**TPO Data Download**

**Data Dictionary and User’s guide**

**Introduction**

This document describes the Timber Product Output (TPO) data submitted to the Resources Planning Act (RPA) assessment by the Forest Inventory and Analysis (FIA) Units of the USDA Forest Service. The TPO data for the counties in each State were submitted to the RPA Data Center in standardized files having common data elements, formats, and codes. These reporting requirements resulted from a series of meetings with TPO specialists from each FIA Unit and were based around the similarities in TPO techniques across FIA Units, the need to meet historic and expanding RPA information needs, and the need to protect against disclosing any sensitive data. Each record of the datafiles contains variables, each with a standard name, format, code(s), and definition. From these 11 variables a user can obtain quantitative and qualitative information about the roundwood products harvested in a state/county, the logging residues generated from roundwood harvests, the other kinds of timber removals that are not directly related to roundwood product harvests (e.g. precommercial thinnings, landclearing, timber stand improvements, etc.), and about the wood and bark residues generated in a state/county when mills process roundwood into primary products, like lumber, veneer, and wood pulp.

**Variable List**

1.) Variable Name: Year

Format: 4 digit numeric (i.e. 1997)

Definition: Identifies the year for which the TPO estimate was made.

2.) Variable Name: Statecd

Format: 3 digit numeric (standard FIPS codes)

Definition: Identifies the State where roundwood products were harvested, logging residues were generated, other removals occurred, or mill residues were generated.

3.) Variable Name: Survey\_statecd

 Format: 2 digit numeric (standard FIPS codes)

Definition: Identifies the State where the mill is located and surveyed

4.) Variable Name: Countycd

Format: 3 digit numeric (standard FIPS codes)

Definition: Identifies the County where roundwood products were harvested, logging residues were generated, other removals occurred, or mill residues were generated.

Usage Note: Due to data paucity or sensitivity, some counties have been combined. These combined counties are identified with asterisks in the output tables.

5.) Variable Name: Remclasscd

Format: 1 digit numeric code

Definitions: Identifies TPO volume as 1 of 5 types:

1 = Roundwood product. Identifies volume as being harvested for industrial and nonindustrial products, like sawlogs, pulpwood, fuelwood, etc.

2 = Logging residues. Identifies volume as the residual portions of trees cut for roundwood products, and other trees killed in the process of extracting roundwood products, that are left on the ground after roundwood product harvests.

3 = Other removals. Identifies volume as trees removed from the timberland inventory due to landuse change to some nonforest use, and any trees killed in timber stand improvement activities, like precommercial thinnings, weedings, etc., that are not directly associated with roundwood product harvests.

4 = Department of Energy(DOE) residential fuelwood estimate. This data is provided by the Department of Energy fuelwood survey.

5 = Mill residues. Identifies volume as wood and bark residues generated by primary wood-using mills during the processing of roundwood into primary products, like lumber, veneer, and wood pulp.

Usage Notes: For the RPA assessment, other removals (Remclass 3) do not include the volume associated with changes in forestland status (e.g. wilderness designations) because these removals are usually of a one-time nature and could skew the TPO estimates for a given year.

The other removals estimates are derived from average annual removals data for the latest forest inventory of each State. Average annual removals estimates are made for the time period between two successive State forest inventories, usually about 10 years, and are therefore short-term historic averages and not estimates for a specific year. These average annual removals estimates are also based on sampling procedures designed to provide reasonable estimates of total forest area and total timber inventory in a State. For subtotals of the inventory on subtotals of the forest area, like the other removals component of average annual removals for a county, the sampling procedure may provide very variable and possibly unreasonable estimates for such small subsets of the State totals. The user is cautioned to keep these limitations in mind when using the other removals information from this database.

6.) Variable Name: Owncd

Format: 1 digit numeric code

Definitions: Identifies the owner of the land where timber products were harvested, logging residues were generated, or other removals occurred.

1 = National Forest.

2 = Other Public

3 = Forest Industry

4 = Other Private

Usage Notes: Other Private (ownership class 4) includes Indian ownerships. Forest Industry data is not available when viewing the county production table due to confidentiality.

This variable is only applicable to timber removals (Remclasses 1, 2, 3). No ownership is recorded for mill residues (Remclass 5).

In the East, ownership is not one of the data variables normally collected during TPO studies. As a result, the county timber-removal volumes provided have been prorated into ownership classes based on average annual removals data from the latest forest inventories for each State. Average annual removals estimates are made for the time period between two successive State forest inventories, usually about 10 years, and are therefore short-term historic averages and not estimates for a specific year. These average annual removals estimates are also based on sampling procedures designed to provide reasonable estimates of total forest area and total timber inventory in a State. For subtotals of the inventory on subtotals of the forest area, like average annual removals by ownership class in a county, the sampling procedure may provide very variable and possibly unreasonable estimates for such small subsets of the State totals. The user of ownership volume breakdowns in the East is cautioned to keep these limitations in mind. Ownership is generally one of the data variables collected during TPO studies in the West. Therefore, the ownership volume breakdowns provided are for specific years and are generally not sample based.

