg
45	1	Southern Coastal Plain	11	Barnwell
45	1	Southern Coastal Plain	13	Beaufort
45	1	Southern Coastal Plain	17	Calhoun
45	1	Southern Coastal Plain	29	Colleton
45	1	Southern Coastal Plain	35	Dorchester
45	1	Southern Coastal Plain	49	Hampton
45	1	Southern Coastal Plain	53	Jasper
45	1	Southern Coastal Plain	63	Lexington
45	1	Southern Coastal Plain	75	Orangeburg
45	2	Northern Coastal Plain	15	Berkeley
45	2	Northern Coastal Plain	19	Charleston
45	2	Northern Coastal Plain	25	Chesterfield
45	2	Northern Coastal Plain	27	Clarendon
45	2	Northern Coastal Plain	31	Darlington
45	2	Northern Coastal Plain	33	Dillon
45	2	Northern Coastal Plain	41	Florence
45	2	Northern Coastal Plain	43	Georgetown
45	2	Northern Coastal Plain	51	Horry
45	2	Northern Coastal Plain	55	Kershaw
45	2	Northern Coastal Plain	61	Lee
45	2	Northern Coastal Plain	67	Marion
45	2	Northern Coastal Plain	69	Marlboro
45	2	Northern Coastal Plain	79	Richland
45	2	Northern Coastal Plain	85	Sumter
45	2	Northern Coastal Plain	89	Williamsburg
45	3	Piedmont	1	Abbeville
45	3	Piedmont	7	Anderson
45	3	Piedmont	21	Cherokee
45	3	Piedmont	23	Chester

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
45	3	Piedmont	37	Edgefield
45	3	Piedmont	39	Fairfield
45	3	Piedmont	45	Greenville
45	3	Piedmont	47	Greenwood
45	3	Piedmont	57	Lancaster
45	3	Piedmont	59	Laurens
45	3	Piedmont	65	McCormick
45	3	Piedmont	71	Newberry
45	3	Piedmont	73	Oconee
45	3	Piedmont	77	Pickens
45	3	Piedmont	81	Saluda
45	3	Piedmont	83	Spartanburg
45	3	Piedmont	87	Union
45	3	Piedmont	91	York

South Dakota

South Dakota: State information

State name	State code	State abbreviation	Research station	Research or Station code
South Dakota	46	SD	NRS	24

South Dakota: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
46	1	Eastern	3	Aurora
46	1	Eastern	5	Beadle
46	1	Eastern	7	Bennett
46	1	Eastern	9	Bon Homme
46	1	Eastern	11	Brookings
46	1	Eastern	13	Brown
46	1	Eastern	15	Brule
46	1	Eastern	17	Buffalo
46	1	Eastern	21	Campbell
46	1	Eastern	23	Charles Mix
46	1	Eastern	25	Clark
46	1	Eastern	27	Clay
46	1	Eastern	29	Codington
46	1	Eastern	31	Corson
46	1	Eastern	35	Davison
46	1	Eastern	37	Day
46	1	Eastern	39	Deuel
46	1	Eastern	41	Dewey
46	1	Eastern	43	Douglas
46	1	Eastern	45	Edmunds
46	1	Eastern	49	Faulk
46	1	Eastern	51	Grant
46	1	Eastern	53	Gregory
46	1	Eastern	55	Haakon
46	1	Eastern	57	Hamlin
46	1	Eastern	59	Hand
46	1	Eastern	61	Hanson
46	1	Eastern	65	Hughes
46	1	Eastern	67	Hutchinson
46	1	Eastern	69	Hyde
46	1	Eastern	71	Jackson
46	1	Eastern	73	Jerauld

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
46	1	Eastern	75	Jones
46	1	Eastern	77	Kingsbury
46	1	Eastern	79	Lake
46	1	Eastern	83	Lincoln
46	1	Eastern	85	Lyman
46	1	Eastern	87	McCook
46	1	Eastern	89	McPherson
46	1	Eastern	91	Marshall
46	1	Eastern	95	Mellette
46	1	Eastern	97	Miner
46	1	Eastern	99	Minnehaha
46	1	Eastern	101	Moody
46	1	Eastern	105	Perkins
46	1	Eastern	107	Potter
46	1	Eastern	109	Roberts
46	1	Eastern	111	Sanborn
46	1	Eastern	115	Spink
46	1	Eastern	117	Stanley
46	1	Eastern	119	Sully
46	1	Eastern	121	Todd
46	1	Eastern	123	Tripp
46	1	Eastern	125	Turner
46	1	Eastern	127	Union
46	1	Eastern	129	Walworth
46	1	Eastern	135	Yankton
46	1	Eastern	137	Ziebach
46	2	Western	19	Butte
46	2	Western	33	Custer
46	2	Western	47	Fall River
46	2	Western	63	Harding
46	2	Western	81	Lawrence
46	2	Western	93	Meade
46	2	Western	103	Pennington
46	2	Western	113	Shannon

Tennessee

Tennessee: State information

State name	State code	State abbreviation	Research station	Research or Station code
Tennessee	47	TN	SRS	33

Tennessee: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
47	1	West	17	Carroll
47	1	West	23	Chester
47	1	West	33	Crockett
47	1	West	45	Dyer
47	1	West	47	Fayette
47	1	West	53	Gibson
47	1	West	69	Hardeman
47	1	West	75	Haywood
47	1	West	77	Henderson
47	1	West	79	Henry
47	1	West	95	Lake
47	1	West	97	Lauderdale
47	1	West	109	McNairy
47	1	West	113	Madison
47	1	West	131	Obion
47	1	West	157	Shelby
47	1	West	167	Tipton
47	1	West	183	Weakley
47	2	West Central	5	Benton
47	2	West Central	39	Decatur
47	2	West Central	71	Hardin
47	2	West Central	81	Hickman
47	2	West Central	83	Houston
47	2	West Central	85	Humphreys
47	2	West Central	99	Lawrence
47	2	West Central	101	Lewis
47	2	West Central	135	Perry
47	2	West Central	161	Stewart
47	2	West Central	181	Wayne
47	3	Central	3	Bedford
47	3	Central	15	Cannon
47	3	Central	21	Cheatham

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
47	3	Central	27	Clay
47	3	Central	31	Coffee
47	3	Central	37	Davidson
47	3	Central	41	DeKalb
47	3	Central	43	Dickson
47	3	Central	55	Giles
47	3	Central	87	Jackson
47	3	Central	103	Lincoln
47	3	Central	111	Macon
47	3	Central	117	Marshall
47	3	Central	119	Maury
47	3	Central	125	Montgomery
47	3	Central	127	Moore
47	3	Central	147	Robertson
47	3	Central	149	Rutherford
47	3	Central	159	Smith
47	3	Central	165	Sumner
47	3	Central	169	Trousdale
47	3	Central	187	Williamson
47	3	Central	189	Wilson
47	4	Plateau	7	Bledsoe
47	4	Plateau	13	Campbell
47	4	Plateau	35	Cumberland
47	4	Plateau	49	Fentress
47	4	Plateau	51	Franklin
47	4	Plateau	61	Grundy
47	4	Plateau	115	Marion
47	4	Plateau	129	Morgan
47	4	Plateau	133	Overton
47	4	Plateau	137	Pickett
47	4	Plateau	141	Putnam
47	4	Plateau	151	Scott
47	4	Plateau	153	Sequatchie
47	4	Plateau	175	Van Buren
47	4	Plateau	177	Warren
47	4	Plateau	185	White
47	5	East	1	Anderson
47	5	East	9	Blount
47	5	East	11	Bradley

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
47	5	East	19	Carter
47	5	East	25	Claiborne
47	5	East	29	Cocke
47	5	East	57	Grainger
47	5	East	59	Greene
47	5	East	63	Hamblen
47	5	East	65	Hamilton
47	5	East	67	Hancock
47	5	East	73	Hawkins
47	5	East	89	Jefferson
47	5	East	91	Johnson
47	5	East	93	Knox
47	5	East	105	Loudon
47	5	East	107	McMinn
47	5	East	121	Meigs
47	5	East	123	Monroe
47	5	East	139	Polk
47	5	East	143	Rhea
47	5	East	145	Roane
47	5	East	155	Sevier
47	5	East	163	Sullivan
47	5	East	171	Unicoi
47	5	East	173	Union
47	5	East	179	Washington

Texas

Texas: State information

State name	State code	State abbreviation	Research station	Research or Station code
Texas	48	TX	SRS	33

Texas: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
48	1	Southeast	5	Angelina
48	1	Southeast	71	Chambers
48	1	Southeast	185	Grimes
48	1	Southeast	199	Hardin
48	1	Southeast	201	Harris
48	1	Southeast	225	Houston
48	1	Southeast	241	Jasper
48	1	Southeast	245	Jefferson
48	1	Southeast	289	Leon
48	1	Southeast	291	Liberty
48	1	Southeast	313	Madison
48	1	Southeast	339	Montgomery
48	1	Southeast	351	Newton
48	1	Southeast	361	Orange
48	1	Southeast	373	Polk
48	1	Southeast	403	Sabine
48	1	Southeast	405	San Augustine
48	1	Southeast	407	San Jacinto
48	1	Southeast	455	Trinity
48	1	Southeast	457	Tyler
48	1	Southeast	471	Walker
48	1	Southeast	473	Waller
48	2	Northeast	1	Anderson
48	2	Northeast	37	Bowie
48	2	Northeast	63	Camp
48	2	Northeast	67	Cass
48	2	Northeast	73	Cherokee
48	2	Northeast	159	Franklin
48	2	Northeast	183	Gregg
48	2	Northeast	203	Harrison
48	2	Northeast	213	Henderson
48	2	Northeast	315	Marion

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
48	2	Northeast	343	Morris
48	2	Northeast	347	Nacogdoches
48	2	Northeast	365	Panola
48	2	Northeast	387	Red River
48	2	Northeast	401	Rusk
48	2	Northeast	419	Shelby
48	2	Northeast	423	Smith
48	2	Northeast	449	Titus
48	2	Northeast	459	Upshur
48	2	Northeast	467	Van Zandt
48	2	Northeast	499	Wood
48	3	North Central	15	Austin
48	3	North Central	21	Bastrop
48	3	North Central	41	Brazos
48	3	North Central	51	Burleson
48	3	North Central	55	Caldwell
48	3	North Central	77	Clay
48	3	North Central	85	Collin
48	3	North Central	89	Colorado
48	3	North Central	97	Cooke
48	3	North Central	113	Dallas
48	3	North Central	119	Delta
48	3	North Central	121	Denton
48	3	North Central	123	De Witt
48	3	North Central	139	Ellis
48	3	North Central	145	Falls
48	3	North Central	147	Fannin
48	3	North Central	149	Fayette
48	3	North Central	161	Freestone
48	3	North Central	175	Goliad
48	3	North Central	177	Gonzales
48	3	North Central	181	Grayson
48	3	North Central	187	Guadalupe
48	3	North Central	217	Hill
48	3	North Central	223	Hopkins
48	3	North Central	231	Hunt
48	3	North Central	237	Jack
48	3	North Central	251	Johnson
48	3	North Central	257	Kaufman

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
48	3	North Central	277	Lamar
48	3	North Central	285	Lavaca
48	3	North Central	287	Lee
48	3	North Central	293	Limestone
48	3	North Central	331	Milam
48	3	North Central	337	Montague
48	3	North Central	349	Navarro
48	3	North Central	367	Parker
48	3	North Central	379	Rains
48	3	North Central	395	Robertson
48	3	North Central	397	Rockwall
48	3	North Central	439	Tarrant
48	3	North Central	477	Washington
48	3	North Central	497	Wise
48	3	North Central	503	Young
48	4	South	7	Aransas
48	4	South	13	Atascosa
48	4	South	25	Bee
48	4	South	39	Brazoria
48	4	South	47	Brooks
48	4	South	57	Calhoun
48	4	South	61	Cameron
48	4	South	127	Dimmit
48	4	South	131	Duval
48	4	South	157	Fort Bend
48	4	South	163	Frio
48	4	South	167	Galveston
48	4	South	215	Hidalgo
48	4	South	239	Jackson
48	4	South	247	Jim Hogg
48	4	South	249	Jim Wells
48	4	South	255	Karnes
48	4	South	261	Kenedy
48	4	South	273	Kleberg
48	4	South	283	La Salle
48	4	South	297	Live Oak
48	4	South	311	McMullen
48	4	South	321	Matagorda
48	4	South	323	Maverick

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
48	4	South	355	Nueces
48	4	South	391	Refugio
48	4	South	409	San Patricio
48	4	South	427	Starr
48	4	South	469	Victoria
48	4	South	479	Webb
48	4	South	481	Wharton
48	4	South	489	Willacy
48	4	South	493	Wilson
48	4	South	505	Zapata
48	4	South	507	Zavala
48	5	West Central	19	Bandera
48	5	West Central	27	Bell
48	5	West Central	29	Bexar
48	5	West Central	31	Blanco
48	5	West Central	35	Bosque
48	5	West Central	49	Brown
48	5	West Central	53	Burnet
48	5	West Central	59	Callahan
48	5	West Central	83	Coleman
48	5	West Central	91	Comal
48	5	West Central	93	Comanche
48	5	West Central	95	Concho
48	5	West Central	99	Coryell
48	5	West Central	105	Crockett
48	5	West Central	133	Eastland
48	5	West Central	137	Edwards
48	5	West Central	143	Erath
48	5	West Central	171	Gillespie
48	5	West Central	193	Hamilton
48	5	West Central	209	Hays
48	5	West Central	221	Hood
48	5	West Central	259	Kendall
48	5	West Central	265	Kerr
48	5	West Central	267	Kimble
48	5	West Central	271	Kinney
48	5	West Central	281	Lampasas
48	5	West Central	299	Llano
48	5	West Central	307	McCulloch

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
48	5	West Central	309	McLennan
48	5	West Central	319	Mason
48	5	West Central	325	Medina
48	5	West Central	327	Menard
48	5	West Central	333	Mills
48	5	West Central	363	Palo Pinto
48	5	West Central	385	Real
48	5	West Central	399	Runnels
48	5	West Central	411	San Saba
48	5	West Central	413	Schleicher
48	5	West Central	425	Somervell
48	5	West Central	429	Stephens
48	5	West Central	435	Sutton
48	5	West Central	453	Travis
48	5	West Central	463	Uvalde
48	5	West Central	465	Val Verde
48	5	West Central	491	Williamson
48	6	Northwest	3	Andrews
48	6	Northwest	9	Archer
48	6	Northwest	11	Armstrong
48	6	Northwest	17	Bailey
48	6	Northwest	23	Baylor
48	6	Northwest	33	Borden
48	6	Northwest	45	Briscoe
48	6	Northwest	65	Carson
48	6	Northwest	69	Castro
48	6	Northwest	75	Childress
48	6	Northwest	79	Cochran
48	6	Northwest	81	Coke
48	6	Northwest	87	Collingsworth
48	6	Northwest	101	Cottle
48	6	Northwest	107	Crosby
48	6	Northwest	111	Dallam
48	6	Northwest	115	Dawson
48	6	Northwest	117	Deaf Smith
48	6	Northwest	125	Dickens
48	6	Northwest	129	Donley
48	6	Northwest	151	Fisher
48	6	Northwest	153	Floyd

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
48	6	Northwest	155	Foard
48	6	Northwest	165	Gaines
48	6	Northwest	169	Garza
48	6	Northwest	173	Glasscock
48	6	Northwest	179	Gray
48	6	Northwest	189	Hale
48	6	Northwest	191	Hall
48	6	Northwest	195	Hansford
48	6	Northwest	197	Hardeman
48	6	Northwest	205	Hartley
48	6	Northwest	207	Haskell
48	6	Northwest	211	Hemphill
48	6	Northwest	219	Hockley
48	6	Northwest	227	Howard
48	6	Northwest	233	Hutchinson
48	6	Northwest	235	Irion
48	6	Northwest	253	Jones
48	6	Northwest	263	Kent
48	6	Northwest	269	King
48	6	Northwest	275	Knox
48	6	Northwest	279	Lamb
48	6	Northwest	295	Lipscomb
48	6	Northwest	303	Lubbock
48	6	Northwest	305	Lynn
48	6	Northwest	317	Martin
48	6	Northwest	329	Midland
48	6	Northwest	335	Mitchell
48	6	Northwest	341	Moore
48	6	Northwest	345	Motley
48	6	Northwest	353	Nolan
48	6	Northwest	357	Ochiltree
48	6	Northwest	359	Oldham
48	6	Northwest	369	Parmer
48	6	Northwest	375	Potter
48	6	Northwest	381	Randall
48	6	Northwest	383	Reagan
48	6	Northwest	393	Roberts
48	6	Northwest	415	Scurry
48	6	Northwest	417	Shackelford

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
48	6	Northwest	421	Sherman
48	6	Northwest	431	Sterling
48	6	Northwest	433	Stonewall
48	6	Northwest	437	Swisher
48	6	Northwest	441	Taylor
48	6	Northwest	445	Terry
48	6	Northwest	447	Throckmorton
48	6	Northwest	451	Tom Green
48	6	Northwest	483	Wheeler
48	6	Northwest	485	Wichita
48	6	Northwest	487	Wilbarger
48	6	Northwest	501	Yoakum
48	7	West	43	Brewster
48	7	West	103	Crane
48	7	West	109	Culberson
48	7	West	135	Ector
48	7	West	141	El Paso
48	7	West	229	Hudspeth
48	7	West	243	Jeff Davis
48	7	West	301	Loving
48	7	West	371	Pecos
48	7	West	377	Presidio
48	7	West	389	Reeves
48	7	West	443	Terrell
48	7	West	461	Upton
48	7	West	475	Ward
48	7	West	495	Winkler

Utah

Utah: State information

State name	State code	State abbreviation	Research station	Research or Station code
Utah	49	UT	RMRS	22

Utah: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
49	1	Northern	3	Box Elder
49	1	Northern	5	Cache
49	1	Northern	11	Davis
49	1	Northern	29	Morgan
49	1	Northern	33	Rich
49	1	Northern	35	Salt Lake
49	1	Northern	43	Summit
49	1	Northern	45	Tooele
49	1	Northern	49	Utah
49	1	Northern	51	Wasatch
49	1	Northern	57	Weber
49	2	Uinta	9	Daggett
49	2	Uinta	13	Duchesne
49	2	Uinta	47	Uintah
49	3	Central	23	Juab
49	3	Central	27	Millard
49	3	Central	31	Piute
49	3	Central	39	Sanpete
49	3	Central	41	Sevier
49	3	Central	55	Wayne
49	4	Eastern	7	Carbon
49	4	Eastern	15	Emery
49	4	Eastern	19	Grand
49	4	Eastern	37	San Juan
49	5	Southwestern	1	Beaver
49	5	Southwestern	17	Garfield
49	5	Southwestern	21	Iron
49	5	Southwestern	25	Kane
49	5	Southwestern	53	Washington

Vermont

Vermont: State information

State name	State code	State abbreviation	Research station	Research or Station code
Vermont	50	VT	NRS	24

Vermont: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
50	2	Northern	5	Caledonia
50	2	Northern	9	Essex
50	2	Northern	11	Franklin
50	2	Northern	13	Grand Isle
50	2	Northern	15	Lamoille
50	2	Northern	17	Orange
50	2	Northern	19	Orleans
50	2	Northern	23	Washington
50	3	Southern	1	Addison
50	3	Southern	3	Bennington
50	3	Southern	7	Chittenden
50	3	Southern	21	Rutland
50	3	Southern	25	Windham
50	3	Southern	27	Windsor

Virginia

Virginia: State information

State name	State code	State abbreviation	Research station	Research or Station code
Virginia	51	VA	SRS	33

Virginia: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
51	1	Coastal Plain	1	Accomack
51	1	Coastal Plain	25	Brunswick
51	1	Coastal Plain	33	Caroline
51	1	Coastal Plain	36	Charles City
51	1	Coastal Plain	41	Chesterfield
51	1	Coastal Plain	53	Dinwiddie
51	1	Coastal Plain	57	Essex
51	1	Coastal Plain	73	Gloucester
51	1	Coastal Plain	81	Greenville
51	1	Coastal Plain	85	Hanover
51	1	Coastal Plain	87	Henrico
51	1	Coastal Plain	93	Isle Of Wight
51	1	Coastal Plain	95	James City
51	1	Coastal Plain	97	King And Queen
51	1	Coastal Plain	99	King George
51	1	Coastal Plain	101	King William
51	1	Coastal Plain	103	Lancaster
51	1	Coastal Plain	115	Mathews
51	1	Coastal Plain	119	Middlesex
51	1	Coastal Plain	127	New Kent
51	1	Coastal Plain	131	Northampton
51	1	Coastal Plain	133	Northumberland
51	1	Coastal Plain	149	Prince George
51	1	Coastal Plain	159	Richmond
51	1	Coastal Plain	175	Southampton
51	1	Coastal Plain	181	Surry
51	1	Coastal Plain	183	Sussex
51	1	Coastal Plain	193	Westmoreland
51	1	Coastal Plain	199	York
51	1	Coastal Plain	550	Chesapeake city
51	1	Coastal Plain	650	Hampton city
51	1	Coastal Plain	700	Newport News city

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
51	1	Coastal Plain	800	Suffolk city
51	1	Coastal Plain	810	Virginia Beach city
51	2	Southern Piedmont	7	Amelia
51	2	Southern Piedmont	11	Appomattox
51	2	Southern Piedmont	19	Bedford
51	2	Southern Piedmont	29	Buckingham
51	2	Southern Piedmont	31	Campbell
51	2	Southern Piedmont	37	Charlotte
51	2	Southern Piedmont	49	Cumberland
51	2	Southern Piedmont	67	Franklin
51	2	Southern Piedmont	83	Halifax
51	2	Southern Piedmont	89	Henry
51	2	Southern Piedmont	111	Lunenburg
51	2	Southern Piedmont	117	Mecklenburg
51	2	Southern Piedmont	135	Nottoway
51	2	Southern Piedmont	141	Patrick
51	2	Southern Piedmont	143	Pittsylvania
51	2	Southern Piedmont	145	Powhatan
51	2	Southern Piedmont	147	Prince Edward
51	3	Northern Piedmont	3	Albemarle
51	3	Northern Piedmont	9	Amherst
51	3	Northern Piedmont	13	Arlington
51	3	Northern Piedmont	47	Culpeper
51	3	Northern Piedmont	59	Fairfax
51	3	Northern Piedmont	61	Fauquier
51	3	Northern Piedmont	65	Fluvanna
51	3	Northern Piedmont	75	Goochland
51	3	Northern Piedmont	79	Greene
51	3	Northern Piedmont	107	Loudoun
51	3	Northern Piedmont	109	Louisa
51	3	Northern Piedmont	113	Madison
51	3	Northern Piedmont	125	Nelson
51	3	Northern Piedmont	137	Orange
51	3	Northern Piedmont	153	Prince William
51	3	Northern Piedmont	157	Rappahannock
51	3	Northern Piedmont	177	Spotsylvania
51	3	Northern Piedmont	179	Stafford
51	4	Northern Mountains	5	Alleghany
51	4	Northern Mountains	15	Augusta

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
51	4	Northern Mountains	17	Bath
51	4	Northern Mountains	23	Botetourt
51	4	Northern Mountains	43	Clarke
51	4	Northern Mountains	45	Craig
51	4	Northern Mountains	69	Frederick
51	4	Northern Mountains	91	Highland
51	4	Northern Mountains	139	Page
51	4	Northern Mountains	161	Roanoke
51	4	Northern Mountains	163	Rockbridge
51	4	Northern Mountains	165	Rockingham
51	4	Northern Mountains	171	Shenandoah
51	4	Northern Mountains	187	Warren
51	5	Southern Mountains	21	Bland
51	5	Southern Mountains	27	Buchanan
51	5	Southern Mountains	35	Carroll
51	5	Southern Mountains	51	Dickenson
51	5	Southern Mountains	63	Floyd
51	5	Southern Mountains	71	Giles
51	5	Southern Mountains	77	Grayson
51	5	Southern Mountains	105	Lee
51	5	Southern Mountains	121	Montgomery
51	5	Southern Mountains	155	Pulaski
51	5	Southern Mountains	167	Russell
51	5	Southern Mountains	169	Scott
51	5	Southern Mountains	173	Smyth
51	5	Southern Mountains	185	Tazewell
51	5	Southern Mountains	191	Washington
51	5	Southern Mountains	195	Wise
51	5	Southern Mountains	197	Wythe

Virginia: Cities aggregated into other counties

State code (STATECD)	City code	City name	Associated county code (COUNTYCD)	Associated county name (COUNTYNM)
51	510	Alexandria city	59	Fairfax
51	515	Bedford city	19	Bedford
51	520	Bristol city	191	Washington
51	530	Buena Vista city	163	Rockbridge
51	540	Charlottesville city	3	Albemarle
51	560	Clifton Forge city	5	Allegheny

State code (STATECD)	City code	City name	Associated county code (COUNTYCD)	Associated county name (COUNTYNM)
51	570	Colonial Heights city	41	Chesterfield
51	580	Covington city	5	Allegheny
51	590	Danville city	143	Pittsylvania
51	595	Emporia city	81	Greenville
51	600	Fairfax city	59	Fairfax
51	610	Falls Church city	59	Fairfax
51	620	Franklin city	175	Southampton
51	630	Fredericksburg city	177	Spotsylvania
51	640	Galax city	35	Carroll
51	640	Galax city	77	Grayson
51	660	Harrisonburg city	165	Rockingham
51	670	Hopewell city	149	Prince George
51	678	Lexington city	163	Rockbridge
51	680	Lynchburg city	31	Campbell
51	683	Manassas city	153	Prince William
51	685	Manassas Park city	153	Prince William
51	690	Martinsville city	89	Henry
51	710	Norfolk city	550	Chesapeake City
51	720	Norton city	195	Wise
51	730	Petersburg city	53	Dinwiddie
51	730	Petersburg city	149	Prince George
51	735	Poquoson city	199	York
51	740	Portsmouth city	550	Chesapeake City
51	750	Radford city	121	Montgomery
51	760	Richmond city	41	Chesterfield
51	760	Richmond city	87	Henrico
51	770	Roanoke city	161	Roanoke
51	775	Salem city	161	Roanoke
51	780	South Boston city	83	Halifax
51	790	Staunton city	15	Augusta
51	820	Waynesboro city	15	Augusta
51	830	Williamsburg city	95	County of James City
51	840	Winchester city	69	Frederick

Washington

Washington: State information

State name	State code	State abbreviation	Research station	Research or Station code
Washington	53	WA	PNWRS	26

Washington: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
53	5	Puget Sound	29	Island
53	5	Puget Sound	33	King
53	5	Puget Sound	35	Kitsap
53	5	Puget Sound	53	Pierce
53	5	Puget Sound	55	San Juan
53	5	Puget Sound	57	Skagit
53	5	Puget Sound	61	Snohomish
53	5	Puget Sound	73	Whatcom
53	6	Olympic Peninsula	9	Clallam
53	6	Olympic Peninsula	27	Grays Harbor
53	6	Olympic Peninsula	31	Jefferson
53	6	Olympic Peninsula	45	Mason
53	6	Olympic Peninsula	67	Thurston
53	7	Southwest	11	Clark
53	7	Southwest	15	Cowlitz
53	7	Southwest	41	Lewis
53	7	Southwest	49	Pacific
53	7	Southwest	59	Skamania
53	7	Southwest	69	Wahkiakum
53	8	Central	7	Chelan
53	8	Central	17	Douglas
53	8	Central	37	Kittitas
53	8	Central	39	Klickitat
53	8	Central	47	Okanogan
53	8	Central	77	Yakima
53	9	Inland Empire	1	Adams
53	9	Inland Empire	3	Asotin
53	9	Inland Empire	5	Benton
53	9	Inland Empire	13	Columbia
53	9	Inland Empire	19	Ferry
53	9	Inland Empire	21	Franklin
53	9	Inland Empire	23	Garfield

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
53	9	Inland Empire	25	Grant
53	9	Inland Empire	43	Lincoln
53	9	Inland Empire	51	Pend Oreille
53	9	Inland Empire	63	Spokane
53	9	Inland Empire	65	Stevens
53	9	Inland Empire	71	Walla Walla
53	9	Inland Empire	75	Whitman

West Virginia

West Virginia: State information

State name	State code	State abbreviation	Research station	Research or Station code
West Virginia	54	WV	NRS	24

West Virginia: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
54	2	Northeastern	1	Barbour
54	2	Northeastern	3	Berkeley
54	2	Northeastern	7	Braxton
54	2	Northeastern	23	Grant
54	2	Northeastern	27	Hampshire
54	2	Northeastern	31	Hardy
54	2	Northeastern	33	Harrison
54	2	Northeastern	37	Jefferson
54	2	Northeastern	41	Lewis
54	2	Northeastern	57	Mineral
54	2	Northeastern	65	Morgan
54	2	Northeastern	71	Pendleton
54	2	Northeastern	75	Pocahontas
54	2	Northeastern	77	Preston
54	2	Northeastern	83	Randolph
54	2	Northeastern	91	Taylor
54	2	Northeastern	93	Tucker
54	2	Northeastern	97	Upshur
54	2	Northeastern	101	Webster
54	3	Southern	5	Boone
54	3	Southern	15	Clay
54	3	Southern	19	Fayette
54	3	Southern	25	Greenbrier
54	3	Southern	39	Kanawha
54	3	Southern	45	Logan
54	3	Southern	47	McDowell
54	3	Southern	55	Mercer
54	3	Southern	59	Mingo
54	3	Southern	63	Monroe
54	3	Southern	67	Nicholas
54	3	Southern	81	Raleigh
54	3	Southern	89	Summers

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
54	3	Southern	109	Wyoming
54	4	Northwestern	9	Brooke
54	4	Northwestern	11	Cabell
54	4	Northwestern	13	Calhoun
54	4	Northwestern	17	Doddridge
54	4	Northwestern	21	Gilmer
54	4	Northwestern	29	Hancock
54	4	Northwestern	35	Jackson
54	4	Northwestern	43	Lincoln
54	4	Northwestern	49	Marion
54	4	Northwestern	51	Marshall
54	4	Northwestern	53	Mason
54	4	Northwestern	61	Monongalia
54	4	Northwestern	69	Ohio
54	4	Northwestern	73	Pleasants
54	4	Northwestern	79	Putnam
54	4	Northwestern	85	Ritchie
54	4	Northwestern	87	Roane
54	4	Northwestern	95	Tyler
54	4	Northwestern	99	Wayne
54	4	Northwestern	103	Wetzel
54	4	Northwestern	105	Wirt
54	4	Northwestern	107	Wood

Wisconsin

Wisconsin: State information

State name	State code	State abbreviation	Research station	Research or Station code
Wisconsin	55	WI	NRS	24

Wisconsin: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
55	1	Northeastern	37	Florence
55	1	Northeastern	41	Forest
55	1	Northeastern	67	Langlade
55	1	Northeastern	69	Lincoln
55	1	Northeastern	75	Marinette
55	1	Northeastern	78	Menominee
55	1	Northeastern	83	Oconto
55	1	Northeastern	85	Oneida
55	1	Northeastern	115	Shawano
55	1	Northeastern	125	Vilas
55	2	Northwestern	3	Ashland
55	2	Northwestern	5	Barron
55	2	Northwestern	7	Bayfield
55	2	Northwestern	13	Burnett
55	2	Northwestern	31	Douglas
55	2	Northwestern	51	Iron
55	2	Northwestern	95	Polk
55	2	Northwestern	99	Price
55	2	Northwestern	107	Rusk
55	2	Northwestern	113	Sawyer
55	2	Northwestern	119	Taylor
55	2	Northwestern	129	Washburn
55	3	Central	1	Adams
55	3	Central	17	Chippewa
55	3	Central	19	Clark
55	3	Central	35	Eau Claire
55	3	Central	53	Jackson
55	3	Central	57	Juneau
55	3	Central	73	Marathon
55	3	Central	77	Marquette
55	3	Central	81	Monroe
55	3	Central	97	Portage

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
55	3	Central	135	Waupaca
55	3	Central	137	Waushara
55	3	Central	141	Wood
55	4	Southwestern	11	Buffalo
55	4	Southwestern	23	Crawford
55	4	Southwestern	33	Dunn
55	4	Southwestern	43	Grant
55	4	Southwestern	49	Iowa
55	4	Southwestern	63	La Crosse
55	4	Southwestern	65	Lafayette
55	4	Southwestern	91	Pepin
55	4	Southwestern	93	Pierce
55	4	Southwestern	103	Richland
55	4	Southwestern	109	St. Croix
55	4	Southwestern	111	Sauk
55	4	Southwestern	121	Trempealeau
55	4	Southwestern	123	Vernon
55	5	Southeastern	9	Brown
55	5	Southeastern	15	Calumet
55	5	Southeastern	21	Columbia
55	5	Southeastern	25	Dane
55	5	Southeastern	27	Dodge
55	5	Southeastern	29	Door
55	5	Southeastern	39	Fond du Lac
55	5	Southeastern	45	Green
55	5	Southeastern	47	Green Lake
55	5	Southeastern	55	Jefferson
55	5	Southeastern	59	Kenosha
55	5	Southeastern	61	Kewaunee
55	5	Southeastern	71	Manitowoc
55	5	Southeastern	79	Milwaukee
55	5	Southeastern	87	Outagamie
55	5	Southeastern	89	Ozaukee
55	5	Southeastern	101	Racine
55	5	Southeastern	105	Rock
55	5	Southeastern	117	Sheboygan
55	5	Southeastern	127	Walworth
55	5	Southeastern	131	Washington

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
55	5	Southeastern	133	Waukesha
55	5	Southeastern	139	Winnebago

Wyoming

Wyoming: State information

State name	State code	State abbreviation	Research station	Research or Station code
Wyoming	56	WY	RMRS	22

Wyoming: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
56	1	Western	13	Fremont
56	1	Western	17	Hot Springs
56	1	Western	23	Lincoln
56	1	Western	29	Park
56	1	Western	35	Sublette
56	1	Western	37	Sweetwater
56	1	Western	39	Teton
56	1	Western	41	Uinta
56	2	Central and Southeastern	1	Albany
56	2	Central and Southeastern	3	Big Horn
56	2	Central and Southeastern	7	Carbon
56	2	Central and Southeastern	9	Converse
56	2	Central and Southeastern	15	Goshen
56	2	Central and Southeastern	19	Johnson
56	2	Central and Southeastern	21	Laramie
56	2	Central and Southeastern	25	Natrona
56	2	Central and Southeastern	27	Niobrara
56	2	Central and Southeastern	31	Platte
56	2	Central and Southeastern	33	Sheridan
56	2	Central and Southeastern	43	Washakie
56	3	Northeastern	5	Campbell
56	3	Northeastern	11	Crook
56	3	Northeastern	45	Weston

American Samoa

American Samoa: State information

State name	State code	State abbreviation	Research station	Research or Station code
American Samoa	60	AS	PNWRS	26

American Samoa: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
60	1	American Samoa	10	Tutuila East
60	1	American Samoa	20	Manu'a
60	1	American Samoa	30	Rose
60	1	American Samoa	40	Swains
60	1	American Samoa	50	Tutuila West

Federated States of Micronesia

Federated States of Micronesia: State information

State name	State code	State abbreviation	Research station	Research or Station code
Federated States of Micronesia	64	FM	PNWRS	26

Federated States of Micronesia: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
64	1	Federated States of Micronesia	2	Chuuk
64	1	Federated States of Micronesia	5	Kosrae
64	1	Federated States of Micronesia	40	Pohnpei
64	1	Federated States of Micronesia	60	Yap

Guam

Guam: State information

State name	State code	State abbreviation	Research station	Research or Station code
Guam	66	GU	PNWRS	26

Guam: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
66	1	Guam	10	Guam

Marshall Islands

Marshall Islands: State information

State name	State code	State abbreviation	Research station	Research or Station code
Marshall Islands	68	MH	PNWRS	26

Marshall Islands: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
68	1	Marshall Islands	7	Ailinginiae
68	1	Marshall Islands	10	Ailinglaplap
68	1	Marshall Islands	30	Ailuk
68	1	Marshall Islands	40	Arno
68	1	Marshall Islands	50	Aur
68	1	Marshall Islands	60	Bikar
68	1	Marshall Islands	70	Bikini
68	1	Marshall Islands	73	Bokak
68	1	Marshall Islands	80	Ebon
68	1	Marshall Islands	90	Enewetak
68	1	Marshall Islands	100	Erikub
68	1	Marshall Islands	110	Jabat
68	1	Marshall Islands	120	Jaluit
68	1	Marshall Islands	130	Jemo
68	1	Marshall Islands	140	Kili
68	1	Marshall Islands	150	Kwajalein
68	1	Marshall Islands	160	Lae
68	1	Marshall Islands	170	Lib
68	1	Marshall Islands	180	Likiep

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
68	1	Marshall Islands	190	Majuro
68	1	Marshall Islands	300	Maloelap
68	1	Marshall Islands	310	Mejit
68	1	Marshall Islands	320	Mili
68	1	Marshall Islands	330	Namorik
68	1	Marshall Islands	340	Namu
68	1	Marshall Islands	350	Rongelap
68	1	Marshall Islands	360	Rongrik
68	1	Marshall Islands	385	Toke
68	1	Marshall Islands	390	Ujae
68	1	Marshall Islands	400	Ujelang
68	1	Marshall Islands	410	Utrik
68	1	Marshall Islands	420	Wotho
68	1	Marshall Islands	430	Wotje

Northern Mariana Islands

Northern Mariana Islands: State information

State name	State code	State abbreviation	Research station	Research or Station code
Northern Mariana Islands	69	MP	PNWRS	26

Northern Mariana Islands: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
69	1	Northern Mariana Islands	85	Northern Islands
69	1	Northern Mariana Islands	100	Rota
69	1	Northern Mariana Islands	110	Saipan
69	1	Northern Mariana Islands	120	Tinian

Palau

Palau: State information

State name	State code	State abbreviation	Research station	Research or Station code
Palau	70	PW	PNWRS	26

Palau: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
70	1	Palau	2	Aimeliik
70	1	Palau	4	Airai
70	1	Palau	10	Angaur
70	1	Palau	50	Hatoboheit
70	1	Palau	100	Kayangel
70	1	Palau	150	Koror
70	1	Palau	212	Melekeok
70	1	Palau	214	Ngaraard
70	1	Palau	218	Ngarchelong
70	1	Palau	222	Ngardmau
70	1	Palau	224	Ngatpang
70	1	Palau	226	Ngchesar
70	1	Palau	227	Ngernmlengui
70	1	Palau	228	Ngiwal
70	1	Palau	350	Peleliu
70	1	Palau	370	Sonsorol

Puerto Rico

Puerto Rico: State information

State name	State code	State abbreviation	Research station	Research or Station code
Puerto Rico ^a	72	PR	SRS	33

^a FIA estimates of Puerto Rico do not include the small outlying islands such as Desecheo, Caja de Muertos, etc.

