Ministry of Natural Resources and Forestry

Forest Information Manual 2017

Annual Report Technical Specifications

September 2017

Crown Forests and Lands Policy Branch

Policy Division

Ontario

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1.0 Introduction

The Forest Information Manual (FIM) sets out the mandatory requirements, standards, roles and responsibilities, timelines and conditions for providing information in respect of Crown forests. The requirements for information set out in the FIM complement the planning and operational requirements of the Forest Management Planning Manual 2017 (FMPM). The FMPM and the Forest Information Manual 2017 (FIM) describe information that must be prepared and submitted for consultation, information that will be included in a forest management plan (FMP), and information that will be used by the Ministry of Natural Resources and Forestry (MNRF) to fulfill its obligations under the *Crown Forest Sustainability Act* (CFSA).

The FIM provides a description of the information requirement, references the source of the requirement, describes the rationale for the requirement and, on a general level, and discusses the format of the information and the party responsible for providing the information. It is organized into four sections, and references five associated technical specifications:

- FIM Base and Values Technical Specifications;
- FIM Forest Management Planning Technical Specifications;
- FIM Forest Resources Inventory Technical Specifications;
- FIM Annual Work Schedule Technical Specifications; and
- FIM Annual Reporting Technical Specifications (this document).

The Annual Report (AR) Technical Specifications as identified in the FIM describes the standards (e.g. data attributes, format) for the information requirements, and the conditions for provisions (e.g. naming conventions, exchange parameters, validation standards) for the exchange of Annual Report information. Annual reports are prepared for each one-year period (i.e. April 1 to March 31) of the FMP and will be submitted by the following November 15.

This document describes the electronic exchange standards for the sustainable forest licensee (Sustainable Forest Licence (SFL) Holders, Plan holders or other forest resource licence holders

with forest management responsibilities) and MNRF.

These specifications describe the format for data exchange standards only and do not affect how information may be stored or maintained by either the sustainable forest licensee or MNRF. Each party is expected to generate the required information products in the specified data exchange format from their proprietary system.

Technical specifications and any revisions are approved by the Director of the Crown Forests and Lands Policy Branch. FIM sets out the process and parameters for periodic revision of the technical specifications.

A list of current FIM technical specifications and the scope of information to which they apply will be maintained and available on the Forest Information Portal (FI Portal). The MNRF and sustainable forest licensee are required to use the technical specifications listed on the FI Portal.

2.0 Roles and Responsibilities

2.1 Sustainable Forest Licensee

The sustainable forest licensee is responsible for reviewing the MNRF provided information, and for packaging the annual report according to the technical specifications contained in this document and submitting it to the MNRF. The annual report is to be submitted by November 15 using the Forest Information Portal (FI Portal).

The sustainable forest licensee will examine the provided gross natural disturbance areas and determine the net natural disturbance areas for stand replacing events (e.g., fire, blowdown) and the associated estimated volumes for reporting.

2.2 Ministry of Natural Resources and Forestry

As part of the process of preparing an annual report for submission, MNRF is required to provide sustainable forest licensees with information or access to information on forest operations inspections, natural disturbances, harvest volumes and utilization, and revenues. Natural disturbance information will be available April 1 and the remaining information is to be available September 15 each year. All of the information provided relates to activities/events which occurred during the previous fiscal year (April 1 – March 31). Products are packaged according to the specifications in Chapter 4, Product Descriptions, and are provided to the sustainable forest licensee through the FI Portal and other approved MNRF information systems, the Forest Operations Inspection Program (FOIP) and the internet Timber Revenue and Expenditures System (iTREES).

3.0 Implementation

These FIM Annual Report Technical Specifications are in effect upon regulation of the FIM 2017. These technical specifications apply until this document is replaced. The technical specifications in this document are effective starting with submission of the management unit annual report of 2017-2018 activities and events which is due November 15, 2018.

The specifications apply to all management unit annual reports regardless of whether the FMP for the management unit was developed under the 2009 or 2017 FMPM.

Annual reports submitted will be validated according to the technical specifications applicable to that fiscal year.

Tech Spec Version Date	Applies to…	
	AR Year (April 1 - March 31)	AR Due Date
September 2017	2017-18 and beyond	Nov. 15, 2018 and beyond
December 2013	2013-14 to 2016-17	Nov. 15, 2014 to Nov. 15, 2017

3.1 Revision Notes

Changes and revisions from the December 2013 version of the FIM Annual Report Technical Specifications include:

- General formatting, clarification, organizational and typographical corrections;
- Alignment to policy changes resulting from Declaration Order (MNR-75) and FMPM and FIM;
- Additional file exchange formats accepted;
- Addition of the establishment assessment layer and associated attributes;

- Addition of performance assessment layer and associated attributes;
- New annual report summary map requirement

4.0 Product Descriptions

4.1 Natural Disturbance

4.1.1 Description, Intent and Intended Use

The FIM, Part D, specifies that the MNRF must provide information about natural disturbances to sustainable forest licensees in a spatial format for their subsequent use in preparing the management unit annual report. There are two categories of natural disturbance information that are provided: fire disturbance information and information on disturbances due to natural causes other than fire, such as blowdown, insects, disease, flood, etc. This information is required for tracking and recording changes and in particular for the sustainable forest licensee to determine the net areas of stand replacing natural disturbance and volume lost.

4.1.2 Packaging and Naming Convention

All of the natural disturbance information will be extracted from the appropriate data sources/systems and compiled into a compressed file (.zip file) for distribution.

A standard naming convention is to be used when delivering the natural disturbance information. The delivery (zip) file is to be named using the following standard naming convention:

NATDIST_<extraction date>_<format>.ZIP

where:

Part	Description
NATDIST	Letters “NATDIST” representing **Nat**ural **Dist**urbances.
_	Underscore character as a separator.
<extraction date>	The date the information was extracted and packaged for delivery as YYYY_MM_DD.
_	Underscore character as a separator.

Part	Description
<format>	The spatial format of the information contained in the zip file. Either SHAPE for shapefile or FGDB for file geodatabase
.ZIP	File format extension for a compressed file.

Examples:

- NATDIST_2013_03_26_SHAPE.ZIP
- NATDIST_2013_03_26_FGDB.ZIP

The submission (.zip) file for the natural disturbances must contain the spatial and tabular files associated with the fire disturbances, both point and polygon, and with the natural disturbances other than fire for the management unit. If the natural disturbance information needs to be provided more than once due to changes/updates to the product, then the entire information product as described in this document must be provided.

Naming conventions for the individual information products are discussed in the individual product sections.

4.1.3 Metadata

This information is delivered using the FI Portal's Information Forum posting feature and does not include any metadata except for the extraction/preparation date of the disturbance distribution package as part of the zip file name.

4.1.4 Format

All of the natural disturbance files are compressed into a .zip file for distribution based on spatial format. Two .zip files are prepared, one containing the natural disturbance information in a shapefile format and another containing the information in file geodatabase format. The format of the individual files within the .zip is further described in Sections 4.1.6, 4.1.7 and 4.1.8.

4.1.5 Data Transfer and Schedule

Natural disturbance information is compiled by MNRF and distributed to sustainable forest licensees via the Forest Information Portal; specifically via the Information Forum feature. MNRF staff may also download the information, if desired. The natural disturbance information is distributed by April 1 each year, since the information has uses beyond that of annual reporting. This accelerated delivery date comes with a risk. Information about natural disturbance events occurring close to the April 1 delivery date may not be included in the initial data delivery as there may not have been sufficient time to gather information about the event. A subsequent delivery may be required at a later date to provide this “missing” information.

4.1.6 Fire Disturbance Area

4.1.6.1 Description, Intent and Intended Use

Annual information on fire disturbances is currently compiled by MNRF Aviation, Forest Fire and Emergency Services. The information is organized spatially into a GIS data layer based on fire sizes greater than 40 hectares. This information is required by the sustainable forest licensee in order to assist in the development of the natural depletion information for the annual report submission.

The polygons in the geospatial data layer represent the exterior perimeter of the forest fire only (i.e., gross fire area) and do not include any large interior green (i.e., unburned) areas. The fire perimeters do not identify the severity of the burn nor represent any mortality information or other impacts on forest cover.

Perimeters of the individual polygons may be based upon GPS mapping or post-fire digitizing of paper maps. Since in some cases the fire perimeters were digitized from hand drawn maps at various scales, the accuracy of the data is considered to be in the range of +/- 100 metres. In cases where perimeter maps were insufficient or missing, a buffer proportional to the size of the fire was created.

4.1.6.2 Naming Convention

A standardized naming convention will be used for the fire disturbance area layer. The naming convention used is determined by the spatial format of the data delivery.

Information delivered in file geodatabase format is named: NON_SENSITIVE.GDB and within the file geodatabase the layer name will appear as “FIRE_DISTURBANCE_AREA” if viewed using ArcCatalog.

Information delivered in shapefile format is named: FIRE_DISTURBANCE_AREA.SHP

4.1.6.3 Format

Spatial Requirements

The fire disturbance area polygon layer is a seamless provincial product in geographic projection, NAD83 datum, and double precision. The information is available in two spatial formats: file geodatabase and shapefile.

Tabular Requirements

A description of the feature attribute table associated with the fire disturbance area polygon layer can be found using the Land Information Ontario (LIO) metadata tool website. Attributes attached to the layer contain the AFFM identifier, the start date of the fire and the year of the fire.

4.1.7 Fire Disturbance Point

4.1.7.1 Description, Intent and Intended Use

Annual information on fire disturbances is currently compiled by MNRF Aviation, Forest Fire and Emergency Services in Sault Ste. Marie. The geospatial data layer containing fires that are 40 hectares or less in size is not required to meet MNRF's annual reporting requirements, but is recognized to be of value to the sustainable forest licensee and so is distributed as part of the annual report requirements. This layer can only be used for forest management planning purposes.

Perimeters are generally not mapped for fires 40 hectares or less in size, only the coordinates of the fire location are recorded. Fire locations are normally reported as GPS coordinates or as UTM coordinates by zone, easting, and northing. The coordinates are reported by basemap and block. Each 10 x 10 kilometre 1:20,000 UTM tile (basemap) is subdivided into 1 x 1 kilometre blocks. In some cases, locations are recorded by sub-block which further subdivides each kilometre block into 100 x 100 metres blocks. Since in some cases fires are reported by basemap and block only, the locational accuracy of the data should be within +/- 1000 metres on the ground.

4.1.7.2 Naming Convention

A standardized naming convention will be used for the fire disturbance point layer. The naming convention used is determined by the spatial format of the data delivery.

Information delivered in file geodatabase format is named: NON_SENSITIVE.GDB and within the file geodatabase the layer name will appear as "FIRE_DISTURBANCE_POINT" if viewed using ArcCatalog.

Information delivered in shapefile format is named: FIRE_DISTURBANCE_POINT.SHP

4.1.7.3 Format

Spatial Requirements

The fire disturbance point layer is a seamless provincial product in geographic projection, NAD83 datum, and double precision. The information is available in two spatial formats: file geodatabase and shapefile.

Tabular Requirements

The tabular attribute file for the fire disturbance point layer contains the same information as the attribute file for the fire polygon layer. A description of the feature attribute table associated with the fire disturbance point layer can be found using the Land Information Ontario (LIO) metadata tool website.

4.1.8 Non-fire Disturbance

4.1.8.1 Description, Intent and Intended Use

Information on natural disturbances other than fire is currently compiled by the MNRF Science and Research Branch. The information is portrayed spatially on a series of geospatial data layers. There are four layers used to present the data based on the general cause of the damage: abiotic, disease, insect, and miscellaneous. Within each layer, the information is identified by the specific cause of the disturbance (e.g. blowdown, snow damage, spruce budworm, forest tent caterpillar).

4.1.8.2 Naming Convention

A standardized naming convention will be used for the non-fire disturbance layers. The naming convention used is determined by the spatial format of the data delivery.

- Information delivered in file geodatabase format is named: NON_SENSITIVE.GDB and within the file geodatabase the name of the individual layers will appear as follows if viewed using ArcCatalog:
    - FOREST_ABIOTIC_DAMAGE_EVENT
    - FOREST_DISEASE_DAMAGE_EVENT
    - FOREST_INSECT_DAMAGE_EVENT
    - FOREST_MISC_DAMAGE_EVENT
- The set of four layers delivered in shapefile format are named:
    - FOREST_ABIOTIC_DAMAGE_EVENT.SHP
    - FOREST_DISEASE_DAMAGE_EVENT.SHP
    - FOREST_INSECT_DAMAGE_EVENT.SHP
    - FOREST_MISC_DAMAGE_EVENT.SHP

4.1.8.3 Format

Spatial Requirements

All four layers contain only polygon features and will be distributed in two formats: file geodatabase and shapefile. Also, they will be distributed as seamless provincial products in geographic projection, NAD83 datum, and double precision.

Tabular Requirements

A description of the feature attribute table associated with the non-fire related natural disturbance layers can be found using the Land Information Ontario (LIO) metadata tool website.

4.2 Forest Operations Inspections, Harvest Volume, Utilization, and Revenues Information

4.2.1 Description, Intent and Intended Use

The FMPM and the FIM require that forest operations inspections (compliance inspections) be conducted, and that information about these activities be reported on and included in the management unit annual report.

The FIM, Part D, also specifies that the MNRF must make available the information about forest operations inspections, harvest volumes, utilization, and revenues to sustainable forest licensees for their use in fulfilling their management unit annual reporting requirements.

Forest operations inspection information is extracted from MNRF's Forest Operations Inspection Program (FOIP) system. The inspections reported are those that were conducted and submitted to FOIP during the period of the annual report regardless of the year that the operation was conducted. The remedies reported are those that were applied during the period of the annual report regardless of the year that the non-compliance occurred in. If there is no approval, then the fiscal year for reporting is determined from the inspection date. All remedies and enforcement actions are counted in the fiscal year they were confirmed which may be different from the fiscal year of the inspection.

Volume, utilization and revenue information is extracted from MNRF's Timber Resource Evaluation System (TREES). The data automatically extracted from the system is compiled and organized according to the FMPM annual report tables. Volume and utilization data is extracted for a given fiscal year based on the harvest approval period. The material haul purposes date (MHP) "extends" the harvest approval period, if necessary, to allow wood that was cut in one year to be hauled in the following year. The data associated with extended harvest approvals will be tallied with the fiscal year of the original harvest approval period, not the year in which the wood was hauled or scaled, in order to prevent double counting from occurring in subsequent reports. Any reports that are run will not be accurate for wood utilized if

unhauled/unscaled wood exists based on a previous harvest approval period.

The sustainable forest licensee is now responsible for retrieving the information from FOIP and iTREES. The extracted information will be provided in an Excel workbook as the data will need to be reconciled prior to being incorporated into the Annual Report submission.

4.2.2 Packaging and Naming Convention

All of the forest operations inspections, harvest volumes, utilization, and revenue information is provided electronically in the form of the appropriate annual report table as per the FMPM:

- AR-1: Annual Report of Wood Utilization by Licensee
- AR-2: Annual Report of Wood Utilization by Mill
- AR-6: Annual Report of Forest Operations Inspections Conducted by Sustainable Forest Licensee and MNRF Verification Reports of Non-Compliance

A digital copy of these completed AR tables is provided to sustainable forest licensees in Excel format. A separate Excel file (workbook) is generated for each of the AR tables for each forest management unit.

A standardized naming convention will be used for these files. The file name is composed of the following parts:

MU<management unit>_<year>_AR<table number>_<date>.XLS

where:

Part	Description
MU	Letters “MU” representing Forest **M**anagement **U**nit.
<management unit>	The three digit FMU number, pad left with zeros as required (e.g., 001).
_	Underscore character as a separator.
<year>	Four digit numeric start year of the AR (e.g., 2028).
_	Underscore character as a separator.

Part	Description
AR	Letters “AR” representing **A**nnual **R**eport.
<table number>	the identification number assigned to the report table as per the FMPM (i.e., 1, 2 or 6)
_	Underscore character as a separator.
<date>	Eight digit numeric date composed of year, month and day when the report was generated (e.g., September 15 2028 is 20280915).
.XLS	File format extension for Microsoft Excel workbooks.

4.2.3 Metadata

A reference to the information contained in the report (via the table number), the management unit, and year of the report run are all incorporated into the file name.

4.2.4 Format

Spatial Requirements

There is no exchange of spatial information with these products.

Tabular Requirements

A separate Excel file (workbook) will be generated for each of the AR tables for the selected forest management unit. Included in each workbook will be a worksheet which contains the summarized information used to generate the individual AR worksheets (one for each year of the plan period to date), a worksheet containing a blank template for the AR table, and a “utilities” worksheet. The utilities worksheet was designed into the workbook based on a potential future need. This worksheet will be present but is not currently being utilized during the delivery; it is a placeholder for future development work. Users will be notified when the utilities worksheet contains information related to the rest of the workbook.

The names for the individual worksheets are standardized as follows:

- Data
- AR-<table number><space><year>

where:

Part	Description
AR-	Letters “AR” representing **A**nnual **R**eport.
<table number>	the identification number assigned to the report table as per the FMPM (i.e., 1, 2 or 6)
<space>	A single space
<year>	Four digit numeric start year of the AR followed by a dash then followed by the two digit end year of the AR (e.g., 2028 to 2029 is 2028-29).

Each workbook will contain all information available within FOIP or iTREES that is relevant to the MU for the entire plan term to date associated with the AR year being reported on.

4.2.5 Data Transfer and Schedule

The forest operations inspection, harvest volume and utilization information will be made available on the appropriate MNRF systems and compiled into the required AR table format as per the FMPM (i.e., AR-1, AR-2 and AR-6).

The sustainable forest licensees will be responsible for retrieving the information from FOIP and iTREES. The forest operations inspection data is available from FOIP whenever the sustainable forest licensee chooses to access the table. The harvest volume and utilization, information will be generated and posted to iTREES on September 15.