7.) Variable Name: Spgrpcd

Format: 2 digit numeric code

Definitions: Identifies the tree species cut for roundwood products, left as logging residues, removed for other reasons, or milled into wood and bark residues.

1 = Cedars. Includes all cedars and junipers.

2 = Cypress. Includes all Taxodium and any western cypresses.

3 = Douglas-fir. Includes all Pseudotsuga.

4 = True firs. Includes all Abies.

5 = Hemlock. Includes all Tsuga.

6 = Larch. Includes all Larix.

7 = Jack pine.

8 = Loblolly-Shortleaf pines.

9 = Lodgepole pine.

10 = Longleaf-Slash pines.

11 = Ponderosa-Jeffrey pines.

12 = Red pine.

13 = Sugar pine.

14 = White pine. Includes *Pinus strobus*, monticola, and strobiformis.

15 = Other pines. Includes all other pines not listed above. (see usage notes for exceptions)

16 = Redwood. Includes all Sequoia and Sequoidendron.

17 = Spruce. Includes all Picea.

18 = Alder. Includes all Alnus.

19 = Ash. Includes all Fraxinus.

20 = Aspen. Includes *Populus tremuloides*, *P. grandidentata*, and *P. balsamifera*.

21 = Basswood. Includes all Tilia.

22 = Beech. Includes all Fagus.

23 = Yellow birch.

24 = Other birch. Includes all other Betula, except alleghaniensis.

25 = Black cherry. Includes only *Prunus serotina*.

26 = Cottonwood. Includes all Populus not in Aspen (20).

27 = Elm. Includes all Ulmus.

28 = Hickory. Includes all Carya.

29 = Hard maples. Includes all Acer spp. with specific gravity >= 0.5.

30 = Soft maples. Includes all Acer spp. with specific gravity < 0.5.

31 = Select red oaks. Includes *Quercus rubra*, *Q. falcata* var. *pagodaefolia*, *Q. shumardii*.

32 = Other red oaks. Includes all Quercus subgenus Erythrobalanus, except those in Select red oaks (31).

33 = Select white oaks. Includes *Quercus alba*, *Q. bicolor*, *Q. macrocarpa*, *Q. michauxii*, *Q. muhlenbergii*, *Q. durandii*.

34 = Other white oaks. Includes all Quercus subgenus Leucobalanus, except those in Select white oaks (33).

35 = Sweetgum.

36 = Sycamore.

37 = Tupelo/black gum. Includes all Nyssa.

38 = Black walnut. Includes only *Juglans nigra*.

39 = Yellow-poplar.

40 = Other hardwoods. Includes any hardwood species not listed above. (see usage notes for exceptions)

41 = Softwoods. Includes all softwood species.

42 = Hardwoods. Includes all hardwood species.

Usage Notes: Codes 1-40 are used exclusively for timber removals (Remclasses 1, 2, 3). Due to the way TPO data were collected and/or processed in the Northeast some pulpwood and fuelwood removals data for softwoods (species groups 1-17) and hardwoods (species groups18-40) have been grouped and reported under species group 15 (other pines) or species group 40 (other hardwoods), respectively. As a result, the volume of product removals reported as coming from either other pines or other hardwoods may appear disproportionately high in some Northeastern States. Due to the way fuelwood data were collected and/or processed in California, Oregon, and Washington, all softwood fuelwood removals have been grouped and reported under species group 15 (other pines), and all hardwood fuelwood removals have been grouped and reported under species group 40 (other hardwoods). As a result, the volume of product removals reported as coming from either other pines or other hardwoods may appear disproportionately high in these states.

Codes 41 and 42 are used exclusively for mill residues (Remclass 5).

This is a county-level database. The user should use the geographic data provided (State and County) to help distinguish some of the individual species with these species groups. Take the Cedar species group for example, if the geographic location is northern Wisconsin then the species is most likely Northern white cedar; if the geographic location is Kentucky then the species is most likely Eastern redcedar; if the geographic location is Idaho then the species is most likely Western redcedar; and if the geographic location is the New Jersey pine barrens then the species is most likely Atlantic white cedar. This approach can be used for many of the listed species groups.

8.) Variable Name: Sourcecd

Format: 2 digit numeric code

Definitions: Identifies timber removals (Remclasses 1, 2, 3) as coming from certain portions or types of trees. Also identifies the type of mill residues (Remclass 5) generated.

1 = Identifies timber removals as coming from the growing-stock portion of sawtimber trees.

2 = Identifies timber removals as coming from the growing-stock portion of poletimber trees.

3 = Identifies timber removals as coming from the nongrowing-stock portions of poletimber and sawtimber trees (e.g. tops, limbs, stumps, cull sections) and from any portion of cull, sapling, dead, or nonforest trees.