Puerto Rico: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
72	1	Mainland Puerto Rico	1	Adjuntas
72	1	Mainland Puerto Rico	3	Aguada
72	1	Mainland Puerto Rico	5	Aguadilla
72	1	Mainland Puerto Rico	7	Aguas Buenas
72	1	Mainland Puerto Rico	9	Albonito
72	1	Mainland Puerto Rico	11	Añasco
72	1	Mainland Puerto Rico	13	Arecibo
72	1	Mainland Puerto Rico	15	Arroyo
72	1	Mainland Puerto Rico	17	Barceloneta
72	1	Mainland Puerto Rico	19	Barranquitas
72	1	Mainland Puerto Rico	21	Bayamón
72	1	Mainland Puerto Rico	23	Cabo Rojo
72	1	Mainland Puerto Rico	25	Caguas
72	1	Mainland Puerto Rico	27	Camuy
72	1	Mainland Puerto Rico	29	Canóvanas
72	1	Mainland Puerto Rico	31	Carolina
72	1	Mainland Puerto Rico	33	Cataño
72	1	Mainland Puerto Rico	35	Cayey
72	1	Mainland Puerto Rico	37	Ceiba
72	1	Mainland Puerto Rico	39	Ciales
72	1	Mainland Puerto Rico	41	Cidra
72	1	Mainland Puerto Rico	43	Coamo
72	1	Mainland Puerto Rico	45	Comerío
72	1	Mainland Puerto Rico	47	Corozal
72	1	Mainland Puerto Rico	51	Dorado
72	1	Mainland Puerto Rico	53	Fajardo
72	1	Mainland Puerto Rico	54	Florida
72	1	Mainland Puerto Rico	55	Guánica
72	1	Mainland Puerto Rico	57	Guayama
72	1	Mainland Puerto Rico	59	Guayanilla

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
72	1	Mainland Puerto Rico	61	Guaynabo
72	1	Mainland Puerto Rico	63	Gurabo
72	1	Mainland Puerto Rico	65	Hatillo
72	1	Mainland Puerto Rico	67	Hormigueros
72	1	Mainland Puerto Rico	69	Humacao
72	1	Mainland Puerto Rico	71	Isabela Municipio
72	1	Mainland Puerto Rico	73	Jayuya
72	1	Mainland Puerto Rico	75	Juana Diaz
72	1	Mainland Puerto Rico	77	Juncos
72	1	Mainland Puerto Rico	79	Lajas
72	1	Mainland Puerto Rico	81	Lares
72	1	Mainland Puerto Rico	83	Las Marías
72	1	Mainland Puerto Rico	85	Las Piedras
72	1	Mainland Puerto Rico	87	Loiza
72	1	Mainland Puerto Rico	89	Luquillo
72	1	Mainland Puerto Rico	91	Manatí
72	1	Mainland Puerto Rico	93	Maricao
72	1	Mainland Puerto Rico	95	Maunabo
72	1	Mainland Puerto Rico	97	Mayagüez ^a
72	1	Mainland Puerto Rico	99	Moca
72	1	Mainland Puerto Rico	101	Morovis
72	1	Mainland Puerto Rico	103	Naguabo
72	1	Mainland Puerto Rico	105	Naranjito
72	1	Mainland Puerto Rico	107	Orocovis
72	1	Mainland Puerto Rico	109	Patillas
72	1	Mainland Puerto Rico	111	Peñuelas
72	1	Mainland Puerto Rico	113	Ponce
72	1	Mainland Puerto Rico	115	Quebradillas
72	1	Mainland Puerto Rico	117	Rincón
72	1	Mainland Puerto Rico	119	Río Grande
72	1	Mainland Puerto Rico	121	Sabana Grande
72	1	Mainland Puerto Rico	123	Salinas
72	1	Mainland Puerto Rico	125	San Germán
72	1	Mainland Puerto Rico	127	San Juan
72	1	Mainland Puerto Rico	129	San Lorenzo
72	1	Mainland Puerto Rico	131	San Sebastián
72	1	Mainland Puerto Rico	133	Santa Isabel
72	1	Mainland Puerto Rico	135	Toa Alta
72	1	Mainland Puerto Rico	137	Toa Baja

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
72	1	Mainland Puerto Rico	139	Trujillo Alto
72	1	Mainland Puerto Rico	141	Utuado
72	1	Mainland Puerto Rico	143	Vega Alta
72	1	Mainland Puerto Rico	145	Vega Baja
72	1	Mainland Puerto Rico	149	Villalba
72	1	Mainland Puerto Rico	151	Yabucoa
72	1	Mainland Puerto Rico	153	Yuaco
72	2	Vieques	147	Vieques
72	3	Culebra	49	Culebra

^a Mona Island is split from Mayagüez County (97) as a separate estimation unit for stratification. However, Mona Island is not a separate FIA survey unit because it is not a separate county (municipio); it is part of Mayagüez County.

US Virgin Islands

U.S. Virgin Islands: State information

State name	State code	State abbreviation	Research station	Research or Station code
U.S. Virgin Islands	78	VI	SRS	33

U.S. Virgin Islands: Survey unit and county information

State code (STATECD)	Survey unit code (UNITCD)	Survey unit name	County code (COUNTYCD)	County name (COUNTYNM)
78	1	St. Croix Island	10	St. Croix
78	2	St. John Island	20	St. John
78	3	St. Thomas Island	30	St. Thomas

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Appendix C: Administrative National Forest Codes and Names

Appendix Contents:

Region
Region 1 (Northern)
Region 2 (Rocky Mountain)
Region 3 (Southwestern)
Region 4 (Intermountain)
Region 5 (Pacific Southwest)
Region 6 (Pacific Northwest)
Region 8 (Southern)
Region 9 (Eastern)
Region 10 (Alaska)
For Any Region (Other Forest Service)

Region 1 (Northern)

Region	Code	National Forest / Grassland / Area
Region1	102	Beaverhead
Region1	102	Beaverhead-Deerlodge [now combined]
Region1	103	Bitterroot
Region1	104	Idaho Panhandle
Region1	105	Clearwater
Region1	108	Custer
Region1	109	Deerlodge
Region1	110	Flathead
Region1	111	Gallatin
Region1	112	Helena
Region1	114	Kootenai
Region1	115	Lewis and Clark
Region1	116	Lolo
Region1	117	Nez Perce
Region1	118	Dakota Prairie Grassland
Region1	120	Cedar River National Grassland
Region1	121	Little Missouri National Grassland
Region1	122	Sheyenne National Grassland
Region1	124	Grand River National Grassland
Region1	199	Other NFS Areas

Region 2 (Rocky Mountain)

Region	Code	National Forest / Grassland / Area
Region2	202	Bighorn
Region2	203	Black Hills
Region2	204	Grand Mesa-Uncompahgre-Gunnison
Region2	206	Medicine Bow
Region2	206	Medicine Bow-Routt [now combined]
Region2	207	Nebraska
Region2	209	Rio Grande
Region2	210	Arapaho-Roosevelt
Region2	211	Routt
Region2	212	Pike and San Isabel
Region2	213	San Juan
Region2	214	Shoshone
Region2	215	White River
Region2	216	Samuel R Mckelvie
Region2	217	Cimarron National Grassland
Region2	218	Comanche National Grassland
Region2	219	Pawnee National Grassland
Region2	220	Oglala National Grassland
Region2	221	Buffalo Gap National Grassland
Region2	222	Fort Pierre National Grassland
Region2	223	Thunder Basin National Grassland
Region2	299	Other NFS Areas

Region 3 (Southwestern)

Region	Code	National Forest / Grassland / Area
Region3	301	Apache-Sitgreaves
Region3	302	Carson
Region3	303	Cibola
Region3	304	Coconino
Region3	305	Coronado
Region3	306	Gila
Region3	307	Kaibab
Region3	308	Lincoln
Region3	309	Prescott
Region3	310	Santa Fe
Region3	312	Tonto
Region3	399	Other NFS Areas

Region 4 (Intermountain)

Region	Code	National Forest / Grassland / Area
Region4	401	Ashley
Region4	402	Boise
Region4	403	Bridger-Teton
Region4	405	Caribou
Region4	406	Challis
Region4	407	Dixie
Region4	408	Fishlake
Region4	409	Humboldt
Region4	410	Manti-La Sal
Region4	412	Payette
Region4	413	Salmon
Region4	413	Salmon-Challis [now combined]
Region4	414	Sawtooth
Region4	415	Targhee
Region4	415	Caribou-Targhee [now combined]
Region4	417	Toiyabe
Region4	417	Humboldt-Toiyabe [now combined]
Region4	418	Uinta
Region4	419	Wasatch-Cache-Uinta [now combined]
Region4	420	Desert Range Experiment Station
Region4	499	Other NFS Areas

Region 5 (Pacific Southwest)

Region	Code	National Forest / Grassland / Area
Region5	501	Angeles
Region5	502	Cleveland
Region5	503	Eldorado
Region5	504	Inyo
Region5	505	Klamath
Region5	506	Lassen
Region5	507	Los Padres
Region5	508	Mendocino
Region5	509	Modoc
Region5	510	Six Rivers
Region5	511	Plumas
Region5	512	San Bernardino
Region5	513	Sequoia
Region5	514	Shasta-Trinity
Region5	515	Sierra
Region5	516	Stanislaus
Region5	517	Tahoe
Region5	519	Lake Tahoe Basin
Region5	599	Other NFS Areas

Region 6 (Pacific Northwest)

Region	Code	National Forest / Grassland / Area
Region6	601	Deschutes
Region6	602	Fremont
Region6	603	Gifford Pinchot
Region6	604	Malheur
Region6	605	Mt. Baker-Snoqualmie
Region6	606	Mt. Hood
Region6	607	Ochoco
Region6	608	Okanogan
Region6	609	Olympic
Region6	610	Rogue River
Region6	611	Siskiyou
Region6	612	Siuslaw
Region6	614	Umatilla
Region6	615	Umpqua
Region6	616	Wallowa-Whitman
Region6	617	Wenatchee
Region6	618	Willamette
Region6	620	Winema
Region6	621	Colville
Region6	622	Columbia River Gorge NSA
Region6	650	Crooked River National Grassland
Region6	699	Other NFS Areas

Region 8 (Southern)

Region	Code	National Forest / Grassland / Area
Region8	801	NFS in Alabama
Region8	802	Daniel Boone
Region8	803	Chattahoochee-Oconee
Region8	804	Cherokee
Region8	805	NFS in Florida
Region8	806	Kisatchie
Region8	807	NFS in Mississippi
Region8	808	George Washington
Region8	808	George Washington-Jefferson [combined in 1995]
Region8	809	Ouachita
Region8	810	Ozark and St. Francis
Region8	811	NFS in North Carolina
Region8	812	Francis Marion-Sumter
Region8	813	NFS in Texas
Region8	814	Jefferson
Region8	816	El Yunque
Region8	836	Savannah River Site
Region8	860	Land Between the Lakes
Region8	899	Other NFS areas

Region 9 (Eastern)

Region	Code	National Forest / Grassland / Area
Region9	902	Chequamegon
Region9	903	Chippewa
Region9	904	Huron-Manistee
Region9	905	Mark Twain
Region9	906	Nicolet
Region9	907	Ottawa
Region9	908	Shawnee
Region9	909	Superior
Region9	910	Hiawatha
Region9	912	Hoosier
Region9	913	Chequamegon-Nicolet
Region9	914	Wayne
Region9	915	Midewin Tallgrass Prairie
Region9	918	Wayne
Region9	919	Allegheny
Region9	920	Green Mountain
Region9	921	Monongahela
Region9	922	White Mountain
Region9	999	Other NFS areas

Region 10 (Alaska)

Region	Code	National Forest / Grassland / Area
Region10	1004	Chugach
Region10	1005	Tongass
Region10	1099	Other NFS Areas

For Any Region (Other Forest Service)

Region	Code	National Forest / Grassland / Area
-	9999	Other Forest Service

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Appendix D: Forest Type Codes and Names

Note: The forest type names used by FIA do not come from a single published reference. The current list of forest type names has been developed over time using sources such as historical FIA lists, lists from the Society of American Foresters, and FIA analysts who developed names to meet current analysis and reporting needs.

Appendix Contents:

Code	Forest type group
100	White / red / jack pine group
120	Spruce / fir group
140	Longleaf / slash pine group
150	Tropical softwoods group
160	Loblolly / shortleaf pine group
170	Other eastern softwoods group
180	Pinyon / juniper group
200	Douglas-fir group
220	Ponderosa pine group
240	Western white pine group
260	Fir / spruce / mountain hemlock group
280	Lodgepole pine group
300	Hemlock / Sitka spruce group
320	Western larch group
340	Redwood group
360	Other western softwoods group
370	California mixed conifer group
380	Exotic softwoods group
390	Other softwoods group
400	Oak / pine group
500	Oak / hickory group
600	Oak / gum / cypress group
700	Elm / ash / cottonwood group
800	Maple / beech / birch group
900	Aspen / birch group
910	Alder / maple group
920	Western oak group

Code	Forest type group
940	Tanoak / laurel group
960	Other hardwoods group
970	Woodland hardwoods group
980	Tropical hardwoods group
990	Exotic hardwoods group
999	Nonstocked

The following list includes classifications for forest types in the Continental U.S. and Alaska. The types designated East (E) West (W) are commonly found in those regions, however, types designated for one region may occasionally be found in another.

Forest Types

East	West	Code	Forest type / type group
-	-	100	White / red / jack pine group
E	-	101	Jack pine
E	-	102	Red pine
E	-	103	Eastern white pine
E	-	104	Eastern white pine / eastern hemlock
E	-	105	Eastern hemlock
-	-	120	Spruce / fir group
E	-	121	Balsam fir
E	W	122	White spruce
E	-	123	Red spruce
E	-	124	Red spruce / balsam fir
E	W	125	Black spruce
E	-	126	Tamarack
E	-	127	Northern white-cedar
E	-	128	Fraser fir
E	-	129	Red spruce / Fraser fir
-	-	140	Longleaf / slash pine group
E	-	141	Longleaf pine
E	-	142	Slash pine
-	-	150	Tropical softwoods group
E	-	151	Tropical pines
-	-	160	Loblolly / shortleaf pine group
E	-	161	Loblolly pine
E	-	162	Shortleaf pine
E	-	163	Virginia pine
E	-	164	Sand pine
E	-	165	Table mountain pine
E	-	166	Pond pine
E	-	167	Pitch pine
E	-	168	Spruce pine
-	-	170	Other eastern softwoods group
E	-	171	Eastern redcedar

East	West	Code	Forest type / type group
E	-	172	Florida softwoods
-	-	180	Pinyon / juniper group
E	W	182	Rocky Mountain juniper
E	W	184	Juniper woodland
E	W	185	Pinyon / juniper woodland
-	-	200	Douglas-fir group
E	W	201	Douglas-fir
-	W	202	Port-Orford-cedar
-	W	203	Bigcone Douglas-fir
-	-	220	Ponderosa pine group
E	W	221	Ponderosa pine
-	W	222	Incense-cedar
-	W	224	Sugar pine
-	W	225	Jeffrey pine
-	W	226	Coulter pine
-	-	240	Western white pine group
-	W	241	Western white pine
-	-	260	Fir / spruce / mountain hemlock group
-	W	261	White fir
-	W	262	Red fir
-	W	263	Noble fir
-	W	264	Pacific silver fir
-	W	265	Engelmann spruce
-	W	266	Engelmann spruce / subalpine fir
-	W	267	Grand fir
-	W	268	Subalpine fir
-	W	269	Blue spruce
-	W	270	Mountain hemlock
-	W	271	Alaska-yellow-cedar
-	-	280	Lodgepole pine group
-	W	281	Lodgepole pine
-	-	300	Hemlock / Sitka spruce group
-	W	301	Western hemlock
-	W	304	Western redcedar
-	W	305	Sitka spruce
-	-	320	Western larch group
-	W	321	Western larch

East	West	Code	Forest type / type group
-	-	340	Redwood group
-	W	341	Redwood
-	W	342	Giant sequoia
-	-	360	Other western softwoods group
-	W	361	Knobcone pine
-	W	362	Southwestern white pine
-	W	363	Bishop pine
-	W	364	Monterey pine
-	W	365	Foxtail pine / bristlecone pine
-	W	366	Limber pine
-	W	367	Whitebark pine
-	W	368	Miscellaneous western softwoods
-	W	369	Western juniper
-	-	370	California mixed conifer group
-	W	371	California mixed conifer
-	-	380	Exotic softwoods group
E	-	381	Scotch pine
E	W	383	Other exotic softwoods
E	-	384	Norway spruce
E	-	385	Introduced larch
-	-	390	Other softwoods group
E	-	391	Other softwoods
-	-	400	Oak / pine group
E	-	401	Eastern white pine / northern red oak / white ash
E	-	402	Eastern redcedar / hardwood
E	-	403	Longleaf pine / oak
E	-	404	Shortleaf pine / oak
E	-	405	Virginia pine / southern red oak
E	-	406	Loblolly pine / hardwood
E	-	407	Slash pine / hardwood
E	-	409	Other pine / hardwood
-	-	500	Oak / hickory group
E	-	501	Post oak / blackjack oak
E	-	502	Chestnut oak
E	-	503	White oak / red oak / hickory
E	-	504	White oak
E	-	505	Northern red oak

East	West	Code	Forest type / type group
E	-	506	Yellow-poplar / white oak / northern red oak
E	-	507	Sassafras / persimmon
E	-	508	Sweetgum / yellow-poplar
E	-	509	Bur oak
E	-	510	Scarlet oak
E	-	511	Yellow-poplar
E	-	512	Black walnut
E	-	513	Black locust
E	-	514	Southern scrub oak
E	-	515	Chestnut oak / black oak / scarlet oak
E	-	516	Cherry / white ash / yellow-poplar
E	-	517	Elm / ash / black locust
E	-	519	Red maple / oak
E	-	520	Mixed upland hardwoods
-	-	600	Oak / gum / cypress group
E	-	601	Swamp chestnut oak / cherrybark oak
E	-	602	Sweetgum / Nuttall oak / willow oak
E	-	605	Overcup oak / water hickory
E	-	606	Atlantic white-cedar
E	-	607	Baldcypress / water tupelo
E	-	608	Sweetbay / swamp tupelo / red maple
E	-	609	Baldcypress / pondcypress
-	-	700	Elm / ash / cottonwood group
E	-	701	Black ash / American elm / red maple
E	-	702	River birch / sycamore
E	W	703	Cottonwood
E	W	704	Willow
E	-	705	Sycamore / pecan / American elm
E	-	706	Sugarberry / hackberry / elm / green ash
E	-	707	Silver maple / American elm
E	-	708	Red maple / lowland
E	W	709	Cottonwood / willow
-	W	722	Oregon ash
-	-	800	Maple / beech / birch group
E	-	801	Sugar maple / beech / yellow birch
E	-	802	Black cherry
E	-	805	Hard maple / basswood

East	West	Code	Forest type / type group
E	-	809	Red maple / upland
-	-	900	Aspen / birch group
E	W	901	Aspen
E	W	902	Paper birch
E	-	903	Gray birch
E	W	904	Balsam poplar
E	W	905	Pin cherry
-	-	910	Alder / maple group
-	W	911	Red alder
-	W	912	Bigleaf maple
-	-	920	Western oak group
-	W	921	Gray pine
-	W	922	California black oak
-	W	923	Oregon white oak
-	W	924	Blue oak
-	W	931	Coast live oak
-	W	933	Canyon live oak
-	W	934	Interior live oak
-	W	935	California white oak (valley oak)
-	-	940	Tanoak / laurel group
-	W	941	Tanoak
-	W	942	California laurel
-	W	943	Giant chinkapin
-	-	960	Other hardwoods group
-	W	961	Pacific madrone
-	W	962	Other hardwoods
-	-	970	Woodland hardwoods group
-	W	971	Deciduous oak woodland
-	W	972	Evergreen oak woodland
-	W	973	Mesquite woodland
-	W	974	Cercocarpus (mountain brush) woodland
-	W	975	Intermountain maple woodland
-	W	976	Miscellaneous woodland hardwoods
-	-	980	Tropical hardwoods group
E	-	982	Mangrove
E	W	983	Palms
-	W	984	Dry forest

East	West	Code	Forest type / type group
-	W	985	Moist forest
-	W	986	Wet and rain forest
-	W	987	Lower montane wet and rain forest
-	W	988	Cloud forest
-	W	989	Other tropical hardwoods
-	-	990	Exotic hardwoods group
E	-	991	Paulownia
E	-	992	Melaleuca
E	W	993	Eucalyptus
E	W	995	Other exotic hardwoods
-	-	999	Nonstocked

Forest types are named for the predominant species (or group of species) on the condition. If softwoods predominate (50 percent or more of tree stocking), then the forest type will be one of the softwood types (codes 101 through 391) and vice versa for hardwoods (codes 401 through 995).

For the Eastern United States, there are mixed hardwood-pine forest types (codes 401 through 409) when the pine and/or redcedar (either eastern or southern) component is between 25 and 49 percent of the stocking. If the pine/redcedar component is less than 25 percent of the stocking, then one of the hardwood forest types is assigned.

WHITE/RED/JACK PINE GROUP

In these pure pine forest types, stocking of the pine component needs to be at least 50 percent. Otherwise, forest types listed under the Oak / Pine Group are used (codes 401 through 409).

101

Jack pine: Associates - northern pin oak, bur oak, red pine, bigtooth aspen, paper birch, northern red oak, eastern white pine, red maple, balsam fir, white spruce, black spruce, and tamarack. Sites - Dry to mesic sites.

102

Red pine: Associates - eastern white pine, jack pine, red maple, northern red oak, white spruce, balsam fir, quaking aspen, bigtooth aspen, paper birch, and northern pin oak. Sites - common on sandy soils, but reaches best development on well-drained sandy loam to loam soils.

103

Eastern white pine: Associates - pitch pine, gray birch, aspen, red maple, pin cherry, white oak, paper birch, sweet birch, yellow birch, black cherry, white ash, northern red oak, sugar maple, basswood, hemlock, northern white cedar, yellow poplar, white oak, chestnut oak, scarlet oak, and shortleaf pine. Sites - wide variety, but best development on well drained sands and sandy loams.

104

Eastern white pine/ eastern hemlock (includes Carolina hemlock): Associates - beech, sugar maple, basswood, red maple, yellow birch, gray birch, red spruce, balsam fir, black cherry, white ash, paper birch, sweet birch, northern red oak, white oak, chestnut oak, yellow poplar, and cucumber tree. Sites - wide variety but favors cool locations, moist ravines, and north slopes.

105

Eastern hemlock (includes Carolina hemlock): Associates - white pine, balsam fir, red spruce, beech, sugar maple, yellow birch, basswood, red maple, black cherry, white ash, paper birch, sweet birch, northern red oak, and white oak. Sites - cool locations, moist ravines, and north and east slopes.

SPRUCE/FIR GROUP

These types are mostly in the Eastern United States. See FIR/SPRUCE/MOUNTAIN HEMLOCK for Western United States.

121

Balsam fir: Associates - black, white, or red spruce; paper or yellow birch; quaking or bigtooth aspen, beech; red maple; hemlock; tamarack; black ash; or northern white cedar. Sites - upland sites on low-lying moist flats and in swamps.

122

White spruce: Associates - black spruce, paper birch, quaking aspen, red spruce, balsam fir, and balsam poplar. Sites - transcontinental; grows well on calcareous and well-drained soils, but is found on acidic rocky and sandy sites, and sometimes in fen peatlands along the maritime coast.

123

Red spruce: Associates - vary widely and may include red maple, yellow birch, eastern hemlock, eastern white pine, white spruce, northern white cedar, paper birch, pin cherry, gray birch, mountain-ash, beech, striped maple, sugar maple, northern red oak, red pine, and aspen. Sites - include moderately well-drained to poorly drained flats and thin slopes and on varying acidic soils in abandoned fields and pastures. This code should be used where red spruce comprises a plurality or majority of the stand's stocking but where balsam fir is either nonexistent or has very little stocking (<5 percent of total). Otherwise the plot would be coded 124, red spruce/balsam fir.

124

Red spruce/balsam fir: Associates - red maple, paper birch, white pine, hemlock, white spruce, and northern white cedar. Sites - moderately drained to poorly drained flats or on thin soiled upper slopes.

125

Black spruce: Associates - white spruce, quaking aspen, balsam fir, paper birch, tamarack, northern white cedar, black ash, and red maple. Sites - wide variety from moderately dry to very wet.

126

Tamarack: Associates - black spruce, balsam fir, white spruce, northern white-cedar, and quaking aspen. Sites - found on wetlands and poorly drained sites.

127

Northern white cedar: Associates - balsam fir, tamarack, black spruce, white spruce, red spruce, black ash, and red maple. Sites - mainly occurs in swamps, but also in seepage areas, limestone uplands and old fields.

128

Fraser fir: Associates - red spruce, hemlock, yellow birch, less frequently, beech, sugar maple, yellow buckeye, mountain-ash, and mountain maple. Sites - mainly occurs in the Appalachian Mountains of North Carolina and Tennessee. This type is used if the stocking of Fraser fir is at least 50 percent of the total stocking.

129

Red spruce/Fraser fir: Associates - hemlock, yellow birch, and less frequently, beech, sugar maple, yellow buckeye, mountain-ash, and mountain maple. Sites - mainly occurs in the Appalachian Mountains of North Carolina and Tennessee. For this type to be used, the sum of the stocking of red spruce and Fraser fir must be at least 50 percent of the total stocking and red spruce stocking must be between 5 and 49 percent of total and Fraser fir stocking must be between 5 and 49 percent of total.

LONGLEAF/SLASH PINE GROUP**141**

Longleaf pine: Longleaf pine occurs as a pure type or comprises a majority of the trees in the overstory. Associates - slash, loblolly and shortleaf pine, southern red oak, blackjack oak, water oak, persimmon, and sweetgum. Sites - those areas that can and do burn on a periodic basis; usually occurs on middle and upper slopes with a low severity of hardwood and brush competition. Southern distribution coastal plain and piedmont units.

142

Slash pine: Slash pine is pure or provides a majority of the stocking. Associates on moist sites; a wide variety of moist site hardwoods, pond pine, and pondcypress. On dry sites; a wide variety of dry site hardwoods, longleaf, loblolly, and sand pine. Sites both moist and well drained flatwoods, and bays. Southern distribution coastal plain and piedmont units from North Carolina to Florida.

TROPICAL SOFTWOODS GROUP**151**

Tropical pines: Tropical pine forests and plantations composed of Caribbean pine (*Pinus caribea*). Associates are *P. oocarpa*, *P. patula* and other pine species native to the Florida Keys, Caribbean, Central America and Mexico. Pines are not native to Puerto Rico or the U.S. Virgin Islands but can be found in plantations or naturally regenerating to a limited extent on sites that were formerly plantations. *P. caribea* was once rare on the South Florida mainland, but practically non-existent there now and it is not used in plantations in Florida.

LOBLOLLY/SHORTLEAF PINE GROUP**161**

Loblolly pine: Associates - sweetgum, southern red oak, post oak, blackjack oak, blackgum, yellow poplar, and pond pine. Sites - upland soils with abundant moisture but good drainage, and on poorly drained depressions.

162

Shortleaf pine: Associates - white oak, southern red oak, scarlet oak, black oak, hickory, post oak, blackjack oak, blackgum, red maple, pitch pine, and Virginia pine. Sites - low, well drained ridges to rocky, dry, south slopes and the better drained spur ridges on north slopes and also on old fields.

163

Virginia pine: Associates - shortleaf pine, white oak, chestnut oak, southern red oak, black oak, sweetgum, red maple, blackgum, and pitch pine. Sites - dry sites, often abandoned fields.

164

Sand pine: Sand pine occurs in pure stands or provides a majority of the stocking. Associates - dwarf live oak, dwarf post oak, turkey oak, persimmon, and longleaf pine. Sites - dry, acidic, infertile sands. Southern distribution found chiefly in the central peninsula and panhandle of Florida, although planted stands extend into the sandhills of Georgia and South Carolina.

165

Table mountain pine: Associates - chestnut oak, scarlet oak, pitch pine, and black oak. Sites - poor, dry, often rocky slopes.

166

Pond pine: Associates - loblolly pine, sweetgum, baldcypress, and Atlantic white cedar. Sites - rare, but found in southern New Jersey, Delaware, and Maryland in low, poorly drained areas, swamps, and marshes.

167

Pitch pine: Associates - chestnut oak, scarlet oak, table mountain pine, black oak, and blackgum. Sites - relatively infertile ridges, dry flats, and slopes.

168

Spruce pine: Spruce pine comprises a majority of the stocking. Associates - any of the moist site softwood or hardwood species. Sites - moist or poorly drained areas. Southern distribution of this type is rarely encountered and is found almost exclusively in the coastal plain.

OTHER EASTERN SOFTWOODS GROUP**171**

Eastern redcedar (includes southern redcedar): Associates - gray birch, red maple, sweet birch, Virginia Pine, shortleaf pine, and oak. Sites - usually dry uplands and abandoned fields on limestone outcrops and other shallow soils but can grow well on good sites.

172

Florida softwoods (includes either Florida yew or Florida torreya): Either of these two species comprises the majority of stocking. Sites - Along bluffs and ravines of the Apalachicola River and its tributaries in north Florida and South Georgia.

PINYON / JUNIPER GROUP**182**

Rocky Mountain juniper: Rocky Mountain juniper comprises the majority of stocking. Associates - ponderosa pine, Douglas-fir, other junipers, pinyons, and oaks. Sites - often found on calcareous and somewhat alkaline soils.

184

Juniper woodland: Includes Pinchot juniper, redberry juniper, Ashe juniper, California juniper, alligator juniper, Utah juniper, oneseed juniper and pinyon is NOT present. Associates - various woodland oaks and cercocarpus, ponderosa pine, Arizona cypress, and Douglas-fir. Sites - lower elevation with low annual precipitation.