4.3 Annual Report Spatial Information Specifications

4.3.1 Description, Intent and Intended Use

The annual report includes a set of layers which provide information on:

- Natural disturbance
- Harvest disturbance
- Road construction and road use
- Water crossings
- Regeneration treatment
- Site preparation treatment
- Tending treatment
- Protection treatment
- Establishment assessment
- Performance assessment
- Free to Grow
- Forestry aggregate pits
- Silvicultural ground rule update
- Slash and chip treatment

These products will be used to facilitate the MNRF review of the annual report.

The details of each of these spatial information products are described in the individual product sections starting with Section 4.3.7. Additional non-standard spatial information products may be included in the annual report submission.

4.3.2 Packaging and Naming Convention

The annual report spatial information will be included in the submission zip file according to Section 5.0.

Naming conventions for the individual annual report spatial information products is discussed in the individual product sections.

Additional non-standard spatial information products should follow a similar naming convention and must only contain numeric values from 0 to 9, characters from A to Z and underscore.

File extensions are defined by the ESRI supported file exchange format chosen. Examples of ESRI supported file formats accepted by the FI Portal are:

1. Shapefiles: the shapefile consists of 4 mandatory file extensions (i.e. .shp, .shx, .dbf, .prj)

   Example:

   - MU123_28HRV00.shp
   - MU123_28HRV00.shx
   - MU123_28HRV00.dbf
   - MU123_28HRV00.prj

2. File Geodatabase (GDB) is a container that can hold single or multiple feature classes. All feature classes must be in the root of the File GDB.

   Example:

   - MU123_2028_AR.gdb (single feature class in a FGDB)
     - MU123_28HRV00
   - MU123_2028_AR.gdb (multiple feature classes in FGDB)
     - MU123_28HRV00
     - MU123_28WTX00

3. ESRI ArcInfo interchange file (E00) is a proprietary ESRI file format intended to support the transfer between ESRI systems of different types of geospatial data used in ESRI software.

Example:

- MU123_28HRV00.E00

OR

- MU123_28HRV01.E00 (first multiple layer submitted)
- MU123_28HRV02.E00 (second multiple layer submitted)

4.3.3 Metadata

Part of the metadata requirements will be met by use of the standard naming convention as well as the submission details that are collected when AR submission files are submitted via the FI Portal.

4.3.4 Format

- Geospatial information and associated tabular attributes are to be submitted in an ESRI supported file format. This format will be consistent with the formats defined by the FI Portal. A single ESRI supported file format will be used within the submission.
- Each geospatial data layer must contain a defined projection. The selected projection is to be used for all spatial products associated with an annual report.
- Information managed in the UTM projection, where management units span more than one UTM zone, must be projected to a single UTM zone.
- Information is to be provided in a projection recognized by a well-known spatial reference system standards body. Typical projection choices will be EPSG:26915 – EPSG:26918 (UTM Zones 15-18, NAD83 Datum), or EPSG:3161 (NAD83 / Ontario MNR Lambert).
- Geospatial information will be submitted in a seamless format or as a map-joined product with or without the tile lines removed (dissolved).

- Additional attributes can be appended to the tabular file. The inclusion of additional attributes in the individual layers is a decision of the appropriate task team. It is recommended that a brief metadata be provided to describe the additional attribution.
- Geospatial data layers will respect spatial integrity.
- Format requirements specific to each product are discussed in the individual product sections.

Validation

Stage 1 validation routines assess annual report product submission files for meeting mandatory requirements. The process will assess the entire submission file to identify as many non-compliance instances as possible. These instances will be provided in a Stage 1 report. **A non-compliance will result in a required alteration and resubmission.**

Stage 2 validation routines assess annual report product submission files for anomalies and uncommon data relationships. These warnings will be provided in a Stage 2 report. Anomalies identified at Stage 2 **do not result in an automatic rejection** or required alterations of the submission. The MNRF will use the Stage 2 validation report to inform additional manual validation or a discussion if required.

4.3.5 Data Transfer and Schedule

Annual report information is included with the submission and is subject to those timelines. Refer to Section 5.5 for more information.

4.3.6 Review and Approval

Review and acceptance of the annual report information is performed as part of the annual report submission review. Refer to Section 5.6 for more information.

4.3.7 Natural Disturbance Layer

4.3.7.1 Description, Intent and Intended Use

This section contains specifications for reporting on stand replacing natural disturbances (e.g. fire, blowdown). Spatial information about the location and area of stand replacing disturbance events which occurred during the specified annual report year is required. The layer(s) must also contain a set of associated attributes which provides further description of the stand replacing natural disturbance. If there is a need, this or these layers can be intersected with the planning inventory to determine the pre-disturbance condition (e.g. AGE, SPCOMP, SC, STKG) If multiple layers are submitted then they can be unioned or intersected to determine areas where multiple stand replacing disturbances have occurred in the same year.

4.3.7.2 Naming Convention

A standardized naming convention will be used for the natural disturbance layers. The file name is composed of the following parts:

MU<management unit>_<year>NDB<file number>.<file extension>

where:

Part	Description
MU	Letters “MU” representing Forest **M**anagement **U**nit.
<management unit>	The three digit FMU number, pad left with zeros as required (e.g., 001).
_	Underscore character as a separator.
<year>	Two digit numeric start year of the AR (e.g., 2028 is 28).
NDB	Letters “NDB” representing **N**atural **D**istur**b**ance.
<file number>	This value is used where multiple layers are required when overlapping areas are being identified. The default value is 00 where the product is submitted as a single entity.
<file extension>	Include a file extension if required as described in Section 4.3.2

4.3.7.3 Format

Spatial Requirements

The natural disturbance layer contains only polygon features. The polygon layer must be created in accordance with the direction in Section 4.3.4. This layer may contain overlapping features when submitted as a shapefile or as a feature class in a file geodatabase.

Tabular Requirements

It is possible that more than one stand replacing disturbance event may occur on the same area in a given fiscal year, for example, a bug infestation in the summer and a fire in the fall of the same fiscal year. When data is exchanged as an e00 a second standard layer is created for resolving the technical issue of spatially overlapping polygons for multiple stand replacing natural disturbances occurring on the same area in the same fiscal year.

The tabular attributes associated with a natural disturbance layer are to be included in the feature attribute table described below. The ESRI standard attributes are not listed in the polygon attribute table (i.e. area, perimeter, length, <cover_name>#, <cover_name>-ID).

field name	maximum width	field type	decimal places	attribute description
NDEPCAT	8	character	-	natural disturbance category
VOLCON	7	integer	-	conifer volume
VOLHWD	7	integer	-	hardwood volume
DSTBFU	15	character	-	forest unit at time of natural disturbance

NDEPCAT

Definition: The **natural disturbance category** attribute indicates how the area was disturbed.

Format:

Code	Option
BLOWDOWN	wind / blowdown
DISEASE	disease

Code	Option
DROUGHT	drought
FIRE	fire
FLOOD	flood
ICE	ice damage
INSECTS	insects
SNOW	snow

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- The attribute population must follow the correct coding scheme
- A blank or null value is not a valid code

VOLCON

Definition: The **conifer volume** attribute contains an estimate of the coniferous volume lost due to mortality (in cubic metres, rounded off to the nearest cubic metre).

Format:

- max value is 9,999,999

Sustainable forest licensees may use any method to estimate these volume losses. MNRF may request the method by which volume losses from natural disturbances have been determined as part of the MNRF review and acceptance of annual report information.

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The attribute population must follow the correct format

VOLHWD

Definition: The **hardwood volume** attribute contains an estimate of the hardwood volume lost

due to mortality (in cubic metres, rounded off to the nearest cubic metre).

Format:

- max value is 9,999,999

Sustainable forest licensees may use any method to estimate these volume losses. MNRF may request the method by which volume losses from natural disturbances have been determined as part of the MNRF review and acceptance of annual report information.

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The attribute population must follow the correct format

DSTBFU

Definition: The **forest unit at time of natural disturbance** attribute contains the short form label used to reference the forest unit for the area at the time of natural disturbance.

Format:

- user defined content
- must be defined in the current FMP or an associated AWS

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- A blank or null value is not a valid code

4.3.8 Harvest Disturbance Layer

4.3.8.1 Description, Intent and Intended Use

This section contains specifications for reporting on harvest disturbance activities. Spatial information about the location and area of disturbance events which occurred during the specified annual report year must be reported. The layer(s) must also contain a set of associated attributes which provides further description of the harvest disturbance. These layers may be intersected with the planning composite in order to generate more pre-harvest data, as well as the POLYID.

For FMPs where the planned harvest layer was created under the 2009 FMPM there is no requirement for a block identifier to be populated. For FMPs where the planned harvest layer was created under the 2017 FMPM the harvest block identifier attribute will be populated with the same harvest block identifier used in the planned harvest layer submitted with final plan.

The silvicultural ground rule (SGR) code will be assigned, where applicable, in the SGR attribute. When a SGR that meets the requirements of a silviculture guide was not used, the three letters "AOC" will be populated in the SGR attribute which will indicate that an area of concern (AOC) prescription was applied. An AOC prescription, as defined in the FMP, describes the appropriate activities allowed.

4.3.8.2 Naming Convention

A standardized naming convention will be used for the harvest disturbance activities layer. The file name is composed of the following parts:

MU<management unit>_<year>HRV<file number>.<file extension>

where:

Part	Description
MU	Letters "MU" representing Forest **M**anagement **U**nit.

Part	Description
<management unit>	The three digit FMU number, pad left with zeros as required (e.g., 001).
_	Underscore character as a separator.
<year>	Two digit numeric start year of the AR (e.g., 2028 is 28).
HRV	Letters “HRV” representing **H**a**rv**est Disturbance.
<file number>	This value is used where multiple layers are required when overlapping areas are being identified. The default value is 00 where the product is submitted as a single entity.
<file extension>	Include a file extension if required as described in Section 4.3.2

4.3.8.3 Format

Spatial Requirements

The harvest disturbance layer contains only polygon features. The spatial data layer must be created in accordance with the direction in Section 4.3.4. This layer may contain overlapping features when submitted as a shapefile or as a feature class in a file geodatabase.

Tabular Requirements

It is possible that more than one disturbance event may occur on the same area in a given fiscal year. When data is exchanged as an e00 a second standard layer is created for resolving the technical issue of spatially overlapping polygons for multiple harvest disturbances occurring on the same area in the same fiscal year.

The tabular attributes associated with a harvest disturbance layer are to be included in the feature attribute table described below. The ESRI standard attributes are not listed in the feature attribute table (i.e. area, perimeter, length, <cover_name>#, <cover_name>-ID).

field name	maximum width	field type	decimal places	attribute description
BLOCKID	25	character	-	harvest block identifier
HARVCAT	8	character	-	harvest category
SILVSYS	2	character	-	silvicultural system

field name	maximum width	field type	decimal places	attribute description
HARVMTHD	10	character	-	harvest method
MGMTSTG	8	character	-	stage of management
ESTAREA	4	double	2	estimated area proportion
SGR	25	character	-	silvicultural ground rule
DSTBFU	15	character	-	forest unit at time of harvest
TARGETFU	15	character	-	target forest unit
TARGETYD	10	character	-	target yield
TRIAL	1	character	-	trial area
LOGMTHD	2	character	-	logging method

BLOCKID

Definition: The **harvest block identifier** attribute is a unique user defined label for the ten year plan period associated with polygons planned for harvest that are in proximity of each other for practical implementation of operations.

Format: user defined

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory where plan start is greater than or equal to 2019
- A blank or null value is not a valid code where plan start is greater than or equal to 2019

HARVCAT

Definition: The **harvest category** attribute indicates the planned type of harvest that was completed.

Format:

Code	Option	Definition
REGULAR	regular harvest	These harvest areas were categorized as regular under the FMP.
BRIDGING	bridging harvest areas	This category identifies the harvested areas that were approved as bridging under the FMP. This code is only valid in the first AR under a new FMP as these areas can only be harvested within the first AWS.
REDIRECT	redirected harvest	These areas are harvested under a pest management plan and count against the available harvest area of the FMP.
ROADROW	road right-of-way	The removal of trees in preparation for road construction in which the depleted area is not intended for future regeneration purposes and will be maintained for road access as well as aggregate pits and landings.
ACCELER	accelerated harvest	These areas are harvested under a pest management plan and are areas in addition to the available harvest area of the FMP.
FRSTPASS	modified cut: first pass	For areas managed using the clearcut silvicultural system, harvest may be planned in two passes. This is normally when species within the stand are harvested and utilized by different logger/contractor/forest resource sustainable forest licensee in different years (e.g., first pass is conifer and second pass is hardwood). The first pass should be recorded if merchantable tree species remain in the forest stands which have been allocated for harvest, but not yet harvested.
SCNDPASS	second pass harvest	For areas managed using the clearcut silvicultural system, harvest may be planned in two passes. This is normally when species within the stand are harvested and utilized by different logger/contractor/forest resource licensee in different years (e.g., first pass is conifer and second pass is hardwood). The second pass should be recorded when merchantable tree species have been harvested from forest stands which have been previously reported as harvested.

Code	Option	Definition
SALVAGE	salvage harvest	Salvage is not considered to be the initial form of disturbance since most areas which require a salvage operation have been previously disturbed by natural causes, such as fire, insect, disease, blowdown, etc. All salvage operations are considered to be harvesting which is often the first silviculture treatment needed to bring a forest stand back to a more productive state, more quickly than if left for natural succession. As such, salvage is also considered to be a form of protection from further loss of merchantable volume due to insects or fire (e.g., bark beetles/borers, or fire after insect damage). Salvage operations also reduce the risk of further natural disturbances, or volume loss.

Road Right-of-Way

The attribute coding scheme for harvest disturbances contains an option for recording spatial information on road right-of-ways, aggregate pits and landings. The code is ROADROW. The primary purpose of this code is to identify harvest area for newly constructed road right-of-ways for primary and branch roads, aggregate pits and landings that are outside of an area of operations, where the depleted area is not intended for future regeneration purposes and will be maintained for its intended use. The area associated with road right-of-way, aggregate pit and landing harvests are not included in the balancing of available harvest area as these areas are usually accounted for in forest modelling as estimated roads and landings percentage. There may be exceptions, which should be discussed locally between Districts and sustainable forest licensees.

The road right-of-way code (ROADROW) can be used for roads, aggregate pits or landings delineated within an area of operations provided this consideration was included in the strategic modeling. Normally harvest polygons within area of operations do not include the road right-of-way area, aggregate pits and landings as part of the harvested area. Primary and branch road areas are identified by delineating the boundary of the harvest area up to the road edge or by buffering out the approximate road width using the road centre-line to remove the

area of road. The District and sustainable forest licensee may agree on other ways to identify or remove roads, aggregate pits and landings in harvest areas.

Operational roads within a harvest polygon will be reported as part of the harvest area. Operational roads outside of a harvest polygon but within an area of operations are not normally reported on the harvest disturbance layer.

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- The attribute population must follow the correct coding scheme
- A blank or null value is not a valid code
- Bridging (HARVCAT = BRIDGING) is only available when the AR start year is equal to the first year of the plan period.

SILVSYS

Definition: The **silvicultural system** attribute indicates the process, following accepted silvicultural principles, whereby tree species constituting a forest are tended, harvested, and regenerated, resulting in the production of crops of distinctive form. Systems are conveniently classified according to the method of harvesting the mature stands with a view to regeneration and according to the type of tree species and future forest conditions.

Format:

Code	Option	Definition
CC	clearcut	A silvicultural system of regenerating an even-aged forest stand in which new seedlings become established in fully exposed micro-environments after most or all of the existing trees have been removed. Regeneration can originate naturally or can be applied artificially. Clearcutting may be done in blocks, strips or patches.

Code	Option	Definition
SE	selection	An uneven-aged silvicultural system where mature and/or undesirable trees are removed individually or in small groups over the whole area, usually in the course of a cutting cycle. Regeneration is generally natural.
SH	shelterwood	An even-aged silvicultural system where mature trees are harvested in a series of two or more cuts (i.e. preparatory, seed, first removal, final removal) for the purpose of obtaining natural regeneration under shelter of the residual trees, either by cutting uniformly over the entire stand area or in narrow strips. Regeneration is natural or artificial. The regeneration interval determines the degree of even-aged uniformity.

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- The attribute population must follow the correct coding scheme
- A blank or null value is not a valid code

HARVMTHD

Definition: The **harvest method** attribute indicates the process used to harvest the trees within a particular silviculture system.

Format:

Code	Option	Definition
CONVENTION	Clearcut: conventional	The removal of a stand from a large contiguous area in one operation. This harvest method is not defined by the cutting cycle associated with adjacent uncut areas.
BLOCKSTRIP	Clearcut: block or strip	The removal of the stand in progressive strips or blocks in more than one operation. Strip and block harvest methods are prescribed to encourage natural regeneration, provide wildlife habitat, protect fragile sites, or for aesthetics.

Code	Option	Definition
PATCH	Clearcut: patch	The removal of stands in an irregularly shaped, space and sized cut area. Patch cuts are well suited to harvesting in broken terrain or in stands that lack uniformity. Patch configurations are often a reflection of the mosaic in the original forest and can vary greatly in size. They are desirable because their physical dimensions can be modified to accommodate site and stand variability.
SEEDTREE	Clearcut: seed-tree	The removal of all trees from an area, except for a small number of seed-bearing trees left singly or in small groups for regeneration purposes. The objective is to create an even-aged stand. Although in classical silviculture terms, seed-tree is considered a separate silviculture system, the FMPM classifies it as a harvest method.
HARP	Clearcut: harvesting with regeneration protection	The removal of the dominant canopy layer in uneven-aged lowland black spruce ecosystems. HARP protects and retains stems below a set diameter limit, leaving a significant component of the overstorey. The resulting stand is uneven-aged and uneven-sized.
THINCOM	Clearcut or Shelterwood: commercial thinning	Free-growing productive forest areas which receive a mid-rotation partial harvest (reduction in the growing stock) that is designed to meet various objectives such as improving tree spacing, removing trees not suited to the site, and promoting the growth of the best quality trees. The harvested trees are removed from the site and used for commercial purposes.
UNIFORM	Shelterwood: uniform	The stand canopy is (periodically) opened uniformly throughout the entire stand to achieve a post-harvest, crown-closure target.
STRIP	Shelterwood: strip	The stand canopy is opened in progressive stages in narrow successive strips.
GROUPSH	Shelterwood: group	The stand canopy is (periodically) opened by harvesting trees in small groups. The resulting canopy opening usually occupies a fraction of a hectare.
SINGLETREE	Selection: single-tree	The stand canopy is (periodically) opened uniformly throughout the entire stand to achieve a post-harvest, basal area target.
GROUPSE	Selection: group	The stand canopy is (periodically) opened by harvesting trees in small groups. The resulting canopy opening usually occupies a fraction of a hectare.