11 = Identifies mill residues as bark.

12 = Identifies mill residues as coarse wood residues that are suitable for chipping (slabs, edgings, veneer cores, etc.).

13 = Identifies mill residues as fine wood residues that are not suitable for chipping (sawdust, veneer clippings, etc.).

Usage Notes: Source codes 1 and 2 combined provide an assessment of removals from the growing-stock inventory of a State. Source codes 1, 2, and 3 combined provide an assessment of total timber removals from a State.

9.A) Variable Name: Prodcd for Remclasscd=1, 2, 3, 4

Format: 3 digit numeric code

Definitions: Identifies for Remclass 1 the type of roundwood product harvested based on the type of primary processing and resulting end product. Also identifies for Remclass 5 the byproducts produced from mill residues.

1 = Sawlogs. Includes roundwood logs and bolts processed at sawmills into a variety of sawn products (lumber, cants, squares, blanks, etc.).

2= Veneer logs. Includes roundwood logs and bolts processed at veneer mills into a variety of peeled, sliced, stamped, or cut products (sheathing, panels, plywood, containers, sticks, etc.). In the East, this product code may include logs exported for processing.

3 = Pulpwood. Pulpwood includes roundwood logs, bolts, and chips used in the manufacture of wood pulp for making paper and paperboard products.

4 = Composite products. Includes roundwood logs, bolts, and chips used in the manufacture of reconstituted wood products (chip board, flake board, oriented strand board, engineered lumber, etc.).

5 = Bioenergy/Fuelwood. Fuelwood includes roundwood logs, bolts, and chips used as fuel in industrial, and institutional situations.

7/8/9 = Pilings, Poles, and Poles. Includes roundwood logs milled (cut, peeled, etc.) into standard sizes (lengths and circumferences) to be put in the ground to provide vertical and lateral support in buildings, foundations, utility lines, and fences. May include nonindustrial (unmilled) roundwood that has been cut directly into posts for domestic and local uses.

11 = Miscellaneous products. Miscellaneous products include roundwood logs, bolts, and chips processed into a variety of products not previously listed (charcoal, cooperage, excelsior, etc.). In the West this product code may include logs exported for processing.

0 = Not Used. Identifies logging residues (Remclass 2) and other removals (remclass 3) as being not used for roundwood products.

100 = DOE Residential Fuelwood. Derived from Department of Energy residential fuelwood survey.

Generally, roundwood fuelwood harvests by residential households are derived from sampling procedures designed to provide reasonable estimates of State totals for product code 100. For harvest volume subtotals on substate areas, like residential fuelwood harvests in a county, the sampling procedure may provide very variable and possibly unreasonable estimates for such small subsets of the State totals. The user of the roundwood residential fuelwood harvest data is cautioned to keep this limitation in mind.

Usage Notes: Applicable to only removal classes 1 and 4 (roundwood product and mill residue records).

9.B) Variable Name: Prodcd for Remclasscd=5

0= Not Used. Identifies mill residues as not being used for any byproduct. Includes mill residues burned as waste or landfilled.

30= Fiber Byproducts. Fiber byproducts identifies mill residues as being used in the manufacture of wood pulp or composite products (particle board, chip board, flake board, engineered lumber products, etc.).

50=Fuel byproducts. Fuel byproducts identifies mill residues as being used for industrial, and institutional fuel.

90=Miscellaneous byproducts. Miscellaneous byproducts identifies mill residues as being used for a variety of products not previously listed (mulch, bedding, charcoal, small dimension lumber, etc.).

10.) Variable Name: MCFVOL

Format: Decimal to nearest thousandth (i.e. 0.001)

Definition: The volume, in cubic feet rounded to three decimal places, of roundwood products, logging residues, other removals, or mill residues produced in a specific year from a given state, county, ownership, species group, source, and product.

11.) Variable Name: RPA\_STD\_AMOUNT

Format: Decimal to nearest thousandth (i.e. 0.001)

Definitions: Refers to the same "volume" as cubic-foot volume (variable 9), but expressed in standard TPO units of measure for each remclass and product:

Board feet International 1/4-inch rule for sawlogs and veneer logs (Remclass 1; product codes 1, 2, 10, 20).

Cords for pulpwood, composite products, and fuelwood (remclass 1; product codes 3, 4, 5, 30, 40, 50).

Cubic feet for posts, poles, pilings and miscellaneous products (remclass 1; product codes 7, 8, 9, 70, 80, 90).

Cubic feet for logging residues and other removals (remclass 2 and 3).

Dry tons for mill residues (remclass 5).

Usage Note: Alternative way to express the TPO volume produced in a given year from a given state, county, ownership, species group, source, and product.

12.) Variable Name(s): Production, Exported, Retained, Imported, Receipts

Format: Decimal to nearest thousandth (i.e. 0.001)

Definition: Refer to diagram below.