185

Pinyon-juniper woodland: Includes all pinyons and all junipers except Rocky Mountain and western juniper. Must have pinyon present. Associates - various woodland oaks and cercocarpus, ponderosa pine, Arizona cypress, and Douglas-fir. Sites - occurs at lower elevations with low annual precipitation.

DOUGLAS-FIR GROUP**201**

Douglas-fir: Associates - western hemlock, grand fir, Pacific silver fir, white fir, noble fir, California red fir, western redcedar, bigleaf maple, red alder, ponderosa pine, western white pine, western hemlock, and Sitka spruce. Sites - throughout the western U.S.

202

Port-Orford-cedar: Associates - Douglas-fir, western hemlock, Sitka spruce, grand fir, lodgepole pine, western redcedar, redwood, tanoak, red alder, bigleaf maple and California laurel. Sites - higher elevations tending to occur on northerly aspects.

203

Bigcone Douglas-fir: Associates - Canyon live oak, ponderosa, Jeffrey, sugar, knobcone, and Coulter pines, incense-cedar, white fir, California black oak, California laurel, and bigleaf maple. Sites - Mainly confined to the Transverse and Peninsular Ranges of southern California. Stands are found on many combinations of slope, aspect, soil, but as elevations increase, the preferred aspect shifts from cooler to warmer slopes.

PONDEROSA PINE GROUP**221**

Ponderosa pine (includes Arizona pine): Associates - Douglas-fir, lodgepole pine, grand fir, Jeffrey pine, western larch, quaking aspen, Utah juniper, and Gambel oak. Sites - this forest type is distributed over vast areas in the West and therefore can have great differences in environmental conditions.

222

Incense-cedar: Associates - Douglas-fir, ponderosa pine, sugar pine, western white pine, Jeffrey pine, white and grand fir, western hemlock, western redcedar, Port-Orford-cedar, giant sequoia, Oregon white oak, California black oak, tanoak, giant chinkapin, and Pacific madrone; it is rarely found in pure stands. Sites - Grows from the coastal fog belt to the dry inland slopes of eastern California and central Oregon. Once established, incense-cedar is a good competitor on hot, dry sites and commonly shares an upper canopy position on southwestern slopes. On cooler, moister aspects, it is usually subdominant to other species.

224

Sugar pine: Associates - In the northern part of its range: Douglas-fir, ponderosa pine, grand fir, incense-cedar, western hemlock, western redcedar, Port-Orford-cedar, tanoak, and madrone. In the central part of its range: ponderosa pine, Jeffrey pine, white fir, incense-cedar, California red fir, giant sequoia, and California black oak. Farther south: Jeffrey pine, ponderosa pine, Coulter pine, incense-cedar, white fir, and bigcone Douglas-fir. Sites - grows in areas that have warm, dry summers and cool, wet, mild winters. Terrain is commonly steep and rugged, favoring warm exposures as the elevation increases. Found in Oregon and California, but is most abundant in the mixed conifer forests on the west slope of the Sierra Nevada.

225

Jeffrey pine: Associates - Incense-cedar, ponderosa pine, sugar pine, Douglas-fir, Port-Orford-cedar, western white pine, knobcone pine, gray or California foothill pine, red and white fir. Sites - thrives in fairly harsh environments throughout most of its range, and is cold hardy, drought tolerant, adapted to short growing seasons, and tolerant of infertile sites. The majority of trees in this forest type are found in California, although its range extends into southwest Oregon and western Nevada.

226

Coulter pine: Associates - blue oak, California black oak, interior live oak, coast live oak, California white oak, California scrub oak, buckeye, and ponderosa pine. Sites - grows singly or in small stands primarily on dry, rocky slopes of southern California coastal ranges, between 3,000 and 6,000 feet. Occurs from Mt. Diablo and the Santa Lucia Mountains down to the San Bernardino, San Jacinto, and Cuyamaca Mountains in the south.

WESTERN WHITE PINE GROUP**241**

Western white pine: Associates - western larch, grand fir, western redcedar, and western hemlock. Sites - occurs primarily on moist, mid-elevation sites from 1,500 to 4,000 feet.

FIR/SPRUCE/MOUNTAIN HEMLOCK GROUP**261**

White fir: Associates - Douglas-fir, sugar pine, ponderosa pine, Jeffrey pine, incense-cedar, California red fir, blue spruce, limber pine, and aspen. Sites - deep well-drained sandy loam-covered slopes and benches with a northerly exposure.

262

Red fir (includes California and Shasta red fir): Associates - Jeffrey pine, western white pine, lodgepole pine, mountain hemlock, and sugar pine. Sites - found at elevations ranging from 5,400 to 7,500 feet.

263

Noble fir: Associates - Douglas-fir, Pacific silver fir, western and mountain hemlocks, lodgepole pine, western redcedar, and Alaska-yellow-cedar. Sites - found on a variety of sites where precipitation is high and snowpacks are common, generally above 3,000 feet in elevation in the Cascade and Coast ranges.

264

Pacific silver fir: Associates - western and mountain hemlocks, western redcedar, Alaska-yellow-cedar, grand fir, Sitka spruce, lodgepole pine, subalpine fir, and Engelmann spruce. Sites - most abundant on sites where summer drought is minimal and snowpacks are common, such as areas of heavy rainfall, seepage, or prolonged snowmelt.

265

Engelmann spruce: Associates - western white pine, western redcedar, western hemlock, Douglas-fir, western larch, grand fir, subalpine fir, and lodgepole pine. For this type to be used, the total stocking of Engelmann spruce must be at least 75 percent of the total stocking.

266

Engelmann spruce-subalpine fir: Associates - western white pine, western redcedar, western hemlock, Douglas-fir, western larch, grand fir, and lodgepole pine. Sites - this type is widespread in the Western U.S. For this

type to be used, the sum of the stocking of Engelmann spruce and subalpine fir must be at least 75 percent of the total stocking and Engelmann spruce stocking must be between 5 and 74 percent of total and subalpine fir stocking must be between 5 and 74 percent of total.

267

Grand fir: Associates - ponderosa pine, Douglas-fir, western hemlock, western redcedar, western white pine, Pacific yew, lodgepole pine, and western larch. Sites - in Idaho, found on moist slopes from 1,500 to 5,200-foot elevations; in Oregon, it occupies moist low-elevation sites, but also extends up to mid-elevations to as high as 6,000 feet.

268

Subalpine fir: Associates - western white pine, western redcedar, western hemlock, Douglas-fir, western larch, grand fir, Engelmann spruce, and lodgepole pine. For this type to be used, the total stocking of subalpine fir must be at least 75 percent of the total stocking. Sites - found at high elevations, near timberline.

269

Blue spruce: Associates - Douglas-fir, ponderosa pine, white fir, lodgepole pine, and Rocky Mountain juniper. Sites - restricted to the southern Rocky Mountains, typically located in the montane zone.

270

Mountain hemlock: Associates - Alaska-yellow-cedar, Pacific silver fir, western white pine, lodgepole pine, noble fir, and subalpine fir. Sites - occurs in cold, moist regions and growing conditions are poor.

271

Alaska-yellow-cedar: Associates - In California, California red fir, Brewer spruce, incense-cedar, Pacific yew, and western white pine; in Oregon and Washington, found with mountain hemlock, subalpine fir, Pacific silver fir, noble fir, western white pine, and western hemlock. Sites - Cool and humid climate, most stands grow within 100 miles of the Pacific coast.

LODGEPOLE PINE GROUP**281**

Lodgepole pine: Associates - subalpine fir, Engelmann spruce, white spruce, Douglas-fir, western redcedar, red alder, and western hemlock. Sites - one of the most widespread types in the Western U.S. tolerating a broad range of temperature and moisture regimes.

HEMLOCK/SITKA SPRUCE GROUP**301**

Western hemlock: Associates - Sitka spruce, western redcedar, Douglas-fir, Alaska-yellow-cedar, grand fir, Engelmann spruce, bigleaf maple, and red alder. Sites - nearly any soil provides a seedbed but requires abundant moisture. Often associated with cut-over or burned-over areas.

304

Western redcedar: Associates - western white pine, western hemlock, western larch, grand fir, Douglas-fir, and Pacific silver fir. Sites - inhabits moist flats and slopes, the banks of rivers and swamps and can be found in bogs.

305

Sitka spruce: Associates - western hemlock, Douglas-fir, western redcedar, Port-Orford-cedar, red alder, bigleaf maple, and black cottonwood. Sites - limited to a relatively narrow oceanside strip characterized by mild winters, cool summers, and abundant moisture throughout the growing season.

WESTERN LARCH GROUP**321**

Western larch: Associates - Douglas-fir, subalpine fir, lodgepole pine, Engelmann spruce, western hemlock, and western redcedar. Sites - best growth on deep, moist, porous soils in high valleys and on mountain slopes of northern and western exposure.

REDWOOD GROUP**341**

Redwood: Associates - Douglas-fir, grand fir, western hemlock, California torreya, Pacific yew, and western redcedar. Sites - largely confined to coastal topography between 35 degrees 41 minutes and 42 degrees 9 minutes north latitude.

342

Giant sequoia: Associates- California white fir, sugar pine, incense-cedar, California red fir, white fir, ponderosa pine and California black oak. Sites - Deep, well-drained soils with high soil moisture available during dry summers. Most stands found above 4,000 feet elevation, rarely forming pure stands.

OTHER WESTERN SOFTWOODS GROUP**361**

Knobcone pine: Associates - Gray or California foothill pine, canyon live oak and many western oaks, Douglas-fir, and Port-Orford-cedar. Sites - found on soils that are shallow, dry, stony or high in magnesium.

362

Southwestern white pine: Associates - Douglas-fir, white fir, ponderosa pine, Gambel oak, and aspen. Sites - higher elevations in Arizona and New Mexico.

363

Bishop pine: Grows singly or in small stands along the coast of California.

364

Monterey pine: Grows singly or in small stands. Sites - Native stands are found in the high humidity and summer fogs of the central-coast area of California in San Mateo, Santa Cruz, Monterey, and San Luis Obispo Counties.

365

Foxtail pine/bristlecone pine: Associates - limber pine, white fir, Engelmann spruce, ponderosa pine, and pinyon. Sites - found on rocky outcrops, usually on southern or southwestern exposures and can range in elevation from 8,000 to 11,000 feet.

366

Limber pine: Associates - low to mid elevations: Douglas-fir, ponderosa pine, and Rocky Mountain juniper; mid to high elevations: lodgepole pine and aspen; high elevations: Engelmann spruce, subalpine fir, bristlecone pine, and whitebark pine. Sites - a very wide range of elevations and latitudes across the Rocky Mountains; can be the majority species as an early seral stage under a variety of harsh establishment conditions, as climax in dry, high elevation sites in the central and southern Rockies.

367

Whitebark pine: Associates - subalpine fir, subalpine larch, Engelmann spruce, and lodgepole pine. Sites - poor, high elevation.

368

Miscellaneous western softwoods: A "catch-all" group for such species as all cypress (*Cupressus*) species, subalpine larch, Brewer spruce, Apache pine, Chihuahua pine, Washoe pine, Torrey pine, Pacific yew, and California torreya.

369

Western juniper: Associates - ponderosa pine and Jeffrey pine. Sites - found on dry sites and ranges in elevation from just above sea level to 6,500 feet.

CALIFORNIA MIXED CONIFER GROUP**371**

California mixed conifer: Associates - defined only for plots in California (STATECD = 06), typically a mixture of several conifer species occurring as single trees or small groups, sometimes with a broad range of heights, in which any of ponderosa pine, Jeffrey pine, sugar pine, Douglas-fir, white fir, red fir, Shasta red fir and incense-cedar may predominate. In some cases, only one species is present (as implied by rules 1 and 2 below). The type is often found on, but not limited to, east-facing slopes of the Coast Range and on the west-facing and higher elevation east-facing slopes of the Cascades and Sierra Nevada.

Formal rules - to classify as a mixed- conifer forest type, the condition class must be capable of being stocked with 70 percent or greater in conifers and one of the following must be true:

1. Douglas-fir predominates and the county code (COUNTYCD) is not Del Norte (015), Humboldt (023), Marin (041), Mendocino (045), Napa (055), San Mateo (081), Santa Clara (085), Santa Cruz (087), or Sonoma (097).
2. Sugar pine (SPCD = 117) or incense cedar (SPCD = 081) predominates.
3. Ponderosa pine (SPCD = 122) and/or Jeffrey pine (SPCD = 116), either singly or in combination, predominate but make up less than 80 percent of the conifer stocking.
4. White fir (SPCD = 015), and/or red fir (SPCD = 020), and/or Shasta red fir (SPCD = 021) either singly or in combination predominate, but make up less than 80 percent of the conifer stocking.

EXOTIC SOFTWOODS GROUP**381****Scotch pine:** Plantation type, not naturally occurring.**383****Other exotic softwoods:** Austrian pine.**384****Norway spruce:** Plantation type, not naturally occurring.**385****Introduced larch:** Introduced larch (species code 0070).**OTHER SOFTWOODS GROUP****391****Other softwoods:** All softwood species identified to genus level only, except cypress, baldcypress, and larch.**OAK/PINE GROUP**

In these oak/pine forest types, stocking of the pine component needs to be 25-49 percent.

401**Eastern white pine/northern red oak/white ash:** Associates - red maple, basswood, yellow birch, bigtooth aspen, sugar maple, beech, paper birch, black cherry, hemlock, and sweet birch. Sites - deep, fertile, well-drained soil.**402****Eastern redcedar/hardwood:** Associates - oak, hickory, walnut, ash, locust, dogwood, blackgum, hackberry, winged elm, shortleaf pine, and Virginia pine. Sites - usually dry uplands and abandoned fields.**403****Longleaf pine/oak:** Longleaf pine and scrub oaks primarily turkey, bluejack, blackjack, and dwarf post oak comprise the type. Associates - southern scrub oaks in the understory. Sites - common on sandhills where soils are dry, infertile, and coarse textured. Southern distribution coastal plain and piedmont units.**404****Shortleaf pine/oak:** Associates - (oaks generally include white, scarlet, blackjack, black, post, and southern red), hickory, blackgum, sweetgum, Virginia pine, and pitch pine. Sites - generally in dry, low ridges, flats, and south slopes.**405****Virginia pine/southern red oak:** Associates - black oak, scarlet oak, white oak, post oak, blackjack oak, shortleaf pine, blackgum, hickory, pitch pine, table mountain pine, and chestnut oak. Sites - dry slopes and ridges.**406****Loblolly pine/hardwood:** Associates - wide variety of moist and wet site hardwoods including blackgum, sweetgum, yellow poplar, red maple, white and green ash, and American elm; on drier sites associates include

southern and northern red oak, white oak, post oak, scarlet oak, persimmon, and hickory. Sites - usually moist to very moist though not wet all year, but also on drier sites.

407

Slash pine/hardwood: Slash pine and a variable mixture of hardwoods comprise the type. Associates codominant with the slash pine component are sweetbay, blackgum, loblolly bay, pondcypress, pond pine, Atlantic white-cedar, red maple, ash, and water oak. Sites - undrained or poorly drained depressions such as bays or pocosins and along pond margins. Southern distribution primarily coastal plain units.

409

Other pine/hardwood: A type used for those unnamed pine-hardwood combinations that meet the requirements for oak-pine. These are stands where hardwoods (usually oaks) comprise the plurality of the stocking with at least a 25 to 49 percent pine, eastern redcedar, or southern redcedar component.

OAK/HICKORY GROUP

501

Post oak/blackjack oak (includes dwarf post oak): Associates - black oak, hickory, southern red oak, white oak, scarlet oak, shingle oak, live oak, shortleaf pine, Virginia pine, blackgum, sourwood, red maple, winged elm, hackberry, chinkapin oak, shumard oak, dogwood, and eastern redcedar. Sites - dry uplands and ridges.

502

Chestnut oak: Associates - scarlet oak, white oak, black oak, post oak, pitch pine, blackgum, sweetgum, red maple, red oak, shortleaf pine, and Virginia pine. Sites - rocky outcrops with thin soil, ridge tops.

503

White oak/red oak/hickory (includes all hickories except water and shellbark hickory): Associates - pin oak, northern pin oak, chinkapin oak, black oak, dwarf chinkapin oak, American elm, scarlet oak, bur oak, white ash, sugar maple, red maple, walnut, basswood, locust, beech, sweetgum, blackgum, yellow-poplar, and dogwood. Sites - wide variety of well-drained upland soils.

504

White oak: Associates - black oak, northern red oak, bur oak, hickory, white ash, and yellow-poplar. Sites - scattered patches on upland, loamy soils but on drier sites than type 503.

505

Northern red oak: Associates - black oak, scarlet oak, chestnut oak, and yellow-poplar. Sites - spotty distribution on ridge crests and north slopes in mountains but also found on rolling land, slopes, and benches on loamy soil.

506

Yellow-poplar/white oak/northern red oak: Associates - black oak, hemlock, blackgum, and hickory. Sites - northern slopes, coves, and moist flats.

507

Sassafras/persimmon: Associates - elm, eastern redcedar, hickory, ash, sugar maple, yellow-poplar, Texas sassafras, and oaks. Sites - abandoned farmlands and old fields.

508

Sweetgum/yellow-poplar: Associates - red maple, white ash, green ash, and other moist site hardwoods. Sites - generally occupies moist, lower slopes.

509

Bur oak: Associates - northern pin oak, black oak, chinkapin oak, and eastern redcedar in northern and dry upland sites; shagbark hickory, black walnut, eastern cottonwood, white ash, American elm, swamp white oak, honey locust, and American basswood in southern and lowland sites. Sites - drier uplands to moist bottomlands with the drier uplands more common in the northern part of the range and the moist bottomlands more common in the southern part of the range.

510

Scarlet oak: Associates - black oak, southern red oak, chestnut oak, white oak, post oak, hickory, pitch pine, blackgum, sweetgum, black locust, sourwood, dogwood, shortleaf pine, and Virginia pine. Sites - dry ridges, south or west facing slopes and flats but often moister situations probably as a result of logging or fire.

511

Yellow poplar: Associates - black locust, red maple, sweet birch, cucumbertree, and other moist site hardwoods (except sweetgum, see type 508) and white oak and northern red oak (see type 503). Sites - lower slopes, northerly slopes, moist coves, flats, and old fields.

512

Black walnut: Associates - yellow-poplar, white ash, black cherry, basswood, beech, sugar maple, oaks, and hickory. Sites - coves and well-drained bottoms.

513

Black locust: Associates - many species of hardwoods and hard pines may occur with it in mixture, either having been planted or from natural seeding. Sites - may occur on any well-drained soil but best on dry sites, often in old fields.

514

Southern scrub oak: This forest cover type consists of a mixture of scrub oaks that may include several of the following species: turkey oak, bluejack oak, dwarf live oak, Durand oak, and bear oak (otherwise known as scrub oak). Also includes anacahuita. Sites - dry sandy ridges the type frequently develops on areas formerly occupied by longleaf pine. Southern distribution common throughout all coastal plain units and into the lower Piedmont.

515

Chestnut oak/black oak/scarlet oak: Associates - northern and southern red oaks, post oak, white oak, sourwood, shagbark hickory, pignut hickory, yellow-poplar, blackgum, sweetgum, red maple, eastern white pine, pitch pine, Table Mountain pine, shortleaf pine, and Virginia pine. Sites - dry upland sites on thin-soiled rocky outcrops on dry ridges and slopes.

516

Cherry/white ash/yellow-poplar: Associates - sugar maple, American beech, northern red oak, white oak, blackgum, hickory, cucumbertree, and yellow birch. Sites - fertile, moist, well-drained sites.

517

Elm/ash/black locust: Associates - Black locust, silver maple, boxelder, blackbead ebony, American elm, slippery elm, rock elm, red maple, and green ash predominate. Found in North Central region, unknown in the Northeast. Sparse in the West. Sites - upland.

519

Red maple/oak: Associates - the type is dominated by red maple and some of the wide variety of central hardwood associates include upland oak, hickory, yellow-poplar, black locust, sassafras as well as some central softwoods like Virginia and shortleaf pines. Sites - uplands.

520

Mixed upland hardwoods: Includes Ohio buckeye, yellow buckeye, Texas buckeye, red buckeye, painted buckeye, American hornbeam, American chestnut, eastern redbud, flowering dogwood, hawthorn spp., cockspur hawthorn, downy hawthorn, Washington hawthorn, fleshy hawthorn, dwarf hawthorn, honeylocust, Kentucky coffeetree, Osage-orange, all mulberries, blackgum, sourwood, southern red oak, shingle oak, laurel oak, water oak, live oak, willow oak, black locust, blackbead ebony, anacahuita, and September elm. Associates - Any mixture of hardwoods of species typical of the upland central hardwood region, should include at least some oak. Sites - wide variety of upland sites.

OAK/GUM/CYPRESS GROUP**601**

Swamp chestnut oak/cherrybark oak: Associates - Shumard oak, Delta post oak, white ash, hickory, white oak, blackgum, sweetgum, southern red oak, post oak, American elm, winged elm, yellow poplar, and beech. Sites - within alluvial floodplains of major rivers, on all ridges in the terraces, and on the best fine sandy loam soils on the highest first bottom ridges.

602

Sweetgum/Nuttall oak/willow oak: Associates - American holly, green ash, American elm, pecan, cottonwood, red maple, honeylocust, persimmon, and anacahuita. Sites very wet.

605

Overcup oak/water hickory (includes shellbark hickory): Associates - pin oak, willow oak, American elm, green ash, hackberry, persimmon, and red maple. Sites - in South within alluvial floodplains in low, poorly drained flats with clay soils; also in sloughs and lowest backwater basins and low ridges with heavy soils that are subject to late spring inundation.

606

Atlantic white cedar: Associates - The northern region includes gray birch, pitch pine, hemlock, blackgum, and red maple. The southern region includes pond pine, baldcypress, and red maple. Sites - usually confined to sandy bottomed, peaty, interior, and river swamps, wet depressions, and stream banks.

607

Baldcypress/water tupelo: 25-50 percent stocking of baldcypress (either baldcypress or Montezuma baldcypress). Associates - blackgum, willow, red maple, American elm, persimmon, overcup oak, and sweetgum. Sites - very low, poorly drained flats, deep sloughs, and swamps; wet most all the year. Also, floodplains and stream margins.

608

Sweetbay/swamp tupelo/red maple: Associates - blackgum, Florida maple, water birch, gum bumelia, waterlocust, loblolly bay, all magnolias, red maple, Ogeechee tupelo, red bay, water-elm, Oglethorpe oak, loblolly

and pond pines, American elm, and other moist site hardwoods. Sites - very moist but seldom wet all year shallow ponds, muck swamps, along smaller creeks in Coastal Plain (rare in Northeast).

609

Baldcypress/pondcypress: >50 percent stocking of baldcypress and/or pondcypress. Associates - blackgum, willow, red maple, American elm, persimmon, overcup oak, and sweetgum. Sites - very low, poorly drained flats, deep sloughs, and swamps; wet most all the year. Also, floodplains and stream margins.

ELM/ASH/COTTONWOOD GROUP

701

Black ash/American elm/red maple (includes slippery and rock elm): Associates - swamp white oak, silver maple, sycamore, pin oak, blackgum, white ash, and cottonwood. Sites - moist to wet areas, swamps, gullies, and poorly drained flats.

702

River birch/sycamore: Associates - red maple, black willow, and other moist site hardwoods. Sites - moist soils at edges of creeks and rivers.

703

Cottonwood: Associates - willow, white ash, green ash, and sycamore. Sites - streambanks where bare, moist soil is available.

704

Willow (includes peachleaf and black willow): Associates - cottonwood, green ash, sycamore, pecan, American elm, red maple, and boxelder. Sites - streambanks where bare, moist soil is available.

705

Sycamore/pecan/American elm (includes slippery and rock elm): Associates - sweetgum, green ash, hackberry, silver maple, cottonwood, willow, boxelder, and river birch. Sites - bottomlands, alluvial floodplains of major rivers.

706

Sugarberry/hackberry/elm/green ash (includes American, winged, cedar, slippery and rock elm): Associates - boxelder, pecan, blackgum, persimmon, honeylocust, red maple, and hackberry. Sites - low ridges and flats in floodplains.

707

Silver maple/American elm: Silver maple and American elm are the majority species in this type. Associates - chalk maple, sweetgum, pin oak, swamp white oak, eastern cottonwood, sycamore, green ash, and other moist-site hardwoods, according to the region. Sites - primarily on well-drained moist sites along river bottoms and floodplains, and beside lakes and larger streams.

708

Red maple/lowland: Red maple comprises a majority of the stocking. Because this type grows on a wide variety of sites over an extensive range, associates are diverse. Associates include yellow-poplar, blackgum, sweetgum, and loblolly pine. Site - generally restricted to very moist to wet sites with poorly drained soils, and on swamp borders.

709

Cottonwood/willow (includes peachleaf, black and Bebb willow): Associates - white ash, green ash, sycamore, American elm, red maple and boxelder. Sites - stream banks where bare, moist soil is available.

722

Oregon ash: Associates - red alder, bigleaf maple, black cottonwood, and willow. Sites - riparian areas, prefers damp, loose soils, below 3000 feet.

MAPLE/BEECH/BIRCH GROUP**801**

Sugar maple/beech/yellow birch: Associates - butternut, basswood, red maple, hemlock, northern red oak, white ash, white pine, black cherry, sweet birch, American elm, rock elm, and eastern hophornbeam. Sites - fertile, moist, well-drained sites.

802

Black cherry: Associates - sugar maple, northern red oak, red maple, white ash, basswood, sweet birch, butternut, American elm, and hemlock. Sites - fertile, moist, well-drained sites.

805

Hard maple/basswood (includes American, Carolina, and white basswood): Associates - black maple, white ash, northern red oak, eastern hophornbeam, American elm, red maple, eastern white pine, and eastern hemlock. Sugar maple and basswood occur in different proportions but together comprise the majority of the stocking. Sites - fertile, moist, well-drained sites.

809

Red maple/upland: Associates - the type is dominated by red maple and some of the wide variety of northern hardwood associates include sugar maple, beech, birch, aspen, as well as some northern softwoods like white pine, red pine, and hemlock; this type is often the result of repeated disturbance or cutting. Sites - uplands. (see Type 519 under oak/hickory group.)

ASPEN/BIRCH GROUP**901**

Aspen: Associates - Engelmann spruce, lodgepole pine, ponderosa pine, Douglas-fir, subalpine fir, white fir, white spruce, balsam poplar, and paper birch. Sites - aspen has the capacity to grow on a variety of sites and soils, ranging from shallow stony soils and loamy sands to heavy clays.

902

Paper birch (includes northern paper birch): Associates - aspen, white spruce, black spruce, and lodgepole pine. Sites - can be found on a range of soils, but best developed on well-drained sandy loam and silt loam soils.

903

Gray birch: Associates - oaks, red maple, white pine, and others. Sites - poor soils of abandoned farms and burns.

904

Balsam poplar: Associates - paper birch, white spruce, black spruce, and tamarack. Sites - occurs on rich floodplains where erosion and folding are active.

905

Pin cherry: Associates - quaking and bigtooth aspen; paper and yellow birch; striped, red and sugar maple; beech; northern red oak; balsam fir; and red spruce. In the Appalachians, Fraser fir and mountain-ash are additional associates. In the central and Lake States, chokecherry and black cherry are common. Sites - Occurs over a wide range of soils and drainage classes, found on sites varying from dry rocky ledges and sandy plains to moist loamy soils.

ALDER/MAPLE GROUP**911**

Red alder: Associates - Douglas-fir, western hemlock, western redcedar, grand fir, Sitka spruce, black cottonwood, bigleaf maple, and willow. Sites - stream bottoms and lower slopes, west of the Cascades, usually within 125 miles of the coast, below 2,400 feet.

912

Bigleaf maple: Associates - Douglas-fir, western hemlock, western redcedar, black cottonwood, Pacific madrone, Pacific dogwood, and red alder. Sites - Flat interior valleys, gently sloping stream bottoms, and moderate to steep slopes; favors moist, well-drained soils of river terraces and floodplains, but also grows on drier rocky, south-facing slopes in the Coast Ranges of northwestern Oregon.

WESTERN OAK GROUP**921**

Gray pine: Associates - Blue oak, California black oak, interior live oak, coast live oak, California white oak, California scrub oak, buckeye, western juniper, and Coulter pine. Sites - dry foothill woodland communities of California's Central Valley, on rocky slopes and steep canyon walls below 3,000 feet. Prefers areas with hot, dry summers and absence of summer fog. Tolerates infertile, low moisture soils.

922

California black oak: Associates - ponderosa pine, Douglas-fir, incense-cedar, knobcone pine, Pacific madrone, tanoak, and Oregon white oak.

923

Oregon white oak: Associates - Douglas-fir, bigleaf maple, and Oregon ash. Sites - commonly occurs in very moist locations, in mixture with Oregon ash on floodplains of the Willamette Valley, and on poorly drained heavy clay soils.

924

Blue oak: Associates - Gray pine, interior live oak, canyon live oak, valley oak, and California buckeye. Sites - low valleys and foothills of the Coast Ranges and Sierras in California.

931

Coast live oak: Associates - knobcone pine, Monterey pine, interior live oak, valley oak, blue oak, tanoak, Pacific madrone, and California laurel. Sites - usually occupies well-drained soils.

933

Canyon live oak: Associates - Douglas-fir, bigcone Douglas-fir, ponderosa pine, Jeffrey pine, bigleaf maple, Pacific madrone, and California laurel. Sites - found on steep rocky canyon slopes and boulder-filled bottoms.

934

Interior live oak: Associates - Blue oak, coast live oak, valley oak, canyon live oak, gray pine, ponderosa pine, and Douglas-fir. Sites - from valleys to foothills, below 5,000 feet; grows on moister sites than blue oak.

935

California white oak (valley oak): Associates - Canyon live oak, coast live oak, California black oak, blue oak, California buckeye, gray pine, and ponderosa pine. Sites - hot interior valleys and slopes below 2,000 feet; tolerates cool wet winters and hot dry summers; prefers fertile soils of valley floors.

TANOAK/LAUREL GROUP**941**

Tanoak: Associates - Douglas-fir, Pacific madrone, and canyon live oak. Sites - sea level to 5,000 feet elevation from southern Oregon south along the Coast Ranges to the Santa Ynez Mountains in California.

942

California laurel: Associates - usually found in mixed stands with a wide variety of associated species. Sites - from the cool, humid conditions of dense coastal forests to hot, dry sites found inland in open woodlands and chaparral, below 4,000 feet.

943

Giant chinkapin: Associates - rarely grows in pure stands, usually a component of other types. Found with Douglas-fir, western hemlock, incense-cedar, white fir, western white pine, sugar pine, ponderosa pine, Pacific madrone, tanoak, and California black oak. Sites - from valley bottoms to ridgetops, in the coast and cascade ranges, below 5,000 feet. Tolerates infertile and droughty sites.

OTHER HARDWOODS GROUP**961**

Pacific madrone: Associates - a wide variety of species, but most common with Douglas-fir and tanoak. Sites - grows on all aspects but is found most often on those facing south and west, and tolerates low soil moisture in summer.

962

Other hardwoods: A "catch-all" group for hardwood species identified only to the genus level, with the exception of the following species (Note: This code primarily applies to a mapped subplot, where only one or two "uncommon" tree species are tallied): hackberry spp., hawthorn spp., eucalyptus spp., persimmon spp., magnolia spp., mulberry spp., mesquite spp., citrus spp., royal palm spp., willow spp., and saltcedar spp., striped maple, mountain maple, California buckeye, Arizona alder, serviceberry, Arizona madrone, pawpaw, sweet birch, Virginia roundleaf birch, Allegany chinkapin, Ozark chinkapin, southern catalpa, northern catalpa, yellowwood, Pacific dogwood, pumpkin ash, blue ash, velvet ash, Carolina ash, Texas ash, all silverbells, California black walnut, southern California black walnut, Texas walnut, Arizona walnut, all apple species, eastern hop hornbeam, California sycamore, Arizona sycamore, chokecherry, peach, Canada plum, wild plum, bitter cherry, Allegheny plum,

Chickasaw plum, sweet cherry, sour cherry, European plum, Mahaleb plum, western soapberry, American mountain-ash, northern mountain-ash, Joshua tree, smoketree, great leucaena, and Berlandier ash.

WOODLAND HARDWOODS GROUP

971

Deciduous oak woodland: Areas with predominantly Gambel oak, which is often associated with ponderosa pine, white fir, Douglas-fir, alligator juniper, bigtooth maple, and chokecherry. Sites - most soils, on elevations generally ranging from 4,000 to 8,000 feet.

972

Evergreen oak woodland: Areas with predominantly evergreen oaks, such as Arizona white oak, Emory oak, Engelmann oak, Mexican blue oak, silverleaf oak, gray oak and/or netleaf oak. Other associates - various pinyons and junipers. Sites - alluvial soils, from 4,000 to 7,500 feet elevation.

973

Mesquite woodland: Honey mesquite and screwbean mesquite comprise the majority of the stocking of this cover type. Honey mesquite associates, which are many, vary with climate and soils. Sites - occurs on a wide variety of soils at elevations mostly below 5,000 feet.

974

Cercocarpus (Mountain brush) woodland (includes curlleaf mountain-mahogany): Associates - Rocky Mountain juniper, big sagebrush, and snowberry. Sites - dry, course-textured soils.

975

Intermountain maple woodland (includes Rocky Mountain and/or bigtooth maple): Associates - chokecherry, boxelder, birchleaf mountain-mahogany, and Gambel oak. Sites - most soils but does not tolerate long flooding periods. Found growing between 4,500 and 7,500 feet elevation.

976

Miscellaneous woodland hardwoods [includes acacia, New Mexico locust, and/or Arizona ironwood (tesota)]: Sites - occurs on a wide variety of soils at elevations mostly below 5,000 feet.

TROPICAL HARDWOODS GROUP

982

Mangrove: Forests in which mangrove comprises a majority of the stocking. Associates cabbage palm on some of the higher sites in the area. Sites - predominantly salt marshes; mangrove frequently develops its own island or shoreline made up of a dense mat of root structures. Southern distribution restricted to South Florida and the Keys.

983

Palms: Includes paurotia-palm, silver palm, coconut palm, royal palm spp., cabbage palmetto, Mexican palmetto, key thatch palm, Florida thatch palm, and other palms. Associates - Sand live oak, slash pine, live oak, laurel oak, water oak, baldcypress, southern magnolia, red maple, redbay, swamp tupelo, sweetgum, southern redcedar, and loblolly pine. In extreme southern Florida, tropical hardwoods replace temperate hardwoods as associates. Sites - can tolerate a broad range of soil pH, salinity, and drainage.