CLAAG is a modification to clearcut harvesting that is designed to protect the advanced growth and regeneration on the given site. CLAAG is not a harvest method but rather a regeneration treatment that could be found within many harvest methods in the clearcut silviculture system.

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- The attribute population must follow the correct coding scheme
- A blank or null value is not a valid code
- The single-tree (HARVMTHD = SINGLETREE) and group selection (HARVMTHD = GROUPSE) harvest categories are only valid codes when the silviculture system is selection (SILVSYS = SE)
- The uniform (HARVMTHD = UNIFORM), strip (HARVMTHD = STRIP) and group shelterwood (HARVMTHD = GROUPSH) harvest categories are only valid codes when the silviculture system is shelterwood (SILVSYS = SH).
- The conventional, block or strip, patch, seed-tree and harvesting with regeneration protection (HARVMTHD = CONVENTION or BLOCKSTRIP or PATCH or SEEDTREE or HARP) harvest categories are only valid when the silviculture system is clearcut (SLVSYS = CC)
- The commercial thinning (HARVMTHD = THINCOM) harvest category is valid for either the clearcut or the shelterwood silviculture system (SILVSYS = CC or SH)

MGMTSTG

Definition: The **stage of management** attribute indicates the type of harvest that occurred under the Shelterwood silviculture system.

Format:

Code	Option	Definition
PREPCUT	received a preparatory cut	A shelterwood silvicultural system stage of management designed to remove undesirable species of any species from the stand and to select trees to remain that will provide the best seed source. The removal of undesirable trees opens the canopy and enables the crowns of remaining seed bearing trees to enlarge; to improve conditions for seed production and natural regeneration.
SEEDCUT	received a seed cut	A shelterwood silvicultural system stage of management where trees are removed from a mature stand in order to create openings in the canopy / create spaces and to prepare sites for natural regeneration while maintaining the seed bearing trees and protecting any existing advance regeneration.
FIRSTCUT	received a first removal harvest	A shelterwood silvicultural system stage of management where overstorey trees are removed in one or more harvests in order to release the established seedlings from competition.
LASTCUT	received a last removal harvest	A shelterwood silvicultural system stage of management where all of the remaining trees in the overstorey are removed. This is the removal of the seed or shelter trees after the regeneration has been effective.

This list only applies to the Shelterwood areas and is therefore a subset of what is found as acceptable codes for stage of management within the Forest Management Planning Technical Specification.

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory where SILVSYS = SH
- The attribute population must follow the correct coding scheme
- A blank or null value is a valid code

- The stage of management will be blank (MGMTSTG = null) when the silviculture system is either selection or clearcut, or the harvest method is commercial thinning (SILVSYS = SE or CC) or (HARVMTHD = THINCOM).

ESTAREA

Definition: The **estimated area proportion** attribute indicates the proportion of the gross disturbance polygon area that is considered to be disturbed.

Format:

- must be a number between 0.01 and 1.00
- Default value is 1.00

To properly calculate and report area for strip cut polygons, the gross polygon area (AREA attribute) must be multiplied by this ESTAREA value to determine the net area disturbed.

Example: If an area has been affected by strip cutting, then the ESTAREA attribute is used to identify the net amount of area affected (i.e. the proportion actually cut) as a decimal percentage (from 0.01 to 1.00). For example, if 60% of a 200 hectare area was depleted by strip cutting, then the ESTAREA attribute would be set to 0.60. The net area of the polygon affected by strip cutting would be the 200 hectare gross area multiplied by the 0.60 estimated area of depletion, which equals 120 hectares. The 120 hectares (calculation result) is what would be recorded on the AR tables and in lists of areas.

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory where HARVMTHD = BLKSTRIP
- The attribute population must follow the correct format
- A zero value is not a valid code

SGR

Definition: The **silvicultural ground rule** attribute contains the SGR code for the selected SGR

when it applies to the area. In cases where a SGR that meets the requirements of a silviculture guide was not used, the letters "AOC" will be the default value which indicates that the prescription can be found in the area of concern (AOC) prescription as described in the FMP.

Format: user defined

- applicable SGR codes must be defined in the current FMP
- AOC is an acceptable code

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- A blank or null value is a valid code where HARVCAT = ROADROW

DSTBFU

Definition: The **forest unit at time of disturbance** attribute contains the short form label used to reference the forest unit for the area at the time of harvest disturbance.

Format: user defined

- must be defined in the FMP at the time of harvest or an associated AWS

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- A blank or null value is not a valid code

TARGETFU

Definition: The **target forest unit** attribute contains the short form label used to reference the forest unit in the future condition section of the associated SGR applied to the area.

Format: user defined

- must be a FU defined in the FMP and/or AWS at the time of harvest or SGR update

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- A blank or null value is not a valid code

TARGETYD

Definition: The **target yield** attribute contains the same label used in the inventory from the YIELD or Silvicultural Intensity (SI) attribute used in the approved forest model of the FMP at the time of harvest. This provides an indicator of productivity and the expected growth and development pattern.

Format: user defined (e.g. PRSNT, High, Med, Low)

- must be a yield defined in the FMP at the time of harvest or SGR update
- target yields apply only to even-aged forest stands that are managed under the clear-cut silvicultural system and the shelterwood silvicultural system.

For forest stands that are managed under the shelterwood silvicultural system, the stage of development, understorey, and next stage attributes, describe the silvicultural regimes and provide equivalent information to indicate silvicultural intensity. Similarly, for stands managed under the selection silvicultural system, the stage of development, acceptable growing stock, unacceptable growing stock, and next stage attributes describe the silvicultural regimes and provide equivalent information to indicate yield.

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory

- The population of this attribute is mandatory where silviculture system is clearcut or shelterwood (SILVSYS – CC or SH)
- A blank or null value is not a valid code where silviculture system is clearcut or shelterwood (SILVSYS – CC or SH)

TRIAL

Definition: The **trial area** attribute indicates whether the harvested area is a trial.

Format: Y (for yes) or N (for no)

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- The attribute population must follow the correct coding scheme

LOGMTHD

Definition: The **logging method** attribute indicates the process used to move wood products from stump to landing site / roadside during a harvesting operation.

Format:

Code	Option	Definition
FT	full tree	Full tree logging is the extraction of the complete tree, including top and branches, from the stump out to the landing/roadside. The top and branches are removed at the landing/roadside and piled or left, disposed of by chipping, burning, fuelwood permits or other forms of redistribution back to the cutover area. It is sometimes termed whole tree harvesting.
CL	cut to length /shortwood	Shortwood logging is the limbing, topping and cutting to length of the trees at the stump. Extraction of log lengths from the stump to the landing/roadside, where the tree has been cut into lengths at the stump, or cut and decked in small piles.

Code	Option	Definition
TL	tree length	Tree length logging is the removal of only the merchantable length of the tree to the landing/roadside. Limbing and topping occur at the stump.

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The attribute population must follow the correct coding scheme
- A blank or null value is not a valid code

4.3.9 Road Construction and Road Use Layer

4.3.9.1 Description, Intent and Intended Use

Information on newly constructed roads, and information on existing roads which have been monitored, maintained, decommissioned, or on which the access control has changed (i.e. applied, removed, both) during the fiscal year of operations are a required part of the annual report. The layer contains spatial information which identifies the location of road construction and road use management activities for the year. The layer also contains a set of associated tabular attributes which provide further description and definition of the spatial features and activities.

4.3.9.2 Naming Convention

A standardized naming convention will be used for the road construction and road use layer. The file name is composed of the following parts:

MU<management unit>_<year>RDS<file number>.<file extension>

where:

Part	Description
MU	Letters “MU” representing Forest **M**anagement **U**nit.
<management unit>	The three digit FMU number, pad left with zeros as required (e.g., 001).
_	Underscore character as a separator.
<year>	Two digit numeric start year of the AR (e.g., 2028 is 28).
RDS	Letters “RDS” representing **R**oa**d**(**s**) Construction and Road Use.
<file number>	This value will always be 00 (default) as multiple layers can not exist.
<file extension>	Include a file extension if required as described in Section 4.3.2

4.3.9.3 Format

Spatial Requirements

The road construction and road use layer contains only line features. The spatial data layer must be created in accordance with the direction in Section 4.3.4.

Tabular Requirements

The tabular attributes associated with a road layer are to be included in the feature attribute table described below. The ESRI standard attributes are not listed in the feature attribute table (i.e. area, perimeter, length, <cover_name>#, <cover_name>-ID).

field name	maximum width	field type	decimal places	attribute description
ROADID	30	character	-	road identifier
ROADCLAS	1	character	-	road class
CONSTRCT	1	character	-	road construction
DECOM	4	character	-	road decommissioning type
TRANS	4	integer		road transfer year
ACCESS	8	character	-	road access control
MAINTAIN	1	character	-	road maintenance
MONITOR	1	character	-	road monitoring
CONTROL1	4	character	-	road access control type
CONTROL2	4	character	-	road access control type

ROADID

Definition: The **road identifier** attribute is the number, label or name assigned to the road (or road network) that this arc is a part of.

Format: user defined

- this value must match a ROADID in table FMP-18, Road Construction and Use Management

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- A blank or null value is not a valid code

ROADCLAS

Definition: The **road class** attribute indicates the type (classification) of forest access road approved in the current FMP.

Format:

Code	Option	Definition
B	branch	A branch road is a road, other than a primary road, that branches off an existing or new primary or branch road, providing access to, through or between areas of operations on a management unit
O	operational	An operational road is a road within an area of operations, other than a primary or branch road, that provides short-term access for harvest, renewal and tending operations. Operational roads are normally not maintained after they are no longer required for forest management purposes, and are often site prepared and regenerated.
P	primary	Primary roads are roads that provide principal access for the management unit, and are constructed, maintained and used as part of the main road system on the management unit. Primary roads are generally permanent roads.

Can be completed for existing road segments if desired by the data provider

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory where CONSTRCT = Y
- A blank or null value is a valid code
- The attribute population must follow the correct coding scheme.

CONSTRCT

Definition: The **road construction** attribute indicates whether the section of road was constructed during the report year or not.

Format: Y (for yes) or N (for no)

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- The attribute population must follow the correct coding scheme
- At a minimum, one of Construction, Decommissioning, Maintenance, Monitoring or Access Control must occur for each record (CONSTRCT = Y or DECOM is not null or MAINTAIN = Y or MONITOR = Y or ACCESS is not null)

DECOM

Definition: The **road decommissioning type** attribute indicates the type of activity used to decommission the section of road during the report year.

Format:

Code	Option
BERM	berm and/or ditch
SCAR	scarify road
SLSH	pile slash
WATX	water crossing

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The attribute population must follow the correct coding scheme
- A blank or null value is a valid code

- At a minimum, one of Construction, Decommissioning, Maintenance, Monitoring or Access Control must occur for each record (CONSTRCT = Y or DECOM is not null or MAINTAIN = Y or MONITOR = Y or ACCESS is not null)

TRANS

Definition: The **road transfer year** attribute indicates a four-digit number representing the AR year that the transfer of responsibility to the MNRF occurred.

Format: YYYY

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The attribute population must follow the correct format.
- A zero value is a valid code
- The value must be greater than or equal to the 10 year plan period start year

ACCESS

Definition: The **road access control** attribute indicates where there has been a change in road access. The attribute is to remain blank when there is no change in the control status from the previous year. This could either indicate that an access control is still present on the road or it could indicate that there is no access control on the road.

Format:

Code	Option	Definition
APPLY	apply	This indicates that an access control is being applied to the road segment.
REMOVE	remove	This indicates that an access control is being removed from the road segment.
BOTH	Both	This indicates that an access control is being applied and removed from the road segment in the same

Code	Option	Definition
		annual report year.

Stage 1 Validation:

- The presence of this attribute is mandatory
- The attribute population must follow the correct coding scheme
- A blank or null value is a valid code
- When the road access control status is apply or both(ACCESS = APPLY or ACCESS = BOTH) then the control type must be a code other than null (CONTROL1 is not null)
- At a minimum, one of Construction, Decommissioning, Maintenance, Monitoring or Access Control must occur for each record (CONSTRCT = Y or DECOM is not null or MAINTAIN = Y or MONITOR = Y or ACCESS is not null)

Stage 2 Validation:

- When the road access control status is remove (ACCESS = REMOVE) then the control type should be null (CONTROL1 = null and CONTROL2 = null)

MAINTAIN

Definition: The **road maintenance** attribute indicates whether the section of road was maintained during the report year or not.

Format: Y (for yes) or N (for no)

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- The attribute population must follow the correct coding scheme

- At a minimum, one of Construction, Decommissioning, Maintenance, Monitoring or Access Control must occur for each record (CONSTRCT = Y or DECOM is not null or MAINTAIN = Y or MONITOR = Y or ACCESS is not null)

MONITOR

Definition: The **road monitoring** attribute indicates whether the section of road was monitored during the report year or not.

Format: Y (for yes) or N (for no)

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- The attribute population must follow the correct coding scheme
- At a minimum, one of Construction, Decommissioning, Maintenance, Monitoring or Access Control must occur for each record (CONSTRCT = Y or DECOM is not null or MAINTAIN = Y or MONITOR = Y or ACCESS is not null)

CONTROL1 and CONTROL2

Definition: The **road access control type** attribute indicates the method of control that was applied to a road segment.

Format:

Code	Option
BERM	berm and/or ditch
GATE	gated / physical barrier
PRIV	private land
SCAR	scarify and/or plant road
SIGN	signed
SLSH	pile slash

Code	Option
WATX	water crossing

If two access controls apply to the same road segment, then both access control types must be recorded in the CONTROL1 and CONTROL2 attributes accordingly.

If there are more than two access control types on the same road segment, then choose two of the controls and record them in the CONTROL1 and CONTROL2 attributes. When picking which two controls to report on, choose the ones which are deemed to be the most restrictive (i.e. the most physically limiting to accessibility).

Stage 1 Validation:

- The presence of this attribute is mandatory
- The attribute population must follow the correct coding scheme
- A blank or null value is a valid code
- When the road access control status is apply or both (ACCESS = APPLY OR ACCESS = BOTH) then the control type must be a code other than null (CONTROL1 is not null)

Stage 2 Validation:

- When the road access control status is remove (ACCESS = REMOVE) then the control type should be null (CONTROL1 = null and CONTROL2 = null)

4.3.10 Water Crossings Layer

4.3.10.1 Description, Intent and Intended Use

Information on water crossing structures (i.e., bridges, culverts) constructed, monitored and removed during the year is a required part of the annual report. The layer contains information which identifies the location of water crossings and also contains a set of associated attributes which provide additional details.

If more than one crossing of the same type is built and removed at the same location during a given year, it is the final status of the crossing that is reported (i.e., is it “in” or “out”). For example, consider the scenario where contractor A installs a culvert in May and removes it in June and contractor B installs a culvert at the same location in August. For annual reporting purposes, a single point is recorded on the water crossing layer. The attribution for the point indicates that the crossing type is culvert and that the crossing was built but not removed as a culvert crossing still exists at the location (WATXTYPE = CULV, CONSTRCT = Y, REMOVE = N). The intermediate removal of the crossing is not recorded.

If more than one crossing of different types is built at the same location during a given year, then two records are required; one for each crossing type. For example, consider the scenario where contractor A installs a culvert in May and removes it in June and contractor B installs a bridge at the same location in August. Two points would be recorded on the water crossing layer. The points can be overlapping. The attribution for one point indicates that the crossing type is culvert and that the crossing was built and removed during the year (WATXTYPE = CULV, CONSTRCT = Y, REMOVE = Y). The attribution for the second point will indicate that a bridge was built and still remains at the location (WATXTYPE = BRID, CONSTRCT = Y, REMOVE = N).

Ice crossings are reported as being built and removed in the same year (WATXTYPE = ICE, CONSTRCT = Y, REMOVE = Y).

4.3.10.2 Naming Convention

The standard naming convention will be used for the water crossings layer. The file name is composed of the following parts:

MU<management unit>_<year>WTX<file number>.<file extension>

where:

Part	Description
MU	Letters “MU” representing Forest **M**anagement **U**nit.
<management unit>	The three digit FMU number, pad left with zeros as required (e.g., 001).
_	Underscore character as a separator.
<year>	Two digit numeric start year of the AR (e.g., 2028 is 28).
WTX	Letters “WTX” representing **W**a**t**er Crossing(**X**).
<file number>	This value will always be 00 (default) as multiple layers can not exist.
<file extension>	Include a file extension if required as described in Section 4.3.2

4.3.10.3 Format

Spatial Requirements

The water crossing layer contains only point features. The point layer must be created in accordance with the direction in Section 4.3.4.

Tabular Requirements

The tabular attributes associated with a water crossing layer are to be included in the feature attribute table described below. The ESRI standard attributes are not listed in the polygon attribute table (i.e. area, perimeter, length, <cover_name>#, <cover_name>-ID).

field name	maximum width	field type	decimal places	attribute description
WATXID	12	character	-	water crossing identifier
WATXTYPE	5	character	-	water crossing type

field name	maximum width	field type	decimal places	attribute description
CONSTRCT	1	character	-	water crossing construction
MONITOR	1	character	-	water crossing monitoring
REMOVE	1	character	-	water crossing removal
REPLACE	1	character	--	replacement
REVIEW	8	character		review type
ROADID	30	character	-	road identifier
TRANS	1	character	--	water crossing transfer

WATXID

Definition: The **water crossing identifier** attribute is a unique identifier label assigned to the crossing location. This water crossing ID will be unique in perpetuity.

Format: user defined

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- A blank or null value is not a valid code
- The WATXID attribute must contain a unique value

WATXTYPE

Definition: The **water crossing type** attribute indicates the type of water crossing, such as bridge, culvert, or engineered ford.

Format:

Code	Option
BRID	bridge
TEMP	temporary bridge
CULV	culvert (span <3m)
MULTI	multiple culvert
FORD	engineered ford
ICE	ice crossing
BOX	box culvert
ARCH	open bottom arch culvert

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- The attribute population must follow the correct coding scheme
- A blank or null value is not a valid code

CONSTRCT

Definition: The **water crossing construction** attribute indicates if the associated water crossing point feature was constructed during the fiscal year being reported.

Format: Y (for yes) or N (for no)

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- The attribute population must follow the correct coding scheme
- A blank or null value is not a valid code

- At a minimum, one of Construction, Removal, Monitoring or Replacement must occur for each record (CONSTRCT = Y or REMOVE = Y or MONITOR = Y or REPLACE = Y)

MONITOR

Definition: The **water crossing monitoring** attribute indicates if the associated water crossing point feature was monitored during the fiscal year being reported.

Format: Y (for yes) or N (for no)

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- The attribute population must follow the correct coding scheme
- A blank or null value is not a valid code
- At a minimum, one of Construction, Removal, Monitoring or Replacement must occur for each record (CONSTRCT = Y or REMOVE = Y or MONITOR = Y or REPLACE = Y)

REMOVE

Definition: The **water crossing removal** attribute indicates if the associated water crossing point feature was removed during the fiscal year being reported.

Format: Y (yes) or N (no)

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- The attribute population must follow the correct coding scheme
- A blank or null value is not a valid code
- At a minimum, one of Construction, Removal, Monitoring or Replacement must occur for each record (CONSTRCT = Y or REMOVE = Y or MONITOR = Y or REPLACE = Y)

REPLACE

Definition: The **replacement** attribute identifies water crossings replaced during the fiscal year being reported.

Format: Y (yes) or N (no)

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- The attribute population must follow the correct coding scheme
- A blank or null value is not a valid code
- At a minimum, one of Construction, Removal, Monitoring or Replacement must occur for each record (CONSTRCT = Y or REMOVE = Y or MONITOR = Y or REPLACE = Y)

REVIEW

Definition: The **review type** attribute identifies whether a water crossing standard as documented in the FMP was applied or if a Fisheries Act review was conducted by the appropriate approval authority. (e.g. MNRF, DFO).

Format:

Code	Option	Definition
STANDARD	Water Crossing Standard used	Identifies that a water crossing standard as documented in the FMP has been applied.
REVIEW	Fisheries Act Review completed	A review was conducted by either MNRF or DFO as required.

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory

- The population of this attribute is mandatory where CONSTRCT = Y or REMOVE = Y or REPLACE = Y
- A blank or null value is a valid code

ROADID

Definition: The **road identifier** attribute is the number, label or name assigned to the road (or road network) that the water crossing feature is located on.

Format: user defined

- this value must match a ROADID in table FMP-18, Road Construction and Use Management
- if the road segment that this crossing is associated with has been included in the ROAD layer, then the ROADID values must match

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- A blank or null value is not a valid code

TRANS

Definition: The **water crossing transfer** attribute indicates the transfer of responsibility to the MNRF was completed during the fiscal year being reported.

Format: Y (for yes) or N (for no)

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- The attribute population must follow the correct coding scheme
- A blank or null value is not a valid code

4.3.11 Regeneration Treatment Layer

4.3.11.1 Description, Intent and Intended Use

The regeneration treatment layer will capture the specific silviculture activities for the specified annual report year. The treatment method and treatment category will be identified for each area. The planted species and estimated area will also be populated where required based on the treatment method.

4.3.11.2 Naming Convention

A standardized naming convention will be used for the regeneration treatment layer. The file name is composed of the following parts:

MU<management unit>_<year>RGN<file number>.<file extension>

where:

Part	Description
MU	Letters “MU” representing Forest **M**anagement **U**nit.
<management unit>	The three digit FMU number, pad left with zeros as required (e.g., 001).
_	Underscore character as a separator.
<year>	Two digit numeric start year of the AR (e.g., 2028 is 28).
RGN	Letters “RGN” representing **Rege**n**n**eration Treatments.
<file number>	This value will always be 00 (default). Overlapping areas are accommodated using additional attributes.
<file extension>	Include a file extension if required as described in Section 4.3.2

4.3.11.3 Format

Spatial Requirements

The regeneration treatment layer contains only polygon features. The polygon layer must be created in accordance with the direction in Section 4.3.4. This layer may contain overlapping

features when submitted as a shapefile or as a feature class in a file geodatabase.

Tabular Requirements

It is possible that more than one treatment methods or treatment categories may occur on the same area in a fiscal year. When data is exchanged as an e00 additional attributes are required for resolving the technical issue of spatially overlapping polygons for multiple silvicultural activities occurring on the same area in the same fiscal year.

The tabular attributes associated with a regeneration treatment layer are to be included in the feature attribute table described below. The ESRI standard attributes are not listed in the polygon attribute table (i.e. area, perimeter, length, <cover_name>#, <cover_name>-ID).

field name	maximum width	field type	decimal places	attribute description
TRTMTHD1	8	character	-	silvicultural treatment method
TRTCAT1	3	character	-	silvicultural treatment category
TRTMTHD2*	8	character	-	silvicultural treatment method
TRTCAT2*	3	character	-	silvicultural treatment category
TRTMTHD3*	8	character	-	silvicultural treatment method
TRTCAT3*	3	character	-	silvicultural treatment category
ESTAREA	4	floating	2	estimated area proportion
SP1	3	character	-	species planted
SP2	3	character	-	species planted

*These fields are not required if there are no overlapping regeneration treatment activities or if the layer is exchanged as a file geodatabase or shapefile. If the fields are included, they can be left blank. Additional TRTMTHD and TRTCAT fields may be added if needed.

TRTMTHD1, TRTMTHD2 and TRTMTHD3

Definition: The **silvicultural treatment method** attribute indicates the general type of silvicultural activity and the specific treatment or method applied to the area.

Format:

Code	Option	Definition
CLAAG	natural regeneration -- careful logging around advance growth / regeneration	An operational practice that can be applied with any harvest method under the clearcut silvicultural system, where the objective is to remove the overstorey, protect understorey advance growth, and regenerate an even-aged stand. The resulting stand develops under full light conditions, generally with a reduced rotation length.
NATURAL	natural regeneration – conventional clearcut	The removal of the forest in one cut operation and leaving the renewal of the area to natural means.
HARP	natural regeneration -- harvest with regeneration protection	The removal of the dominant canopy layer in uneven-aged lowland black spruce ecosystems. HARP protects and retains stems below a set diameter limit, leaving a significant component of the overstorey.
PLANT	artificial regeneration – planting	The establishment of trees on an area by planting seedlings, transplants or cuttings.
SCARIFY	artificial regeneration – scarification	The mechanical loosening or exposure of the topsoil or mineral soil, or breaking up the forest floor, in preparation for natural stand renewal.
SEED	artificial regeneration – seeding	The scattering of tree seed (ground broadcast or aerial) over an area to promote new stand growth.
SEEDSIP	artificial regeneration – seeding with site preparation	The dispersal or sowing of seed at the same time as the site preparation activity occurs, such as using a bracke with seed hopper.
SEEDTREE	natural regeneration – seed tree cut	A method of harvesting and regenerating a forest stand in which all trees are removed from the area except for a small number of seed-bearing trees that are left singly or in small groups for renewing the area.
STRIPCUT	natural regeneration – strip cut	The removal of trees in two or more passes in a system of strips of fixed or pre-defined widths and leaving the renewal of the area to natural means.

Strip Cutting

Only one polygon is required in the spatial layer. This polygon represents the gross area affected by the strip cut activity that is now being declared as natural regeneration, regardless of how many strips occur within the area. In addition, the ESTAREA attribute must be filled in. The polygon and corresponding gross area represent the outside perimeter of all the strips combined or joined. The ESTAREA attribute indicates the percentage of the total (gross) area affected by the strip cut operation (i.e., the amount of the gross area which is being declared for natural regeneration). So, AREA times ESTAREA equals the net area reported.

Natural Regeneration for Selection and Shelterwood Managed Areas

Note that the information for reporting on natural regeneration areas associated with selection cuts and with shelterwood seed cuts and strip cuts are derived from the harvest layer using the SILVSYS, HARVMTHD, and MGMTSTG attributes. Only natural regeneration associated with areas managed under the clearcut silvicultural system are recorded in this layer.

Stage 1 Validation:

- For TRTMTHD1, the presence of this attribute in the file structure of the layer is mandatory
- For TRTMTHD1 or TRTMTHD2 or TRTMTHD3, the population of one of these attributes is mandatory
- The attribute population must follow the correct coding scheme

TRTCAT1, TRTCAT2 and TRTCAT3

Definition: The **silvicultural treatment category** attribute identifies if the treatment applied is “regular” (normal) or intentionally duplicates (i.e., retreatment) or augments (i.e., supplemental) a previous treatment. For example, the initial regular treatment versus a retreatment of a failed renewal operation versus a natural

regeneration prescription that includes supplemental planting.

Format:

Code	Option	Definition
REG	regular	A specific treatment within the selected silvicultural treatment package which has been applied to the associated area.
RET	retreatment	A retreatment is a specific treatment within the selected silvicultural treatment package which has been applied a second time. Retreatments are variations of the original silvicultural treatment package that are applied to bring a productive forest area to a free-growing condition based on the regeneration standards and expected future forest conditions as described by the silvicultural ground rules in an approved FMP. Retreatments are usually applied after a preliminary assessment (silvicultural effectiveness monitoring survey) has been conducted, and the planning forester has determined that further treatment is required to achieve the regeneration standards for an area based on the results of the assessment.
SUP	supplemental treatment	Supplemental treatments are regeneration treatments that are applied to assist and supplement the existing regeneration in a forest stand in terms of attaining the regeneration standards and future forest conditions in accordance with the silvicultural ground rules of an approved FMP. Examples of supplemental treatments include spot planting, seeding, or scarification to increase the stocking of regeneration on specific areas within a forest stand or operating block. Supplemental treatments may be applied to certain portions of a forest stand or may be applied to the entire forest stand area. Supplemental treatments are normally less intensive or not as comprehensive as the original treatments, yet are required to assist the regeneration in reaching a free-growing condition based on the regeneration standards that apply to a particular area.

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory for TRTCAT1
- If the treatment method is populated (TRTMTHD# ≠ null) then the associated treatment category must also be populated (TRTCAT# ≠ null)
- The attribute population must follow the correct coding scheme

- When the treatment category is retreatment (TRTCAT# = RET) then the associated treatment method must be planting or seeding (TRTMTHD# = PLANT or SEED)
- When the treatment category is supplemental (TRTCAT# = SUP) then the associated treatment method must be planting, scarifying, seeding or seeding with site preparation (TRTMTHD# = PLANT or SCARIFY or SEED or SEEDSIP)

ESTAREA

Definition: The **estimated area proportion** attribute indicates the proportion of the total polygon area that is associated with strip cutting (for natural regeneration) or the area planted by the dominant species if more than one species is recorded as being planted.

Format:

- must be a number between 0.01 and 1.00
- default value = 1.00
- The value of this attribute is multiplied by the value in the area attribute to net down the polygon area to the area affected by the associated activity. For example:

Strip Cutting

If an area has been affected by strip cutting, only one polygon representing the gross area affected by the strip cut activity is required in the spatial layer, regardless of how many strips were cut. The polygon and corresponding gross area in the spatial layer will represent the outside perimeter of all the strips combined or joined. Then the ESTAREA attribute is used to identify the net amount of area affected (i.e. the proportion actually cut) as a decimal percentage (from 0.01 to 1.00). For example, if 60% of a 200 hectare area was depleted by strip cutting, then the ESTAREA attribute would be set to 0.60. The net area of the polygon affected by strip cutting would be the 200 hectare gross area multiplied by the 0.60 estimated area of harvest, which equals 120 hectares. The 120 hectares (calculation result) is what would be recorded on the AR tables.

Planting

If both the SP1 and SP2 attributes are completed, then the ESTAREA attribute must also be completed. In the ESTAREA attribute indicate the proportion of the polygon that was planted by the species entered in the SP1 attribute. The area associated with the second species will be assumed to be 1 minus the ESTAREA value. For example if species 1 is planted on 80% of the polygon ESTAREA = 0.80, then the area planted to species 2 is 1 - 0.8 = 0.2 (or 20%) of the polygon.

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The attribute population must follow the correct format
- A zero value is not a valid code
- The estimated area must be greater than zero and less than one (ESTAREA > 0.00 and ESTAREA < 1.00) when the treatment method is strip cutting (TRTMTHD# = STRIPCUT)
- The estimated area must be greater than zero and less than one (ESTAREA > 0.00 and ESTAREA < 1.00) when the treatment method is planting (TRTMTHD# = PLANT) and both species fields are populated (SP1 ≠ null and SP2 ≠ null)
- The estimated area field must be one for all other treatment methods

SP1 and SP2

Definition: The SP1 and SP2 attributes indicate the **species planted**.

Format:

- use coding list from OSPCOMP in the FIM FMP Technical Specifications

If more than two species are planted within the same treatment area (plant polygon), report the two that cover the most area within the polygon.

If two (or more) species are planted within the same treatment area (plant polygon) a subdivision of the treatment area polygon by species is NOT required. Instead, the ESTAREA

(estimated area) attribute must be completed. In the ESTAREA attribute indicate the proportion of the polygon that was planted by the species entered in the SP1 attribute. The area associated with the second species will be assumed to be 1 minus the ESTAREA value. For example if species 1 is planted on 80% of the polygon ESTAREA = 0.80, then the area planted to species 2 is 1 - 0.8 = 0.2 (or 20%) of the polygon.

Valid species codes are listed in the FIM FMP Technical Specifications. In these tables, codes related to individual species are listed in mixed case (e.g., Bw, La) and codes related to "groups" such as all conifer or all spruce are listed in uppercase (e.g., OC, SX). Even though the codes are listed this way, the letters may be entered in any case combination the data submitter desires. For example, white birch may be entered as BW, bw, Bw, or bW.

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory for SP1 and SP2
- The attribute population must follow the correct coding scheme
- The second species field must be null (SP2 = null) if the treatment method is not planting (TRTMTHD# ≠ PLANT)
- The first species field must be populated (SP1 ≠ null) if the treatment method is planting (TRTMTHD# = PLANT)
- If both species fields are populated (SP1 ≠ null and SP2 ≠ null) then the estimated area must be greater than zero and less than one (ESTAREA > 0.00 and ESTAREA < 1.00) and the treatment method is plant (TRTMTHD# = PLANT)
- The first species field may be populated (SP1 ≠ null) if the treatment method is seeding or seeding with site preparation (TRTMTHD# = SEED or SEEDSIP)

Stage 2 Validation:

- The species fields (SP1 and SP2) should be null if all of the treatment methods are careful logging, harvesting for regeneration protection, scarification, natural, strip

cutting and seedtree (TRTMTHD# = CLAAG or NATURAL or HARP or SCARIFY or STRIPCUT or SEEDTREE) or null

4.3.12 Site Preparation Treatment Layer

4.3.12.1 Description, Intent and Intended Use

The information about site preparation treatment areas will be provided as a single geospatial data layer. This layer will capture these specific silviculture activities for the specified annual report year. The treatment method will be identified for each area. The product type, product quantity and number of applications will also be populated where required based on the treatment method.

4.3.12.2 Naming Convention

A standardized naming convention will be used for the site preparation treatment layer. The file name is composed of the following parts:

MU<management unit>_<year>SIP<file number>.<file extension>

where:

Part	Description
MU	Letters “MU” representing Forest **M**anagement **U**nit.
<management unit>	The three digit FMU number, pad left with zeros as required (e.g., 001).
_	Underscore character as a separator.
<year>	Two digit numeric start year of the AR (e.g., 2028 is 28).
SIP	Letters “SIP” representing **Si**te **P**reparation Treatments.
<file number>	This value will always be 00 (default). Overlapping areas are accommodated using additional attributes.
<file extension>	Include a file extension if required as described in Section 4.3.2

4.3.12.3 Format

Spatial Requirements

The site preparation treatment layer contains only polygon features. The polygon layer must be

created in accordance with the direction in Section 4.3.4. This layer may contain overlapping features when submitted as a shapefile or as a feature class in a file geodatabase.

Tabular Requirements

It is possible that more than one treatment methods or treatment categories may occur on the same area in a fiscal year. When data is exchanged as an e00 additional attributes are required for resolving the technical issue of spatially overlapping polygons for multiple silvicultural activities occurring on the same area in the same fiscal year.

The tabular attributes associated with a site preparation treatment layer are to be included in the feature attribute table described below. The ESRI standard attributes are not listed in the polygon attribute table (i.e. area, perimeter, length, <cover_name>#, <cover_name>-ID).

field name	maximum width	field type	decimal places	attribute description
TRTMTHD1	8	character	-	silvicultural treatment method
TRTCAT1	3	character	-	silvicultural treatment category
TRTMTHD2*	8	character	-	silvicultural treatment method
TRTCAT2*	3	character	-	silvicultural treatment category
TRTMTHD3*	8	character	-	silvicultural treatment method
TRTCAT3*	3	character	-	silvicultural treatment category
PRODTYPE	25	character	-	chemical product type
RATE_AI	4	double	2	rate of active ingredient applied
APPNUM	1	integer	-	number of applications

*These fields are not required if there are no overlapping site preparation treatment activities or if the layer is exchanged as a file geodatabase or shapefile. If the fields are included, they can be left blank. Additional TRTMTHD and TRTCAT fields may be added if needed.

TRTMTHD1, TRTMTHD2 and TRTMTHD3

Definition: The **silvicultural treatment method** attribute indicates the general type of silvicultural activity and the specific treatment or method applied to the area.