984

Dry forest (FGDC - Lowland to Submontane Drought Deciduous, Semi-deciduous and Semi-evergreen Forest; Holdridge life zone - Subtropical Dry Forest): *Bursera simaruba* (L.) Sarg., *Bucida buceras* L., *Cephalocereus rostenii* (L.) Britton, and *Guaiacum officinale* L. are species commonly associated with Puerto Rican dry forest. The more heavily-disturbed dry forest areas have numerous, smaller stemmed *Leucaena leucocephala* (Lam.) deWit, *Prosopis juliflora* (Sw.) DC., *Acacia macracantha* Humb. & Bonpl. and *Acacia farnesiana* (L.) Willd. individuals. Some of the native tree species that are common in subtropical dry forest in the U.S. Virgin Islands are *Bursera simaruba* (L.) Sarg., *Amyris elemifera* L., *Capparis cynophallophora* L., *Cordia rickseckeri* Millsp., *Pisonia subcordata* Sw., *Guaiacum officinale* L., *Plumeria alba* L., and *Pictetia aculeata* (Vahl) Urban. The more heavily-disturbed dry forest areas have numerous, smaller stemmed *Leucaena leucocephala* (Lam.) deWit, *Prosopis juliflora* (Sw.) DC., *Acacia macracantha* Humb. & Bonpl., and *Acacia farnesiana* (L.) Willd. individuals.

985

Moist forest (FGDC - Lowland and Submontane Seasonal Evergreen; Holdridge life zone - Subtropical Moist Forest): In the Caribbean, subtropical moist forests are found in areas with 1000 to 2200 mm of annual precipitation. The subtropical moist life zone is the most extensive on Puerto Rico and covers a wide variety of soil parent materials, topographic classes and land uses resulting in highly diverse mixes that typically include *Tabebuia heterophylla* (DC.) Britton, *Spathodea campanulata* Beauv., *Guarea guidonia* (L.) Sleumer, *Andira inermis* (W. Wright) Kunth ex DC., *Roystonea borinquena* O. F. Cook, *Mangifera indica* L., *Cecropia peltata* L., *Schefflera morototoni* (Aubl.) Maguire, Steyermark and species of the Nectandra, Ocotea, and Coccoloba genera. Some of the many natural indicator species of subtropical moist forest in the U.S. Virgin Islands include the *Andira inermis* (W. Wright) Kunth ex DC., *Guapira fragrans* (Dum.-Cours.) Little, *Spondias mombin* L., *Bucida buceras* L., *Hura crepitans* L., *Ceiba pentandra* (L.) Gaertn., *Cedrela odorata* L., *Pimenta racemosa* var. *racemosa*, *Roystonea borinquena* O.F. Cook (on St. Croix only), *Hymanea courbaril* L., *Cecropia schreberiana* Miq., and *Tabebuia heterophylla* (DC.) Britt. While subtropical moist forests have some of the same introduced species found in subtropical dry forest, *Tamarindus indica* L. and *Melicoccus bijugatus* Jacq. are also common.

986

Wet and rain forest (FGDC - Submontane Evergreen Forest; Holdridge life zone - Subtropical Wet and Rain Forest): In the Caribbean, subtropical wet and rain forests are found in areas with 2000 to 4000 mm of annual precipitation. *Dacryodes excelsa* Vahl., *Sloanea berteriana* Choisy, *Manilkara bidentata* (A.DC.) are species indicative of the tabonuco forest type. *Cecropia peltata* L., *Schefflera morototoni* (Aubl.) Maguire and *Ochroma lagopus* Sw. are also common in wet forest stands at early stages of succession or recovery from disturbance. Wet forest shade coffee plantations hold species such as *Guarea guidonia* (L.) Sleumer, *Inga laurina* (Sw.) Willd., *Inga vera* Willd., and *Erythrina poeppigiana* (Walp.) O.F. Cook.

987

Lower montane wet and rain forest (FGDC - Montane Evergreen Forest; Holdridge life zone - Lower Montane Wet and Rain Forest): In the Caribbean, lower montane wet and rain forests are found in areas with elevations between 700-1000 meters. Forest types and their typical species include the palo colorado forest type (*Cyrilla racemiflora* L., *Ocotea spathulata* Mez., *Micropholis guyanensis* (A. DC.) Pierre and *Micropholis garciniiifolia* Pierre), elfin forest type (*Eugenia borinquensis* Britton, *Tabebuia rigida* Urban, *Weinmannia pinnata* L. and *Calycogonium squamulosum* Cogn.) and the palm brake forest type (*Prestoea montana* (Graham) Nichols.).

988

Cloud forest: These forests are covered with clouds or fog much of the time. The trees have low canopies and are often dripping with moisture. The trees are typically small-leaved and covered with masses of epiphytic mosses and liverworts, which also form a deep ground cover.

989

Other tropical hardwoods: This type consists of dense forests of hardwood trees and palms. Includes gumbo-limbo, tamarind, poisonwood, pigeon-plum, torchwood, willow bustic, false mastic, pond apple, sheoak, gray sheoak, river sheoak, camphor tree, fiddlewood, citrus spp., soldierwood, Geiger tree, carrotwood, red stopper, inkwood, strangler fig, shortleaf fig, blolly, manchineel, paradise tree, Java plum, false tamarind, mango, fishpoison tree, and octopus tree. Associates -black ironwood (leadwood), lancewood, and mastic as well as more temperate live oak and red bay. Sites - Occurs on land slightly higher than surrounding fresh and saltwater marshes or on pine land.

EXOTIC HARDWOODS GROUP**991**

Paulownia: Stands with the majority of stocking composed of *Paulownia tomentosa*, commonly known as Princess tree, royal paulownia or empress tree. Sites - can be found along roadsides, streambanks, and forest edges. It tolerates infertile and acid soils and drought conditions. It easily adapts to disturbed habitats, including previously burned areas, forests defoliated by pests (such as the gypsy moth) and landslides and can colonize rocky cliffs and scoured riparian zones. Paulownia can also be found in plantations.

992

Melaleuca: Stands with the majority of stocking composed of melaleuca (*Melaleuca quinquenervia*). Melaleuca trees, also known as punk trees or paperbark tea trees, are native to Australia. Sites - In the gulf-coastal plain, it is found in swamps and glades, often eliminating all other forms of vegetation.

993

Eucalyptus: Associates - As an introduced and naturalized species, it has few common associates. Usually planted as an ornamental, in plantations for firewood, or along roads and parks for cover. Sites - good drainage, low salinity, mild temperate climates.

995

Other exotic hardwoods: Includes any of the following species: Norway maple, ailanthus, mimosa, European alder, Chinese chestnut, ginkgo, Lombardy poplar, European mountain-ash, West Indian mahogany, Siberian elm, saltcedar spp., chinaberry, Chinese tallowtree, tung-oil-tree, Russian-olive, and avocado.

Section revision: 01.2024

Appendix E: Tree Species Group Codes

Appendix Contents:

Tree Species Group
Softwood species groups
Hardwood species groups
Tropical and subtropical species groups
Urban species groups

Softwood species groups

Code	Species group name	Region
1	Longleaf and slash pines	Eastern
2	Loblolly and shortleaf pines	Eastern
3	Other yellow pines	Eastern
4	Eastern white and red pines	Eastern
5	Jack pine	Eastern
6	Spruce and balsam fir	Eastern
7	Eastern hemlock	Eastern
8	Cypress	Eastern
9	Other eastern softwoods	Eastern
10	Douglas-fir	Western
11	Ponderosa and Jeffrey pines	Western
12	True fir	Western
13	Western hemlock	Western
14	Sugar pine	Western
15	Western white pine	Western
16	Redwood	Western
17	Sitka spruce	Western
18	Engelmann and other spruces	Western
19	Western larch	Western
20	Incense-cedar	Western
21	Lodgepole pine	Western
22	Western redcedar	Western

Code	Species group name	Region
23	Woodland softwoods	All
24	Other western softwoods	Western

Hardwood species groups

Code	Species group name	Region
25	Select white oaks	Eastern
26	Select red oaks	Eastern
27	Other white oaks	Eastern
28	Other red oaks	Eastern
29	Hickory	Eastern
30	Yellow birch	Eastern
31	Hard maple	Eastern
32	Soft maple	Eastern
33	Beech	Eastern
34	Sweetgum	Eastern
35	Tupelo and blackgum	Eastern
36	Ash	Eastern
37	Cottonwood and aspen	Eastern
38	Basswood	Eastern
39	Yellow-poplar	Eastern
40	Black walnut	Eastern
41	Other eastern soft hardwoods	Eastern
42	Other eastern hard hardwoods	Eastern
43	Eastern noncommercial hardwoods	Eastern
44	Cottonwood and aspen	Western
45	Red alder	Western
46	Oak	Western
47	Other western hardwoods	Western
48	Woodland hardwoods	All

Tropical and subtropical species groups

Code	Species group name	Region
51	Tropical and subtropical pines	Tropical-/Subtropical
52	Other tropical and subtropical softwoods	Tropical-/Subtropical
53	Tropical and subtropical palms	Tropical-/Subtropical
54	Tropical and subtropical hardwoods	Tropical-/Subtropical

Urban species groups

Code	Species group name	Region
55	Urban-specific hardwoods	All
56	Urban-specific softwoods	All

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Appendix F: Tree Species Codes, Names, and Occurrences

The FIA tree species code list and other information regarding names and occurrences are available at the following links:

Supplemental documents:

- [FIA Master Tree Species List \(Excel format\)](https://usfs-public.app.box.com/v/FIA-TreeSpeciesList) (refer to public box folder available at web address: <https://usfs-public.app.box.com/v/FIA-TreeSpeciesList>) - This list contains all tree species tallied in the continental U.S. as well as both the Caribbean and Pacific Islands, including Hawaii. These are the species used to define FIA forest land. Species not listed are considered shrubs and do not factor into defining FIA forest land.
- [Changes to FIA Master Tree Species List](https://www.fs.usda.gov/research/products/dataandtools/tools/fia-datamart) (<https://www.fs.usda.gov/research/products/dataandtools/tools/fia-datamart>) - This list, located in the FIA National Field Guide for Phase 2 Plots (appendix 14), contains changes (dropped, added, or modified) to the FIA Master Tree Species list. This list began in October 2019 with the FIA National Field Guide, version 9.0.

Table downloads:

- [FIA DataMart](https://www.fs.usda.gov/research/products/dataandtools/tools/fia-datamartl) (<https://www.fs.usda.gov/research/products/dataandtools/tools/fia-datamartl>) - The **REF_SPECIES** table, which is downloadable from the FIA DataMart, contains the species code, species group code, descriptive common name, scientific name, and many other attributes for each species.

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Appendix G: Forest Inventory and Analysis (FIA) Plot Design Codes and Definitions by FIA Work Unit

FIA Plot Design Codes:

FIA Work Unit	Plot Design code (DESIGNCD)	Definition
^a NRS-NE, ^b NRS-NC, ^c SRS, ^d RMRS, ^e PNWRS	1	National plot design consists of four 24-foot fixed-radius subplots for trees ≥ 5 inches d.b.h., and four 6.8-foot fixed-radius microplots for seedlings and trees ≥ 1 and < 5 inches d.b.h. Subplot 1 is the center plot, and subplots 2, 3, and 4 are located 120.0 feet, horizontal, at azimuths of 360, 120, and 240, respectively. The microplot center is 12 feet east of the subplot center. Four 58.9-foot fixed-radius macroplots are optional. A plot may sample more than one condition. When multiple conditions are encountered, condition boundaries are delineated (mapped).
^a NRS-NE	101	Various plot designs. Converted from Eastwide Database format, some fields may be null.
^a NRS-NE	111	Four-subplot design similar to DESIGNCD 1, except the microplot for seedlings is 1/1000 acre (3.7-foot radius). If the plot is used for growth estimates, it is overlaid on a 5 subplot design, where remeasurement of trees (≥ 5 inches) is on subplot 1 only. Poletimber-sized trees remeasured on a 24-foot radius plot, sawtimber-sized trees remeasured on a 49-foot radius plot. If the plot is not used for growth estimates, it is an initial plot establishment.
^a NRS-NE	112	DESIGNCD 111, except that if the plot is used for growth estimates, the remeasurement of trees (≥ 5 inches) is on the 24-foot-radius subplot 1 only, regardless of tree size or previous plot size or type (varied).
^a NRS-NE	113	DESIGNCD 111, except that if the plot is used for growth estimates, the remeasurement of trees (≥ 5 inches) is on the 24-foot-radius subplot 1 only, regardless of tree size or previous plot size or type (single subplot 1/5 acre).
^a NRS-NE	115	DESIGNCD 1. Overlaid on a FHM 4-subplot plot design. These plots are not used in change estimates.
^a NRS-NE	116	DESIGNCD 1. Overlaid on 1/5 acre plot for all trees ≥ 5 inches d.b.h. (1/5 acre plot was an initial measurement). Remeasurement of subplot 1 is only on the 24-foot-radius plot for all trees (≥ 5 inches), regardless of tree size or previous plot size.
^a NRS-NE	117	DESIGNCD 1. Overlaid on 1/5 acre plot for all trees ≥ 5 inches d.b.h. (1/5 acre plot was remeasurement). Remeasurement of subplot 1 is only on the 24-foot-radius plot for all trees (≥ 5 inches), regardless of tree size or previous plot size.

FIA Work Unit	Plot Design code (DESIGNCD)	Definition
^a NRS-NE	118	DESIGNCD 1. Overlaid on 10-subplot, variable-radius design. Remeasurement of trees (≥ 5 inches) on 5 of the 10 subplots; ingrowth based on trees (≥ 5 inches) that grew onto five 6.8-foot radius subplots.
^b NRS-NC	301	Various plot designs. Converted from Eastwide Database format, some fields may be null.
^b NRS-NC	311	Four-subplot design similar to DESIGNCD 1, except the 1/24 acre and 1/300 acre plots have common centers. Conditions are mapped and boundaries may be within the plots.
^b NRS-NC	312	DESIGNCD 1. Initial plot establishment.
^b NRS-NC	313	DESIGNCD 311. Overlaid on previous plots, no remeasurements.
^b NRS-NC	314	DESIGNCD 1. Overlaid on previous plots, no remeasurements
^b NRS-NC	315	DESIGNCD 311. Overlaid on same design. Only trees ≥ 5 inches d.b.h. are remeasured.
^b NRS-NC	316	DESIGNCD 1. Overlaid on DESIGNCD 311. Only trees ≥ 5 inches d.b.h. are remeasured.
^b NRS-NC	317	DESIGNCD 1. Overlaid on DESIGNCD 326. Only the first 5 points (trees ≥ 5 inches d.b.h.) and first 3, 1/300 acre plots (trees ≥ 1 and < 5 inches d.b.h.) are remeasured, but conditions were not re-mapped.
^b NRS-NC	318	DESIGNCD 311. Overlaid on DESIGNCD 325. Only the first 5 points (trees ≥ 5 inches d.b.h.) and first 3, 1/300 acre plots (trees ≥ 1 and < 5 inches d.b.h.) are remeasured.
^b NRS-NC	319	DESIGNCD 1. Overlaid on DESIGNCD 325. Only the first 5 points (trees ≥ 5 inches d.b.h.) and first 3, 1/300 acre plots (trees ≥ 1 and < 5 inches d.b.h.) are remeasured.
^b NRS-NC	320	DESIGNCD 311. Overlaid on modified DESIGNCD 325. Only the first 5 points (trees ≥ 5 inches d.b.h.) and first 3 1/300 acre plots (trees ≥ 1 and < 5 inches d.b.h.) are remeasured.
^b NRS-NC	321	DESIGNCD 1. Overlaid on modified DESIGNCD 325. Only the first 5 points (trees ≥ 5 inches d.b.h.) and first 3 1/300 acre plots (trees ≥ 1 and < 5 inches d.b.h.) are remeasured.
^b NRS-NC	322	DESIGNCD 311. Overlaid on DESIGNCD 327. Only the first 5 points (trees ≥ 5 inches d.b.h.) and first 3, 1/300 acre plots (trees ≥ 1 and < 5 inches d.b.h.) are remeasured.
^b NRS-NC	323	DESIGNCD 1. Overlaid on DESIGNCD 327. Only the first 5 points (trees ≥ 5 inches d.b.h.) and first 3 1/300 acre plots (trees ≥ 1 and < 5 inches d.b.h.) are remeasured.
^b NRS-NC	325	Ten variable-radius, 37.5 BAF points, 70 feet apart, for trees ≥ 5 inches d.b.h. and 10, 1/300 acre plots for seedlings and trees ≥ 1 and < 5 inches d.b.h. Point and plot center were coincident. Conditions were not mapped. Instead, points were rotated into forest or nonforest based on the condition at point center.
^b NRS-NC	326	Ten variable-radius, 37.5 BAF points, 70 feet apart, for trees ≥ 5 and < 17.0 inches d.b.h., 10 1/24 acre plots for trees ≥ 17.0 inches d.b.h., and 10, 1/300 acre plots for seedlings and trees ≥ 1 and < 5 inches d.b.h. Point and plot center were coincident. Conditions were mapped.

FIA Work Unit	Plot Design code (DESIGNCD)	Definition
^b NRS-NC	327	Ten variable-radius, 37.5 BAF points, 70 feet apart, for trees ≥5 inches d.b.h. and 10, 1/300 acre plots for seedlings and trees ≥1 and <5 inches d.b.h. Point and plot center were coincident. Conditions were not mapped. Instead, points were rotated into forest or nonforest based on the condition at point center. Diameters were estimated with a model, but all dead and cut trees were recorded.
^b NRS-NC	328	DESIGNCD 1. Overlaid on DESIGNCD 311. All trees and saplings are remeasured.
^c SRS	210	Other plot design installed by previous research stations within the 13-State Southern area not described by DESIGNCD 211-219.
^c SRS	211	Ten variable-radius, 37.5 BAF points, 70 feet apart. Remeasure first 3 points of same design or new/replacement plot.
^c SRS	212	Five variable-radius, 37.5 BAF points, 70 feet apart. Remeasure first 5 points of DESIGNCD 211 or new/replacement plot.
^c SRS	213	Five variable-radius, 37.5 BAF points, 70 feet apart. Remeasure DESIGNCD 212.
^c SRS	214	Ten variable-radius, 37.5 BAF points, 66 feet apart. Remeasure same design or new/replacement plot.
^c SRS	215	Five variable-radius, 37.5 BAF points, 66 feet apart. Remeasure first 5 points of DESIGNCD 214 or new/replacement plot.
^c SRS	216	Ten variable-radius, 37.5 BAF points, 66 feet apart. Remeasure DESIGNCD 215.
^c SRS	217	Five point cluster plot, point 1 is 1/5th acre sawtimber plot and 1/10th acre poletimber plot, points 2-5 are 37.5 BAF prism points. No remeasurement.
^c SRS	218	Remeasurement of DESIGNCD 217, point 1 only. Used only for change estimates.
^c SRS	219	Three point, 2.5 BAF metric prism plot, points 25 meters apart. Remeasure same design or new/replacement plot.
^c SRS	220	Four 1/24 acre plots for trees ≥5 inches d.b.h. and 4, 1/300 acre plots for seedlings and trees ≥1 and <5 inches d.b.h. The 1/24 acre and 1/300 acre plots have common centers. Conditions are mapped and boundaries may be within the plots. Remeasurement plot not described by 221-229.
^c SRS	221	DESIGNCD 220. Remeasure same design or new/replacement plot.
^c SRS	222	DESIGNCD 220. Overlaid on and remeasurement of DESIGNCD 212 or 213.
^c SRS	223	DESIGNCD 220. Overlaid on and remeasurement of first 5 points of DESIGNCD 214 or 216.
^c SRS	230	DESIGNCD 1. Remeasurement plot not described by DESIGNCD 231-239.
^c SRS	231	DESIGNCD 1. Overlaid on and remeasurement of DESIGNCD 212 or DESIGNCD 213.
^c SRS	232	DESIGNCD 1. Overlaid on and remeasurement of first 5 points of DESIGNCD 214 or 216.

FIA Work Unit	Plot Design code (DESIGNCD)	Definition
cSRS	233	DESIGNCD 1. Overlaid on and remeasurement of DESIGNCD 220, 221, 222, or 223.
cSRS	240	DESIGNCD 1. Collected in metric and converted to English in the database. Remeasurement not described by 241-249.
cSRS	241	DESIGNCD 1. Collected in metric and converted to English in the database. Remeasure same design or new/replacement plot.
cSRS	242	DESIGNCD 1. Overlaid on and remeasurement of DESIGNCD 219. Collected in metric and converted to English in the database.
cSRS	299	Other plot design not described in DESIGNCD 200-298.
dRMRS	403	One 1/10th acre fixed-radius plot divided into 4 quadrants and four 1/300th acre fixed-radius microplots. Timber and woodland tree species <5.0 inches d.r.c. tallied on microplot.
dRMRS	404	One 1/20th acre fixed-radius plot divided into 4 quadrants and four 1/300th acre fixed-radius microplots. Timber and woodland tree species <5.0 inches d.r.c. tallied on microplot.
dRMRS	405	One 1/5th acre fixed-radius plot divided into 4 quadrants and four 1/300th acre fixed-radius microplots. Timber and woodland tree species <5.0 inches d.r.c. tallied on microplot.
dRMRS	410	40 BAF variable-radius plots and 1/300th acre fixed-radius microplots; number of microplots = number of points installed. Timber tree species <5.0 inches d.b.h.; woodland tree species <3.0 inches d.r.c. measured on microplot.
dRMRS	411	40 BAF variable-radius plots and 1/300th acre fixed-radius microplots; 3 microplots installed on points 1, 2, and 3. Timber tree species <5.0 inches d.b.h.; woodland tree species <3.0 inches d.r.c. measured on microplot.
dRMRS	412	40 BAF variable-radius plots and 1/300th acre fixed-radius microplots; 3 microplots installed on points 1, 2, and 5. Timber tree species <5.0 inches d.b.h.; woodland tree species <3.0 inches d.r.c. measured on microplot.
dRMRS	413	20 BAF variable-radius plots and 1/300th acre fixed-radius microplots; number of microplots = number of points installed. Timber tree species <5.0 inches d.b.h.; woodland tree species <3.0 inches d.r.c. measured on microplot.
dRMRS	414	20 BAF variable-radius plots and 1/300th acre fixed-radius microplots; 3 microplots installed on points 1, 2, and 3. Timber tree species <5.0 inches d.b.h.; woodland tree species <3.0 inches d.r.c. measured on microplot.
dRMRS	415	20 BAF variable-radius plots and 1/300th acre fixed-radius microplots; 3 microplots installed on points 1, 2, and 5. Timber tree species <5.0 inches d.b.h.; woodland tree species <3.0 inches d.r.c. measured on microplot.
dRMRS	420	One 1/10th acre fixed-radius plot and one centered 1/100th acre microplot. Timber tree species <5.0 inches d.b.h.; woodland tree species <3.0 inches d.r.c. measured on microplot.

FIA Work Unit	Plot Design code (DESIGNCD)	Definition
dRMRS	421	One 1/20th acre fixed-radius plot and one centered 1/100th acre microplot. Timber tree species <5.0 inches d.b.h.; woodland tree species <3.0 inches d.r.c. measured on microplot.
dRMRS	422	One 1/5th acre fixed-radius plot and one centered 1/100th acre microplot. Timber tree species <5.0 inches d.b.h.; woodland tree species <3.0 inches d.r.c. measured on microplot.
dRMRS	423	One 1/10th acre fixed-radius plot divided into 4 quadrants and four 1/300th acre fixed-radius microplots. Timber tree species <5.0 inches d.b.h.; woodland tree species <3.0 inches d.r.c. measured on microplot.
dRMRS	424	One 1/20th acre fixed-radius plot divided into 4 quadrants and four 1/300th acre fixed-radius microplots. Timber tree species <5.0 inches d.b.h.; woodland tree species <3.0 inches d.r.c. measured on microplot.
dRMRS	425	One 1/5th acre fixed-radius plot divided into 4 quadrants and four 1/300th acre fixed-radius microplots. Timber tree species <5.0 inches d.b.h.; woodland tree species <3.0 inches d.r.c. measured on microplot.
ePNWRS	501	DESIGNCD 1 with optional macroplot. Trees ≥24 inches d.b.h. are tallied on macroplot.
ePNWRS	502	DESIGNCD 1 with optional macroplot. Trees ≥30 inches d.b.h. are tallied on macroplot.
ePNWRS	503	DESIGNCD 1 with optional macroplot. Trees ≥24 inches d.b.h. are tallied on macroplot. Trees ≥32 inches d.b.h. are tallied on one 1-hectare plot.
ePNWRS	504	DESIGNCD 1 with optional macroplot. Trees ≥24 inches d.b.h. are tallied on macroplot. Trees ≥48 inches d.b.h. are tallied on one 1-hectare plot.
ePNWRS	505	DESIGNCD 1 with optional macroplot. Trees ≥30 inches d.b.h. are tallied on macroplot. Trees ≥48 inches d.b.h. are tallied on one 1-hectare plot.
ePNWRS	506	DESIGNCD 1 using larger microplots. Each microplot has a radius of 9.6 feet. Eight 20x50cm microquadrats are established on each subplot for ground layer protocols.
ePNWRS	550	Five 30.5 BAF points for trees ≥5 inches and <35.4 inches d.b.h.; five 55.8 foot fixed-radius plots for trees ≥35.4 inches d.b.h.; and five 7.7-foot fixed-radius plots for seedlings and saplings <5 inches d.b.h. Point and plot centers are coincident. Conditions are mapped.
ePNWRS	551	Five 20 BAF points for trees ≥5 inches and <35.4 inches d.b.h.; five 55.6 foot fixed-radius plots for trees ≥35.4 inches d.b.h.; and five 9.7-foot fixed-radius plots for seedlings and saplings <5 inches d.b.h. Point and plot centers are coincident. Conditions are mapped.
ePNWRS	552	Five 30 BAF points for trees ≥5 inches and <35.4 inches d.b.h.; five 55.6-foot fixed-radius plots for trees ≥35.4 inches d.b.h.; and five 7.9-foot fixed-radius plots for seedlings and saplings <5 inches d.b.h. Point and plot centers are coincident. Conditions are mapped.
ePNWRS	553	Four 1/24 acre plots for live trees and four 58.9-foot fixed-radius plots for trees ≥11.8 inches d.b.h. Plot centers are coincident. Conditions are mapped.

FIA Work Unit	Plot Design code (DESIGNCD)	Definition
ePNWRS	554	Four 1/24 acre plots for live trees and four 58.9-foot fixed-radius plots for trees ≥19.7 inches d.b.h. Plot centers are coincident. Conditions are mapped.
ePNWRS	555	Five 30.5 BAF points for trees ≥6.9 inches and <35.4 inches d.b.h.; five 55.8-foot fixed-radius plots for trees ≥35.4 inches d.b.h.; and five 10.8-foot fixed-radius plots for seedlings and saplings <6.9 inches d.b.h. Point and plot centers are coincident. Conditions are mapped.
ePNWRS	556	Five 30.5 BAF points for trees ≥6.9 inches and <35.4 inches d.b.h.; five 55.8-foot fixed-radius plots for trees ≥35.4 inches d.b.h.; five 10.8-foot fixed-radius plots for saplings ≥5 inches and <6.9 inches d.b.h.; and the northeast quadrant of each of the five 10.8-foot fixed-radius plots for trees <5 inches d.b.h. Point and plot centers are coincident. Conditions are not mapped.
ePNWRS	557	Five 40 BAF points for trees ≥5 inches d.b.h.; and five 6.9-foot fixed-radius plots for saplings ≥1 and <5 inches d.b.h. Point and plot centers are coincident. Conditions are not mapped.
ePNWRS	558	Three 30.5 BAF points for trees ≥6.9 inches and <35.4 inches d.b.h.; three 55.8-foot fixed-radius plots for trees ≥35.4 inches d.b.h.; three 10.8-foot fixed-radius plots for saplings ≥5 inches and <6.9 inches d.b.h.; and the northeast quadrant of each of the three 10.8-foot fixed-radius plots for trees <5 inches d.b.h. Point and plot centers are coincident. Conditions are mapped, only condition class 1 measured. Overlaid on and remeasurement of same design.
ePNWRS	559	Four 40 BAF points for trees ≥5 inches d.b.h.; and four 6.9-foot fixed-radius plots for saplings ≥1 and <5 inches d.b.h. Point and plot centers are coincident. Conditions are mapped, only condition class 1 measured. Overlaid on and remeasurement of same design.
ePNWRS	601	South East Coastal Alaska periodic grid plot design. Similar to DESIGNCD 1 with exceptions including: subplots are 7.3 m (23.95 foot) fixed-radius; the four microplots are 2.0 m (6.56 foot) fixed-radius and are centered on each subplot; subplots 2, 3, and 4 are spaced 36.6 m (120.08 feet) from subplot 1, at azimuths of 360, 120, and 240, respectively; condition classes are based on forest stand origin, forest stand size, and forest density in 10% classes; not all annual attributes were collected and additional non-annual attributes were collected.
ePNWRS	602	South Central Coastal Alaska periodic grid plot design, similar to DESIGNCD 601 except for variations in annual and non-annual attributes collected.
ePNWRS	603	South Central Coastal Alaska periodic grid plot design for Kodiak and Afognak islands. Similar to DESIGNCD 602 except for reduced (one quarter) sampling intensity.
aNRS-NE, bNRS-NC, cSRS, dRMRS, ePNWRS	999	A plot record created to represent reserved or other nonsampled or undersampled areas where there were no ground plots; the plot has no design type; rather, it is a placeholder for area estimates. In all cases where DESIGNCD 999 plots are present, they are only used for estimates of area; they are not used in estimates of numbers of trees, volume or change (e.g., tree-level estimates).

^aNorthern Research Station - previously Northeastern

^bNorthern Research Station - previously North Central

^cSouthern Research Station

^dRocky Mountain Research Station

^ePacific Northwest Research Station

Other acronyms and definitions:

BAF - basal area factor

d.b.h. - diameter at breast height

d.r.c. - diameter at root collar

FHM - U.S. Forest Service Forest Health Monitoring Program

Sawtimber-sized trees - softwoods ≥ 9 inches d.b.h., hardwoods ≥ 11 inches d.b.h.

Poletimber-sized trees - softwoods ≥ 5 inches and < 9 inches d.b.h., hardwoods ≥ 5 inches and < 11 inches d.b.h.

Section revision: 04.2024

Appendix H: Damage Agent Codes and Thresholds

Appendix Contents:

Code	Damage (common name)
00000	No Damage
10000	General Insects
11000	Bark Beetles
12000	Defoliators
13000	Chewing Insects
14000	Sucking Insects
15000	Boring Insects
16000	Seed/Cone/Flower/Fruit Insects
17000	Gallmaker Insects
18000	Insect Predators
19000	General Diseases
20000	Biotic Damage
21000	Root/Butt Diseases
22000	Cankers
22500	Stem Decay
23000	Parasitic/Epiphytic Plants
24000	Decline Complexes/Dieback/Wilts
25000	Foliage Diseases
26000	Stem Rusts
27000	Broom Rusts
30000	Fire
41000	Wild Animals
42000	Domestic Animals
50000	Abiotic Damage
60000	Competition
70000	Human Activities
71000	Harvest
80000	Multi-Damage (Insect/Disease)
85000	Invasive Plants
90000	Other Damages and Symptoms
99000	Unknown

Damage Agent Codes and Thresholds (Note: PNWRS= All of the Pacific Northwest Research Station region including Alaska.
PNWRS-AK = Alaska only.)