Format:

Code	Option	Definition
SIPMECH	mechanical	The use of machinery to disturb the forest floor and expose topsoil or mineral soil to create suitable conditions for artificial regeneration of a forest stand.
SIPCHEMA	chemical: aerial application	The application of herbicides, by aerial methods, to reduce undesirable competition, prepare sites for further site preparation treatment, or create suitable conditions for regeneration of a forest stand.
SIPCHEMG	chemical: ground application	The application of herbicides, by ground methods, to reduce undesirable competition, prepare sites for further site preparation treatment, or create suitable conditions for regeneration of a forest stand.
SIPPB	prescribed burn	Use of the knowledgeable application of fire to a specific area to create suitable conditions for forest renewal and regeneration of a forest stand.

Stage 1 Validation:

- For TRTMTHD1, the presence of this attribute in the file structure of the layer is mandatory
- For TRTMTHD1 or TRTMTHD2 or TRTMTHD3, the population of one of these attributes is mandatory
- The attribute population must follow the correct coding scheme

TRTCAT1, TRTCAT2 and TRTCAT3

Definition: The **silvicultural treatment category** attribute identifies if the treatment applied is “regular” (normal) or intentionally duplicates (i.e., retreatment) or augments (i.e., supplemental) a previous treatment.

Format:

Code	Option	Definition
REG	regular	A specific treatment within the selected silvicultural treatment package which has been applied to the associated area.
RET	retreatment	A retreatment is a specific treatment within the selected silvicultural treatment package which has been applied a second time. Retreatments are variations of the original silvicultural treatment package that are applied to bring a productive forest area to a free-growing condition based on the regeneration standards and expected future forest conditions as described by the silvicultural ground rules in an approved FMP. Retreatments are usually applied after a preliminary assessment (silvicultural effectiveness monitoring survey) has been conducted, and the planning forester has determined that further treatment is required to achieve the regeneration standards for an area based on the results of the assessment.
SUP	supplemental treatment	Supplemental treatments are regeneration treatments that are applied to assist and supplement the existing regeneration in a forest stand in terms of attaining the regeneration standards and future forest conditions in accordance with the silvicultural ground rules of an approved FMP. Examples of supplemental treatments include spot planting, seeding, or scarification to increase the stocking of regeneration on specific areas within a forest stand or operating block. Supplemental treatments may be applied to certain portions of a forest stand or may be applied to the entire forest stand area. Supplemental treatments are normally less intensive or not as comprehensive as the original treatments, yet are required to assist the regeneration in reaching a free-growing condition based on the regeneration standards that apply to a particular area.

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory for TRTCAT1
- If the treatment method is populated (TRTMTHD# ≠ null) then the associated treatment category must also be populated (TRTCAT# ≠ null)
- The attribute population must follow the correct coding scheme
- A blank or null value is a valid code

PRODTYPE

Definition: The **chemical product type** attribute contains the name of the chemical product

being applied to the area along with the 5 digit Pesticide Control Product (PCP) registration number.

Format: user defined content

Stage 1 Validation:

- A blank or null value is a valid code
- The product type attribute must be present and populated (PRODTYPE ≠ null) when any of the treatment methods are aerial or ground chemical site preparation (TRTMTHD# = SIPCHEMA or SIPCHEMG)
- The product type must be null (PRODTYPE = null) when all the treatment methods are mechanical or prescribed burn (TRTMTHD# = SIPMECH or SIPPB)

RATE_AI

Definition: The **rate of active ingredient applied** attribute contains the number of kilograms of active ingredient per hectare of the chemical product being applied to the area.

Format:

- must be a number between 0 and 9.99

Stage 1 Validation:

- The attribute population must follow the correct format
- A zero value is a valid code
- This attribute must be present and greater than zero (RATE_AI > 0) when any of the treatment methods are aerial or ground chemical site preparation (TRTMTHD# = SIPCHEMA or SIPCHEMG)
- This attribute must be zero (RATE_AI = 0) when all the treatment methods are mechanical or prescribed burn (TRTMTHD# = SIPMECH or SIPPB)

APPNUM

Definition: The **number of applications** attribute contains the number of times the area has been treated with the chemical product identified in PRODTYPE during this fiscal year.

Format: must be a number between 0 and 9

Stage 1 Validation:

- The attribute population must follow the correct format
- A zero value is a valid code
- The number of applications attribute must be present and greater than zero (APPNUM > 0) when any of the treatment methods are aerial or ground chemical site preparation (TRTMTHD# = SIPCHEMA or SIPCHEMG)
- The number of applications must be zero (APPNUM = 0) when all the treatment methods are mechanical or prescribed burn (TRTMTHD# = SIPMECH or SIPPB)

4.3.13 Tending Treatment Layer

4.3.13.1 Description, Intent and Intended Use

The information about tending treatment areas will be provided as a single geospatial data layer. This layer will capture these specific silviculture activities for the specified annual report year. The treatment method will be identified for each area. The product type, product quantity and number of applications will also be populated where required based on the treatment method. Optional fields that may be useful to compliment the treatment method information would be the treatment category which is used in the regeneration treatment layer.

4.3.13.2 Naming Convention

A standardized naming convention will be used for the tending treatment layer. The file name is composed of the following parts:

MU<management unit>_<year>TND<file number>.<file extension>

where:

Part	Description
MU	Letters “MU” representing Forest **M**anagement **U**nit.
<management unit>	The three digit FMU number, pad left with zeros as required (e.g., 001).
_	Underscore character as a separator.
<year>	Two digit numeric start year of the AR (e.g., 2028 is 28).
TND	Letters “TND” representing **T**e**nd**ing Treatments.
<file number>	This value will always be 00 (default). Overlapping areas are accommodated using additional attributes.
<file extension>	Include a file extension if required as described in Section 4.3.2

4.3.13.3 Format

Spatial Requirements

The tending treatment layer contains only polygon features. The polygon layer must be created in accordance with the direction in Section 4.3.4. This layer may contain overlapping features when submitted as a shapefile or as a feature class in a file geodatabase.

Tabular Requirements

It is possible that more than one treatment methods or treatment categories may occur on the same area in a fiscal year. When data is exchanged as an e00 additional attributes are required for resolving the technical issue of spatially overlapping polygons for multiple silvicultural activities occurring on the same area in the same fiscal year.

The tabular attributes associated with a tending treatment layer are to be included in the feature attribute table described below. The ESRI standard attributes are not listed in the polygon attribute table (i.e. area, perimeter, length, <cover_name>#, <cover_name>-ID).

field name	maximum width	field type	decimal places	attribute description
TRTMTHD1	8	character	-	silvicultural treatment method
TRTCAT1	3	character	-	silvicultural treatment category
TRTMTHD2*	8	character	-	silvicultural treatment method
TRTCAT2*	3	character	-	silvicultural treatment category
TRTMTHD3*	8	character	-	silvicultural treatment method
TRTCAT3*	3	character	-	silvicultural treatment category
PRODTYPE	25	character	-	chemical product type
RATE_AI	4	double	2	rate of active ingredient applied
APPNUM	1	integer	-	number of applications

*These fields are not required if there are no overlapping tending treatment activities or if the layer is exchanged as a file geodatabase or shapefile. If the fields are included, they can be left blank. Additional TRTMTHD and TRTCAT fields may be added if needed.

TRTMTHD1, TRTMTHD2 and TRTMTHD3

Definition: The **silvicultural treatment method** attribute indicates the general type of silvicultural activity and the specific treatment or method applied to the area.

Format:

Code	Option	Definition
CLCHEMA	cleaning – chemical : aerial application	The application of herbicides from an aircraft to a young stand, not past the sapling stage, to free the favoured trees from competition by eliminating undesirable vegetation.
CLCHEMG	cleaning – chemical : ground application	The ground application of herbicides in a young stand, not past the sapling stage, to free the favoured trees from competition by eliminating undesirable vegetation.
CLMANUAL	cleaning – manual	The use of hand operations in a young stand, not past the sapling stage, to free the favoured trees from competition by eliminating undesirable vegetation.
CLMECH	cleaning – mechanical	The use of machinery in a young stand, not past the sapling stage, to free the favoured trees from competition by eliminating undesirable vegetation.
CLPB	cleaning – prescribed burn	The use of the knowledgeable application of fire in a young stand, not past the sapling stage, to free the favoured trees from competition by eliminating undesirable vegetation.
IMPROVE	spacing / pre-commercial thin / improvement cut – uneven-aged	A cutting made in an uneven-aged stand primarily to accelerate diameter increments, but also, by suitable selection, to improve the composition and the average form of the trees that remain.
THINPRE	spacing / pre-commercial thin / improvement cut – even aged	A cutting made in an immature even-aged stand primarily to reduce competition and to accelerate diameter increments, but also, by suitable selection, to improve the average form of the trees that remain.
CULTIVAT	cultivation	The act of loosening or breaking up the soil about growing plants to reduce competing vegetation and to foster growth in an established stand.

Code	Option	Definition
PRUNE	pruning	The removal of live or dead branches from standing trees, usually the lower branches of young trees and the removal of multiple leaders in plantation trees, for the improvement of the tree or its timber quality; to reduce risk of disease, or includes the cutting away of superfluous growth, including roots, from any tree to improve its development.

Stage 1 Validation:

- For TRTMTHD1, the presence of this attribute in the file structure of the layer is mandatory
- For TRTMTHD1 or TRTMTHD2 or TRTMTHD3, the population of one of these attributes is mandatory
- The attribute population must follow the correct coding scheme

TRTCAT1, TRTCAT2 and TRTCAT3

Definition: The **silvicultural treatment category** attribute identifies if the treatment applied is “regular” (normal) or intentionally duplicates (i.e., retreatment) or augments (i.e., supplemental) a previous treatment.

Format:

Code	Option	Definition
REG	regular	A specific treatment within the selected silvicultural treatment package which has been applied to the associated area.

Code	Option	Definition
RET	retreatment	A retreatment is a specific treatment within the selected silvicultural treatment package which has been applied a second time. Retreatments are variations of the original silvicultural treatment package that are applied to bring a productive forest area to a free-growing condition based on the regeneration standards and expected future forest conditions as described by the silvicultural ground rules in an approved FMP. Retreatments are usually applied after a preliminary assessment (silvicultural effectiveness monitoring survey) has been conducted, and the planning forester has determined that further treatment is required to achieve the regeneration standards for an area based on the results of the assessment.
SUP	supplemental treatment	Supplemental treatments are regeneration treatments that are applied to assist and supplement the existing regeneration in a forest stand in terms of attaining the regeneration standards and future forest conditions in accordance with the silvicultural ground rules of an approved FMP. Examples of supplemental treatments include spot planting, seeding, or scarification to increase the stocking of regeneration on specific areas within a forest stand or operating block. Supplemental treatments may be applied to certain portions of a forest stand or may be applied to the entire forest stand area. Supplemental treatments are normally less intensive or not as comprehensive as the original treatments, yet are required to assist the regeneration in reaching a free-growing condition based on the regeneration standards that apply to a particular area.

Stage 1 Validation:

- The attribute population must follow the correct coding scheme
- A blank or null value is a valid code

PRODTYPE

Definition: The **chemical product type** attribute contains the name of the chemical product being applied to the area along with the 5 digit Pesticide Control Product (PCP) registration number.

Format: user defined content

Stage 1 Validation:

- A blank or null value is a valid code
- The product type attribute must be present and populated (PRODTYPE ≠ null) when any of the treatment methods are aerial or ground chemical cleaning (TRTMTHD# = CLCHEMA or CLCHEMG)
- The product type must be null (PRODTYPE = null) when all the treatment methods are anything other than aerial or ground chemical cleaning (TRTMTHD# ≠ CLCHEMA or CLCHEMG)

RATE_AI

Definition: The **rate of active ingredient applied** attribute contains the number of kilograms of active ingredient per hectare of the chemical product being applied to the area.

Format:

- must be a number between 0 and 9.99

Stage 1 Validation:

- The attribute population must follow the correct format
- A zero value is a valid code
- The product quantity attribute must be present and greater than zero (RATE_AI > 0) when any of the treatment methods are aerial or ground chemical cleaning (TRTMTHD# = CLCHEMA or CLCHEMG)
- The product quantity must be zero (RATE_AI = 0) when all the treatment methods are anything other than aerial or ground chemical cleaning (TRTMTHD# ≠ CLCHEMA or CLCHEMG)

APPNUM

Definition: The **number of applications** attribute contains the number of times the area has been treated with the chemical product identified in PRODTYPE during this fiscal year.

Format:

- must be a number between 0 and 9

Stage 1 Validation:

- The attribute population must follow the correct format
- A zero value is a valid code
- The number of applications attribute must be present and greater than zero (APPNUM > 0) when any of the treatment methods are aerial or ground chemical cleaning (TRTMTHD# = CLCHEMA or CLCHEMG)
- The number of applications must be zero (APPNUM = 0) when all the treatment methods are anything other than aerial or ground chemical cleaning (TRTMTHD# ≠ CLCHEMA or CLCHEMG)

4.3.14 Protection Treatment Layer

4.3.14.1 Description, Intent and Intended Use

The information about protection treatment areas will be provided as a single geospatial data layer. This layer will capture these specific silviculture activities for the specified annual report year. The treatment method will be identified for each area.

4.3.14.2 Naming Convention

A standardized naming convention will be used for the protection treatment layer. The file name is composed of the following parts:

MU<management unit>_<year>PRT<file number>.<file extension>

where:

Part	Description
MU	Letters “MU” representing Forest **M**anagement **U**nit.
<management unit>	The three digit FMU number, pad left with zeros as required (e.g., 001).
_	Underscore character as a separator.
<year>	Two digit numeric start year of the AR (e.g., 2028 is 28).
PRT	Letters “PRT” representing **Pr**o**t**ection Treatments.
<file number>	This value will always be 00 (default). Overlapping areas are accommodated using additional attributes.
<file extension>	Include a file extension if required as described in Section 4.3.2

4.3.14.3 Format

Spatial Requirements

The protection treatment layer contains only polygon features. The polygon layer must be created in accordance with the direction in Section 4.3.4. This layer may contain overlapping features when submitted as a shapefile or as a feature class in a file geodatabase.

Tabular Requirements

It is possible that more than one treatment method or treatment category may occur on the same area in a fiscal year. When data is exchanged as an e00 additional attributes are required for resolving the technical issue of spatially overlapping polygons for multiple silvicultural activities occurring on the same area in the same fiscal year.

The tabular attributes associated with a protection treatment layer are to be included in the feature attribute table described below. The ESRI standard attributes are not listed in the polygon attribute table (i.e. area, perimeter, length, <cover_name>#, <cover_name>-ID).

field name	maximum width	field type	decimal places	attribute description
TRTMTHD1	8	character	-	silvicultural treatment method
TRTCAT1	3	character	-	silvicultural treatment category
TRTMTHD2*	8	character	-	silvicultural treatment method
TRTCAT2*	3	character	-	silvicultural treatment category
TRTMTHD3*	8	character	-	silvicultural treatment method
TRTCAT3*	3	character	-	silvicultural treatment category
PRODTYPE	25	character	-	chemical product type
RATE_AI	4	double	2	rate of active ingredient applied
APPNUM	1	integer	-	number of applications

*These fields are not required if there are no overlapping protection treatment activities or if the layer is exchanged as a file geodatabase or shapefile. If the fields are included, they can be left blank. Additional TRTMTHD and TRTCAT fields may be added if needed.

TRTMTHD1, TRTMTHD2 and TRTMTHD3

Definition: The **silvicultural treatment method** attribute indicates the general type of silvicultural activity and the specific treatment or method applied to the area.

Format:

Code	Option	Definition
PCHEMA	chemical – aerial spraying	Application of chemicals from an aircraft to prevent, control or manage the spread of, and/or the damage caused by, insects and disease.
PCHEMG	chemical – ground insecticide	Ground application of chemicals to prevent, control or manage the spread of, and/or the damage caused by, insects and disease.
PMANUAL	manual	The removal of (healthy) trees or tree limbs as a preventative measure to reduce the risk of a specific insect or disease occurring in an area, or the removal of infected trees or tree limbs from an area to clean the area and reduce the spread of insects or disease.

Stage 1 Validation:

- For TRTMTHD1, the presence of this attribute in the file structure of the layer is mandatory
- For TRTMTHD1 or TRTMTHD2 or TRTMTHD3, the population of one of these attributes is mandatory
- The attribute population must follow the correct coding scheme

TRTCAT1, TRTCAT2 and TRTCAT3

Definition: The **silvicultural treatment category** attribute identifies if the treatment applied is "regular" (normal) or intentionally duplicates (i.e., retreatment) or augments (i.e., supplemental) a previous treatment.

Format:

Code	Option	Definition
REG	regular	A specific treatment within the selected silvicultural treatment package which has been applied to the associated area.

Code	Option	Definition
RET	retreatment	A retreatment is a specific treatment within the selected silvicultural treatment package which has been applied a second time. Retreatments are variations of the original silvicultural treatment package that are applied to bring a productive forest area to a free-growing condition based on the regeneration standards and expected future forest conditions as described by the silvicultural ground rules in an approved FMP. Retreatments are usually applied after a preliminary assessment (silvicultural effectiveness monitoring survey) has been conducted, and the planning forester has determined that further treatment is required to achieve the regeneration standards for an area based on the results of the assessment.
SUP	supplemental treatment	Supplemental treatments are regeneration treatments that are applied to assist and supplement the existing regeneration in a forest stand in terms of attaining the regeneration standards and future forest conditions in accordance with the silvicultural ground rules of an approved FMP. Examples of supplemental treatments include spot planting, seeding, or scarification to increase the stocking of regeneration on specific areas within a forest stand or operating block. Supplemental treatments may be applied to certain portions of a forest stand or may be applied to the entire forest stand area. Supplemental treatments are normally less intensive or not as comprehensive as the original treatments, yet are required to assist the regeneration in reaching a free-growing condition based on the regeneration standards that apply to a particular area.

Stage 1 Validation:

- The attribute population must follow the correct coding scheme
- A blank or null value is a valid code

PRODTYPE

Definition: The **chemical product type** attribute contains the name of the chemical product being applied to the area along with the 5 digit Pesticide Control Product (PCP) registration number.

Format: user defined

Stage 1 Validation:

- A blank or null value is a valid code
- The product type attribute must be present and populated (PRODTYPE ≠ null) when any of the treatment methods are aerial or ground chemical (TRTMTHD# = PCHEMA or PCHEMG)
- The product type must be null (PRODTYPE = null) when all the treatment methods are manual (TRTMTHD# = PMANUAL)

RATE_AI

Definition: The **rate of active ingredient applied** attribute contains the number of kilograms of active ingredient per hectare of the chemical product being applied to the area.

Format:

- must be a number between 0 and 9.99

Stage 1 Validation:

- The attribute population must follow the correct format
- A zero value is a valid code
- The product quantity attribute must be present and greater than zero (RATE_AI > 0) when any of the treatment methods are aerial or ground chemical (TRTMTHD# = PCHEMA or PCHEMG)
- The product quantity must be zero (RATE_AI = 0) when all the treatment methods are manual (TRTMTHD# = PMANUAL)

APPNUM

Definition: The **number of applications** attribute contains the number of times the area has been treated with the chemical product identified in PRODTYPE during this fiscal year.

Format:

- must be a number between 0 and 9

Stage 1 Validation:

- The attribute population must follow the correct format
- A zero value is a valid code
- The number of applications attribute must be present and greater than zero (APPNUM > 0) when any of the treatment methods are aerial or ground chemical (TRTMTHD# = PCHEMA or PCHEMG)
- The number of applications must be zero (APPNUM = 0) when all the treatment methods are manual (TRTMTHD# = PMANUAL)

4.3.15 Establishment Assessment Layer

4.3.15.1 Description, Intent and Intended Use

This spatial layer denotes harvested areas including salvage that have been assessed for establishment. Establishment is defined in the regeneration standards as the early indicator of observable measures of a regenerating area to provide confidence that the target (i.e. mature) stand condition can be achieved.

This layer is required for plans approved on or after April 1 2020. The Free-to-Grow layer (section 4.3.17) will be submitted for plans approved prior to April 1 2020.

4.3.15.2 Naming Convention

A standardized naming convention will be used for the establishment assessment layer. The file name is composed of the following parts:

MU<management unit>_<year>EST<file number>.<file extension>

where:

Part	Description
MU	Letters “MU” representing Forest **M**anagement **U**nit.
<management unit>	The three digit FMU number, pad left with zeros as required (e.g., 001).
_	Underscore character as a separator.
<year>	Two digit numeric start year of the AR (e.g., 2028 is 28).
EST	Letters “EST” representing **Est**ablishment Assessment.
<file number>	This value will always be 00 (default). Overlapping areas are not permissible and therefore multiple layers will not exist.
<file extension>	Include a file extension if required as described in Section 4.3.2

4.3.15.3 Format

Spatial Requirements

The establishment assessment layer contains only polygon features. The polygon layer must be created in accordance with the direction in Section 4.3.4.

Tabular Requirements

The tabular attributes associated with the establishment assessment layer are to be included in the feature attribute table described below. The ESRI standard attributes are not listed in the polygon attribute table (i.e. area, perimeter, length, <cover_name>#, <cover_name>-ID).

field name	maximum width	field type	decimal places	attribute description
ARDSTGRP	4	character	-	annual report disturbance group
SILVSYS	2	character	-	silvicultural system
AGEEST	2	integer	-	age at establishment
YRDEP	4	integer	-	year of disturbance
DSTBFU	15	character	-	forest unit at time of disturbance
SGR	25	character	-	silvicultural ground rule
TARGETFU	15	character	-	target forest unit
TARGETYD	10	character	-	target yield
ESTIND	1	character	-	establishment indicator
ESTFU	15	character	-	established forest unit
ESTYIELD	10	character	-	established yield
SPCOMP	120	character	-	species composition
HT	4	double	1	height
DENSITY	6	integer	-	density
STKG	4	double	2	stocking

ARDSTGRP

Definition: The **annual report disturbance group** attribute indicates whether the initial stand disturbance was by natural causes or by harvest.

Format:

Code	Option
HARV	harvest
NAT	natural disturbance

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- The attribute population must follow the correct coding scheme
- A blank or null value is not a valid code
- The annual report disturbance group will be harvest (ARDSTGRP = HARV) where the silviculture system is shelterwood or selection (Silvsys = SH or SE)

SILVSYS

Definition: The **silvicultural system** attribute indicates the process, following accepted silvicultural principles, whereby tree species constituting a forest are tended, harvested, and regenerated, resulting in the production of crops of distinctive form. Systems are conveniently classified according to the method of harvesting the mature stands with a view to regeneration and according to the type of tree species and future forest conditions.

Format:

Code	Option	Definition
CC	clearcut	A silvicultural system of regenerating an even-aged forest stand in which new seedlings become established in fully exposed micro-environments after most or all of the existing trees have been removed. Regeneration can originate naturally or can be applied artificially. Clearcutting may be done in blocks, strips or patches.

Code	Option	Definition
SE	selection	An uneven-aged silvicultural system where mature and/or undesirable trees are removed individually or in small groups over the whole area, usually in the course of a cutting cycle. Regeneration is generally natural.
SH	shelterwood	An even-aged silvicultural system where mature trees are harvested in a series of two or more cuts (preparatory, seed, first removal, final removal) for the purpose of obtaining natural regeneration under shelter of the residual trees, either by cutting uniformly over the entire stand area or in narrow strips. Regeneration is natural or artificial. The regeneration interval determines the degree of even-aged uniformity.

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- The attribute population must follow the correct coding scheme
- A blank or null value is not a valid code

AGEEST

Definition: The **age at establishment** attribute is a number indicating the age of the trees forming the crop at the time of the establishment survey. This value will contribute to the determination of the regeneration delay for the applicable silvicultural stratum in the FMP.

Format:

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory where SILVSYS ≠ “SE”
- The attribute population must follow the correct format
- A zero value is a valid code only where SILVSYS =“SE”

YRDEP

Definition: The **year of last disturbance** attribute is a four digit number indicating the fiscal year that a productive forest area was disturbed, completely or partially, by harvest or by natural causes. For the shelterwood silvicultural system, the year of last disturbance is the year of stand initiation (regeneration cut). Although subsequent cuts are reported as harvest the regenerating stand age is normally based on the original regeneration cut. This value will contribute to the determination of the regeneration delay for the applicable silvicultural stratum in the FMP.

Format: YYYY

- As an example, the 2028/2029 fiscal year is recorded as 2028 in the year of last disturbance attribute. A shelterwood example would report the year of the regeneration cut regardless of subsequent removal cut(s).

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- The attribute population must follow the correct format
- A zero value is not a valid code

DSTBFU

Definition: The **forest unit at time of disturbance** attribute contains the short form label used to reference the forest unit confirmed for the area at the time of disturbance. This code will represent the annual report harvest disturbance forest unit at time of disturbance.

Format: user defined content

- must be defined in a FMP

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- A blank or null value is not a valid code

SGR

Definition: The **silvicultural ground rule** attribute contains the SGR code identifying the selected SGR. This code will represent the annual report harvest disturbance SGR at time of disturbance or the most recent SGR identified in the annual report SGR change layer. The forest unit and silvicultural intensity associated with the future condition of the SGR will be identified in the target forest unit and target silvicultural intensity attributes respectively.

Format: user defined

- must be a silvicultural ground rule defined in a FMP

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- A blank or null value is not a valid code

TARGETFU

Definition: The **target forest unit** attribute contains the short form label used to reference the forest unit in the future condition section of the associated SGR. This attribute in combination with the TARGETYD identifies the intended result of silviculture efforts.

Format: user defined

- must be defined in a FMP

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- A blank or null value is not a valid code

TARGETYD

Definition: The **target yield** attribute contains the short form label used to reference the silvicultural intensity in the future condition section of the associated SGR.

Format: user defined

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- A blank or null value is not a valid code

ESTIND

Definition: The **establishment indicator** attribute indicates if the assessed area has met the establishment conditions of the regeneration standard in the SGR.

Format: Y (for yes) or N (for no)

- Default value is N

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- The attribute population must follow the correct coding scheme
- A blank or null value is not a valid code

ESTFU

Definition: The **established forest unit** attribute contains the short form label of the forest unit that is established on the area.

Format: user defined

- content must be a FU in the FMP at the time of harvest or SGR update.

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory where ESTIND = Y
- A blank or null value is a valid code where ESTIND = N

ESTYIELD

Definition: The **established yield** attribute contains the short form label of the silvicultural intensity that is established on the area.

Format: user defined

- Must be a yield in the FMP at the time of harvest or SGR update.

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory where ESTIND = Y
- A blank or null value is a valid code where ESTIND = N

SPCOMP

Definition: The **species composition** attribute indicates the proportion of tree species that are present and the relative proportion that each species occupies.

Format:

- repeating pattern of species code and corresponding proportion value
- each species code is 3 characters (including blanks) and is left justified
- each proportion is 3 characters which represents an integer value from 1 to 100 and is right justified
- pattern is SSSPPPSSSPPP example: PJ 80PO 20 (there are two blanks between the species and the proportion)
- maximum of 20 species and proportions pairs in the string

Stage 1 Validation: (Where ESTIND = Y)

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- The attribute population must follow the correct format
- A blank or null value is not a valid code
- Follow string pattern of SSSPPPSSSPPP (repeating pattern of 3 species code characters then corresponding 3 proportion values)
- No duplicate species codes allowed in the string
- The tree species in the composition are to be coded using the scheme listed in the FIM Forest Management Planning Technical Specification
- Must be consistent with regeneration standards

HT

Definition: The **height** attribute indicates the average top height of regenerating trees within an area managed under an even-aged silvicultural system. In a selection silvicultural system a zero value can be used as the height.

Format:

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory where ESTIND = Y and where SILVSYS = “CC” OR “SH”
- where ESTIND = Y and where SILVSYS = “CC” OR “SH” height must be greater than zero (HT > 0)
- The height field can be zero (HT = 0) where ESTIND = N or SILVSYS = “SE”
- The attribute population must follow the correct format

DENSITY

Definition: The **density** attribute indicates an estimate of the number of trees per hectare in the area where the area has been planted or managed for density in some other way.

Format:

- Valid numeric values are from 0 through 99999

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- A zero value is a valid code where ESTIND = Y and the area is not density managed
- Where STOCKING is populated DENSITY will be equal to zero (DENSITY = 0 where STKG > 0)

STKG

Definition: The **stocking** attribute indicates the percentage of stocked plots in the area where the area is regenerating without density management.

Format:

- Valid numeric values are from 0 through 1.00

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory where ESTIND = Y and DENSITY = 0
- The attribute population must follow the correct format
- Where DENSITY is populated STOCKING will be equal to zero (DENSITY >0 where STKG = 0)

4.3.16 Performance Assessment Layer

4.3.16.1 Description, Intent and Intended Use

This spatial layer denotes establishment areas assessed for performance. A performance assessment is completed on a sample of each silvicultural stratum to confirm growth predictions in the FMP. Performance is defined in the regeneration standards as the late indicator of observable measures of a regenerating area to provide confidence that the target (i.e. mature) yield can be achieved. This layer is only required for plans approved on or after April 1 2020.

4.3.16.2 Naming Convention

A standardized naming convention will be used for the performance assessment layer. The file name is composed of the following parts:

MU<management unit>_<year>PER<file number>.<file extension>

where:

Part	Description
MU	Letters “MU” representing Forest **M**anagement **U**nit.
<management unit>	The three digit FMU number, pad left with zeros as required (e.g., 001).
_	Underscore character as a separator.
<year>	Two digit numeric start year of the AR (e.g., 2028 is 28).
PER	Letters “PER” representing **Per**formance Assessment.
<file number>	This value will always be 00 (default). Overlapping areas are not permissible and therefore multiple layers will not exist.
<file extension>	Include a file extension if required as described in Section 4.3.2

4.3.16.3 Format

Spatial Requirements

The performance assessment layer contains only polygon features. The polygon layer must be created in accordance with the direction in Section 4.3.4.

Tabular Requirements

The tabular attributes associated with a performance assessment layer are to be included in the feature attribute table described below. The ESRI standard attributes are not listed in the polygon attribute table (i.e. area, perimeter, length, <cover_name>#, <cover_name>-ID).

field name	maximum width	field type	decimal places	attribute description
SILVSYS	2	character	-	silvicultural system
PERFU	15	character	-	performance forest unit
PERYIELD	10	character	-	performance yield
SPCOMP	120	character	-	species composition
BHA	4	double	1	breast height age
HT	4	double	1	height
DENSITY	6	integer	-	density
STKG	4	double	2	stocking
AGS	3	integer	-	acceptable growing stock
UGS	3	integer	-	unacceptable growing stock

SILVSYS

Definition: The **silvicultural system** attribute indicates the process, following accepted silvicultural principles, whereby tree species constituting a forest are tended, harvested, and regenerated, resulting in the production of crops of distinctive form. Systems are conveniently classified according to the method of harvesting the mature stands with a view to regeneration and according to the type of tree species and future forest conditions.

Format:

Code	Option	Definition
CC	clearcut	A silvicultural system of regenerating an even-aged forest stand in which new seedlings become established in fully exposed micro-environments after most or all of the existing trees have been removed. Regeneration can originate naturally or can be applied artificially. Clearcutting may be done in blocks, strips or patches.
SE	selection	An uneven-aged silvicultural system where mature and/or undesirable trees are removed individually or in small groups over the whole area, usually in the course of a cutting cycle. Regeneration is generally natural.
SH	shelterwood	An even-aged silvicultural system where mature trees are harvested in a series of two or more cuts (preparatory, seed, first removal, final removal) for the purpose of obtaining natural regeneration under shelter of the residual trees, either by cutting uniformly over the entire stand area or in narrow strips. Regeneration is natural or artificial. The regeneration interval determines the degree of even-aged uniformity.

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- The attribute population must follow the correct coding scheme
- A blank or null value is not a valid code

PERFU

Definition: The **performance forest unit** attribute contains the short form label used to reference the forest unit determined through assessment of the area.

Format: user defined

- must be an FU defined in the FMP

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- A blank or null value is not a valid code

PERYIELD

Definition: The **performance yield** attribute is an indicator of productivity and the expected growth and development pattern as determined through assessment of the area.

Format: user defined

- must be a yield defined in the FMP

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- A blank or null value is not a valid code

SPCOMP

Definition: The **species composition** attribute indicates the tree species that are present and the relative proportion that each species occupies.

Format:

- repeating pattern of species code and corresponding proportion value
- each species code is 3 characters (including blanks) and is left justified
- each proportion is 3 characters which represents an integer value from 1 to 100 and is right justified
- maximum of 20 species and proportions pairs in the string

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- pattern is SSSPPPSSSPPP example: PJ 80PO 20 (there are two blanks between the species and the proportion)
- no duplicate species codes allowed in the string
- proportion values in the string must sum to 100
- The tree species in the composition are to be coded using the scheme listed in the FIM Management Planning Inventory Technical Specification

BHA

Definition: The **breast height age** indicates the estimated mean breast height age of the leading species in the area. In the case of shelterwood it is the breast height age of the regenerating stand.

Format:

- Valid numeric values are from 0 to 99

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory where SILVSYS = CC and SH
- The attribute population must follow the correct format

HT

Definition: The **height** attribute indicates the estimated average tree height (in meters) of the leading species in the area. In the case of shelterwood it is the average tree height of the regenerating stand.

Format:

- Valid numeric values are from 0 through 40.0
- Height is usually determined for the leading species.

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory where SILVSYS = CC and SH
- The attribute population must follow the correct format

DENSITY

Definition: The **density** attribute indicates an estimate of the number of trees per hectare in the area where the area has been planted or managed for density in some other way.

Format:

- Valid numeric values are from 0 through 99999.

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory where SILVSYS = CC and SH
- Where STOCKING is populated DENSITY will be equal to zero (DENSITY = 0 where STKG > 0)

STKG

Definition: The **stocking** attribute indicates the percentage of stocked plots in the area; or alternatively, the measured basal area compared to an ideal basal area expressed as a percentage where the area is regenerating without density management.

Format:

- Valid numeric values are from 0 through 4.00.

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory where SILVSYS = CC and SH
- The attribute population must follow the correct format
- Where DENSITY is populated STOCKING will be equal to zero (DENSITY >0 where STKG = 0)

AGS

Definition: The basal area of **acceptable growing stock** attribute indicates the average basal area of trees in the area where a selection silvicultural system was applied that meet forest objectives as defined in an approved FMP.

Format:

- Valid numeric values are from 0 through 100.

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The attribute population must follow the correct format
- The population of this attribute is mandatory where SILVSYS = SE
- A zero value is a valid code where SILVSYS ≠ SE

UGS

Definition: The basal area of **unacceptable growing stock** attribute indicates the average basal area of trees in the area where a selection silvicultural system was applied that do not meet forest objectives as defined in an approved FMP.

Format:

- Valid numeric values are from 0 through 100.

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The attribute population must follow the correct format
- The population of this attribute is mandatory where SILVSYS = SE
- A zero value is a valid code where SILVSYS ≠ SE

4.3.17 Free-to-Grow Layer

4.3.17.1 Description, Intent and Intended Use

This spatial layer denotes areas surveyed to assess whether the site has or has not met regeneration and/or management standards. This layer is only required for plans approved prior to April 1 2020.

4.3.17.2 Naming Convention

A standardized naming convention will be used for the free-to-grow layer. The file name is composed of the following parts:

MU<management unit>_<year>FTG<file number>.<file extension>

where:

Part	Description
MU	Letters “MU” representing Forest **M**anagement **U**nit.
<management unit>	The three digit FMU number, pad left with zeros as required (e.g., 001).
_	Underscore character as a separator.
<year>	Two digit numeric start year of the AR (e.g., 2028 is 28).
FTG	Letters “FTG” representing **F**ree-**T**o-**G**row.
<file number>	This value will always be 00 (default). Overlapping areas are not permissible and therefore multiple layers will not exist.
<file extension>	Include a file extension if required as described in Section 4.3.2

4.3.17.3 Format

Spatial Requirements

The free-to-grow layer contains only polygon features. The polygon layer must be created in accordance with the direction in Section 4.3.4.