Code	Category	Agent	Common Name	Scientific Name	Threshold	Region
00000	-	-	No Damage	-	-	All
10000	10	000	General Insects	-	Any damage to the terminal leader; damage \geq 20% of the roots or boles with >20% of the circumference affected; damage >20% of the multiple-stems (on multi-stemmed woodland species) with >20% of the circumference affected; >20% of the branches affected; damage \geq 20% of the foliage with \geq 50% of the leaf/needle affected.	All
10001	10	001	thrips	-	-	-
10002	10	002	Pine tip moth	-	-	-
10003	10	003	wasp	-	-	-
10004	10	004	Chinese rose beetle	<i>Adoretus sinicus</i>	-	-
10005	10	005	rose beetle	<i>Adoretus versutus</i>	-	-
10006	10	006	coconut hispid beetle	<i>Brontispa longissima</i>	-	-
10007	10	007	clerid beetle	<i>Cleridae</i>	-	-
10008	10	008	weevil	<i>Curculionidae</i>	-	-
10009	10	009	green rose chafer	<i>Dichelonyx backi</i>	-	-
10010	10	010	Allegheny mound ant	<i>Formica exsectoides</i>	-	-
10011	10	011	ant	<i>Formicidae</i>	-	-
10012	10	012	stick insect	<i>Graeffea crovani</i>	-	-
10013	10	013	Hulodes cranea	<i>Hulodes cranea</i>	-	-
10014	10	014	conifer swift moth	<i>Korscheltellus gracilis</i>	-	-
10015	10	015	Caroline shortnosed weevil	<i>Lophothetes spp.</i>	-	-

Code	Category	Agent	Common Name	Scientific Name	Threshold	Region
10016	10	016	coconut rhinoceros beetle	<i>Oryctes rhinoceros</i>	Any damage to the terminal leader; damage \geq 20% of the roots or boles with $>$ 20% of the circumference affected; damage $>$ 20% of the multiple-stems (on multi-stemmed woodland species) with $>$ 20% of the circumference affected; $>$ 20% of the branches affected; damage \geq 20% of the foliage with \geq 50% of the leaf/needle affected.	PNWRS
10017	10	017	bagworm moth	<i>Psychidae</i>	Any damage to the terminal leader; damage \geq 20% of the foliage with \geq 50% of the leaf/needle affected.	NRS
10018	10	018	coconut palm weevil	<i>Rhobdoscelus asperipennis</i>	-	-
10019	10	019	scarab	<i>Scarabaeidae</i>	-	-
10020	10	020	ash white fly	<i>Siphoninus phillyreae</i>	-	-
10021	10	021	conifer seedling weevil	<i>Steremnius carinatus</i>	-	-
10022	10	022	pyralid moth	<i>Thliptoceras octoquattale</i>	-	-
10023	10	023	wood wasps	<i>Siricidae</i> spp.	-	-
11000	11	000	Bark Beetles	-	Any evidence of a successful attack (successful attacks generally exhibit boring dust, many pitch tubes and/or fading crowns).	All
11001	11	001	roundheaded pine beetle	<i>Dendroctonus adjunctus</i>	-	-
11002	11	002	western pine beetle	<i>Dendroctonus brevicomis</i>	-	-
11003	11	003	southern pine beetle	<i>Dendroctonus frontalis</i>	-	-
11004	11	004	Jeffrey pine beetle	<i>Dendroctonus jeffreyi</i>	-	-
11005	11	005	lodgepole pine beetle	<i>Dendroctonus murrayanae</i>	-	-
11006	11	006	mountain pine beetle	<i>Dendroctonus ponderosae</i>	Any evidence of a successful attack.	NRS; RMRS
11007	11	007	Douglas-fir beetle	<i>Dendroctonus pseudotsugae</i>	-	-
11008	11	008	Allegheny spruce beetle	<i>Dendroctonus punctatus</i>	-	-
11009	11	009	spruce beetle	<i>Dendroctonus rufipennis</i>	Any evidence of a successful attack.	PNWRS; RMRS
11010	11	010	eastern larch beetle	<i>Dendroctonus simplex</i>	-	-

Code	Category	Agent	Common Name	Scientific Name	Threshold	Region
11011	11	011	black turpentine beetle	<i>Dendroctonus terebrans</i>	-	-
11012	11	012	red turpentine beetle	<i>Dendroctonus valens</i>	Any evidence of a successful attack.	NRS
11013	11	013	Dryocoetes affaber	<i>Dryocoetes affaber</i>	-	-
11014	11	014	Dryocoetes autographus	<i>Dryocoetes autographus</i>	-	-
11015	11	015	western balsam bark beetle	<i>Dryocoetes confusus</i>	-	-
11016	11	016	Dryocoetes sechelti	<i>Dryocoetes sechelti</i>	-	-
11017	11	017	ash bark beetles	<i>Hylesinus</i> spp.	-	-
11018	11	018	native elm bark beetle	<i>Hylurgopinus rufipes</i>	-	-
11019	11	019	pinon ips	<i>Ips confusus</i>	-	-
11020	11	020	small southern pine engraver	<i>Ips avulsus</i>	-	-
11021	11	021	sixspined ips	<i>Ips calligraphus</i>	-	-
11022	11	022	emarginate ips	<i>Ips emarginatus</i>	-	-
11023	11	023	southern pine engraver beetle	<i>Ips grandicollis</i>	-	-
11024	11	024	Orthotomicus latidens	<i>Orthotomicus latidens</i>	-	-
11025	11	025	Arizona five-spined ips	<i>Ips lecontei</i>	-	-
11026	11	026	Monterey pine ips	<i>Ips mexicanus</i>	-	-
11027	11	027	California fivespined ips	<i>Ips paraconfusus</i>	-	-
11028	11	028	northern spruce engraver beetle	<i>Ips perturbatus</i>	-	-
11029	11	029	pine engraver	<i>Ips pini</i>	-	-
11030	11	030	Ips engraver beetles	<i>Ips</i> spp.	Any evidence of a successful attack.	NRS; PNWRS-AK; RMRS
11031	11	031	<i>Ips tridens</i>	<i>Ips tridens</i>	-	-
11032	11	032	western ash bark beetle	<i>Leperisinus californicus</i>	-	-
11033	11	033	Oregon ash bark beetle	<i>Leperisinus oregonus</i>	-	-
11034	11	034	Orthotomicus caelatus	<i>Orthotomicus caelatus</i>	-	-
11035	11	035	cedar bark beetles	<i>Phloeosinus</i> spp.	-	-
11036	11	036	western cedar bark beetle	<i>Phloeosinus punctatus</i>	-	-
11037	11	037	tip beetles	<i>Pityogenes</i> spp.	-	-
11038	11	038	Douglas-fir twig beetle	<i>Pityophthorus pseudotsugae</i>	-	-

Code	Category	Agent	Common Name	Scientific Name	Threshold	Region
11039	11	039	twig beetles	<i>Pityophthorus</i> spp.	-	-
11040	11	040	four-eyed spruce bark beetle	<i>Polygraphus rufipennis</i>	-	-
11041	11	041	fir root bark beetle	<i>Pseudohylesinus granulatus</i>	-	-
11042	11	042	<i>Pseudohylesinus dispar</i>	<i>Pseudohylesinus dispar</i>	-	-
11043	11	043	Douglas-fir pole beetle	<i>Pseudohylesinus nebulosus</i>	-	-
11044	11	044	silver fir beetle	<i>Pseudohylesinus sericeus</i>	-	-
11045	11	045	small European elm bark beetle	<i>Scolytus multistriatus</i>	-	-
11046	11	046	spruce engraver	<i>Scolytus piceae</i>	-	-
11047	11	047	hickory bark beetle	<i>Scolytus quadrispinosus</i>	-	-
11048	11	048	true fir bark beetles	<i>Scolytus</i> spp.	-	-
11049	11	049	Douglas-fir engraver	<i>Scolytus unispinosus</i>	-	-
11050	11	050	fir engraver	<i>Scolytus ventralis</i>	-	-
11051	11	051	striped ambrosia beetle	<i>Tryachykele lineatum</i>	-	-
11052	11	052	Sitka spruce engraver beetle	<i>Ips connecinus</i>	-	-
11053	11	053	four-eyed bark beetle	<i>Polygraphus</i> spp.	-	-
11054	11	054	hemlock beetle	<i>Pseudohylesinus tsugae</i>	-	-
11055	11	055	spruce ips	<i>Ips pilifrons</i>	-	-
11056	11	056	(smaller) Mexican pine beetle	<i>Dendroctonus mexicanus</i>	-	-
11057	11	057	banded elm bark beetle	<i>Scolytus schevyrewi</i>	-	-
11058	11	058	redbay ambrosia beetle	<i>Xyleborus glabratus</i>	-	-
11059	11	059	southern cypress beetle	<i>Phloeosinus taxodii</i>	-	-
11060	11	060	Mediterranean pine engraver	<i>Orthotomicus erosus</i>	-	-
11800	11	800	other bark beetle (known)	other bark beetle (known)	-	-
11900	11	900	unknown bark beetle	unknown bark beetle	-	-
11999	11	999	western bark beetle complex	western bark beetle complex	-	-
12000	12	000	Defoliators	-	Any damage to the terminal leader; damage $\geq 20\%$ of the foliage with $\geq 50\%$ of the leaf/needle affected.	All
12001	12	001	casebearer	-	-	-
12002	12	002	leaf tier	-	-	-

Code	Category	Agent	Common Name	Scientific Name	Threshold	Region
12003	12	003	loopers	-	-	-
12004	12	004	needleminers	-	-	-
12005	12	005	sawflies	-	Any damage to the terminal leader; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	NRS
12006	12	006	skeletonizer	-	-	-
12007	12	007	larger elm leaf beetle	<i>Monocesta coryli</i>	-	-
12008	12	008	spanworm	-	-	-
12009	12	009	webworm	-	-	-
12010	12	010	pine false webworm	<i>Acantholyda erythrocephala</i>	-	-
12011	12	011	western blackheaded budworm	<i>Acleris gloverana</i>	-	-
12012	12	012	eastern blackheaded budworm	<i>Acleris variana</i>	-	-
12013	12	013	whitefly	<i>Aleyrodidae</i>	-	-
12014	12	014	fall cankerworm	<i>Alsophila pometaria</i>	-	-
12015	12	015	alder flea beetle	<i>Altica ambiens</i>	-	-
12016	12	016	mountain mahogany looper	<i>Anacamptodes clivinaria profanata</i>	-	-
12017	12	017	birch leaffolder	<i>Ancylis disigerana</i>	-	-
12018	12	018	oak worms	<i>Anisota</i> spp.	-	-
12019	12	019	orange-striped oakworm	<i>Anisota senatoria</i>	-	-
12020	12	020	western larch sawfly	<i>Anoplonyx occidens</i>	-	-
12021	12	021	fruittree leafroller	<i>Archips argyrospila</i>	-	-
12022	12	022	uglynest caterpillar	<i>Archips cerasivorana</i>	-	-
12023	12	023	boxelder defoliator	<i>Archips negundanus</i>	-	-
12024	12	024	oak leafroller	<i>Archips semiferana</i>	-	-
12025	12	025	birch sawfly	<i>Arge pectoralis</i>	-	-
12026	12	026	arborvitae leafminer	<i>Argyresthia thuiella</i>	-	-
12027	12	027	coconut scale	<i>Aspidiotus destructor</i>	-	-
12028	12	028	texas leafcutting ant	<i>Atta texana</i>	-	-
12029	12	029	oak skeletonizer	<i>Bucculatrix ainsliella</i>	Any damage to the terminal leader; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	NRS

Code	Category	Agent	Common Name	Scientific Name	Threshold	Region
12030	12	030	pear sawfly	<i>Caliroa cerasi</i>	-	-
12031	12	031	scarlet oak sawfly	<i>Caliroa quercuscoccineae</i>	-	-
12032	12	032	elm calligrapha	<i>Calligrapha scalaris</i>	-	-
12033	12	033	boxelder leafroller	<i>Caloptilia negundella</i>	-	-
12034	12	034	maple petiole borer	<i>Caulocampus acericaulis</i>	-	-
12035	12	035	spruce webspinning sawfly	<i>Cephalcia fascipennis</i>	-	-
12036	12	036	two-year budworm	<i>Choristoneura biennis</i>	-	-
12037	12	037	large aspen tortrix	<i>Choristoneura conflictana</i>	-	-
12038	12	038	spruce budworm	<i>Choristoneura fumiferana</i>	Any damage to the terminal leader; damage $\geq 20\%$ of the foliage with $\geq 50\%$ of the leaf/needle affected.	NRS
12039	12	039	western pine budworm	<i>Choristoneura lambertiana</i>	-	-
12040	12	040	western spruce budworm	<i>Choristoneura occidentalis</i>	Any damage to the terminal leader; damage $\geq 20\%$ of the foliage with $\geq 50\%$ of the leaf/needle affected.	PNWRS; RMRS
12041	12	041	jack pine budworm	<i>Choristoneura pinus</i>	Any damage to the terminal leader; damage $\geq 20\%$ of the foliage with $\geq 50\%$ of the leaf/needle affected.	NRS
12042	12	042	Modoc budworm	<i>Choristoneura retiniana</i>	-	-
12043	12	043	aspen leaf beetle	<i>Chrysomela crotchi</i>	-	-
12044	12	044	cottonwood leaf beetle	<i>Chrysomela scripta</i>	-	-
12045	12	045	leafhopper	<i>Cicadellidae</i>	-	-
12046	12	046	poplar tentmaker	<i>Closteria inclusa</i>	-	-
12047	12	047	larch casebearer	<i>Coleophora laricella</i>	Any damage to the terminal leader; damage $\geq 20\%$ of the foliage with $\geq 50\%$ of the leaf/needle affected.	NRS
12048	12	048	birch casebearer	<i>Coleophora serratella</i>	Any damage to the terminal leader; damage $\geq 20\%$ of the foliage with $\geq 50\%$ of the leaf/needle affected.	NRS
12049	12	049	lodgepole needleminer	<i>Coleotechnites milleri</i>	-	-
12050	12	050	Gelechiid moths / needleminers	<i>Coleotechnites</i> spp.	-	-
12051	12	051	Black Hills pandora moth	<i>Coloradia doris</i>	-	-
12052	12	052	pandora moth	<i>Coloradia pandora</i>	-	-

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12053	12	053	sycamore lace bug	<i>Corythucha ciliata</i>	-	-
12054	12	054	lace bugs	<i>Corythucha</i> spp.	-	-
12055	12	055	oak leaf tier	<i>Croesia semipurpurana</i>	-	-
12056	12	056	dusky birch sawfly	<i>Croesus latitarsus</i>	-	-
12057	12	057	walnut caterpillar	<i>Datana integerrima</i>	-	-
12058	12	058	yellownecked caterpillar	<i>Datana ministra</i>	-	-
12059	12	059	walkingstick	<i>Diapheromera femorata</i>	-	-
12060	12	060	spruce coneworm	<i>Dioryctria reniculelloides</i>	-	-
12061	12	061	introduced pine sawfly	<i>Diprion similis</i>	-	-
12062	12	062	greenstriped mapleworm	<i>Dryocampa rubicunda</i>	-	-
12063	12	063	spruce needleminer (east)	<i>Endothenia albolineana</i>	-	-
12064	12	064	elm spanworm	<i>Ennomos subsignaris</i>	Any damage to the terminal leader; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	NRS
12065	12	065	maple trumpet skeletonizer	<i>Epinotia aceriella</i>	-	-
12066	12	066	white fir needleminer	<i>Epinotia meritana</i>	-	-
12067	12	067	linden looper	<i>Erannis tiliaria</i>	-	-
12068	12	068	brown tail moth	<i>Euproctis chrysorrhoea</i>	Any occurrence.	NRS
12069	12	069	pine needleminer	<i>Exoteleia pinifoliella</i>	-	-
12070	12	070	birch leafminer	<i>Fenus a pusilla</i>	-	-
12071	12	071	elm leafminer	<i>Fenus a ulmi</i>	-	-
12072	12	072	geometrid moth	<i>Geometridae</i>	-	-
12073	12	073	leafblotch miner	<i>Gracillariidae</i>	-	-
12074	12	074	spotted tussock moth	<i>Halisidota maculata</i>	-	-
12075	12	075	pale tussock moth	<i>Halisidota tessellaris</i>	-	-
12076	12	076	hesperiid moth	<i>Hasora choromus</i>	-	-
12077	12	077	brown day moth	<i>Hemileuca eglanterina</i>	-	-
12078	12	078	buck moth	<i>Hemileuca maia</i>	-	-
12079	12	079	saddled prominent	<i>Heterocampa guttivitta</i>	-	-
12080	12	080	variable oakleaf caterpillar	<i>Heterocampa manteo</i>	-	-

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12081	12	081	cherry scallop shell moth	<i>Hydria prunivora</i>	Any damage to the terminal leader; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	NRS
12082	12	082	fall webworm	<i>Hyphantria cunea</i>	-	-
12083	12	083	hemlock looper	<i>Lambdina fiscellaria</i>	-	-
12084	12	084	oak looper	<i>Lambdina punctat</i>	-	-
12085	12	085	tent caterpillar moth	<i>Lasiocampidae</i>	-	-
12086	12	086	satin moth	<i>Leucoma salicis</i>	Any damage to the terminal leader; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	NRS
12087	12	087	willow leafblotch miner	<i>Lithocolletis</i> spp.	-	-
12088	12	088	aspen blotchminer	<i>Lithocolletis tremuloidiella</i>	-	-
12089	12	089	gypsy moth	<i>Lymantria dispar</i>	Any occurrence.	NRS
12090	12	090	cottonwood leafminers	<i>Lyonetia</i> spp.	-	-
12091	12	091	dogwood sawfly	<i>Macremphytus tarsatus</i>	-	-
12092	12	092	rose chafer	<i>Macroderactylus subspinosus</i>	-	-
12093	12	093	eastern tent caterpillar	<i>Malacosoma americanum</i>	Any damage to the terminal leader; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	NRS
12094	12	094	western tent caterpillar	<i>Malacosoma californicum</i>	-	-
12095	12	095	Pacific tent caterpillar	<i>Malacosoma constrictum</i>	-	-
12096	12	096	forest tent caterpillar	<i>Malacosoma disstria</i>	Any damage to the terminal leader; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	NRS
12097	12	097	southwestern tent caterpillar	<i>Malacosoma incurvum</i>	-	-
12098	12	098	leafcutting bees	<i>Megachilidae</i>	-	-
12099	12	099	blister beetle	<i>Meloidae</i>	-	-
12100	12	100	early birch leaf edgeminer	<i>Messa nana</i>	-	-
12101	12	101	juniper sawfly	<i>Monocetus fulvus</i>	-	-
12102	12	102	common sawflies	<i>Nematus</i> spp.	-	-
12103	12	103	balsam fir sawfly	<i>Neodiprion abietis</i>	-	-
12104	12	104	lodgepole sawfly	<i>Neodiprion burkei</i>	-	-

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12105	12	105	blackheaded pine sawfly	<i>Neodiprion excitans</i>	-	-
12106	12	106	pine infesting sawflies	<i>Neodiprion fulviceps</i>	-	-
12107	12	107	redheaded pine sawfly	<i>Neodiprion lecontei</i>	-	-
12109	12	109	ponderosa pine sawfly	<i>Neodiprion mundus</i>	-	-
12110	12	110	white pine sawfly	<i>Neodiprion pinetum</i>	-	-
12111	12	111	jack pine sawfly	<i>Neodiprion pratti banksianae</i>	-	-
12112	12	112	Virginia pine sawfly	<i>Neodiprion pratti pratti</i>	-	-
12113	12	113	European pine sawfly	<i>Neodiprion sertifer</i>	-	-
12114	12	114	loblolly pine sawfly	<i>Neodiprion taedae linearis</i>	-	-
12115	12	115	hemlock sawfly	<i>Neodiprion tsugae</i>	-	-
12116	12	116	pine butterfly	<i>Neophasia menapia</i>	-	-
12117	12	117	false hemlock looper	<i>Nepytia canosaria</i>	-	-
12118	12	118	California tortoiseshell	<i>Nymphalis californica</i>	-	-
12119	12	119	locust leafminer	<i>Odontota dorsalis</i>	-	-
12120	12	120	Bruce spanworm	<i>Operophtera bruceata</i>	-	-
12121	12	121	rusty tussock moth	<i>Orgyia antiqua</i>	-	-
12122	12	122	whitemarked tussock moth	<i>Orgyia leucostigma</i>	-	-
12123	12	123	Douglas-fir tussock moth	<i>Orgyia pseudotsugata</i>	-	-
12124	12	124	western tussock moth	<i>Orgyia vetusta</i>	-	-
12125	12	125	spring cankerworm	<i>Paleacrita vernata</i>	-	-
12126	12	126	black citrus swallowtail butterfly	<i>Papilio polytes</i>	-	-
12127	12	127	maple leafcutter	<i>Paraclemensia acerifoliella</i>	-	-
12128	12	128	pine tussock moth	<i>Parorgyia grisefacta</i>	-	-
12129	12	129	poinciana looper	<i>Pericyma cruegeri</i>	-	-
12130	12	130	half-wing geometer	<i>Phigalia titea</i>	-	-
12131	12	131	Phoberia moth	<i>Phoberia atomaris</i>	-	-
12132	12	132	California oakworm	<i>Phryganidia californica</i>	-	-
12133	12	133	European snout beetle	<i>Phyllobius oblongus</i>	-	-
12134	12	134	citrus leafminer	<i>Phyllocoptis citrella</i>	-	-

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12135	12	135	aspen leafminer	<i>Phyllocnistis populiella</i>	Any damage to the terminal leader; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	PNWRS-AK
12136	12	136	yellowheaded spruce sawfly	<i>Pikonema alaskensis</i>	Any damage to the terminal leader; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	NRS
12137	12	137	tenlined June beetle	<i>Polyphylla decemlineata</i>	-	-
12138	12	138	Japanese beetle	<i>Popillia japonica</i>	-	-
12139	12	139	larch sawfly	<i>Pristiphora erichsonii</i>	-	-
12140	12	140	mountain-ash sawfly	<i>Pristiphora geniculata</i>	-	-
12141	12	141	elm leaf beetle	<i>Pyrrhalta luteola</i>	-	-
12142	12	142	spearmarked black moth	<i>Rheumaptera hastata</i>	-	-
12143	12	143	giant silkworm moth	<i>Saturniidae</i>	-	-
12144	12	144	redhumped caterpillar	<i>Schizura concinna</i>	-	-
12145	12	145	redbanded thrips	<i>Selenothrips rubrocinctus</i>	-	-
12146	12	146	green larch looper	<i>Semiothisa sexmaculata</i>	-	-
12147	12	147	maple leafroller	<i>Sparganothis acerivorana</i>	-	-
12148	12	148	redhumped oakworm	<i>Symmerista canicosta</i>	-	-
12149	12	149	orangehumped mapleworm	<i>Symmerista leucitys</i>	-	-
12150	12	150	spruce needleminer (west)	<i>Taniva albolineana</i>	-	-
12151	12	151	maple webworm	<i>Tetralopha asperatella</i>	-	-
12152	12	152	pine webworm	<i>Tetralopha robustella</i>	-	-
12153	12	153	introduced basswood thrips	<i>Thrips calcaratus</i>	-	-
12154	12	154	bagworm	<i>Thyridopteryx ephemeraeformis</i>	-	-
12155	12	155	leafroller/seed moth	<i>Tortricidae</i>	-	-
12156	12	156	willow defoliation	<i>Tortricidae</i>	-	-
12157	12	157	euonymus caterpillar	<i>Yponomeuta spp.</i>	-	-
12158	12	158	spruce bud moth	<i>Zeiraphera canadensis</i>	-	-
12159	12	159	larch bud moth	<i>Zeiraphera improbana</i>	-	-
12160	12	160	pine needle sheathminer	<i>Zelleria haimbachii</i>	-	-
12161	12	161	cypress looper	<i>Anacamptodes pergracilis</i>	-	-

Code	Category	Agent	Common Name	Scientific Name	Threshold	Region
12162	12	162	Chrysomela leaf beetle	<i>Chrysomela</i> spp.	-	-
12163	12	163	pine colaspis	<i>Colaspis pini</i>	-	-
12164	12	164	saddleback looper	<i>Ectropis crepuscularia</i>	-	-
12165	12	165	birch leaf roller	<i>Epinotia solandriana</i>	Any damage to the terminal leader; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	PNWRS-AK
12166	12	166	New Mexico fir looper	<i>Galenara consimilis</i>	-	-
12167	12	167	striped alder sawfly	<i>Hemicroca crocea</i>	-	-
12168	12	168	greenstriped looper	<i>Melanoplophia imitata</i>	-	-
12169	12	169	willow leaf blotchminer	<i>Micrurapteryx salicifoliella</i>	-	-
12170	12	170	pine sawfly	<i>Neodiprion autmnalis</i>	-	-
12171	12	171	pinon sawfly	<i>Neodiprion edulicolus</i>	-	-
12172	12	172	Neodiprion gilletti	<i>Neodiprion gilletti</i>	-	-
12173	12	173	Neodiprion ventralis	<i>Neodiprion ventralis</i>	-	-
12174	12	174	pine looper	<i>Phaeoura mexicanaria</i>	-	-
12175	12	175	Zadiprion rohweri	<i>Zadiprion rohweri</i>	-	-
12176	12	176	bull pine sawfly	<i>Zadiprion townsendi</i>	-	-
12177	12	177	Douglas-fir budmoth	<i>Zeiraphera hesperiana</i>	-	-
12178	12	178	western oak looper	<i>Lambdina fiscellaria somniaria</i>	-	-
12179	12	179	phantom hemlock looper	<i>Nepytia phantasmaria</i>	-	-
12180	12	180	tent caterpillar	<i>Malacosoma</i> spp.	-	-
12181	12	181	Abbot's sawfly	<i>Neodiprion abbotii</i>	-	-
12182	12	182	slash pine sawfly	<i>Neodiprion merkeli</i>	-	-
12183	12	183	sand pine sawfly	<i>Neodiprion pratti</i>	-	-
12184	12	184	melalueca leaf weevil	<i>Oxyops vitiosa</i>	-	-
12185	12	185	cypress leaf beetle	<i>Systema marginalis</i>	-	-
12186	12	186	Nepytia janetae	<i>Nepytia janetae</i>	-	-
12187	12	187	agromyzid fly	<i>Agromyza viridula</i>	-	-
12188	12	188	elm sawfly	<i>Cimbex americana</i>	-	-
12189	12	189	june beetle	<i>Phyllophaga</i> spp.	-	-

Code	Category	Agent	Common Name	Scientific Name	Threshold	Region
12190	12	190	hickory tussock moth	<i>Halisidota caryae</i>	-	-
12191	12	191	pin oak sawfly	<i>Caliroa lineata</i>	-	-
12192	12	192	palmerworm	<i>Dichomeris ligulella</i>	-	-
12193	12	193	pitch pine looper	<i>Lambdina athasaria pellucidaria</i>	-	-
12194	12	194	red pine sawfly	<i>Neodiprion nanulus nanulus</i>	-	-
12195	12	195	pine tube moth	<i>Argyrotaenia pinatubana</i>	-	-
12196	12	196	baldcypress leafroller	<i>Archips goyerana</i>	-	-
12197	12	197	winter moth	<i>Operophtera brumata</i>	Any occurrence.	NRS
12198	12	198	basswood thrips	<i>Neohydatothrips tiliae</i>	-	-
12199	12	199	noctuid moth	<i>Xylomyges simplex</i> (Walker)	-	-
12200	12	200	pyralid moth	<i>Palpita magniferalis</i>	Any damage to the terminal leader; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	NRS
12201	12	201	pacific silver fir budmoth	<i>Zeiraphera</i> spp.	-	-
12202	12	202	red pine needle midge	<i>Thecodiplosis piniresinosae</i>	-	-
12203	12	203	western hemlock looper	<i>Lambdina fiscellaria lugubrosa</i>	-	-
12204	12	204	lodgepole pine sawfly	<i>Neodiprion nanulus contortae</i>	-	-
12205	12	205	silverspotted tiger moth	<i>Lophocampa argentata</i>	-	-
12206	12	206	green alder sawfly	<i>Monsoma pulveratum</i>	-	-
12207	12	207	conifer sawflies	conifer sawflies	-	-
12208	12	208	ambermarked birch leafminer	<i>Profenusia thomsoni</i>	-	-
12209	12	209	cycad blue butterfly	<i>Chilades pandava</i>	-	-
12300	12	300	budworm	budworms	Any damage to the terminal leader; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	PNWRS
12800	12	800	other defoliater (known)	other defoliater (known)	-	-
12900	12	900	unknown defoliator	unknown defoliator	-	-
13000	13	000	CheWing Insects	-	Any damage to the terminal leader; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	RMRS; SRS
13001	13	001	grasshopper	-	-	-
13002	13	002	shorthorn grasshoppers	<i>Acrididae</i>	-	-

Code	Category	Agent	Common Name	Scientific Name	Threshold	Region
13003	13	003	black cutworm	<i>Agrotis ipsilon</i>	-	-
13004	13	004	Palau coconut beetle	<i>Brontispa palauenis</i>	-	-
13005	13	005	clearwinged grasshopper	<i>Camnula pellucida</i>	-	-
13006	13	006	cicadas	<i>Cicadidae</i>	-	-
13007	13	007	eurytomids	<i>Eurytoma</i> spp.	-	-
13008	13	008	cutworms	<i>Euxoa excellens</i>	-	-
13009	13	009	whitefringed beetles	<i>Graphognathus</i> spp.	-	-
13010	13	010	pales weevil	<i>Hylobius pales</i>	-	-
13011	13	011	vegetable weevil	<i>Listroderes difficilis</i>	-	-
13012	13	012	periodical cicada	<i>Magicicada septendecim</i>	-	-
13013	13	013	migratory grasshopper	<i>Melanoplus sanguinipes</i>	-	-
13014	13	014	valley grasshopper	<i>Oedaleonotus enigma</i>	-	-
13015	13	015	strawberry root weevil	<i>Otiorhyynchus ovatus</i>	-	-
13016	13	016	black vine weevil	<i>Otiorhynchus sulcatus</i>	-	-
13017	13	017	pandanus beetle	<i>Oxycephala pandani</i>	-	-
13018	13	018	spaeth pandanus	<i>Oxycephala spaethi</i>	-	-
13019	13	019	agamemnon butterfly	<i>Papilio agememnon</i>	-	-
13020	13	020	northern pitch twig moth	<i>Petrova albicapitana</i>	-	-
13021	13	021	ponderosa pine tip moth	<i>Rhyacionia zozana</i>	-	-
13022	13	022	pine needle weevil	<i>Scythropus</i> spp.	-	-
13023	13	023	coconut longhorned grasshopper	<i>Segestes unicolor</i>	-	-
13024	13	024	clover root curculio	<i>Sitona hispidulus</i>	-	-
13025	13	025	Madron thrips	<i>Thrips madronii</i>	-	-
13026	13	026	ash plant bug	<i>Tropidosteptes amoenus</i>	-	-
13027	13	027	shorthorned grasshopper	<i>Valanga nigricornis</i>	-	-
13028	13	028	pitch-eating weevil	<i>Pachylobius picivorus</i>	-	-
13029	13	029	eastern pine weevil	<i>Pissodes nemorensis</i>	-	-
13030	13	030	adana tip moth	<i>Rhyacionia adana</i>	-	-
13800	13	800	other chewing insect (known)	other chewing insect (known)	-	-
13900	13	900	unknown chewing insect	unknown chewing insect	-	-

Code	Category	Agent	Common Name	Scientific Name	Threshold	Region
14000	14	000	Sucking Insects	-	Any damage to the terminal leader; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	All
14001	14	001	scale insects	-	Any damage to the terminal leader; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	NRS
14002	14	002	western larch woolly aphid	<i>Adelges oregonensis</i>	-	-
14003	14	003	balsam woolly adelgid	<i>Adelges piceae</i>	Any occurrence.	NRS; PNWRS; RMRS
14004	14	004	hemlock woolly adelgid	<i>Adelges tsugae</i>	Any occurrence.	NRS; RMRS
14005	14	005	spiraling whitefly	<i>Aleurodicus dispersus</i>	-	-
14006	14	006	aphid	<i>Aphididae</i>	-	-
14007	14	007	pine spittlebug	<i>Aphrophora parallelia</i>	-	-
14008	14	008	western pine spittlebug	<i>Aphrophora permutata</i>	-	-
14009	14	009	Saratoga spittlebug	<i>Aphrophora saratogensis</i>	-	-
14010	14	010	spittlebug	<i>Cercopidae</i>	-	-
14011	14	011	wax scale	<i>Ceroplastes</i> spp.	-	-
14012	14	012	pine needle scale	<i>Chionaspis pinifoliae</i>	-	-
14014	14	014	giant conifer aphids	<i>Cinara</i> spp.	-	-
14015	14	015	white pine aphid	<i>Cinara strobi</i>	-	-
14016	14	016	beech scale	<i>Cryptococcus fagisuga</i>	Any occurrence.	NRS
14017	14	017	spruce aphid	<i>Elatobium abietinum</i>	-	-
14018	14	018	woolly apple aphid	<i>Eriosoma lanigerum</i>	-	-
14019	14	019	striped mealybug	<i>Ferrisia vergata</i>	-	-
14020	14	020	elongate hemlock scale	<i>Fiorinia externa</i>	Any damage to the terminal leader; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	NRS
14021	14	021	coconut red scale	<i>Furcaspis oceanica</i>	-	-
14022	14	022	pine thrips	<i>Gnophothrips</i> spp.	-	-
14023	14	023	leucaena psyllid	<i>Heteropsylla cubana</i>	-	-
14024	14	024	honeysuckle aphids	<i>Hyadaphis tataricae</i>	-	-

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14025	14	025	Egyptian fluted scale	<i>Icerya aegyptiaca</i>	-	-
14026	14	026	Lecanium scale	<i>Lecanium spp.</i>	-	-
14027	14	027	common falsepit scale	<i>Lecanodiaspis prosopidis</i>	-	-
14028	14	028	oystershell scale	<i>Lepidosaphes ulmi</i>	-	-
14029	14	029	pinyon needle scale	<i>Matsucoccus acalyptus</i>	-	-
14030	14	030	ponderosa pine twig scale	<i>Matsucoccus bisetosus</i>	-	-
14031	14	031	pine twig scale	<i>Matsucoccus californicus</i>	-	-
14032	14	032	ponderosa pine scale	<i>Matsucoccus degeneratus</i>	-	-
14033	14	033	red pine scale	<i>Matsucoccus resinosae</i>	Any occurrence.	NRS
14034	14	034	Prescott scale	<i>Matsucoccus vexillorum</i>	-	-
14035	14	035	treehoopers	<i>Membracidae</i>	-	-
14036	14	036	hibiscus psyllid	<i>Mesohomotoma hibisci</i>	-	-
14037	14	037	balsam twig aphid	<i>Mindarus abietinus</i>	-	-
14038	14	038	hibiscus mealybug	<i>Nipaecoccus vastator</i>	-	-
14039	14	039	black pineleaf scale	<i>Nuculaspis californica</i>	-	-
14040	14	040	spruce spider mite	<i>Oligonychus ununquis</i>	-	-
14041	14	041	twig girdler	<i>Oncideres cingulata</i>	-	-
14042	14	042	woolly alder aphid	<i>Paraprociphilus tessellatus</i>	-	-
14043	14	043	maple aphids	<i>Periphyllus spp.</i>	-	-
14044	14	044	spruce bud scale	<i>Physokermes piceae</i>	-	-
14045	14	045	red pine adelgid	<i>Pineus borneri</i>	-	-
14046	14	046	pine leaf adelgid	<i>Pineus pinifoliae</i>	-	-
14047	14	047	white pine adelgid	<i>Pineus spp.</i>	-	-
14048	14	048	pine bark adelgid	<i>Pineus strobi</i>	-	-
14049	14	049	root aphid	<i>Prociphilus americanus</i>	-	-
14050	14	050	mealybug	<i>Pseudococcidae</i>	-	-
14051	14	051	cottony maple scale	<i>Pulvinaria innumerabilis</i>	-	-
14052	14	052	fir mealybug	<i>Puto cupressi</i>	-	-
14053	14	053	Douglas-fir mealybug	<i>Puto profusus</i>	-	-
14054	14	054	spruce mealybug	<i>Puto sandini</i>	-	-