Tabular Requirements

The tabular attributes associated with a free-to-grow layer are to be included in the feature attribute table described below. The ESRI standard attributes are not listed in the polygon attribute table (i.e. area, perimeter, length, <cover_name>#, <cover_name>-ID).

field name	maximum width	field type	decimal places	attribute description
ARDSTGRP	4	character	-	annual report disturbance group
YRDEP	4	integer	-	year of last disturbance
DSTBFU	10	character	-	forest unit at time of disturbance
SGR	25	character	-	silvicultural ground rule
TARGETFU	10	character	-	target forest unit
FTG	1	character	-	"free-to-grow" indicator
FTGFU	10	character	-	"free-to-grow"/current forest unit
SPCOMP	120	character	-	species composition
HT	4	double	1	height
STKG	4	double	2	stocking

ARDSTGRP

Definition: The **annual report disturbance group** attribute indicates whether the initial stand disturbance was by natural causes or by harvest.

Format:

Code	Option
HARV	harvest
NAT	natural disturbance

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory

- The attribute population must follow the correct coding scheme
- A blank or null value is not a valid code

YRDEP

Definition: The **year of last disturbance** attribute indicates a four digit number of the fiscal year that a productive forest area was disturbed, completely or partially, by harvest or by natural causes. This includes mid-rotation and stand improvement operations where merchantable timber is removed.

Format: YYYY

- As an example, the 2028/2029 fiscal year is recorded as 2028 in the year of last disturbance attribute

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- The attribute population must follow the correct format
- A zero value is not a valid code

Stage 2 Validation:

- The year of last disturbance should be greater than the annual report start year minus twenty (the error occurs when YRDEP ≤ [AR year] - 20)

DSTBFU

Definition: The **forest unit at time of disturbance** attribute contains the short form label used to reference the forest unit for the area at the time of disturbance.

Format: user defined

- must be defined in the current FMP

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- A blank or null value is not a valid code

SGR

Definition: The **silvicultural ground rule** attribute contains the SGR code identifying the selected silvicultural ground rule applied to the area.

Format: user defined

- must be an SGR defined in the FMP

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- A blank or null value is not a valid code

TARGETFU

Definition: The **target forest unit** attribute contains the short form label used to reference the forest unit in the future condition section of the associated SGR applied to the site.

Format: user defined

- must be an FU defined in the FMP

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- A blank or null value is not a valid code

FTG

Definition: The **free-to-grow indicator** attribute indicates if the assessed area is considered to be regenerated or not.

Format: Y (for yes) or N (for no)

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- The attribute population must follow the correct coding scheme
- A blank or null value is not a valid code

FTGFU

Definition: The **free-to-grow / current forest unit** attribute contains the short form label of the forest unit that is assessed as being established/regenerated on the site.

Format: user defined

- must be an FU defined in the approved plan

Stage 1 Validation: (where FTG = Y)

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- A blank or null value is not a valid code

SPCOMP

Definition: This **species composition** attribute indicates the tree species that are present in the stand canopy and the relative proportion of the canopy that each species occupies.

Format:

- repeating pattern of species code and corresponding proportion value

- each species code is 3 characters (including blanks) and is left justified
- each proportion is 3 characters which represents an integer value from 1 to 100 and is right justified.
- pattern is SSSPPPSSSPPP example: PJ 80PO 20 (there are two blanks between the species and the proportion)
- maximum of 20 species and proportions pairs in the string

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory where FTG = Y
- The population of this attribute is mandatory where FTG = Y
- The attribute population must follow the correct format
- A blank or null value is a valid code where FTG = N
- The species composition field may be null (SPCOMP = null) when the free-to-grow indicator is no (FTG = N)
- Follow string pattern of SSSPPPSSSPPP (repeating pattern of 3 species code characters then corresponding 3 proportion values)
- No duplicate species codes allowed in the string
- Proportion values in the string must sum to 100
- Species code characters must be a valid code listed in the FIM Forest Management Planning Technical Specification

HT

Definition: The **height** attribute indicates the estimated average tree height (in metres) of the predominant species.

Format:

- Valid numeric values are from 0 through 40.0

Stage 1 Validation: (where FTG = Y)

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- The attribute population must follow the correct format
- A zero value is not a valid code
- When the free-to-grow indicator is yes (FTG = Y) then the height must be greater than or equal to 80 cm (HT ≥ 0.8)

STKG

Definition: The **stocking** attribute indicates a qualitative measure of the density of tree cover in a forest stand. It is expressed as a percentage value ranging from zero, for recently disturbed stands, to a maximum of 4.00, although 2.50 is the typical maximum value encountered in the field. Stocking of a forest stand refers to all species that make up the stand's canopy, but it is generally based on the species with the most basal area.

Format:

- Valid numeric values are from 0 through 4.00

Stage 1 Validation: (where FTG = Y)

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- The attribute population must follow the correct format
- A zero value is not a valid code
- the stocking must be greater than or equal to forty percent (STKG ≥ 0.4)

The silvicultural ground rules in a FMP describe the standards for assessing the renewal of forest stands, based on forest unit, desired species composition, age, height, and stocking. If the stocking of a productive forest stand does not meet the regeneration standards in the silvicultural ground rules of an approved FMP, the forest stand will be considered as not

satisfactorily regenerated (NSR).

In some cases, the renewal and/or management standards of a silvicultural ground rule may be expressed as a density, which usually describes the frequency or number of stems per hectare. Where density information (stems/hectare) has been collected or determined from a regeneration survey, this information must be converted to a stocking value for the purpose of updating the forest stand description information.

4.3.18 Forestry Aggregate Pits Layer

4.3.18.1 Description, Intent and Intended Use

The information about forestry aggregate pits will be provided as a single geospatial data layer. This layer will capture these specific aggregate extraction and rehabilitation activities for the specified annual report year.

4.3.18.2 Naming Convention

A standardized naming convention will be used for the forestry aggregate pits layer. The file name is composed of the following parts:

MU<management unit>_<year>AGG<file number>.<file extension>

where:

Part	Description
MU	Letters “MU” representing Forest **M**anagement **U**nit.
<management unit>	The three digit FMU number, pad left with zeros as required (e.g., 001).
_	Underscore character as a separator.
<year>	Two digit numeric start year of the AR (e.g., 2028 is 28).
AGG	Letters “AGG” representing Forestry **Agg**regate Pits.
<file number>	This value will always be 00 (default). Overlapping areas are not permissible and therefore multiple layers will not exist.
<file extension>	Include a file extension if required as described in Section 4.3.2

Spatial Requirements

The forestry aggregate pits layer contains only point features. The point layer must be created in accordance with the direction in Section 4.3.4.

Tabular Requirements

The tabular attributes associated with a forestry aggregate pits layer are to be included in the

feature attribute table described below. The ESRI standard attributes are not listed in the polygon attribute table (i.e. area, perimeter, length, <cover_name>#, <cover_name>-ID).

field name	maximum width	field type	decimal places	attribute description
PITID	15	character	-	aggregate pit identifier
REHABREQ	3	double	1	hectares requiring rehabilitation
REHAB	3	double	1	hectares rehabilitated
PITCLOSE	9	character	-	final rehabilitation date
TONNES	8	integer	-	tonnes of aggregate extracted

PITID

Definition: The **aggregate pit identifier** attribute indicates the unique identifier / label for the aggregate pit within which activities occurred during the fiscal year.

Format: user defined

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- A blank or null value is not a valid code
- The PIT_ID attribute must contain a unique value

REHABREQ

Definition: The **hectares requiring rehabilitation** attribute indicates the total number of hectares that still require rehabilitation. This is the remaining active area of the forestry aggregate pit.

Format:

- must be a number of hectares between 0 and 9.9

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The attribute population must follow the correct format
- A zero value is a valid code

Stage 2 Validation:

- If the area requiring rehabilitation is greater than zero (REHABREQ > 0) then the pit closure date should be null (PITCLOSE = null)
- The hectares requiring rehabilitation should be less than or equal to three (REHABREQ ≤ 3.0)

REHAB

Definition: The **hectares rehabilitated** attribute indicates the total number of hectares that were rehabilitated during the fiscal year.

Format:

- must be a number of hectares between 0 and 9.9

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The attribute population must follow the correct format
- A zero value is a valid code

Stage 2 Validation:

- If the area rehabilitated is zero (REHAB = 0) then the tonnes of aggregate extracted should not be zero (TONNES ≠ 0)
- The hectares rehabilitated should be less than or equal to three (REHAB <= 3.0)

PITCLOSE

Definition: The **pit closure date** attribute indicates the date when the final rehabilitation has occurred on the area.

Format:

- the date will be recorded as day/month/year following this format: YYYYMMMDD (e.g., 2028MAR01)
- the day will always be recorded as two digit number padded left with zero (e.g., 01, 04)
- the month will always be recorded as a three letter abbreviation

Stage 1 Validation:

- The attribute population must follow the correct format
- A blank or null value is a valid code
- The pit closure date should be within the fiscal year.
- When the final rehabilitation date is populated (PITCLOSE ≠ null) then the required rehabilitation will be zero (REHABREQ = 0)

TONNES

Definition: The **tonnes of aggregate extracted** attribute indicates the total number of tonnes of material extracted during the fiscal year.

Format:

- must be a number of tonnes between 0 and 99,999,999

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The attribute population must follow the correct format
- A zero value is a valid code

4.3.19 Silvicultural Ground Rule Update Layer

4.3.19.1 Description, Intent and Intended Use

Changes to silvicultural ground rules (SGR) that have occurred since the last reported SGR (for example, in the harvest layer reported at the time of depletion) are required to be identified in the annual report when the silvicultural intent (future forest condition) of a block or stand changes such that the area is of sufficient size and distinctness as to warrant being designated as a distinct stand in an updated forest inventory product. Areas which do not receive silvicultural treatments, or that receive modified treatments, due to localized site conditions but which do not represent a change to the overall strategic direction are not to be captured in this layer. Spatial information about the location and area affected by the changes to the SGR which occurred during the specified annual report year is required.

The SGR is initially reported in the harvest disturbance layer. There is no requirement for the updates to SGR on harvest disturbances to be duplicated and reported in this layer. At a minimum, the SGR update layer will apply to changes to areas reported in the silviculture treatment layers.

It is possible that more than one change to the SGR may occur on the same area in a given fiscal year. Only the SGR in place at the end of the fiscal year is to be reported.

4.3.19.2 Naming Convention

A standardized naming convention will be used for the SGR update layer. The file name is composed of the following parts:

MU<management unit>_<year>SGR<file number>.<file extension>

where:

Part	Description
MU	Letters “MU” representing Forest **M**anagement **U**nit.

<management unit>	The three digit FMU number, pad left with zeros as required (e.g., 001).
_	Underscore character as a separator.
<year>	Two digit numeric start year of the AR (e.g., 2028 is 28).
SGR	Letters "SGR" representing **S**ilvicultural **G**round **R**ule
<file number>	This value will always be 00 as only the SGR in place at the end of the fiscal year is to be reported.
<file extension>	Include a file extension if required as described in Section 4.3.2

4.3.19.3 Format

Spatial Requirements

The SGR update layer contains only polygon features. The polygon layer must be created in accordance with the direction in Section 4.3.4.

Tabular Requirements

The tabular attributes associated with a SGR update layer are to be included in the feature attribute table described below. The ESRI standard attributes are not listed in the polygon attribute table (i.e. area, perimeter, length, <cover_name>#, <cover_name>-ID).

field name	maximum width	field type	decimal places	attribute description
SGR	25	character	-	silvicultural ground rule
TARGETFU	15	character	-	target forest unit
TARGETYD	10	character		target yield
TRIAL	1	character	-	trial areas

SGR

Definition: The **silvicultural ground rule** attribute contains the SGR code identifying the selected SGR applied to the area.

Format: user defined

- must be an SGR defined in the FMP

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- A blank or null value is not a valid code

TARGETFU

Definition: The **target forest unit** attribute contains the short form label used to reference the forest unit in the future condition section of the associated SGR applied to the area.

Format:

- user defined content
- must be an FU defined in the FMP

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- A blank or null value is not a valid code

TARGETYD

Definition: The **target yield** attribute contains the short form label used to reference the silvicultural stratum of the development information in the future condition section of the associated SGR.

Format: user defined

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- A blank or null value is not a valid code

TRIAL

Definition: The **trial area** attribute indicates whether the harvested area is a trial.

Format: Y (for yes) or N (for no)

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- The attribute population must follow the correct coding scheme

4.3.20 Slash and Chip Treatment Layer

4.3.20.1 Description, Intent and Intended Use

The slash management information about slash and chip treatments will be provided as a single geospatial data layer. The activity of slash piling, chip piling, slash burning, onsite mechanical processing of forest debris or the removal of forest debris are site preparation activities that need to be distinguished from other forms of site preparation as they are distinct treatments. The information product permits the monitoring and assessment of objective achievement for the renewal of these areas as well as identifying the location of accumulated forest debris or the removal of forest debris. The intent is to identify road segments along which slash treatments have been applied. For example, instances where slash has been piled, the road segments along which the slash was piled would be identified, not the individual piles.

The activity of slash or chip piling does not always mean that the pile will be burned or removed within the same year. In some cases other factors may prevent the removal of the piles within the year and in other cases the removal may occur several years after the piling. Therefore, it is necessary to identify areas where piling has occurred regardless of whether a removal activity is planned or not.

The activity of slash or chip removal does not always mean that it was piled or that the pile was created within the same year. Other factors may have prevented the removal of the piles at that time. The removal area may not always be identical to a pile area as the removal activity may result in the partial removal of the pile or perhaps the forest debris was never piled prior to it being removed.

The spatial information for these treatments merely requires a road line segment that is closest to the operations. These line segments will identify the areas within operational blocks where any combination of the treatments has taken place. The line segments are not to portray the road network for the entire management unit or entire operational road boundaries. The line segments will not be so small as to represent point locations of individual piles or treatments.

The structure of the layer permits the tracking of multiple treatments in a single year as well as retreatments through time.

The provision of this geospatial layer allows for the location of these activities to be known to the District in order to permit the appropriate compliance and review of the areas.

There is no assignment of area to these treatments as they are usually small and there is no standard format for which to calculate the affected area.

This reported information will be used by the planning teams to calculate and make informed decision about the amount of area associated with roads and landings in the development of the next FMP.

4.3.20.2 Naming Convention

A standardized naming convention will be used for the slash and chip treatment layer. The file name is composed of the following parts:

MU<management unit>_<year>SCT<file number>.<file extension>

where:

Part	Description
MU	Letters “MU” representing Forest **M**anagement **U**nit.
<management unit>	The three digit FMU number, pad left with zeros as required (e.g., 001).
_	Underscore character as a separator.
<year>	Two digit numeric start year of the AR (e.g., 2028 is 28).
SCT	Letters “SCT” representing **S**lash and **C**hip **T**reatment
<file number>	This value will always be 00 as there are no overlapping activities.
<file extension>	Include a file extension if required as described in Section 4.3.2

4.3.20.3 Format

Spatial Requirements

The slash and chip treatment layer contains only line features. The line layer must be created in accordance with the direction in Section 4.3.4.

Tabular Requirements

The tabular attributes associated with a slash and chip treatment layer are to be included in the feature attribute table described below. The ESRI standard attributes are not listed in the polygon attribute table (i.e. area, perimeter, length, <cover_name>#, <cover_name>-ID).

field name	maximum width	field type	decimal places	attribute description
SLASHPIL	1	character	-	slash piling
CHIPPIL	1	character	-	chip piling
BURN	1	character	-	slash burning
MECHANIC	1	character	-	onsite mechanical processing
REMOVAL	1	character	-	removal

SLASHPIL

Definition: The **slash piling** attribute indicates the mechanical accumulation of forest debris, most commonly from delimbing operations, into piles for the purpose of increasing available planting areas or future removal of the pile through a burn or mechanical processing onsite or offsite.

Format: Y (for yes) or N (for no)

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- The attribute population must follow the correct coding scheme

- At a minimum, one of Slash Piling, Chip Piling, Slash Burning, Onsite Mechanical Processing or Removal Offsite for Processing must occur for each record (SLASHPIL = Y or CHIPPIL = Y or BURN = Y or MECHANIC = Y or REMOVAL = Y)

CHIPPIL

Definition: The **chip piling** attribute indicates the mechanical accumulation of forest debris, most commonly from mobile chipping operations, in to piles for the purpose of increasing available planting areas or future removal of the pile through mechanical processing onsite or offsite.

Format: Y (for yes) or N (for no)

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- The attribute population must follow the correct coding scheme
- At a minimum, one of Slash Piling, Chip Piling, Slash Burning, Onsite Mechanical Processing or Removal Offsite for Processing must occur for each record (SLASHPIL = Y or CHIPPIL = Y or BURN = Y or MECHANIC = Y or REMOVAL = Y)

BURN

Definition: The **slash burning** attribute indicates the consumption of forest debris through a controlled fire of either piled or un-piled slash for the purpose of increasing available planting areas. The burning of chips or chip piles is not included in this treatment.

Format: Y (for yes) or N (for no)

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory

- The population of this attribute is mandatory
- The attribute population must follow the correct coding scheme
- At a minimum, one of Slash Piling, Chip Piling, Slash Burning, Onsite Mechanical Processing or Removal Offsite for Processing must occur for each record (SLASHPIL = Y or CHIPPIL = Y or BURN = Y or MECHANIC = Y or REMOVAL = Y)

MECHANIC

Definition: The **onsite mechanical processing** attribute indicates the mechanical processing of forest debris at roadside in to a form that can be easily processed (e.g. biomass, hog fuel) the purpose of increasing available planting areas. This attribute is not intended to capture the mechanical distribution of forest debris on the road bed or within the adjacent harvest block.

Format: Y (for yes) or N (for no)

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- The attribute population must follow the correct coding scheme
- At a minimum, one of Slash Piling, Chip Piling, Slash Burning, Onsite Mechanical Processing or Removal Offsite for Processing must occur for each record (SLASHPIL = Y or CHIPPIL = Y or BURN = Y or MECHANIC = Y or REMOVAL = Y)

REMOVAL

Definition: The **removal** attribute indicates the physical removal of the forest debris from roadside for the purpose of increasing available planting areas.

Format: Y (for yes) or N (for no)

Stage 1 Validation:

- The presence of this attribute in the file structure of the layer is mandatory
- The population of this attribute is mandatory
- The attribute population must follow the correct coding scheme
- At a minimum, one of Slash Piling, Chip Piling, Slash Burning, Onsite Mechanical Processing or Removal Offsite for Processing must occur for each record (SLASHPIL = Y or CHIPPIL = Y or BURN = Y or MECHANIC = Y or REMOVAL = Y)

4.4 Map Specifications

4.4.1 AR Summary Map

4.4.1.1 Description, Intent and Intended Use

The AR Summary Map portrays a summary of areas where operations have occurred during the year and is intended to be a summary scale style map available to the public. This map must be available for public distribution, upon request, at the appropriate MNRF office, and the office of the sustainable forest licensee.

The plan author may choose to display some themes on separate summary maps to facilitate readability. In these cases, the separate theme of each map must be reflected in the title block.

A French language version of the map is required for all areas.

Map Name: AR Summary Map

Scale: summary

Map Surround Components: all

Information Displayed: Unless indicated otherwise, all theme features are limited to the one-year period of the AR.

Theme Features

- areas harvested
- areas of natural disturbance
- areas where renewal and tending operation occurred
- roads constructed
- water crossings constructed
- roads decommissioned
- water crossings decommissioned

Base Features

- Communities (labels)
- Highways/Major Roads (labels)
- Large lakes and rivers

Administrative Boundary Features

- Parks and Reserves
- Federal Land
- Operational Map Grid (label or key)
- Management Unit Boundary

4.4.1.2 Packaging and Naming Convention

Maps that are a required component of an AR submission file will use a standard naming convention. A standard naming convention must be used to permit an automated validation of the information product. Standardized naming of files also facilitates internet viewing, file retention and data discovery. The file name is composed of the following parts:

MU<management unit>_<year>_AR_MAP_<description>_<file number>.<extension>

where:

Part	Description
MU	Letters “MU” representing Forest **M**anagement **U**nit.
<management unit>	The three digit MU number, padded left with zeros as required (e.g., 001).
_	Underscore character as a separator.
<year>	Four digit numeric start year of the AR (e.g., 2028).
_	Underscore character as a separator.
AR	Letters representing the information products being submitted: "AR" for **A**nnual **R**eport
_	Underscore character as a separator.

MAP	Letters representing the type of product being submitted; “MAP” for map.
_	Underscore character as a separator.
<description>	Letters representing the required standard component being submitted: For non-standard additional maps, the description is user defined.
_	Underscore character as a separator.
<file number>	A two-digit numeric place holder for identifying situations where maps have been split into more than one file, based on map extent or theme. If only one map file exists, the file number will remain at “00”. If more than one map file exists, the first map will contain “01” in the file number, the second map “02”, and so on. If operational scale maps have been produced with a consistent theme split, all of the maps showing the same theme should have the same file number. For example, if harvest operations are displayed on one set of maps and renewal and maintenance operations are on a second set of maps, all of the harvest maps would have a file number of “01” and all of the renewal and maintenance maps would have a file number of “02”, even if there is not both a “01” and a “02” for all areas.
.pdf	portable document file (PDF)

The <description> component of the file name for this **Sum** for the English version and **SumFR** for the French language version. The following are samples of the mandatory file naming convention:

- MU123_2028_AR_MAP_Sum_00.PDF
- MU123_2028_AR_MAP_SumFR_00.PDF (French language version)

4.4.1.3 Metadata

Metadata requirements for map products are met by the required information contained in the map surround, use of a standard naming convention, as well as the submission details that are captured when AR submission files are submitted via the FI Portal.

4.4.1.4 Format

Maps that are a required component of an AR submission file will be produced in an Adobe

portable document format (PDF) that does not exceed 100 MB in file size with the fonts and symbols successfully imbedded.

Note: Some problems have been encountered when generating PDF files, ensure that the ESRI fonts and symbols have been imbedded properly by viewing the file on a computer that does not have the font file installed.

4.4.1.5 Map Scale Standards

Summary Map Scale

Acceptable summary map scales generally allow for portrayal of the target area on an 11x 17" or 8.5 x 11" sheet of paper and allow for the appropriate resolution of information and ease of reproduction. These very small scale maps are designed and created for public distribution.

4.4.1.6 Map Surround Standards

All maps will have a similar map surround. Where particular features of these map surround standards do not apply to a map, it will be noted in the detailed map descriptions. Additional guidance can be obtained from the MNRF publication Map Design Considerations for Accessibility.

Map surround components are as follows:

- **Logo** - Ontario Government logo or forest company logo (or combination) as appropriate.

  Example: Ontario

- **Title Block** - includes the management unit name, the term of the FMP, and the map name. For operational maps, the mapsheet identifier must also be included. The naming standard for the map is indicated in the detailed map descriptions.

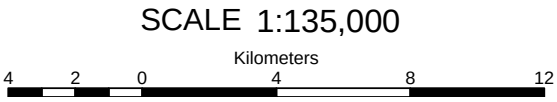
- **Index Map** - indicates the extent of the area shown on the map in relation to a larger area. Composite maps will show their extent in relation to the rest of Ontario. Operational scale maps (1:20,000, 1:10,000) will show their extent in relation to the management unit.
- **Legend** - provides a list of map symbols used for theme and base features.
- **Disclaimer** - required for safeguarding against liability on the part of the MNR or the forest industry companies. A disclaimer is of particular importance with the take-home summary maps.

Example:

This map should not be relied on as a precise indicator of routes or locations, nor as a guide to navigation. The Ontario Ministry of Natural Resources shall not be liable in any way for the use of, or reliance upon, this map or any information on this map.

- **Scale bar and/or statement** - provides the relationship between map distance and true (ground) distance. Both a scale bar and text scale statement are required.

Example:



- **Map Publication Date** - indicates the date the map was created. The date will display the month in text and the year in four digits.

Examples: March 22, 2028

22/MAR/2028

- **Copyright** - indicates who maintains ownership of the data/information or a contact name for more information on copyright applicable to the map data.

Example: © Queen's Printer for Ontario, 2028

- **Datum** - identifies the projection and datum of the map information

Example: NAD83 UTM Zone 17

- **North Arrow** - grid north direction indicator. This information is not required if map is oriented with north to the top of page.
- **Border** - map frame

4.4.1.7 Symbology

The FIM does not prescribe standards for the symbology of features other than values. Map symbology will be selected based on the clear portrayal of map features with consideration for reproducibility and display on computer monitors.

4.4.1.8 Page Size Standards

Summary maps are to be designed for tabloid size paper (11x17”) or smaller.

4.4.1.8 Data Transfer and Schedule

This map is a required component of the AR submission file.

4.4.1.9 Review and Approval

The review and approval of this map product will occur as part of the normal review and approval process for the AR

4.5 Annual Report Text and Tables

4.5.1 Description, Intent and Intended Use

The mandatory text and table components of AR submission file have been structured to facilitate efficient organization, retention, access and use of the information on the FI Portal and MNRF website. The following rules apply to text and table components of AR submission file:

- AR text submitted as a single file
- AR tables submitted as a single file

Additional non-standard files may be included in the annual report submission.

4.5.2 Packaging and Naming Convention

AR text and tables will be included in the AR submission file according to the standards described in Section 5.0.

AR text and table files will be submitted using the standardized naming convention. A standard naming convention must be used to permit an automated validation of the information product. Standardized naming of files also facilitates internet viewing, file retention and data discovery. The file name is composed of the following parts:

MU<management unit>_<year>_AR_<product type>_<description>.PDF

where:

Part	Description
MU	Letters “MU” representing Forest **M**anagement **U**nit.
<management unit>	The three digit MU number, padded left with zeros as required (e.g., 001).
_	Underscore character as a separator.
<year>	Four digit numeric start year of the AR (e.g., 2028).

_	Underscore character as a separator.
AR	Letters representing the information products being submitted: "AR" for **A**nnual **R**eport
_	Underscore character as a separator.
<product type>	Letters representing the type of product being submitted, either “TXT” for text, or “TBL” for table.
_	Underscore character as a separator.
<description>	Letters representing the required component being submitted: "Text" for the AR text "Tables" for the AR tables
.PDF	File format extension for Adobe portable document files

Sample naming conventions for the individual file components are provided in the detailed file descriptions below.

Additional non-standard files should follow a similar naming convention and must only contain numeric values from 0 to 9, characters from A to Z and underscore.

4.5.3 Metadata

Part of the metadata requirements will be met by use of the standard naming convention as well as the submission details that are collected when AR submission files are submitted via the FI Portal.

4.5.4 Format

All AR text and table files, as components of submission file to the FI Portal, will be submitted as Adobe portable document files (PDF). To meet the requirements of the Accessibility for Ontarians with Disabilities Act (AODA) and more specifically the Integrated Accessibility Standards Regulation, the MNRF will provide sustainable forest licensees with guidance to enhance the accessibility of PDFs. This guidance can be found in the Electronic Document Accessibility Guide for FI Portal Users. As technology advances and offers practical

improvements for the production of AODA compliant FIM information products this technical specification will be updated to reflect these advancements.

4.5.5 Data Transfer and Schedule

AR text and tables are included in the submission file and are subject to those timelines. Refer to Section 5.0 for more information.

4.5.6 Review and Approval

Review and acceptance of AR text and tables is performed as part of AR review. Refer to Section 5.0 for more information.

4.5.7 Annual Report Text

4.5.7.1 Description, Intent and Intended Use

The annual report text, as described in Part E of the FMPM, will be incorporated into a single file. The file will include a version of the title, certification and approval page identifying the names and titles of the signatories, and details on where the original signed hard copies are filed. This is not meant to be a scanned version of the original page with signatures.

This file is a mandatory component of all AR submission files.

4.5.7.2 Packaging and Naming Convention

The <description> component of the file name for this file is **Text**. Annual Report Text must be named according to the convention in Section 4.4.1.2. The following is a sample of the mandatory file naming convention:

- MU123_2028_AR_TXT_Text.PDF

4.5.8 Tables

4.5.8.1 Description, Intent and Intended Use

All AR tables, as described in Part E, of the FMPM, will be incorporated into a single file.

This is a mandatory component of all AR submission files.

4.5.8.2 Packaging and Naming Convention

The <description> component of the file name for this file is **Tables**. Tables must be named according to the convention in Section 4.4.1.2. The following is a sample of the mandatory file naming convention:

- MU123_2028_AR_TBL_Tables.PDF

5.0 Submission File

5.1 Description, Intent and Intended Use

All AR documentation will be submitted in an electronic format, through the Forest Information Portal (FI Portal), to improve the efficiency of production, distribution, and storage of the information. The official copy of all AR documentation is the electronic version submitted through the FI Portal.

For all documents requiring a title, certification and approval page, an original hard copy with all required signatures and the FI Portal Submission Identifier will be kept on file at the appropriate MNRF office(s) and the office of the sustainable forest licensee. The electronic submissions of all documents requiring a title, certification and approval page will contain an electronic version of this page identifying the names and titles of the signatories, and details on where the original signed hard copies are filed. This is not meant to be a scanned version of the original page with signatures.

The intent is to reduce the requirement for paper copies of annual reports and the costs associated with printing and storing. The electronic submission of products supports MNRF's strategic direction to develop electronic service delivery channels and to improve access to information by the public via the internet. Data and information standards are mandatory in ensuring files can be handled efficiently and meet requirements for internet accessibility.

AR documentation will be available for public viewing on and/or downloading from the MNRF website. All files available on the MNRF website will be in Adobe's portable document file format (PDF).

Additional non-standard components may be included in the annual report submission.

5.2 Packaging and Naming Convention

An AR submission is to be packaged into a single compressed (zip) file. The standardized naming convention is to be used when creating each zip file. A standard naming convention must be used to permit an automated validation of the information product. Standardized naming of files also facilitates internet viewing, file retention and data discovery. This standard name is provided in the detailed submission file descriptions below.

The text, tables, and map files are to be located at the root level of the zip file. Additional non-standard files are also located at the root level as well. Additional non-standard components should follow a similar naming convention and must only contain numeric values from 0 to 9, characters from A to Z and underscore. Duplicate file names are not permitted and will result in the rejection of the annual report submission to the FI Portal. The file extension is ignored during the verification of duplicate file names, such that “Extra.doc” and “Extra.xls” would result in the rejection of the submission. This does not apply where a coverage has been submitted as multiple interchange files (e.g., E00, E01, E02, etc.).

5.3 Metadata

Part of the metadata requirements will be met by use of the standard naming convention as well as the submission details that are collected when AR submission files are submitted via the FI Portal.

5.4 Format

Mandatory file components of the submission file have been structured to facilitate efficient organization, retention, access and use of the information on the FI Portal and Ontario Government website, as follows:

- AR text submitted as a single file
- AR tables submitted as a single file

- AR Map submitted as a single file
- Geospatial data layer files will be in a separate folder

All files relevant to the AR document will be compressed into a single compressed (zip) file for submission.

5.5 Data Transfer and Schedule

As prescribed by the FMPM, management unit level annual reports are due November 15 each year. The sustainable forest licensee for the management unit is responsible for submitting the annual report to the MNRF via the Forest Information Portal.

5.6 Review and Approval

The MNRF will ensure that the information contained in the products meet the standards of these technical specifications and the information is consistent with the requirements of the FMPM.

5.7 Annual Report Submission File

5.7.1 Description, Intent and Intended Use

The FMPM and FIM require that management unit annual reports be prepared and submitted for each forest management unit. Each report contains information on natural events and forest management activities that occurred during or are related to the one year report period of April 1 through March 31.

These management unit annual reports are a part of overall assessment of the FMP effectiveness and support provincial and federal level reporting.

The Annual Report zipped submission file contains all files required by this technical specification and meets the requirements of the FMPM. The zipped submission file contains the files that are required for public consultation. It also contains one folder that is not required for public consultation which contains the required spatial layers as separate files.

The Annual Report submission file will be delivered through the FI Portal where its contents will be validated. Of all of the files found within the submission, only the following will be available to the public through the Ontario Government website;

- AR text submitted as a single PDF file
- All AR tables submitted together as a single PDF file
- AR Summary Map submitted as a single PDF file

5.7.2 Packaging and Naming Convention

The submission is to be packaged into a single compressed (zip) file using a standardized naming convention. The file name is composed of the following parts:

MU<management unit>_<year>_AR.ZIP

where:

Part	Description
MU	Letters “MU” representing Forest **M**anagement **U**nit.
<management unit>	The three digit FMU number, pad left with zeros as required (e.g., 001).
_	Underscore character as a separator.
<year>	Four digit numeric start year of the AR (e.g., 2028).
_	Underscore character as a separator.
AR	Letters “AR” representing **A**nnual **R**eport.
.ZIP	File format extension for a compressed file.

The following is a sample of the mandatory file naming convention:

- MU123_2028_AR.ZIP

5.7.3 Directory Requirements

The AR submission will contain only one mandatory sub directory. The sub directory will contain AR geospatial data layers. This sub directory is required to be present even if empty of contents, and must be in the root of the submission zip file.

Additional geospatial information may be included in the compressed (zip) file in the LAYERS directory and this will not result in a submission failure. Any additional sub directories included within the LAYERS directory or at the root directory level will result in a failure of the submission.

When a single ESRI File Geodatabase contains all of the required geospatial data layers a standardized naming convention is to be used to name the file geodatabase. All feature data classes will be in the root of the file geodatabase as the use of feature datasets will result in a rejection of the submission. The file geodatabase name is composed of the following parts:

MU<management unit>_<year >_<info product>.gdb

A standardized naming convention is to be used to name the compressed (zip) file containing

the AR geospatial geospatial data layers in the Layers directory. The compressed (zip) file name is composed of the following parts:

MU<management unit>_<year>_<info product>.zip

The standardized naming convention is to be used to name the sub directory. The sub directory name is composed of the following parts:

MU<management unit>_<year>_AR_LAYERS

where:

Part	Description
MU	Letters “MU” representing Forest **M**anagement **U**nit.
<management unit>	The three digit MU number, padded left with zeros as required (e.g., 001).
_	Underscore character as a separator.
<year>	Four digit numeric start year of the AR (e.g., 2028).
_	Underscore character as a separator.
AR	Letters representing the information products being submitted: "AR" for **A**nnual **R**eport
_	Underscore character as a separator.
LAYERS	Letters representing the name of folder.

The following is a sample of the mandatory file naming convention:

- 🗁 MU123_2028_AR_LAYERS
  - MU123_2028_AR.zip
    - MU123_2028_AR.gdb

5.7.4 Product Components

The following is a list of mandatory file components with sample file names:

- MU123_2028_AR.ZIP
  - MU123_2028_AR_LAYERS*
    - MU123_2028_AR.zip
      - MU123_2028_AR.gdb
        - MU123_28RDS00
        - MU123_28WTX00
        - MU123_28HRV00
        - MU123_28NDB00
        - MU123_28RGN00
        - MU123_28SIP00
        - MU123_28TND00
        - MU123_28PRT00
        - MU123_28EST00
        - MU123_28PER00
        - MU123_28FTG00
        - MU123_28AGG00
        - MU123_28SGR00
        - MU123_28SCT00
- MU123_2028_AR_TXT_Text.PDF*
- MU123_2028_AR_TBL_Tables.PDF*
- MU123_2028_AR_MAP_Sum_00.PDF*
- MU123_2028_AR_MAP_SumFR_00.PDF*

* Mandatory product components of an AR submission zip file. Spatial data layers are not considered mandatory components as their requirement is dependent on the types of operations being reported for the year. The layers folder is a mandatory component even if it is empty.