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14055	14	055	hemispherical scale	<i>Saissetia coffeae</i>	-	-
14056	14	056	woolly pine needle aphid	<i>Schizolachnus piniradiatae</i>	-	-
14057	14	057	steatococcus scale	<i>Steatococcus samaraius</i>	-	-
14058	14	058	pear thrips	<i>Taeniothrips inconsequens</i>	-	-
14059	14	059	mulberry whitefly	<i>Tetraleurodes mori</i>	-	-
14060	14	060	tuliptree scale	<i>Toumeyella liriodendri</i>	-	-
14061	14	061	pine tortoise scale	<i>Toumeyella parvicornis</i>	-	-
14062	14	062	citrus snow scale	<i>Unaspis citri</i>	-	-
14063	14	063	birch aphid	<i>Eucraphis betulae</i>	-	-
14064	14	064	Kermes scale	<i>Allokermes spp.</i>	-	-
14065	14	065	Casuarina spittlebug	<i>Clastoptera undulata</i>	-	-
14066	14	066	giant bark aphid	<i>Longistigma caryae</i>	-	-
14067	14	067	woolly pine scale	<i>Pseudophilippia quaintancii</i>	-	-
14068	14	068	european elm scale	<i>Gossyparia spuria</i>	-	-
14069	14	069	elm scurfy scale	<i>Chionaspis americana</i>	-	-
14070	14	070	magnolia scale	<i>Neolecanium cornuparvum</i>	-	-
14071	14	071	beech blight aphid	<i>Glylloprociphilus imbricator</i>	-	-
14072	14	072	beech woolly aphid	<i>Phyllaphis fagi</i>	-	-
14073	14	073	Asian cycad scale	<i>Aulacaspis yasumatsui</i>	Any damage to the terminal leader; damage $\geq 20\%$ of the foliage with $\geq 50\%$ of the leaf/needle affected.	PNWRS
14074	14	074	European fruit lecanium scale	<i>Parthenolecanium corni</i>	-	-
14075	14	075	lobate lac scale	<i>Paratachardina lobata</i>	-	-
14800	14	800	other sucking insect (known)	other sucking insect (known)	-	-
14900	14	900	unknown sucking insect	unknown sucking insect	-	-
15000	15	000	Boring Insects	-	Any damage to the terminal leader; damage $\geq 20\%$ of the roots, stems, or branches.	All
15001	15	001	shoot borer	-	Any damage to the terminal leader; damage $\geq 20\%$ of the roots, stems, or branches.	NRS
15002	15	002	termite	-	-	-

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15003	15	003	ponderosa pine bark borer	<i>Acanthocinus princeps</i>	-	-
15004	15	004	bronze birch borer	<i>Agrilus anxius</i>	Any damage to the terminal leader; damage $\geq 20\%$ of the roots, stems, or branches.	NRS
15005	15	005	twolined chestnut borers	<i>Agrilus bilineatus</i>	-	-
15006	15	006	bronze poplar borer	<i>Agrilus liragus</i>	-	-
15007	15	007	carpenter bees	<i>Apidae</i>	-	-
15008	15	008	flatheaded borer	<i>Buprestidae</i>	-	-
15009	15	009	golden buprestid	<i>Buprestis aurulenta</i>	-	-
15010	15	010	carpenter ants	<i>Camponotus</i> spp.	-	-
15011	15	011	gouty pitch midge	<i>Cecidomyia piniinopis</i>	-	-
15012	15	012	shootboring sawflies	<i>Cephidae</i>	-	-
15013	15	013	roundheaded borer	<i>Cerambycidae</i>	-	-
15014	15	014	flatheaded apple tree borer	<i>Chrysobothris femorata</i>	-	-
15015	15	015	cranberry girdler	<i>Chrysoteuchia topiaria</i>	-	-
15016	15	016	Columbian timber beetle	<i>Corthylus columbianus</i>	-	-
15017	15	017	pitted ambrosia beetle	<i>Corthylus punctatissimus</i>	-	-
15018	15	018	carpenterworm moths	<i>Cossidae</i>	-	-
15019	15	019	poplar and willow borer	<i>Cryptorhynchus lapathi</i>	-	-
15020	15	020	pine reproduction weevil	<i>Cylindrocopturus eatoni</i>	-	-
15021	15	021	Douglas-fir twig weevil	<i>Cylindrocopturus furnissi</i>	-	-
15022	15	022	Zimmerman pine moth	<i>Dioryctria zimmermani</i>	-	-
15023	15	023	oak twig borers	<i>Elaphidionoides</i> spp.	-	-
15024	15	024	twig pruner	<i>Elaphidionoides villosus</i>	-	-
15025	15	025	lesser cornstalk borer	<i>Elasmopalpus lignosellus</i>	-	-
15026	15	026	red oak borer	<i>Enaphalodes rufulus</i>	Damage to $\geq 10\%$ of the bole circumference.	NRS
15027	15	027	ponderous borer	<i>Ergates spiculatus</i>	-	-
15028	15	028	eastern pine shoot borer	<i>Eucosma gloriola</i>	-	-
15029	15	029	western pine shoot borer	<i>Eucosma sonomana</i>	-	-
15030	15	030	Eucosma shoot borers	<i>Eucosma</i> spp.	-	-

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15031	15	031	sugar maple borer	<i>Glycobius speciosus</i>	Any damage to the terminal leader; damage ≥20% of the roots, stems, or branches.	NRS
15032	15	032	Goes borers	<i>Goes</i> spp.	-	-
15033	15	033	pine root collar weevil	<i>Hylobius radicis</i>	-	-
15034	15	034	Warren root collar weevil	<i>Hylobius warreni</i>	-	-
15035	15	035	powderpost beetle	<i>Lyctidae</i>	-	-
15036	15	036	tarnished plant bug	<i>Lygus lineolaris</i>	-	-
15037	15	037	bark weevils	<i>Magdalais</i> spp.	-	-
15038	15	038	white pine barkminer moth	<i>Marmara fasciella</i>	-	-
15039	15	039	locust borer	<i>Megacyllene robiniae</i>	-	-
15040	15	040	California flathead borer	<i>Melanophila californica</i>	-	-
15041	15	041	flatheaded fir borer	<i>Melanophila drummondi</i>	-	-
15042	15	042	whitespotted sawyer	<i>Monochamus scutellatus</i>	-	-
15043	15	043	redheaded ash borer	<i>Neoclytus acuminatus</i>	-	-
15044	15	044	western ash borer	<i>Neoclytus conjunctus</i>	-	-
15045	15	045	oberea shoot borers	<i>Oberea</i> spp.	-	-
15046	15	046	eucalyptus longhorned borer	<i>Phoracantha semipunctata</i>	-	-
15047	15	047	northern pine weevil	<i>Pissodes approximatus</i>	-	-
15048	15	048	balsam bark weevil	<i>Pissodes dubius</i>	-	-
15049	15	049	Monterey pine weevil	<i>Pissodes radiatae</i>	-	-
15050	15	050	Engelmann spruce weevil	<i>Pissodes strobi</i>	-	-
15051	15	051	lodgepole terminal weevil	<i>Pissodes terminalis</i>	-	-
15052	15	052	ambrosia beetles	<i>Platypus</i> spp.	-	-
15053	15	053	cottonwood borer	<i>Plectrodera scalator</i>	-	-
15054	15	054	balsam shootboring sawfly	<i>Pleroneura brunneicornis</i>	-	-
15055	15	055	pine gall weevil	<i>Podapion gallicola</i>	-	-
15056	15	056	ash borer	<i>Podesesia syringae fraxini</i>	-	-
15057	15	057	lilac borer	<i>Podosesia syringae</i>	-	-
15058	15	058	carpenterworm	<i>Prionoxystus robiniae</i>	-	-

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15059	15	059	maple shoot borers	<i>Proterteras</i> spp.	-	-
15060	15	060	western subterranean termite	<i>Reticulitermes hesperus</i>	-	-
15061	15	061	coconut trunk weevil	<i>Rhabdoscelus asperipennis</i>	-	-
15062	15	062	New Guinea sugarcane weevil	<i>Rhabdoscelus obscurus</i>	-	-
15063	15	063	European pine shoot moth	<i>Rhyacionia buoliana</i>	-	-
15064	15	064	western pine tip moth	<i>Rhyacionia bushnelli</i>	-	-
15065	15	065	Nantucket pine tip moth	<i>Rhyacionia frustrana</i>	-	-
15066	15	066	lodgepole pine tip moth	<i>Rhyacionia montana</i>	-	-
15067	15	067	southwestern pine tip moth	<i>Rhyacionia neomexicana</i>	-	-
15068	15	068	poplar borer	<i>Saperda calcarata</i>	-	-
15069	15	069	roundheaded appletree borer	<i>Saperda candida</i>	-	-
15070	15	070	Saperda shoot borer	<i>Saperda</i> spp.	-	-
15071	15	071	clearwing moths	<i>Sesiidae</i>	-	-
15072	15	072	dogwood borer	<i>Synanthedon scitula</i>	-	-
15073	15	073	roundheaded fir borer	<i>Tetropium abietis</i>	-	-
15074	15	074	western larch borer	<i>Tetropium velutinum</i>	-	-
15075	15	075	western cedar borer	<i>Trachykele blondeli</i>	-	-
15076	15	076	Douglas-fir pitch moth	<i>Vesparimma novaroensis</i>	-	-
15077	15	077	sequoia pitch moth	<i>Vesparimma sequoia</i>	-	-
15078	15	078	black twig borer	<i>Xylosandrus compactus</i>	-	-
15079	15	079	Pacific dampwood termite	<i>Zootermopsis angusticollis</i>	-	-
15080	15	080	subtropical pine tip moth	<i>Rhyacionia subtropica</i>	-	-
15081	15	081	Asian ambrosia beetle	<i>Xylosandrus crassiusculus</i>	-	-
15082	15	082	Asian longhorned beetle	<i>Anoplophora glabripennis</i>	-	-
15083	15	083	cottonwood twig borer	<i>Gypsonoma haimbachiana</i>	-	-
15084	15	084	southern pine sawyer	<i>Monochamus titillator</i>	-	-
15085	15	085	banded ash borer	<i>Neoclytus capraea</i>	-	-
15086	15	086	sitka spruce weevil	<i>Pissodes sitchensis</i>	-	-
15087	15	087	emerald ash borer	<i>Agrilus planipennis</i>	Any occurrence.	NRS

Code	Category	Agent	Common Name	Scientific Name	Threshold	Region
15088	15	088	hemlock borer	<i>Melanophila fulvoguttata</i>	Any damage to the terminal leader; damage ≥20% of the roots, stems, or branches.	NRS
15089	15	089	Formosan subterranean termite	<i>Coptotermes formosanus</i>	-	-
15090	15	090	sirex woodwasp	<i>Sirex noctilio</i>	-	-
15091	15	091	Oregon fir sawyer	<i>Monochamus scutellatus oregonensis</i>	-	-
15092	15	092	cypress weevil	<i>Eudocimus mannerheimii</i>	-	-
15093	15	093	camphor shot borer	<i>Xylosandrus multilatus</i>	-	-
15094	15	094	goldenspotted oak borer	<i>Agrilus coxalis</i>	-	-
15095	15	095	European oak borer	<i>Agrilus sulcicollis</i>	-	-
15096	15	096	X. germanus ambrosia beetle	<i>Xylosandrus germanus</i>	-	-
15097	15	097	Icosium tomentosum	<i>Icosium tomentosum</i>	-	-
15800	15	800	other boring insect (known)	other boring insect (known)	-	-
15900	15	900	unknown boring insect	unknown boring insect	-	-
16000	16	000	Seed/Cone/Flower/Fruit Insects	-	-	-
16001	16	001	Douglas-fir cone moth	<i>Barbara colfaxiana</i>	-	-
16002	16	002	lodgepole cone beetle	<i>Conophthorus contortae</i>	-	-
16003	16	003	limber pine cone beetle	<i>Conophthorus flexilis</i>	-	-
16004	16	004	mountain pine cone beetle	<i>Conophthorus monticolae</i>	-	-
16005	16	005	ponderosa pine cone beetle	<i>Conophthorus ponderosae</i>	-	-
16006	16	006	Monterey pine cone beetle	<i>Conophthorus radiatae</i>	-	-
16007	16	007	red pine cone beetle	<i>Conophthorus resinosae</i>	-	-
16008	16	008	white pine cone beetle	<i>Conophthorus coniperda</i>	-	-
16009	16	009	black walnut curculio	<i>Conotrachelus retentus</i>	-	-
16010	16	010	Douglas-fir cone gall midge	<i>Contarinia oregonensis</i>	-	-
16011	16	011	Douglas-fir cone scale midge	<i>Contarinia washingtonensis</i>	-	-
16012	16	012	acorn/nut weevils	<i>Curculio spp.</i>	-	-
16013	16	013	Caroline fruitfly	<i>Dacus frauenfeldi</i>	-	-
16014	16	014	spruce bud midge	<i>Dasineura swainei</i>	-	-

Code	Category	Agent	Common Name	Scientific Name	Threshold	Region
16015	16	015	fir coneworm	<i>Dioryctria abietivorella</i>	-	-
16016	16	016	southern pine cone worm	<i>Dioryctria amatella</i>	-	-
16017	16	017	ponderosa pine coneworm	<i>Dioryctria auranticella</i>	-	-
16018	16	018	loblolly pine cone worm	<i>Dioryctria merkeli</i>	-	-
16019	16	019	ponderosa twig moth	<i>Dioryctria ponderosae</i>	-	-
16020	16	020	Dioryctria pseudotsugella	<i>Dioryctria pseudotsugella</i>	-	-
16021	16	021	Dioryctria moths	<i>Dioryctria</i> spp.	-	-
16022	16	022	lodgepole cone moth	<i>Eucosma resissoriana</i>	-	-
16023	16	023	seed chalcid	<i>Eurytomidae</i>	-	-
16024	16	024	slash pine flower thrips	<i>Gnaphothrips fuscus</i>	-	-
16025	16	025	spruce cone maggot	<i>Hylemya anthracina</i>	-	-
16026	16	026	longleaf pine seed worm or moth	<i>Laspeyresia ingens</i>	-	-
16027	16	027	ponderosa pine seed moth	<i>Laspeyresia piperana</i>	-	-
16028	16	028	spruce seed moth	<i>Laspeyresia youngana</i>	-	-
16029	16	029	boxelder bug	<i>Leptocoris trivittatus</i>	-	-
16030	16	030	leaffooted pine seed bug	<i>Leptoglossus corculus</i>	-	-
16031	16	031	western conifer seed bug	<i>Leptoglossus occidentalis</i>	-	-
16032	16	032	hollyhock thrips	<i>Liothrips varicornis</i>	-	-
16033	16	033	Magastigmus lasiocarparae	<i>Magastigmus lasiocarparae</i>	-	-
16034	16	034	spruce seed chalcid	<i>Magastigmus piceae</i>	-	-
16035	16	035	ponderosa pine seed chalcid	<i>Megastigmus albifrons</i>	-	-
16036	16	036	fir seed chalcid	<i>Megastigmus pinus</i>	-	-
16037	16	037	Douglas-fir seed chalcid	<i>Megastigmus spermotrophs</i>	-	-
16038	16	038	yellow poplar weevil	<i>Odontopus calceatus</i>	-	-
16039	16	039	fruitpiercing moth	<i>Othreis fullonia</i>	-	-
16040	16	040	roundheaded cone borer	<i>Paratimia conicola</i>	-	-
16041	16	041	mango shoot caterpillar	<i>Penicillaria jocosatrix</i>	-	-
16042	16	042	coneworm	<i>Phycitidae</i>	-	-
16043	16	043	harvester ants	<i>Pogonomyrmex</i> spp.	-	-
16044	16	044	citrus flower moth	<i>Prays citri</i>	-	-

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16045	16	045	fir cone maggot	<i>Strobilomyia abietis</i>	-	-
16046	16	046	spruce cone maggot	<i>Strobilomyia anthracina</i>	-	-
16047	16	047	shieldbacked pine seed bug	<i>Tetyra bipunctata</i>	-	-
16048	16	048	coneworm	<i>Hylemia</i> spp.	-	-
16049	16	049	prairie tent caterpillar	<i>Malacosoma lutescens</i>	-	-
16050	16	050	jack pine tip beetle	<i>Conophthorus banksianae</i>	-	-
16051	16	051	webbing coneworm	<i>Dioryctria disclusa</i>	-	-
16052	16	052	blister coneworm	<i>Dioryctria clarioralis</i>	-	-
16053	16	053	southern cone gall midge	<i>Cecidomyia bisetosa</i>	-	-
16054	16	054	seed bugs	<i>Lygaeidae</i> spp.	-	-
16800	16	800	other seed/cone/flower insect (known)	other seed/cone/flower insect (known)	-	-
16900	16	900	unknown seed/cone/ flower insects	unknown seed/cone/ flower insects	-	-
17000	17	000	Gallmaker Insects	-	-	-
17001	17	001	birch budgall mite	<i>Aceria rudis</i>	-	-
17002	17	002	eastern spruce gall adelgid	<i>Adelges abietis</i>	-	-
17003	17	003	Cooley spruce gall adelgid	<i>Adelges cooleyi</i>	-	-
17004	17	004	horned oak gall	<i>Callirhytis cornigera</i>	-	-
17005	17	005	oak gall wasp	<i>Callirhytis quercuspunctata</i>	-	-
17006	17	006	gall midge	<i>Cecidomyiidae</i>	-	-
17007	17	007	Douglas-fir needle gall midge	<i>Contarinia pseudotsugae</i>	-	-
17008	17	008	gall mite	<i>Eriophyidae</i>	-	-
17009	17	009	spruce gall midge	<i>Mayetiola piceae</i>	-	-
17010	17	010	hackberry nipplegall maker	<i>Pachypsylla celtidismamma</i>	-	-
17011	17	011	balsam gall midge	<i>Paradiplosis tumifex</i>	Any damage to the terminal leader; damage $\geq 20\%$ of the foliage with $\geq 50\%$ of the leaf/needle affected.	NRS
17012	17	012	hickory gall Phylloxera	<i>Phylloxera caryaecaulis</i>	-	-
17013	17	013	gall aphid	<i>Phylloxeridae</i>	-	-
17014	17	014	alder gall mite	<i>Phytoptus laevis</i>	-	-
17015	17	015	psyllid	<i>Psyllidae</i>	-	-

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17016	17	016	sugarberry psyllid	<i>Tetragonocephela flava</i>	-	-
17017	17	017	mountain apple psyllid	<i>Trioza vitiensis</i>	-	-
17018	17	018	gouty pitch midge	<i>Cedidomyia piniinopsis</i>	-	-
17019	17	019	spider mites	<i>Oligonychus</i> spp.	-	-
17020	17	020	cypress gall midges	<i>Taxodiomyia</i> spp.	-	-
17021	17	021	jumping oak gall wasp	<i>Neuroterus saltatorius</i>	-	-
17022	17	022	erythrina gall wasp	<i>Quadrastichus erythrinae</i>	-	-
17800	17	800	other gallmaking insect (known)	other gallmaking insect (known)	-	-
17900	17	900	unknown gallmaking insect	unknown gallmaking insect	-	-
18000	18	000	Insect Predators	-	-	-
18001	18	001	lacewing	-	-	-
18002	18	002	blackbellied clerid	<i>Enoclerus lecontei</i>	-	-
18003	18	003	redbellied clerid	<i>Enoclerus sphegeus</i>	-	-
18004	18	004	red wood ant	<i>Formica rufa</i>	-	-
18005	18	005	western yellowjacket	<i>Vespula pennsylvanica</i>	-	-
19000	19	000	General Diseases	-	Any damage to the terminal leader; damage $\geq 20\%$ of the roots or boles with $>20\%$ of the circumference affected; damage $>20\%$ of the multiple-stems (on multi-stemmed woodland species) with $>20\%$ of the circumference affected; $>20\%$ of the branches affected; damage $\geq 20\%$ of the foliage with $\geq 50\%$ of the leaf/needle affected.	All
20000	20	000	Biotic Damage	-	-	-
20001	20	001	damping off	-	-	-
20002	20	002	gray mold	<i>Botrytis cinerea</i>	-	-
20003	20	003	Cassytha	<i>Cassytha filiformis</i>	-	-
20004	20	004	hemlock fluting	-	-	-
21000	21	000	Root/Butt Diseases	-	Any occurrence.	All
21001	21	001	Armillaria root disease	<i>Armillaria</i> spp.	Any occurrence.	NRS; PNWRS

Code	Category	Agent	Common Name	Scientific Name	Threshold	Region
21002	21	002	yellow stringy rot	<i>Corticium galactinum</i>	-	-
21003	21	003	Cylindrocladium root disease	<i>Cylindrocladium</i> spp.	-	-
21004	21	004	brown crumbly rot	<i>Fomitopsis pinicola</i>	-	-
21005	21	005	black root rot of pine	<i>Fusarium oxysporum</i>	-	-
21006	21	006	Fusarium root rot	<i>Fusarium</i> spp.	-	-
21007	21	007	white mottled rot	<i>Ganoderma applanatum</i>	Any visual evidence.	PNWRS-AK
21008	21	008	Ganoderma rot of hardwoods	<i>Ganoderma lucidum</i>	Any occurrence.	PNWRS
21009	21	009	Ganoderma rot of conifers	<i>Ganoderma tsugae</i>	Any visual evidence.	PNWRS-AK
21010	21	010	Heterobasidion root disease	<i>Heterobasidion annosum</i>	Any occurrence.	NRS; PNWRS
21011	21	011	circinatus root rot	<i>Inonotus circinatus</i>	-	-
21012	21	012	tomentosus root rot / false velvet top fungus	<i>Inonotus tomentosus</i>	-	-
21013	21	013	charcoal root rot	<i>Macrophomina phaseolina</i>	-	-
21014	21	014	black stain root disease	<i>Ophiostoma wageneri</i>	Any occurrence.	PNWRS
21015	21	015	Schweinitzii root and butt rot	<i>Phaeolus schweinitzii</i>	Any occurrence.	PNWRS
21016	21	016	flame tree root disease	<i>Phellinus noxious</i>	Any occurrence.	PNWRS
21017	21	017	laminated root rot	<i>Phellinus weiri</i>	Any occurrence.	PNWRS
21019	21	019	littleleaf disease / Phytophthora root rot	<i>Phytophthora cinnamomi</i>	-	-
21020	21	020	Port-Orford-Cedar root disease	<i>Phytophthora lateralis</i>	Any occurrence.	PNWRS
21022	21	022	Pythium root rot	<i>Pythium</i> spp.	-	-
21023	21	023	procera root disease of conifers	<i>Verticildiella procera</i>	-	-
21024	21	024	crown gall	<i>Agrobacterium tumefaciens</i>	-	-
21025	21	025	borealis conk	<i>Climacocystis borealis</i>	-	-
21026	21	026	yellow pitted rot	<i>Hericium abietis</i>	-	-
21027	21	027	brown cubical rot	<i>Laetiporus sulphureus</i>	Any occurrence.	PNWRS
21028	21	028	sudden oak death	<i>Phytophthora ramorum</i>	Any occurrence.	PNWRS
21029	21	029	Rhizina root disease	<i>Rhizina undulata</i>	-	-
21030	21	030	yellow root rot	<i>Perenniporia subacida</i>	-	-
21031	21	031	brown top rot	<i>Fomitopsis cajanderi</i>	-	-

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21033	21	033	pocket dry rot	<i>Tyromyces amarus</i>	-	-
21700	21	700	root or butt decay (indicators present)	root or butt decay (indicators present)	-	-
21800	21	800	other root or butt disease (known)	other root or butt disease (known)	-	-
21900	21	900	unknown root or butt disease	unknown root or butt disease	-	-
22000	22	000	Cankers	-	Any occurrence.	All
22005	22	005	viruses	-	-	-
22006	22	006	black knot of cherry	<i>Apiosporina morbosa</i>	Any occurrence on the bole or on branches \leq 1 foot from bole; damage to \geq 50% of branches.	NRS
22007	22	007	Atropellis canker	<i>Atropellis piniphila</i>	-	-
22008	22	008	Siberian elm canker	<i>Botryodiplodia hypoderma</i>	-	-
22009	22	009	Botryosphaeria canker	<i>Botryosphaeria ribis</i>	-	-
22011	22	011	Caliciopsis canker	<i>Caliciopsis pinea</i>	Any occurrence.	NRS
22012	22	012	black canker of aspen	<i>Ceratocystis fimbriata</i>	-	-
22013	22	013	sycamore canker stain	<i>Ceratocystis fimbriata f.sp. platanini</i>	-	-
22023	22	023	chestnut blight	<i>Cryphonectria parasitica</i>	Any occurrence.	NRS
22025	22	025	Cryptosphaeria canker of aspen	<i>Cryptosphaeria populin</i>	-	-
22026	22	026	Cytospora canker of fir	<i>Cytospora abietis</i>	-	-
22029	22	029	sooty-bark canker	<i>Encoelia pruinosa</i>	-	-
22030	22	030	Eutypella canker	<i>Eutypella parasitica</i>	Any occurrence.	NRS
22032	22	032	pitch canker of pines	<i>Fusarium subglutinans</i>	Any occurrence.	PNWRS
22033	22	033	Fusicoccum canker	<i>Fusicoccum spp.</i>	-	-
22034	22	034	Scleroderris canker	<i>Gremmeniella abietina</i>	-	-
22035	22	035	amelanchier rust	<i>Gymnosporangium harknessianum</i>	-	-
22036	22	036	cedar apple rust	<i>Gymnosporangium juniperi-virginianae</i>	-	-
22037	22	037	Hypoxylon canker of oak	<i>Hypoxylon atropunctatum</i>	-	-
22038	22	038	Hypoxylon canker of aspen	<i>Hypoxylon mammatum</i>	Any occurrence.	NRS
22041	22	041	European larch canker	<i>Lachnellula willkommii</i>	-	-
22042	22	042	beech bark disease	<i>Nectria coccinea</i>	Any occurrence.	NRS

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22043	22	043	Nectria canker	<i>Nectria galligena</i>	Any occurrence.	NRS
22050	22	050	Phomopsis canker	<i>Phomopsis occulta</i>	-	-
22051	22	051	Phomopsis canker	<i>Phomopsis spp.</i>	-	-
22052	22	052	cypress canker	<i>Seiridium cardinalis</i>	-	-
22053	22	053	butternut canker	<i>Sirococcus clavigignenti-jugl.</i>	Any occurrence.	NRS
22054	22	054	maple canker	<i>Steganosporium spp.</i>	-	-
22055	22	055	Thyronectria canker	<i>Thyronectria austro-americana</i>	-	-
22056	22	056	citrus canker	<i>Xanthomonas citri</i>	-	-
22057	22	057	Cytospora canker of aspen	<i>Cytospora chrysosperma</i>	-	-
22058	22	058	Dothichiza canker	<i>Dothichiza populae</i>	-	-
22060	22	060	Leucocytospora canker of spruce	<i>Leucocytospora kunzei</i>	-	-
22073	22	073	hemlock canker	<i>Xenomeris abietis</i>	-	-
22075	22	075	Lachnellula canker	<i>Lachnellula flavovirens</i>	Any occurrence.	NRS
22076	22	076	strumella canker	<i>Strumella coryneoidea</i>	Any occurrence.	NRS
22077	22	077	phomopsis blight	<i>Phomopsis juniperovora</i>	-	-
22078	22	078	fusarium canker of yellow poplar	<i>Fusarium solani</i>	-	-
22079	22	079	sterile conk of maple and beech	<i>Inonotus glomeratus</i>	-	-
22080	22	080	canker of spruce	<i>Aleurodiscus spp.</i>	-	-
22082	22	082	Discocainia canker	<i>Discocainia treleasei</i>	-	-
22083	22	083	red ring rot canker	<i>Phellinus pini var. cancriformans</i>	-	-
22084	22	084	Douglas-fir cankers	Douglas-fir cankers	-	-
22085	22	085	Scleroderris canker of western firs	<i>Grovesiella abieticola</i>	-	-
22086	22	086	Thousand cankers disease	<i>Geosmithia morbida</i>	-	-
22087	22	087	nonrust canker	unknown	Damage ≥20% of bole circumference (in a running 3-foot section) at point of occurrence.	PNWRS
22089	22	099	aspen running canker	<i>Neodothiora populin</i>	Any occurrence	PNW-AK
22300	22	300	other canker disease (known)	other canker disease (known)	-	-
22400	22	400	unknown canker disease	unknown canker disease	-	-
22500	22	500	Stem Decay	-	Any visual evidence (conks; fruiting bodies; rotten wood).	All

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22001	22	001	heart rot	-	Any visual evidence.	SRS
22002	22	002	stem rot	-	-	-
22003	22	003	sap rot	-	-	-
22004	22	004	slime flux	-	-	-
22010	22	010	black rot fungus	<i>Botryosphaeria stevensii</i>	-	-
22024	22	024	gray-brown sap rot	<i>Cryptoporus volvatus</i>	-	-
22027	22	027	western red rot	<i>Dichomitus squalens</i>	-	-
22028	22	028	Indian paint fungus	<i>Echinodontium tinctorium</i>	Any occurrence.	PNWRS
22031	22	031	Fusarium cortical stem rot	<i>Fusarium avenaceum</i>	-	-
22039	22	039	canker rot of oak	<i>Inonotus hispidus</i>	-	-
22040	22	040	sterile conk trunk rot of birch, chaga	<i>Inonotus obliquus</i>	Any visual evidence.	PNWRS-AK
22044	22	044	ash heart rot	<i>Pereniporia fraxinophila</i>	-	-
22047	22	047	red heart rot	<i>Phellinus pini</i>	Any occurrence.	PNWRS
22048	22	048	aspen trunk rot	<i>Phellinus tremulae</i>	Any visual evidence.	PNWRS-AK
22049	22	049	stem decay of black walnut	<i>Phellinus weiri</i>	-	-
22059	22	059	red belt fungus / brown crumbly rot	<i>Fomitopsis pinicola</i>	Any visual evidence.	PNWRS-AK
22062	22	062	quinine fungus / brown trunk rot	<i>Fomitopsis officinalis</i>	Any visual evidence.	PNWRS-AK
22063	22	063	brown cubical decay	<i>Coniophora puteana</i>	-	-
22064	22	064	tinder fungus	<i>Fomes fomentarius</i>	Any visual evidence.	PNWRS-AK
22065	22	065	purple conk	<i>Hirschioporus abietinus</i>	-	-
22066	22	066	pinyon black stain	<i>Leptographium wagnerii</i>	-	-
22067	22	067	Phellinus hartigii	<i>Phellinus hartigii</i>	Any visual evidence.	PNWRS-AK
22068	22	068	false tinder fungus	<i>Phellinus igniarius</i>	Any visual evidence.	PNWRS-AK
22069	22	069	robustus conk	<i>Phellinus robustus</i>	-	-
22070	22	070	yellow cap fungus	<i>Pholiota</i> spp.	Any visual evidence.	PNWRS-AK
22071	22	071	oyster mushroom	<i>Pleurotus ostreatus</i>	-	-
22072	22	072	white ring rot	<i>Poria albipellucida</i>	-	-
22074	22	074	cedar brown pocket rot	<i>Poria sericeomollis</i>	-	-
22081	22	081	birch conk	<i>Piptoporus betulinus</i>	Any visual evidence.	PNWRS-AK
22800	22	800	other stem decay (known)	other stem decay (known)	-	-

Code	Category	Agent	Common Name	Scientific Name	Threshold	Region
22900	22	900	unknown stem decay	unknown stem decay	-	-
23000	23	000	Parasitic/ Epiphytic Plants	-	Dwarf mistletoes with Hawksworth rating of ≥ 3 ; true mistletoes or vines covering $\geq 50\%$ of crown.	All
23001	23	001	mistletoe	mistletoe	-	-
23002	23	002	parasitic plants	parasitic plants	-	-
23003	23	003	vine damage	vine damage	Vines covering $\geq 50\%$ of crown.	NRS; PNWRS
23005	23	005	white fir dwarf mistletoe	<i>Arceuthobium abietinum f. sp. concoloris</i>	-	-
23006	23	006	lodgepole pine dwarf mistletoe	<i>Arceuthobium americanum</i>	-	-
23007	23	007	Apache dwarf mistletoe	<i>Arceuthobium apachecum</i>	-	-
23008	23	008	western dwarf mistletoe	<i>Arceuthobium campylopodium</i>	-	-
23009	23	009	limber pine dwarf mistletoe	<i>Arceuthobium cyanocarpum</i>	-	-
23010	23	010	pinyon dwarf mistletoe	<i>Arceuthobium divaricatum</i>	-	-
23011	23	011	Douglas-fir dwarf mistletoe	<i>Arceuthobium douglasii</i>	-	-
23012	23	012	Chihuahua pine dwarf mistletoe	<i>Arceuthobium gillii</i>	-	-
23013	23	013	larch dwarf mistletoe	<i>Arceuthobium laricis</i>	-	-
23014	23	014	western spruce dwarf mistletoe	<i>Arceuthobium microcarpum</i>	-	-
23015	23	015	eastern dwarf mistletoe	<i>Arceuthobium pusillum</i>	Any occurrence.	NRS
23016	23	016	hemlock dwarf mistletoe	<i>Arceuthobium tsugense</i>	Dwarf mistletoes with Hawksworth rating of ≥ 3 ; true mistletoes or vines covering $\geq 50\%$ of crown.	PNWRS-AK
23017	23	017	southwestern dwarf mistletoe	<i>Arceuthobium vaginatum subsp. crytopodium</i>	-	-
23018	23	018	dodder	<i>Cuscuta</i> spp.	-	-
23019	23	019	white fir mistletoe	<i>Phoradendron bolleanum subsp. pauciflorum</i>	-	-
23020	23	020	true mistletoe (other)	-	True mistletoe covering $\geq 50\%$ of crown.	PNWRS; RMRS
23021	23	021	red fir dwarf mistletoe	<i>Arceuthobium abietinum f. sp. magnifica</i>	-	-
23022	23	022	juniper true mistletoe	<i>Phoradendron juniperum</i>	-	-

Code	Category	Agent	Common Name	Scientific Name	Threshold	Region
23023	23	023	dwarf mistletoe	<i>Arceuthobium</i> spp.	Hawksworth rating of ≥3.	PNWRS; RMRS
23024	23	024	Weins dwarf mistletoe	<i>Arceuthobium abietinum f. sp magnifica</i>	-	-
24000	24	000	Decline Complexes/Dieback/Wilts	-	Damage ≥20% dieback of crown area.	All
24001	24	001	Alaska-yellow cedar decline	Alaska-yellow cedar decline	-	-
24002	24	002	Norfolk Island pine decline	Norfolk Island pine decline	-	-
24003	24	003	Stillwell's syndrome	Stillwell's syndrome	-	-
24004	24	004	ash decline/yellows	ash decline/yellows	Damage ≥20% dieback of crown area.	NRS
24005	24	005	birch dieback	birch dieback	-	-
24006	24	006	coconut cadang-cadang viroid	<i>Cocadviroid coconut cadang-cadang viroid</i>	Damage ≥20% dieback of crown area.	PNWRS
24007	24	007	complex	complex	-	-
24008	24	008	decline	decline	-	-
24009	24	009	fall hardwood defoliator complex	fall hardwood defoliator complex	-	-
24010	24	010	joga decline	joga decline	Damage ≥20% dieback of crown area.	PNWRS
24011	24	011	larch decline	larch decline	-	-
24012	24	012	looper abiotic complex	looper abiotic complex	-	-
24013	24	013	maple decline	maple decline	-	-
24014	24	014	oak decline	<i>Hypoxylon</i> spp.	-	-
24015	24	015	pingelap disease	pingelap disease	-	-
24016	24	016	sprout dieback	sprout dieback	-	-
24017	24	017	true fir pest complex	true fir pest complex	-	-
24018	24	018	western X disease	western X disease	-	-
24019	24	019	pinewood nematode	<i>Bursaphelenchus xylophilus</i>	-	-
24020	24	020	sapstreak disease of sugar maple	<i>Ceratocystis coerulescens</i>	-	-
24021	24	021	oak wilt	<i>Ceratocystis fagacearum</i>	Damage ≥20% dieback of crown area.	NRS
24022	24	022	Dutch elm disease	<i>Ceratocystis ulmi</i>	Damage ≥20% dieback of crown area.	NRS
24023	24	023	bacterial wetwood	<i>Erwinia nimipressuralis</i>	-	-

Code	Category	Agent	Common Name	Scientific Name	Threshold	Region
24024	24	024	mimosa wilt	<i>Fusarium oxysporum f. sp. perniciosum</i>	-	-
24025	24	025	Verticillium wilt	<i>Verticilium albo-atrum</i>	-	-
24026	24	026	bacterial leaf scorch	<i>Xylella fastidiosa</i>	-	-
24027	24	027	wetwood	wetwood	-	-
24028	24	028	hemlock decline	hemlock decline	-	-
24029	24	029	Pacific madrone decline	Pacific madrone decline	-	-
24030	24	030	elm phloem necrosis	<i>Mycoplasma</i> spp.	-	-
24031	24	031	laurel wilt	<i>Raffaelea</i> spp.	-	-
24032	24	032	sudden aspen decline	sudden aspen decline	-	-
24800	24	800	other decline/complex/wilt (known)	other decline/complex/ wilt (known)	-	-
24900	24	900	unknown decline/complex/ wilt	unknown decline/complex/ wilt	-	-
25000	25	000	Foliage Diseases	-	Damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	All
25001	25	001	blight	blight	-	-
25003	25	003	juniper blights	juniper blights	-	-
25004	25	004	leaf spots	leaf spots	-	-
25005	25	005	needlecast	needlecast	-	-
25006	25	006	powdery mildew	powdery mildew	-	-
25007	25	007	tobacco mosaic virus	tobacco mosaic virus	-	-
25008	25	008	tobacco ringspot virus of ash	<i>Nepovirus TRSV</i>	-	-
25009	25	009	true fir needlecast	true fir needlecast	-	-
25010	25	010	sycamore anthracnose	<i>Apiognomonia veneta</i>	-	-
25011	25	011	Cercospora blight of juniper	<i>Cercospora sequoiae</i>	-	-
25013	25	013	large-spored spruce-laborador tea rust	<i>Chrysomyxa ledicola</i>	Damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	PNWRS-AK
25014	25	014	ink spot of aspen	<i>Ciborinia whetzelii</i>	-	-
25015	25	015	pine needle rust	<i>Coleosporium</i> spp.	-	-
25016	25	016	anthracnose on Russian olive	<i>Colletotrichum</i> spp.	-	-
25017	25	017	Coronado limb rust	<i>Cronartium arizonicum</i>	-	-
25018	25	018	leaf shothole	<i>Cylindrosporium</i> spp.	-	-

Code	Category	Agent	Common Name	Scientific Name	Threshold	Region
25019	25	019	cedar leaf blight	<i>Didymascella thujina</i>	-	-
25020	25	020	dogwood anthracnose	<i>Discula</i> spp.	-	-
25021	25	021	mango scab	<i>Elsinoe magiferae</i>	-	-
25022	25	022	Elytroderma needle blight	<i>Elytroderma deformans</i>	Damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	PNWRS
25023	25	023	fire blight	<i>Erwinia amylovora</i>	-	-
25024	25	024	walnut anthracnose	<i>Gnomonia leptostyla</i>	-	-
25025	25	025	anthracnose	<i>Gnomonia</i> spp.	-	-
25027	25	027	brown felt blight	<i>Herpotrichia juniperi</i>	-	-
25028	25	028	larch needle blight	<i>Hypodermella laricis</i>	-	-
25029	25	029	hardwood anthracnose	<i>Kabatiella apocrypta</i>	-	-
25030	25	030	Lasiodiplodia cone damage	<i>Lasiodiplodia</i> spp.	-	-
25031	25	031	spruce needle cast	<i>Lirula macrospora</i>	-	-
25032	25	032	fir needle cast	<i>Lirula</i> spp.	-	-
25033	25	033	white pine needle cast	<i>Lophodermella arcuata</i>	-	-
25034	25	034	Lophodermella needle cast	<i>Lophodermella</i> spp.	-	-
25036	25	036	Marssonina blight	<i>Marssonina populi</i>	-	-
25037	25	037	Douglas-fir rust	<i>Melampsora medusae</i>	-	-
25039	25	039	larch needle cast	<i>Meria laricis</i>	-	-
25040	25	040	Dothistroma needle blight	<i>Mycosphaerella pini</i>	-	-
25041	25	041	brown felt blight of pines	<i>Neopeckia coulteri</i>	-	-
25042	25	042	snow blight	<i>Phacidium abietis</i>	-	-
25043	25	043	Swiss needle cast	<i>Phaeocryptopus gaumannii</i>	-	-
25044	25	044	Phoma blight	<i>Phoma</i> spp.	-	-
25045	25	045	Phyllosticta leaf spot	<i>Phyllosticta</i> spp.	-	-
25046	25	046	bud rot	<i>Phytophthora palmivora</i>	-	-
25047	25	047	Ploioderma needle cast	<i>Ploioderma</i> spp.	-	-
25048	25	048	ash rust	<i>Puccinia sparganioides</i>	-	-
25049	25	049	fir and hemlock needle rusts	<i>Pucciniastrum</i> spp.	-	-
25050	25	050	Rhabdocline needle cast	<i>Rhabdocline</i> spp.	-	-

Code	Category	Agent	Common Name	Scientific Name	Threshold	Region
25051	25	051	Rhizoctonia needle blight	<i>Rhizoctonia</i> spp.	-	-
25052	25	052	Rhizophaeria needle cast	<i>Rhizophaeria</i> spp.	-	-
25053	25	053	Rhizopus rot	<i>Rhizopus artocarpi</i>	-	-
25054	25	054	brown spot needle blight	<i>Scirrhia acicola</i>	-	-
25055	25	055	Septoria leaf spot	<i>Septoria alnifolia</i>	-	-
25056	25	056	Septoria leaf spot and canker	<i>Septoria musiva</i>	-	-
25057	25	057	Sirococcus tip blight	<i>Sirococcus conigenus</i>	Damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	NRS
25058	25	058	Diplodia canker	<i>Sphaeropsis sapinea</i>	-	-
25059	25	059	leaf blister of oak	<i>Taphrina caerulescens</i>	-	-
25060	25	060	Venturia leaf blight of maple	<i>Venturia acerina</i>	-	-
25061	25	061	shepherd's crook	<i>Venturia tremulae</i>	-	-
25062	25	062	Dothistroma needle blight	<i>Dothistroma septospora</i>	-	-
25063	25	063	yellow-cedar shoot blight	<i>Apostrasseria</i> spp.	-	-
25065	25	065	spruce needle rust	<i>Chrysomyxa weiri</i>	-	-
25066	25	066	cedar leaf blight	<i>Gymnosporangium nootkatense</i>	-	-
25067	25	067	spruce needle cast	<i>Lophodermium picea</i>	-	-
25068	25	068	hardwood leaf rusts	<i>Melampsora</i> spp.	-	-
25070	25	070	hemlock needle rust	<i>Pucciniastrum vaccinii</i>	Damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	PNWRS-AK
25071	25	071	spruce needle cast	<i>Rhizosphaera pini</i>	-	-
25072	25	072	sirococcus shoot blight	<i>Sirococcus strobilinus</i>	Damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	NRS
25073	25	073	shepherds crook	<i>Venturia populina</i>	-	-
25074	25	074	Delphinella shoot blight	<i>Delphinella abietis</i>	-	-
25075	25	075	tar spot	<i>Rhytisma acerinum</i>	-	-
25076	25	076	birch leaf fungus	<i>Septoria betulae</i>	-	-
25077	25	077	Septoria leaf spot of maple	<i>Septoria aceris</i>	-	-
25800	25	800	other / shoot disease (known)	other /shoot disease (known)	-	-
25900	25	900	unknown foliage/shoot disease	Unknown foliage /shoot disease	-	-

Code	Category	Agent	Common Name	Scientific Name	Threshold	Region
26000	26	000	Stem Rusts	-	Any occurrence on the bole or stems (on multi-stemmed woodland species), or on branches ≤1 foot from boles or stems; damage to ≥20% of branches.	All
26001	26	001	white pine blister rust	<i>Cronartium ribicola</i>	Any occurrence on the bole or stems (on multi-stemmed woodland species), or on branches ≤1 foot from boles or stems; damage to ≥ 20% of branches.	PNWRS; SRS
26002	26	002	western gall rust	<i>Peridermium harknessii</i>	Any occurrence on the bole or stems (on multi-stemmed woodland species), or on branches ≤1 foot from boles or stems; damage to ≥ 20% of branches.	PNWRS
26003	26	003	stalactiform blister rust	<i>Cronartium coleosporioides</i>	-	-
26004	26	004	comandra blister rust	<i>Cronartium comandrae</i>	Any occurrence on the bole or stems (on multi-stemmed woodland species), or on branches ≤1 foot from boles or stems; damage to ≥20% of branches.	SRS
26005	26	005	pinyon rust	<i>Cronartium occidentale</i>	-	-
26006	26	006	eastern gall rust	<i>Cronartium quercuum</i>	Any occurrence on the bole or stems (on multi-stemmed woodland species), or on branches ≤1 foot from boles or stems; damage to ≥20% of branches.	SRS
26007	26	007	gall rust of jack pine	<i>Cronartium quercuum f. sp. banksignae</i>	-	-
26008	26	008	gall rust of shortleaf pine	<i>Cronartium quercuum f. sp. echinatae</i>	-	-
26009	26	009	fusiform rust	<i>Cronartium quercuum f. sp. fusiforme</i>	Any occurrence on the bole or stems (on multi-stemmed woodland species), or on branches ≤1 foot from boles or stems; damage to ≥20% of branches.	SRS
26010	26	010	gall rust of virginia pine	<i>Cronartium quercuum f. sp. virginianae</i>	-	-
26011	26	011	Bethuli rust	<i>Peridermium bethuli</i>	-	-
26012	26	012	limb rust	<i>Peridermium filamentosum</i>	-	-
26013	26	013	southern cone rust	<i>Cronartium strobilinum</i>	-	-
26800	26	800	other stem rust (known)	other stem rust (known)	-	-

Code	Category	Agent	Common Name	Scientific Name	Threshold	Region
26900	26	900	unknown stem rust	unknown stem rust	-	-
27000	27	000	Broom Rusts	-	≥50% of crown area affected.	All
27001	27	001	spruce broom rust	<i>Chrysomyxa arctostaphyli</i>	≥50% of crown area affected.	PNWRS-AK
27002	27	002	Incense cedar broom rust	<i>Gymnosporangium libocedri</i>	-	-
27003	27	003	juniper broom rust	<i>Gymnosporangium nidus-avis</i>	-	-
27004	27	004	fir broom rust	<i>Melampsorella caryophyllacearum</i>	-	-
27800	27	800	other broom rust (known)	other broom rust (known)	-	-
27900	27	900	unknown broom rust	unknown broom rust	-	-
30000	30	000	Fire	-	Damage ≥20% of bole circumference; >20% of stems on multi-stemmed woodland species affected; ≥20% of crown affected.	All
30001	30	001	wild fire	-	-	-
30002	30	002	human caused fire	-	-	-
30003	30	003	crown fire damage	-	-	-
30004	30	004	ground fire damage	-	-	-
41000	41	000	Wild Animals	-	Any damage to the terminal leader; damage ≥20% of the roots or boles with >20% of the circumference affected; damage >20% of the multiple-stems (on multi-stemmed woodland species) with >20% of the circumference affected; >20% of the branches affected; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	All
41001	41	001	bears	<i>Ursus</i> spp.	Any damage to the terminal leader; damage ≥20% of the roots or boles with >20% of the circumference affected; damage >20% of the multiple-stems (on multi-stemmed woodland species) with >20% of the circumference affected; >20% of the branches affected; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	PNWRS

Code	Category	Agent	Common Name	Scientific Name	Threshold	Region
41002	41	002	beavers	<i>Castor canadensis</i>	Any damage to the terminal leader; damage $\geq 20\%$ of the roots or boles with $>20\%$ of the circumference affected; damage $>20\%$ of the multiple-stems (on multi-stemmed woodland species) with $>20\%$ of the circumference affected; $>20\%$ of the branches affected; damage $\geq 20\%$ of the foliage with $\geq 50\%$ of the leaf/needle affected.	PNWRS; SRS
41003	41	003	big game	big game	Any damage to the terminal leader; damage $\geq 20\%$ of the roots or boles with $>20\%$ of the circumference affected; damage $>20\%$ of the multiple-stems (on multi-stemmed woodland species) with $>20\%$ of the circumference affected; $>20\%$ of the branches affected; damage $\geq 20\%$ of the foliage with $\geq 50\%$ of the leaf/needle affected.	PNWRS; RMRS
41004	41	004	mice or voles	mice or voles	Any damage to the terminal leader; damage $\geq 20\%$ of the roots or boles with $>20\%$ of the circumference affected; damage $>20\%$ of the multiple-stems (on multi-stemmed woodland species) with $>20\%$ of the circumference affected; $>20\%$ of the branches affected; damage $\geq 20\%$ of the foliage with $\geq 50\%$ of the leaf/needle affected.	PNWRS
41005	41	005	pocket gophers	<i>Geomysidae</i> spp.	Any damage to the terminal leader; damage $\geq 20\%$ of the roots or boles with $>20\%$ of the circumference affected; damage $>20\%$ of the multiple-stems (on multi-stemmed woodland species) with $>20\%$ of the circumference affected; $>20\%$ of the branches affected; damage $\geq 20\%$ of the foliage with $\geq 50\%$ of the leaf/needle affected.	PNWRS; RMRS

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41006	41	006	porcupines	<i>Erethizon dorsatum</i>	Any damage to the terminal leader; damage ≥20% of the roots or boles with >20% of the circumference affected; damage >20% of the multiple-stems (on multi-stemmed woodland species) with >20% of the circumference affected; >20% of the branches affected; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	PNWRS; RMRS
41007	41	007	rabbits or hares	<i>Sylvilagus</i> spp.	Any damage to the terminal leader; damage ≥20% of the roots or boles with >20% of the circumference affected; damage >20% of the multiple-stems (on multi-stemmed woodland species) with >20% of the circumference affected; >20% of the branches affected; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	PNWRS
41008	41	008	sapsuckers	<i>Sphyrapicus</i> spp.	Any damage to the terminal leader; damage ≥20% of the roots or boles with >20% of the circumference affected; damage >20% of the multiple-stems (on multi-stemmed woodland species) with >20% of the circumference affected; >20% of the branches affected; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	PNWRS-AK; RMRS; SRS
41009	41	009	squirrels	<i>Sciuridae</i> spp.	Any damage to the terminal leader; damage ≥20% of the roots or boles with >20% of the circumference affected; damage >20% of the multiple-stems (on multi-stemmed woodland species) with >20% of the circumference affected; >20% of the branches affected; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	PNWRS
41010	41	010	woodpeckers	<i>Piciformes</i> spp.	-	-

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41011	41	011	moose	<i>Alces alces</i>	Any damage to the terminal leader; damage ≥20% of the roots or boles with >20% of the circumference affected; damage >20% of the multiple-stems (on multi-stemmed woodland species) with >20% of the circumference affected; >20% of the branches affected; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	PNWRS-AK
41012	41	012	elk	<i>Cervus elaphus</i>	-	-
41013	41	013	deer	<i>Odocoileus spp.</i>	Any damage to the terminal leader; damage ≥20% of the roots or boles with >20% of the circumference affected; damage >20% of the multiple-stems (on multi-stemmed woodland species) with >20% of the circumference affected; >20% of the branches affected; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	PNWRS
41014	41	014	feral pigs	<i>Sus scrofa</i>	Any damage to the terminal leader; damage ≥20% of the roots or boles with >20% of the circumference affected; damage >20% of the multiple-stems (on multi-stemmed woodland species) with >20% of the circumference affected; >20% of the branches affected; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	PNWRS
41015	41	015	mountain beaver	<i>Aplodontia rufa</i>	Any damage to the terminal leader; damage ≥20% of the roots or boles with >20% of the circumference affected; damage >20% of the multiple-stems (on multi-stemmed woodland species) with >20% of the circumference affected; >20% of the branches affected; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	PNWRS

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41017	41	017	earthworms	<i>Lumbricidae</i>	-	-
41800	41	800	other wild animals (known)	other wild animals (known)	-	-
41900	41	900	unknown wild animals	unknown wild animals	-	-
42000	42	000	Domestic Animals	-	Any damage to the terminal leader; damage $\geq 20\%$ of the roots or boles with $>20\%$ of the circumference affected; damage $>20\%$ of the multiple-stems (on multi-stemmed woodland species) with $>20\%$ of the circumference affected; $>20\%$ of the branches affected; damage $\geq 20\%$ of the foliage with $\geq 50\%$ of the leaf/needle affected.	All
42001	42	001	cattle	<i>Bos taurus</i>	-	-
42002	42	002	goats	<i>Capra hircus</i>	-	-
42003	42	003	horses	<i>Equus caballus</i>	-	-
42004	42	004	sheep	<i>Ovis aries</i>	-	-
42800	42	800	other domestic animal (unknown)	other domestic animal (unknown)	-	-
42900	42	900	unknown domestic animals	unknown domestic animals	-	-
50000	50	000	Abiotic Damage	-	Any damage to the terminal leader; damage $\geq 20\%$ of the roots or boles with $>20\%$ of the circumference affected; damage $>20\%$ of the multiple-stems (on multi-stemmed woodland species) with $>20\%$ of the circumference affected; $>20\%$ of the branches affected; damage $\geq 20\%$ of the foliage with $\geq 50\%$ of the leaf/needle affected.	All

Code	Category	Agent	Common Name	Scientific Name	Threshold	Region
50001	50	001	air pollutants	-	Any damage to the terminal leader; damage ≥20% of the roots or boles with >20% of the circumference affected; damage >20% of the multiple-stems (on multi-stemmed woodland species) with >20% of the circumference affected; >20% of the branches affected; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	RMRS
50002	50	002	chemical	-	Any damage to the terminal leader; damage ≥20% of the roots, stems, or branches; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	NRS
50003	50	003	drought	-	Any damage to the terminal leader; damage ≥20% of the roots or boles with >20% of the circumference affected; damage >20% of the multiple-stems (on multi-stemmed woodland species) with >20% of the circumference affected; >20% of the branches affected; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	NRS; RMRS
50004	50	004	flooding / high water	-	Any damage to the terminal leader; damage ≥20% of the roots or boles with >20% of the circumference affected; damage >20% of the multiple-stems (on multi-stemmed woodland species) with >20% of the circumference affected; >20% of the branches affected; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	NRS; PNWRS-AK; RMRS; SRS

Code	Category	Agent	Common Name	Scientific Name	Threshold	Region
50005	50	005	frost	-	Any damage to the terminal leader; damage $\geq 20\%$ of the roots or boles with $>20\%$ of the circumference affected; damage $>20\%$ of the multiple-stems (on multi-stemmed woodland species) with $>20\%$ of the circumference affected; $>20\%$ of the branches affected; damage $\geq 20\%$ of the foliage with $\geq 50\%$ of the leaf/needle affected.	RMRS
50006	50	006	hail	-	-	-
50007	50	007	heat	-	-	-
50008	50	008	lightning	-	Any damage to the terminal leader; damage $\geq 20\%$ of the roots or boles with $>20\%$ of the circumference affected; damage $>20\%$ of the multiple-stems (on multi-stemmed woodland species) with $>20\%$ of the circumference affected; $>20\%$ of the branches affected; damage $\geq 20\%$ of the foliage with $\geq 50\%$ of the leaf/needle affected.	All
50009	50	009	nutrient imbalances	-	-	-
50010	50	010	radiation	-	Any damage to the terminal leader; damage $\geq 20\%$ of the roots or boles with $>20\%$ of the circumference affected; damage $>20\%$ of the multiple-stems (on multi-stemmed woodland species) with $>20\%$ of the circumference affected; $>20\%$ of the branches affected; damage $\geq 20\%$ of the foliage with $\geq 50\%$ of the leaf/needle affected.	RMRS

Code	Category	Agent	Common Name	Scientific Name	Threshold	Region
50011	50	011	snow/ice	-	Any damage to the terminal leader; damage ≥20% of the roots or boles with >20% of the circumference affected; damage >20% of the multiple-stems (on multi-stemmed woodland species) with >20% of the circumference affected; >20% of the branches affected; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	All
50013	50	013	wind	-	Any damage to the terminal leader; damage ≥20% of the roots or boles with >20% of the circumference affected; damage >20% of the multiple-stems (on multi-stemmed woodland species) with >20% of the circumference affected; >20% of the branches affected; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	All
50014	50	014	winter injury	-	Any damage to the terminal leader; damage ≥20% of the roots or boles with >20% of the circumference affected; damage >20% of the multiple-stems (on multi-stemmed woodland species) with >20% of the circumference affected; >20% of the branches affected; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	RMRS
50015	50	015	avalanche	-	Any damage to the terminal leader; damage ≥20% of the roots or boles with >20% of the circumference affected; damage >20% of the multiple-stems (on multi-stemmed woodland species) with >20% of the circumference affected; >20% of the branches affected; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	PNWRS-AK; RMRS
50016	50	016	mud-land slide	-	-	-

Code	Category	Agent	Common Name	Scientific Name	Threshold	Region
50017	50	017	volcano	-	-	-
50018	50	018	other geologic event	-	-	-
50019	50	019	mechanical (non-human caused)	-	-	-
50020	50	020	saltwater injury - flooding/hurricane	-	Any damage to the terminal leader; damage $\geq 20\%$ of the roots or boles with $>20\%$ of the circumference affected; damage $>20\%$ of the multiple-stems (on multi-stemmed woodland species) with $>20\%$ of the circumference affected; $>20\%$ of the branches affected; damage $\geq 20\%$ of the foliage with $\geq 50\%$ of the leaf/needle affected.	PNWRS
50800	50	800	other abiotic damage (known)	other abiotic damage (known)	-	-
50900	50	900	unknown abiotic damage	unknown abiotic damage	-	-
60000	60	000	Competition	-	Overtopped shade-intolerant trees that are not expected to survive for 5 years or saplings not expected to reach tree size (5.0 inches d.b.h./d.r.c.).	All
60001	60	001	Suppression	-	Overtopped shade-intolerant trees that are not expected to survive for 5 years or saplings not expected to reach tree size (5.0 inches d.b.h./d.r.c.).	RMRS
70000	70	000	Human Activities	-	Any damage to the terminal leader; damage $\geq 20\%$ of the roots or boles with $>20\%$ of the circumference affected; damage $>20\%$ of the multiple-stems (on multi-stemmed woodland species) with $>20\%$ of the circumference affected; $>20\%$ of the branches affected; damage $\geq 20\%$ of the foliage with $\geq 50\%$ of the leaf/needle affected.	All

Code	Category	Agent	Common Name	Scientific Name	Threshold	Region
70001	70	001	herbicides	-	Any damage to the terminal leader; damage ≥20% of the roots or boles with >20% of the circumference affected; damage >20% of the multiple-stems (on multi-stemmed woodland species) with >20% of the circumference affected; >20% of the branches affected; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	SRS
70003	70	003	imbedded objects	-	Any occurrence on the bole.	NRS; SRS
70004	70	004	improper planting technique	-	-	-
70005	70	005	land clearing	-	Any damage to the terminal leader; damage ≥20% of the roots or boles with >20% of the circumference affected; damage >20% of the multiple-stems (on multi-stemmed woodland species) with >20% of the circumference affected; >20% of the branches affected; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	SRS
70006	70	006	land use conversion	-	-	-
70007	70	007	logging damage	-	Any damage to the terminal leader; damage ≥20% of the roots or boles with >20% of the circumference affected; damage >20% of the multiple-stems (on multi-stemmed woodland species) with >20% of the circumference affected; >20% of the branches affected; damage ≥20% of the foliage with ≥50% of the leaf/needle affected.	All
70008	70	008	mechanical	-	-	-
70009	70	009	pesticides	-	-	-
70010	70	010	roads	-	-	-
70011	70	011	soil compaction	-	-	-
70013	70	013	vehicle damage	-	-	-

Code	Category	Agent	Common Name	Scientific Name	Threshold	Region
70014	70	014	road salt	-	-	-
71000	71	000	Harvest	-	Removal of $\geq 10\%$ cubic volume.	All
71001	71	001	Woodland cutting	-	Removal of $\geq 10\%$ cubic volume.	RMRS
80000	80	000	Multi-Damage (Insect/Disease)	-	-	-
80001	80	001	aspen defoliation (caused by 12037, 12096, 25036, and 25037)	-	-	-
80002	80	002	subalpine fir mortality	-	-	-
80003	80	003	five-needle pine decline	-	-	-
80004	80	004	pinyon pine mortality	-	-	-
85000	85	000	Invasive Plants	-	-	-
90000	90	000	Other Damages and Symptoms	-	Any damage to the terminal leader; damage $\geq 20\%$ of the roots or boles with $>20\%$ of the circumference affected; damage $>20\%$ of the multiple-stems (on multi-stemmed woodland species) with $>20\%$ of the circumference affected; $>20\%$ of the branches affected; damage $\geq 20\%$ of the foliage with $\geq 50\%$ of the leaf/needle affected.	All
90001	90	001	broken top	Not recorded for multi-stemmed trees	When actual length is less than total length.	NRS; PNWRS; RMRS
90002	90	002	dead top		Any occurrence.	NRS; PNWRS; RMRS
90003	90	003	limby-wolf tree	Not recorded for non-sawlog trees	Damage when board-foot defect is $\geq 10\%$.	RMRS
90004	90	004	forked top	Not recorded for non-sawlog trees	Any occurrence.	PNWRS
90005	90	005	forked below merch top	Not recorded for non-sawlog trees	Damage when board-foot defect is $\geq 10\%$.	PNWRS; RMRS
90006	90	006	crook or sweep	Not recorded for non-sawlog trees	Damage when board-foot defect is $\geq 10\%$.	PNWRS; RMRS

Code	Category	Agent	Common Name	Scientific Name	Threshold	Region
90007	90	007	checks, bole cracks	Not recorded for non-sawlog trees	Damage when board-foot defect is $\geq 10\%$.	PNWRS
90008	90	008	foliage discoloration	-	Damage $\geq 20\%$ of crown affected.	NRS; PNWRS; RMRS
90010	90	010	dieback	-	Damage $\geq 20\%$ of crown affected.	NRS; PNWRS; RMRS
90011	90	011	open wound	-	Damage $\geq 20\%$ of bole circumference (in a running 3-foot section) at point of occurrence.	PNWRS; RMRS
90012	90	012	resinosis	-	Damage $\geq 20\%$ of bole circumference (in a running 3-foot section) at point of origin; $\geq 20\%$ of branches affected.	PNWRS
90013	90	013	broken branches	-	Damage $\geq 20\%$ of branches affected.	PNWRS
99000	99	000	Unknown	-	Any damage to the terminal leader; damage $\geq 20\%$ of the roots or boles with $>20\%$ of the circumference affected; damage $>20\%$ of the multiple-stems (on multi-stemmed woodland species) with $>20\%$ of the circumference affected; $>20\%$ of the branches affected; damage $\geq 20\%$ of the foliage with $\geq 50\%$ of the leaf/needle affected.	All

Section revision: 05.2015

Appendix I: Damage Agent Codes for PNWRS

Damage Agent is a 2-digit code with values 01 to 91. For Agent and Severity 1, 2 and 3: the agent and severity codes indicate the type of agents that were present on a tree and describe their severity. Several damaging agents are automatically of highest importance and should be coded before any other agents; these agents are grouped as Class I Agents. Class I insects, diseases, or physical injuries can seriously affect vegetation. Failure to account for these agents can result in large differences in predicted outcomes for tree growth, survival, vegetative composition and structure. Class II agents can be important in local situations; recording their incidence and severity provides valuable information for those situations. Class II agents are recorded when present but only after all Class I agents.

Agents and their severity ratings are grouped by broad category. Each category has a general agent and specific agents listed. The general codes should be used if there is any question as to the identity of the specific damaging agent.

Appendix Contents (Class I Damage Agents):

Agent
Bark beetles
Defoliators
Root diseases
White pine blister rust
Sudden oak death (tanoak, coast live oak, black oak)

Appendix Contents (Class II Damage Agents):

Agent
Other insects
Stem-branch cankers
Pitch canker
Stem decays
Special agents
Foliar pathogens
Animal agents
Weather agents
Physical injury
Physical defect

Class I Damage Agents and Severity Codes for PNWRS:

Agent: Bark beetles

Code	Agent
01	General /other bark beetle.
02	Mountain pine beetle.
03	Douglas-fir beetle.
04	Spruce beetle.
05	Western pine beetle.
06	Pine engraver beetle.
07	Fir engraver beetle.
08	Silver fir beetle.
09	Red turpentine beetle.
26	Jeffrey pine beetle.

Severity: Bark beetles

Code	Severity
1	Unsuccessful current attack.
2	Successful current attack.
3	Last year's successful attack.
4	Older dead.
5	Top kill.

Agent: Defoliators

Code	Agent
10	General/other.
11	Western blackheaded budworm.
12	Pine butterfly.
13	Douglas-fir tussock moth.
14	Larch casebearer.
15	Western spruce or Modoc budworm.
16	Western hemlock looper.
17	Sawflies.
18	Needles and sheath miners.
19	Gypsy moth.

Severity: Defoliators

Code	Severity
0	No detectable defoliation.
1	Up to 33% of foliage (old and new missing/affected).
2	34 to 66% of foliage missing/affected.
3	67 to 100% of foliage missing/affected.

Agent: Root diseases

Code	Agent
60	General/other.
61	Annous root disease.
62	Armillaria root disease.
63	Black stain root disease.
65	Laminated root rot.
66	Port-Orford-cedar root disease.

Severity: Root diseases

Code	Severity
1	Tree is a live tally tree within 30 feet of a tree or stump that has a root disease to which the tally tree is susceptible.
2	Live tally tree with signs or symptoms diagnostic for root disease such as characteristic decay, stain, ectotrophic mycelia, mycelial fans, conks or excessive resin flow at the root collar. No visible crown deterioration.
3	Live tally tree with signs or symptoms diagnostic for root disease such as characteristic decay, stain, ectotrophic mycelia, mycelial fans, conks, or excessive resin flow at the root collar. Visible crown deterioration such as thinning chlorotic foliage, reduced terminal growth, and/or stress cones.

Agent: White pine blister rust

Code	Agent
36	White pine blister rust.

Severity: White pine blister rust

Code	Severity
1	Branch infections located more than 2.0 feet from tree bole.
2	Branch infections located 0.5 to 2.0 feet from bole.
3	Bole infections present, or branch infections within 0.5 feet of bole.

Agent: Sudden oak death (tanoak, coast live oak, black oak)

Code	Agent
31	Sudden oak death symptoms.

Severity: Sudden oak death (tanoak, coast live oak, black oak)

Code	Severity
1	Bleeding present on bole.
2	Bleeding present on bole and adjacent mortality present.
3	Laboratory confirmed sudden oak death.

Class II Damage Agents and Severity Codes for PNWRS:

Agent: Other insects

Code	Agent
20	General.
21	Shoot moths.
22	Weevils.
23	Wood borers.
24	Balsam wooly adelgid (aphid).
25	Sitka spruce terminal weevil.

Severity: Other insects

Code	Severity
1	Bottlebrush or shortened leaders, 0-2 forks on the tree's stem, Or: <20% of the branches affected, Or: <50% of the bole has visible larval galleries.
2	3 or more forks on the tree's bole, Or: 20% or more of the branches are affected, Or: the terminal leader is dead, Or: ≥50% of the bole has visible larval galleries.

Agent: Stem-branch cankers

Code	Agent
33	Diplodia blight.
40	General/other.
41	Western gall rust (<i>Pinus ponderosa</i> , <i>Pinus contorta</i>).
42	Comandra blister rust (<i>Pinus ponderosa</i>).
43	Stalactiform rust (<i>Pinus contorta</i>).
44	Atropellis canker (<i>Pinus</i> spp.).
45	Cytospoa or Phomopsis (<i>Pseudotsuga menziesii</i> , <i>Abies</i> spp.).

Severity: Stem-branch cankers

Code	Severity
1	Branch infections present. <50% of the crown affected.
2	Branch infections present. ≥50% of the crown affected, Or: any infection on the bole.

Agent: Pitch canker

Code	Agent
32	Pitch canker (CA <i>Pinus</i> spp.).

Severity: Pitch canker

Code	Severity
1	No bole canker + <10 infected branch tips.
2	No bole canker + ≥10 infected branch tips.
3	1 or more bole cankers + <10 infected branch tips.
4	1 or more bole cankers + ≥10 infected branch tips.

Agent: Stem decays

Code	Agent
46	General/other.
47	Red ring rot (<i>Phellinus pini</i>).
48	Indian paint rot (<i>Echinodontium tinctorium</i>).
49	Brown cubical rot (<i>Phaeolus schweinitzii</i>).

Severity: Stem decays

Code	Severity
1	1 conk on the stem or present at ground level.
2	2 or more conks separated by <16 feet on bole.
3	2 or more conks separated by ≥16 feet on bole.
4	No conks. Visible decay in the interior of the bole.

Agent: Special agents

Code	Agent
50	Suppression.
51	Excessively deformed sapling.

Severity: Special agents

Code	Severity
0	Severity is not rated.

Agent: Foliar pathogens

Code	Agent
55	General/other.
56	Rhabdocline (only on <i>Pseudotsuga menziesii</i>).
57	Elytroderma (only on <i>Pinus ponderosa</i>).
58	Broom rusts (only on <i>Abies</i> , <i>Picea</i> , and <i>Juniperus occidentalis</i>).
59	Swiss needle cast (only on <i>Pseudotsuga menziesii</i>).

Severity: Foliar pathogens

Code	Severity
1	<20% of foliage affected, or <20% of the crown contains brooms.
2	≥20% of foliage affected, or ≥20% of the crown contains brooms.

Agent: Animal agents

Code	Agent
70	Animal; general/unknown.
71	Mountain beaver.
72	Livestock.
73	Deer or elk.
74	Porcupines.
75	Pocket gophers, squirrels, mice, voles, rabbits, hares.
76	Beaver.
77	Bear.
78	Human (not logging).

Severity: Animal agents

Code	Severity
1	<20% of the crown is affected. Bole damage is restricted to less than half of circumference.
2	≥20% of the crown is affected. Bole damage to half or more of circumference.

Agent: Weather agents

Code	Agent
80	Weather; general/unknown.
81	Windthrow or wind breakage.
82	Snow/ice bending or breakage.
83	Frost damage on shoots.
84	Winter desiccation.
85	Drought/moisture deficiency.
86	Sun scald.
87	Lightning.

Severity: Weather agents

Code	Severity
1	<20% of the crown is affected.
2	≥20% of the crown is affected or any damage to the bole.

Agent: Physical injury

Code	Agent
90	Other; general/unknown.
91	Logging damage.
92	Fire; basal scars or scorch.
93	Improper planting.
94	Air pollution or other chemical damage.

Severity: Physical injury

Code	Severity
1	<20% of the crown is affected.
2	≥20% of the crown is affected or any damage to the bole.

Agent: Physical defect

Code	Agent
95	Unspecified physical defect.
96	Broken/missing top.
97	Dead top.
98	Forks and crooks (only if caused by old top out or dead top).
99	Checks/bole cracks.

Severity: Physical defect

Code	Severity
0	Severity is not rated.

Section revision: 06.2021

Appendix J: FIA Inventories by State, Year, and Type

FIA Inventories:

State code	State name	Date(s) of available periodic inventory data	Initiation of annual inventory
1	Alabama	1972, 1982, 1990	2000
2	Alaska	1998, 2003	2004
4	Arizona	1985, 1999	2001
5	Arkansas	1978, 1988, 1995	2000
6	California	1994	2001
8	Colorado	1984	2002
9	Connecticut	1985, 1998	2003
10	Delaware	1986, 1999	2004
12	Florida	1970, 1980, 1987, 1995	2002
13	Georgia	1972, 1982, 1989	1997
15	Hawaii	-1	2010
16	Idaho	1991	2004
17	Illinois	1985, 1998	2001
18	Indiana	1986, 1998	1999
19	Iowa	1990	1999
20	Kansas	1981, 1994	2001
21	Kentucky	1988	2000
22	Louisiana	1974, 1984, 1991	2001
23	Maine	1995	1999
24	Maryland	1986, 1999	2004
25	Massachusetts	1985, 1998	2003
26	Michigan	1980, 1993	2000
27	Minnesota	1977, 1990	1999
28	Mississippi	1977, 1987, 1994	2006
29	Missouri	1989	1999
30	Montana	1989	2003
31	Nebraska	1983, 1994	2001
32	Nevada	1989	2004 ²
33	New Hampshire	1983, 1997	2002
34	New Jersey	1987, 1999	2004
35	New Mexico	1987, 1999	2005 ³

State code	State name	Date(s) of available periodic inventory data	Initiation of annual inventory
36	New York	1993	2002
37	North Carolina	1984, 1990	2002
38	North Dakota	1980, 1995	2001
39	Ohio	1991	2001
40	Oklahoma	1989 (central/west), 1976, 1986, 1993 (east)	2008 (east) 2009 (west)
41	Oregon	1999	2001
42	Pennsylvania	1989	2000
44	Rhode Island	1985, 1998	2003
45	South Carolina	1968, 1978, 1986, 1993	1999
46	South Dakota	1980, 1995	2001
47	Tennessee	1980, 1989	1999
48	Texas	1975, 1986, 1992	2001 (east) 2004 (west)
49	Utah	1993	2000
50	Vermont	1983, 1997	2003
51	Virginia	1977, 1985, 1992	1998
53	Washington	1991, 2001	2002
54	West Virginia	1989, 2000	2004
55	Wisconsin	1983, 1996	2000
56	Wyoming	1984, 2000	2011
60	American Samoa	-1	2001
66	Guam	-1	2002
70	Palau	-1	2003
72	Puerto Rico	-1	2001
78	US Virgin Islands	-1	2004

¹Periodic inventories were not conducted.

²Due to insufficient funding, annual inventory ceased after 2005. Sampling resumed in 2010 including plots that would have been measured in inventory years (INVYR) 2006-2009. Therefore, measurement year (PLOT.MEASYEAR) is frequently different from INVYR.

³Annual inventory sampling began in 2008. Due to the State of New Mexico receiving The American Recovery and Reinvestment Act of 2009 (ARRA) money, sampling was accelerated beginning in 2010 and broadened to include plots that would have been surveyed had the inventory started in 2005. Therefore, measurement year (PLOT.MEASYEAR) is frequently different from inventory year (INVYR).

Section revision: 01.2024

Appendix K: FIA Volume, Biomass, and Carbon Estimation

Appendix Contents:

Description
Overview: FIA Volume, Biomass, and Carbon Estimation
Steps for estimating volume, biomass, and carbon using NSVB
Accounting for structural loss and standing dead trees using NSVB

Overview: FIA Volume, Biomass, and Carbon Estimation

The National Scale Volume and Biomass (NSVB) system is the primary approach used by FIA to estimate cubic-foot volume, biomass, and carbon in trees. This system was designed to generate optimal estimates of total stem wood volume and total aboveground biomass while simultaneously providing compatible estimates of individual components (for example, total stem wood biomass + total stem bark biomass = total stem biomass). NSVB is applied to all timber tree species (trees where diameter is measured at breast height [d.b.h.]) growing in the continental United States measured under the annual inventory design (SURVEY.ANN_INVENTORY = 'Y'). Belowground biomass (DRYBIO_BG) is estimated using the Component Ratio Method (CRM). See Heath and others (2009) for further details on belowground biomass estimation.

Volume, biomass, and carbon estimates for periodic data (SURVEY.ANN_INVENTORY = 'N'), woodland species (trees where diameter is measured at root collar [d.r.c.]; identified by REF_SPECIES.WOODLAND = 'Y') and trees growing in the Pacific Islands, including Hawaii, and the Caribbean Islands (STATECD = 15, 64, 66, 68, 69, 70, 72, 78) are calculated using regional or CRM equations. See Woodall and others (2011) for details on methods and equations for estimating aboveground volume, biomass, and carbon using the CRM approach. Users seeking more regional-specific information should contact the appropriate FIA work unit (table 1-1).

The following is a brief guide on the NSVB steps for estimation. For further details on how the NSVB system was developed, along with model coefficients and detailed examples, see Westfall and others [In preparation].

Steps for estimating volume, biomass, and carbon using NSVB

The NSVB approach for timber species (trees where diameter is measured at breast height [d.b.h.]) involves the following steps:

1. Predict total stem wood volume as a function of the following attributes: species (SPCD), diameter (DIA), and total height (HT).
2. Predict total stem bark volume as a function of DIA and HT.
3. Estimate stem component volumes (stump, merchantable, sawlog, stem-top) using a volume ratio model.

4. Convert total stem wood volume to biomass using published wood density values (Miles and Smith 2009).
5. Predict total stem bark biomass as a function of DIA and HT.
6. Predict total branch biomass as a function of DIA and HT.
7. Predict total aboveground biomass as a function of DIA and HT.
8. Sum total stem wood biomass, total stem bark biomass, and total branch biomass to obtain a secondary total aboveground biomass.
9. Determine the difference between the predicted total biomass (step 7) and the total from the component estimates (step 8).
10. Proportionally distribute the difference across total stem wood, total stem bark, and total branch weights to create an adjusted total stem wood weight, an adjusted total stem bark weight, and an adjusted total branch weight.
11. Calculate a 'derived' wood density by dividing the adjusted total stem wood weight by the predicted total stem wood volume. This 'derived' wood density can be used to convert any subsection of the main stem wood volume to biomass.
12. Calculate a 'derived' bark density by dividing the adjusted total stem bark weight by the predicted total stem bark volume. This value can be used to convert any subsection of the main stem bark volume to biomass.
13. Predict total foliage dry weight as a function of DIA and HT.
14. Estimate aboveground carbon using aboveground biomass and species-specific carbon fractions (REF_SPECIES.CARBON_RATIO_LIVE).

Steps 11 and 12 ensure that the main stem can be broken into any sub-components (e.g., stump, merchantable bole, top) and still be additive with the adjusted total stem weight.

Accounting for structural loss and standing dead trees using NSVB

The NSVB system was designed to estimate the volume, biomass, and carbon of live trees with minimal structural loss (e.g., significant rot, broken tops, crown loss). Often, attributes that attempt to quantify structural loss are measured or estimated in forest inventory systems with the purpose of deducting an amount of volume or biomass from the estimate of a healthy/intact tree. This section briefly highlights how estimates of structural loss are incorporated in the NSVB system. The underlying methodology behind NSVB is to have optimal estimates of total stem wood volume and total aboveground biomass (AGB), while also having compatible component biomass estimates. To maintain additivity and consistency between the components and the optimal AGB, any deductions for cull/rot/loss from a component must also be taken out of the independently predicted AGB. This is accomplished by applying a component-weighted 'reduction factor' to the optimal AGB. This is achieved by determining the ratio between the sum of the components with reduction and the sum of the components without reductions.

Currently, FIA accounts for biomass reductions in the following ways:

- Amount of stem wood and bark lost due to broken tops (*value not stored in the database*).
- Amount of branches lost due to broken tops (*value not stored in the database*).
- Amount of foliage lost due to broken tops (*value not stored in the database*).
- Percentage of rot/missing cull in stem wood (TREE.CULL).

- Amount of mass lost due to decay proportion in standing dead trees (*value not stored in the database*; calculated using the following attributes: REF_TREE_DECAY_PROP.DENSITY_PROP, REF_TREE_DECAY_PROP.BARK_LOSS_PROP, REF_TREE_DECAY_PROP.BRANCH_LOSS_PROP).

Broken tops

Trees with broken tops are identified by TREE.ACTUALHT < TREE.HT. The volume ratio model mentioned above is used to estimate the amount of volume remaining in the tree below the broken top. Broken tops reduce the amount of volume and biomass in both wood and bark and always affect the total stem values of these components. If the broken top is observed to be below the estimated merchantable height (4.0-inch top diameter outside bark, DOB), the merchantable volume and biomass are appropriately reduced. Similarly, if the broken top is below the estimated sawlog top height (7.0-inch top DOB for softwoods; 9.0-inch top DOB for hardwoods), the corresponding volume and biomass are reduced.

If part of the main stem is missing, then some of the branch and foliage biomass of an intact tree must be missing as well. To estimate the amount of biomass missing, the crown ratio of the tree without a broken top must be estimated. This is determined using the field-estimated compacted crown ratio (CR).

- $CRprop_HT = (HT - ACTUALHT * (1 - CR/100)) / HT$

CRpropHT value not stored in the database.

For standing dead trees, the mean crown ratio (REF_TREE_STND_DEAD_CR_PROP.CR_MEAN) for intact trees by ecoregion province (REF_TREE_STND_DEAD_CR_PROP.ECOPROV) and softwood/hardwood classification is used to calculate CrpropHT.

The proportion of the expected total crown remaining after accounting for broken tops is then calculated as follows:

- $Broken\ crn_prop = max(0, (ACTUALHT - (1 - Crprop_HT) * HT) / (Crprop_HT * HT))$

Broken crn_prop value not stored in the database.

This broken crown proportion is then multiplied by the original biomass equation result for an intact top to estimate remaining branch biomass and foliage biomass.

Cull

For live tree biomass, stem wood (e.g., total stem, merchantable stem) biomass is proportionally reduced to account for cull. The density reduction (REF_TREE_DECAY_PROP.DENSITY_PROP) for a REF_TREE_DECAY_PROP.DECAYCD = 3 standing dead tree is used to account for wood decay in living trees as follows:

- $(1 - (1 - DENSITY_PROP) * CULL / 100) * Stem\ Wood$

Cull does not affect the biomass of bark, branches, or foliage. For dead tree biomass, no adjustments for TREE.CULL or other types of cull are made.

Standing dead

The TREE.DECAYCD attribute classifies standing dead trees by the stage of decay and fragmentation. For the wood and bark material remaining in a standing dead tree, density reduction factors are used to estimate the loss of mass of a decayed standing dead tree compared to a live tree. Table REF_TREE_DECAY_PROP contains density reduction factors by decay class and softwood/hardwood classification that are applied to stem wood, stem bark, and branch biomass:

- REF_TREE_DECAY_PROP.DENSITY_PROP * Wood
- REF_TREE_DECAY_PROP.BARK_LOSS_PROP * Bark
- REF_TREE_DECAY_PROP.BRANCH_LOSS_PROP * Branch

To determine the aboveground carbon in standing dead trees, aboveground biomass is multiplied by the mean carbon ratio (REF_TREE_CARBON_RATIO_DEAD.CARBON_RATIO) by decay class and softwood/hardwood classification.

Section revision: 10.2019

Appendix L: Reserved and Administratively Withdrawn Status by Owner and Land Designation

The following table provides a basic summary of reserved and administratively withdrawn status by owner and land designation. For State-specific information, please contact the individual FIA work units listed in chapter 1, table 1-1.

Attributes are defined as follows (refer to the "Index of Column Names" to link to a detailed description and/or code list for each attribute):

- **OWNGRPCD: Owner group code.** Ownership (or the managing agency for public lands) of the land in the condition class; a broader group of landowner classes than OWNCD. See COND.OWNGRPCD for code descriptions.
- **OWNCD: Owner class code.** The class in which the landowner (at the time of the inventory) belongs. See COND.OWNCD for code descriptions.
- **RESERVCD: Reserved status code.** The reserved status of a condition on publicly owned land. Reserved land is permanently prohibited from timber productions. Timber harvest may still be allowed for other land management objectives. See COND.RESERVCD for code descriptions.
- **ADMIN_WITHDRAWN_CD: Administratively withdrawn code.** The administrative status of a condition on publicly owned land indicating if the land has been withdrawn from timber production. Timber harvest may still be allowed for other land management objectives. See COND.ADMIN_WITHDRAWN_CD for code descriptions.

Note: Ordered by owner code, national to local, and reserved status, with actual and candidate areas grouped.

Reserved and Administratively Withdrawn Status

L-2

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OWNGRPCD	OWNCD	Land designation (and example)	RESERVCD	ADMIN_WITH DRAWN_CD	Designated by	Comments
10,20	all	Wilderness (Cohutta Wilderness, GA/TN)	1	-a	Congress	Some of these are within national parks, and are reserved either way.
10,20	all	Wilderness Study Area (WSA) (Browns Canyon WSA, CO)	0	1	Congress, proposed	These are areas that were established by Congress during the RARE II process or in other bills. They can be/have been "released" by Congress at a future date, but until then are managed by the agency as wilderness.
10,20	all	Recommended Wilderness (Lionhead recommended wilderness, MT)	0	1	Federal unit, recommended	Areas recommended as wilderness through land management planning are managed as wilderness until Congressional action or revised forest plan direction.
10	all	Primitive Area (Blue Range Primitive Area, AZ)	0	1	Federal unit, recommended	Managed as wilderness pending possible designation.
10,20	all	Proposed Wilderness	0	0	Not designated; recommended by legislators, interest groups, etc.	These can be proposed by anybody anywhere and the size and borders are very fluid up until the time the bill is passed (or not). No apparent impact on current management.
10,20	all	National Monument/National Volcanic Monument (Grand Staircase-Escalante, UT)	1	-	Executive Order or Congress	Agencies have treated these executive orders as having the force of law, with modifications requiring an act of Congress.
10,20	all	National Recreation Area (NRA) (Hell's Canyon NRA, OR/ID)	1	-	Congress	Although the legislation of some NRAs do not preclude wood production, most do and given the emphasis is likely to be minor, so default to reserved.
10,20	all	Wild and Scenic Rivers (wild, scenic or recreational classification) (Au Sable River, MI)	1	-	Congress	Wood production is not an objective for any wild and scenic river (FSM 2354.42d). Harvest in segments classified as wild is excluded except under emergency conditions; harvest in segments classified as scenic or recreational is only allowed to further river management objectives. If a map of the area or other information is unavailable, use 1/4 mile on either side of the river on Federal land (1/2 mile in Alaska).

OWNGRPCD	OWNCD	Land designation (and example)	RESERVCD	ADMIN_WITH DRAWN_CD	Designated by	Comments
10,20	all	Wild and Scenic Study Rivers (wild, scenic or recreational classification) (White Salmon River, WA)	0	1	Federal admin. unit or Congress, proposed	Includes "eligible" or "suitable" study rivers. Wood production is not allowed and harvest restrictions are similar to designated rivers (FSH 199.12 82.51). Study rivers have a default area of 1/4 mile from either side of the river on Federal lands.
10	all	National Scenic Area (NSA) (Mt. Pleasant, VA)	1	-	Congress	Although the legislation of some NSAs does not preclude wood production, most do and given the emphasis is likely to be minor, so default to reserved.
10	all	Experimental Forest (Hubbard Brook, NH)	0	0	Congress/U.S. Forest Service Washington Office (WO)	Purpose includes research and management.
10	all	Experimental Range (Santa Rita, AZ)	0	0	Congress/WO	Purpose includes research and management.
10	all	Research Natural Area (RNA) (Limestone Jags, AK)	0	1	National Forest Sysytem (NFS) unit	RNAs may be established through coordination with WO, but land planning done at national forest level.
10	all	Roadless Area (Caribbean National Forest, PR)	0	1	NFS unit	Roadless Rule was established through coordination with WO, but land planning and future changes are done at national forest level.
10	all	Special Interest Area (Cape Perpetua, OR)	0	1	NFS unit	-
10	all	Special Recreation Area (Bell Smith Springs, IL)	0	1	NFS unit	-
10	all	Suitable for Timber Harvest	0	1	NFS unit	Areas designated in forest plans as suitable for harvest for a variety of purposes, but not in the timber base.
10	all	Suitable for Timber Production	0	0	NFS unit	Areas designated in forest plans as in the timber base, and managed for multiple use.
20	21	All National Park Service (NPS) Designations on Federal Land	1	-	Executive Order/ Congress	Some NPS units/designations are on private land: Canyon de Chelly, parts of Lake Roosevelt, Ebey's Landing, and National Historic Sites; these are NOT reserved.

OWNGRPCD	OWNCD	Land designation (and example)	RESERVCD	ADMIN_WITH DRAWN_CD	Designated by	Comments
20	22	Areas of Critical Environmental Concern (High Rock Canyon, NV)	0	1	Bureau of Land Management unit	Authorized by Congress in Federal Land Policy and Management Act (FLPMA) to protect significant areas, designated by management units.
20	22	National Conservation Areas (NCA) (Kings River, CA)	0	0	Congress	NCAs are focused on limited resources for protection, many have "multiple use" as a goal.
20	23	All Fish and Wildlife Service (FWS) Designations on Federal Land	1	-	Executive Order/ Congress	Not clear if all FWS refuges are designated by Congress or not, but timber production is not goal of the agency.
10,20,30	all	National Natural Landmark (Caledon Natural Area, VA)	0	0	United States Department of the Interior	Designated by USDI but managed/owned by various public entities for a wide range of conservation purposes. Ignore the landmark status and use the designation given by the landowner to determine status.
20	25	National Estuarine Research Reserve System	1	-	Congress	Established in Coastal Zone Management Act of 1972 for research and protection; managed by the National Oceanic and Atmospheric Administration (NOAA).
30	all	State or Local Parks	1	-	State or local Parks Dept	Rarely specifically designated by law, but laws defining agency goals preclude management for timber production.
30	all	State or Local Wilderness	1	-	State or local Parks Dept	Specific areas may or may not be designated by law, but laws governing agency mandate or defining wilderness preclude management for timber production.
30	31	State Wild River	1	-	State Parks Dept	Specific areas may or may not be designated by law, but laws governing agency mandate or defining wild rivers preclude management for timber production.

OWNGRPCD	OWNCD	Land designation (and example)	RESERVCD	ADMIN_WITH DRAWN_CD	Designated by	Comments
30	all	State or Local Reserve	1	-	State or local Parks Dept	Specific areas may or may not be designated by law, but laws governing agency mandate or defining reserves preclude management for timber production.
30	31	State Forests	0	0	State Forestry Dept	Usually managed by State agencies for multiple values, including production of timber products.
40	all	All Private Lands	0	0	-	All private lands, including those owned by some conservation groups, those with conservation easements, and tribal protected areas, are considered unreserved.

^aNo information entered.

Section revision: 01.2024

Appendix M: Forest Vegetation Simulator Codes and Names

FVS Location Code NAME (FVS_LOC_CD_NAME)	FVS Region Code (FVS_REGION)	FVS Forest Code (FVS_FOREST)	FVS District Code (FVS_DISTRICT)	FVS Location Code (FVS_LOC_CD)
Allegheny National Forest	9	19	-	919
Angeles National Forest	5	1	-	501
Apache National Forest	3	1	-	301
Arapaho National Forest	2	1	-	201
Ashley National Forest	4	1	-	401
Beaverhead National Forest	1	2	-	102
Bighorn National Forest	2	2	-	202
Bitterroot National Forest	1	3	-	103
Black Hills National Forest	2	3	-	203
BLM - Coos Bay District	7	12	-	712
BLM - Eugene District	7	9	-	709
BLM - Medford District.	7	11	-	711
BLM - Roseburg District	7	10	-	710
BLM - Salem District	7	8	-	708
Boise National Forest	4	2	-	402
Bridger National Forest	4	3	-	403
Cache National Forest	4	4	-	404
Caribou National Forest	4	5	-	405
Carson National Forest	3	2	-	302
Challis National Forest	4	6	-	406
Chattahooche National Forest - Armuchee	8	3	1	80301
Chattahooche National Forest - Brasstown District	8	3	4	80304
Chattahooche National Forest - Chattooga River District	8	3	6	80306
Chattahooche National Forest - Cohutta District	8	3	7	80307
Chattahooche National Forest - Tallulah District	8	3	5	80305
Chattahooche National Forest - Toccoa District	8	3	2	80302
Cherokee National Forest - Hiwassee District	8	4	1	80401

FVS Location Code NAME (FVS_LOC_CD_NAME)	FVS Region Code (FVS_REGION)	FVS Forest Code (FVS_FOREST)	FVS District Code (FVS_DISTRICT)	FVS Location Code (FVS_LOC_CD)
Cherokee National Forest -Nolichucky District	8	4	2	80402
Cherokee National Forest - Ocoee District	8	4	3	80403
Cherokee National Forest - Tellico District	8	4	4	80404
Cherokee National Forest - Unaka	8	4	5	80405
Cherokee National Forest - Watauga District	8	4	6	80406
Chequamegon National Forest	9	2	-	902
Chippewa National Forest	9	3	-	903
Chugach National Forest	10	4	-	1004
Cibola National Forest	3	3	-	303
Clearwater National Forest	1	5	-	105
Cleveland National Forest	5	2	-	502
Coconino National Forest	3	4	-	304
Coeur d'Alene National Forest	1	6	-	106
Colville National Forest	6	21	-	621
Coronado National Forest	3	5	-	305
Custer National Forest	1	8	-	108
Daniel Boone National Forest - Berea District	8	2	13	89213
Daniel Boone National Forest - London District	8	2	14	80214
Daniel Boone National Forest - Morehead District	8	2	11	80211
Daniel Boone National Forest - Red Bird District	8	2	17	80217
Daniel Boone National Forest - Somerset District	8	2	15	80215
Daniel Boone National Forest - Stanton District	8	2	12	80212
Daniel Boone National Forest - Stearns District	8	2	16	80216
Deerlodge National Forest	1	9	-	109
Deschutes National Forest	6	1	-	601
Dixie National Forrest	4	7	-	407
Eldorado National Forest	5	3	-	503
Finger Lakes National Forest	9	30	-	930
Fishlake National Forest	4	8	-	408
Flathead National Forest	1	10	-	110
Fort Bragg	7	1	-	701

FVS Location Code NAME (FVS_LOC_CD_NAME)	FVS Region Code (FVS_REGION)	FVS Forest Code (FVS_FOREST)	FVS District Code (FVS_DISTRICT)	FVS Location Code (FVS_LOC_CD)
Francis Marion National Forest	8	12	5	81205
Fremont National Forest	6	2	-	602
Gallatin National Forest	1	11	-	111
George Washington National Forest - Glenwood District	8	8	13	80813
George Washington National Forest - James River District	8	8	3	80803
George Washington National Forest - Lee District	8	8	4	80804
George Washington National Forest - North River District	8	8	2	80802
George Washington National Forest - Warm Springs District	8	8	6	80806
Gifford Pinchot National Forest	6	3	-	603
Gila National Forest	3	6	-	306
Grand Mesa National Forest	2	24	-	224
Green Mountain National Forest	9	20	-	920
Gunnison National Forest	2	5	-	205
Helena National Forest	1	12	-	112
Hiawatha National Forest	9	10	-	910
Hoosier National Forest	9	12	-	912
Humboldt National Forest	4	9	-	409
Huron National Forest	9	4	-	904
Inyo National Forest	5	4	-	504
Jefferson National Forest - Clinch District	8	8	12	80812
Jefferson National Forest - Eastern Divide District	8	8	11	80811
Jefferson National Forest - Mount Rogers National Recreation Area	8	8	14	80814
Jefferson National Forest - Pedlar District	8	8	5	80805
Kaibab National Forest	3	7	-	307
Kaniksu National Forest	1	13	-	113
Kisatchie National Forest - Calcasieu District	8	6	2	80602
Kisatchie National Forest - Caney District	8	6	5	80605
Kisatchie National Forest - Catahoula District	8	6	1	80601

FVS Location Code NAME (FVS_LOC_CD_NAME)	FVS Region Code (FVS_REGION)	FVS Forest Code (FVS_FOREST)	FVS District Code (FVS_DISTRICT)	FVS Location Code (FVS_LOC_CD)
Kisatchie National Forest - Kisatchie District	8	6	3	80603
Kisatchie National Forest - Winn District	8	6	4	80604
Klamath National Forest	5	5	-	505
Kootenai National Forest	1	14	-	114
Lassen National Forest	5	6	-	506
Lewis and Clark National Forest	1	15	-	115
Lincoln National Forest	3	8	-	308
Lolo National Forest	1	16	-	116
Los Padres National Forest	5	7	-	507
Malheur National Forest	6	4	-	604
Manatee National Forest	9	24	-	924
Manti-La Sal National Forest	4	10	-	410
Mark Twain National Forest	9	5	-	905
Medicine Bow National Forest	2	6	-	206
Mendocino National Forest	5	8	-	508
Modoc National Forest	5	9	-	509
Monongahela National Forest	9	21	-	921
Mt. Baker National Forest	6	5	-	605
Mt. Hood National Forest	6	6	-	606
National Forests in Alabama - Conecuh District	8	1	3	80103
National Forests in Alabama - Oakmulgee District	8	1	4	80104
National Forests in Alabama - Shoal Creek District	8	1	5	80105
National Forests in Alabama - Talladega District	8	1	6	80106
National Forests in Alabama - Tuskegee District	8	1	7	80107
National Forests in Alabama - William B. Bankhead District	8	1	1	80101
National Forests in Florida - Apalachicola District	8	5	1	80501
National Forests in Florida - Lake George District	8	5	2	80502
National Forests in Florida - Osceola District	8	5	4	80504
National Forests in Florida - Seminole District	8	5	5	80505

FVS Location Code NAME (FVS_LOC_CD_NAME)	FVS Region Code (FVS_REGION)	FVS Forest Code (FVS_FOREST)	FVS District Code (FVS_DISTRICT)	FVS Location Code (FVS_LOC_CD)
National Forests in Florida - Wakulla District	8	5	6	80506
National Forests in Mississippi - Bienville District	8	7	1	80701
National Forests in Mississippi - Chickasawhay District	8	7	5	80705
National Forests in Mississippi - De Soto District	8	7	2	80702
National Forests in Mississippi - Delta District	8	7	6	80706
National Forests in Mississippi - Holly Springs District	8	7	7	80707
National Forests in Mississippi - Homochitto District	8	7	4	80704
National Forests in Mississippi - Tombigbee District	8	7	17	80717
National Forests in North Carolina - Appalachian District	8	11	8	81108
National Forests in North Carolina - Cheoah District	8	11	2	81102
National Forests in North Carolina - Croatan District	8	11	3	81103
National Forests in North Carolina - Grandfather District	8	11	5	81105
National Forests in North Carolina - Nantahala District	8	11	11	81111
National Forests in North Carolina - Pisgah District	8	11	7	81107
National Forests in North Carolina - Tusquitee District	8	11	9	81109
National Forests in North Carolina - Uwharrie District	8	11	10	81110
National Forests in Texas - Angelina District	8	13	1	81301
National Forests in Texas - Cado District and LBJ National Grasslands	8	13	8	81308
National Forests in Texas - Davy Crockett District	8	13	3	81303
National Forests in Texas - Sabine District	8	13	7	81307
National Forests in Texas - Sam Houston District	8	13	4	81304
Nebraska National Forest	2	7	-	207
Nez Perce National Forest	1	17	-	117
Nicolet National Forest	9	6	-	906

FVS Location Code NAME (FVS_LOC_CD_NAME)	FVS Region Code (FVS_REGION)	FVS Forest Code (FVS_FOREST)	FVS District Code (FVS_DISTRICT)	FVS Location Code (FVS_LOC_CD)
Ochoco National Forest	6	7	-	607
Oconee National Forest	8	3	8	80308
Okanogan National Forest	6	8	-	608
Okanogan National Forest - Tonasket District	6	99	-	699
Olympic National Forest	6	9	-	609
Ottowa National Forest	9	7	-	907
Ouachita National Forest - Choctaw District	8	9	1	80901
Ouachita National Forest - Caddo District	8	9	2	80902
Ouachita National Forest - Cold Springs District	8	9	3	80903
Ouachita National Forest - Fourche District	8	9	4	80904
Ouachita National Forest - Jessieville District	8	9	5	80905
Ouachita National Forest - Kiamichi District	8	9	6	80906
Ouachita National Forest - Mena District	8	9	7	80907
Ouachita National Forest - Oden District	8	9	8	80908
Ouachita National Forest - Poteau District	8	9	9	80909
Ouachita National Forest - Tiak District	8	9	12	80912
Ouachita National Forest - Winona District	8	9	11	80911
Ouachita National Forest - Womble District	8	9	10	80910
Ozark National Forest - Bayou District	8	10	3	81003
Ozark National Forest - Boston Mountain District	8	10	5	81005
Ozark National Forest - Buffalo District	8	10	2	81002
Ozark National Forest - Magazine District	8	10	6	81006
Ozark National Forest - Pleasant Hill District	8	10	4	81004
Ozark National Forest - St. Francis District	8	10	7	81007
Ozark National Forest - Sylamore District	8	10	1	81001

FVS Location Code NAME (FVS_LOC_CD_NAME)	FVS Region Code (FVS_REGION)	FVS Forest Code (FVS_FOREST)	FVS District Code (FVS_DISTRICT)	FVS Location Code (FVS_LOC_CD)
Payette National Forest	4	12	-	412
Pike National Forest	2	8	-	208
Plumas National Forest	5	11	-	511
Prescott National Forest	3	9	-	309
Private	7	2	-	702
Private	7	3	-	703
Private	7	5	-	705
Private	7	15	-	715
Private	8	0	-	800
Rio Grande National Forest	2	9	-	209
Roosevelt National Forest	2	10	-	210
Rogue River National Forest	6	10	-	610
Routt National Forest	2	11	-	211
Salmon National Forest	4	13	-	413
Samuel R. McElvie National Forest	2	16	-	216
San Bernadino National Forest	5	12	-	512
San Isabel National Forest	2	12	-	212
San Juan National Forest	2	13	-	213
Santa Fe National Forest	3	10	-	310
Savannah River Site	8	24	-	824
Sawtooth National Forest	4	14	-	414
Sequoia National Forest	5	13	-	513
Shasta National Forest	5	14	-	514
Shawnee National Forest	9	8	-	908
Shoshone National Forest	2	14	-	214
Sierra National Forest	5	15	-	515
Siskiyou National Forest	6	11	-	611
Sitgreaves National Forest	3	11	-	311
Siuslaw National Forest	6	12	-	612
Six Rivers National Park	5	10	-	510
Snoqualmie National Forest	6	13	-	613
St. Joe National Forest	1	18	-	118
Stanislaus National Forest	5	16	-	516
Sumter National Forest - Andrew Pickens District	8	12	2	81202
Sumter National Forest - Long Cane District	8	12	3	81203
Sumter National Forest - Enoree District	8	12	1	81201

FVS Location Code NAME (FVS_LOC_CD_NAME)	FVS Region Code (FVS_REGION)	FVS Forest Code (FVS_FOREST)	FVS District Code (FVS_DISTRICT)	FVS Location Code (FVS_LOC_CD)
Superior National Forest	9	9	-	909
Tahoe National Forest	5	17	-	517
Targhee National Forest	4	15	-	415
Teton National Forest	4	16	-	416
Toiyabe National Forest	4	17	-	417
Tongass National Forest - Chatham Area	10	3	-	1003
Tongass National Forest - Ketchikan Area	10	5	-	1005
Tongass National Forest - Stikine Area	10	2	-	1002
Tonto National Forest	3	12	-	312
Trinity National Forest	5	18	-	518
Uinta National Forest	4	18	-	418
Umatilla National Forest	6	14	-	614
Umpqua National Forest	6	15	-	615
Uncompahgre National Forest	2	4	-	204
Wallowa National Forest	6	16	-	616
Wasatch National Forest	4	19	-	419
Wayne National Forest	9	14	-	914
Wenatchee National Forest	6	17	-	617
White Mountain National Forest	9	22	-	922
White River National Forest	2	15	-	215
Whitman National Forest	6	19	-	619
Willamette National Forest	6	18	-	618
Winema National Forest	6	20	-	620