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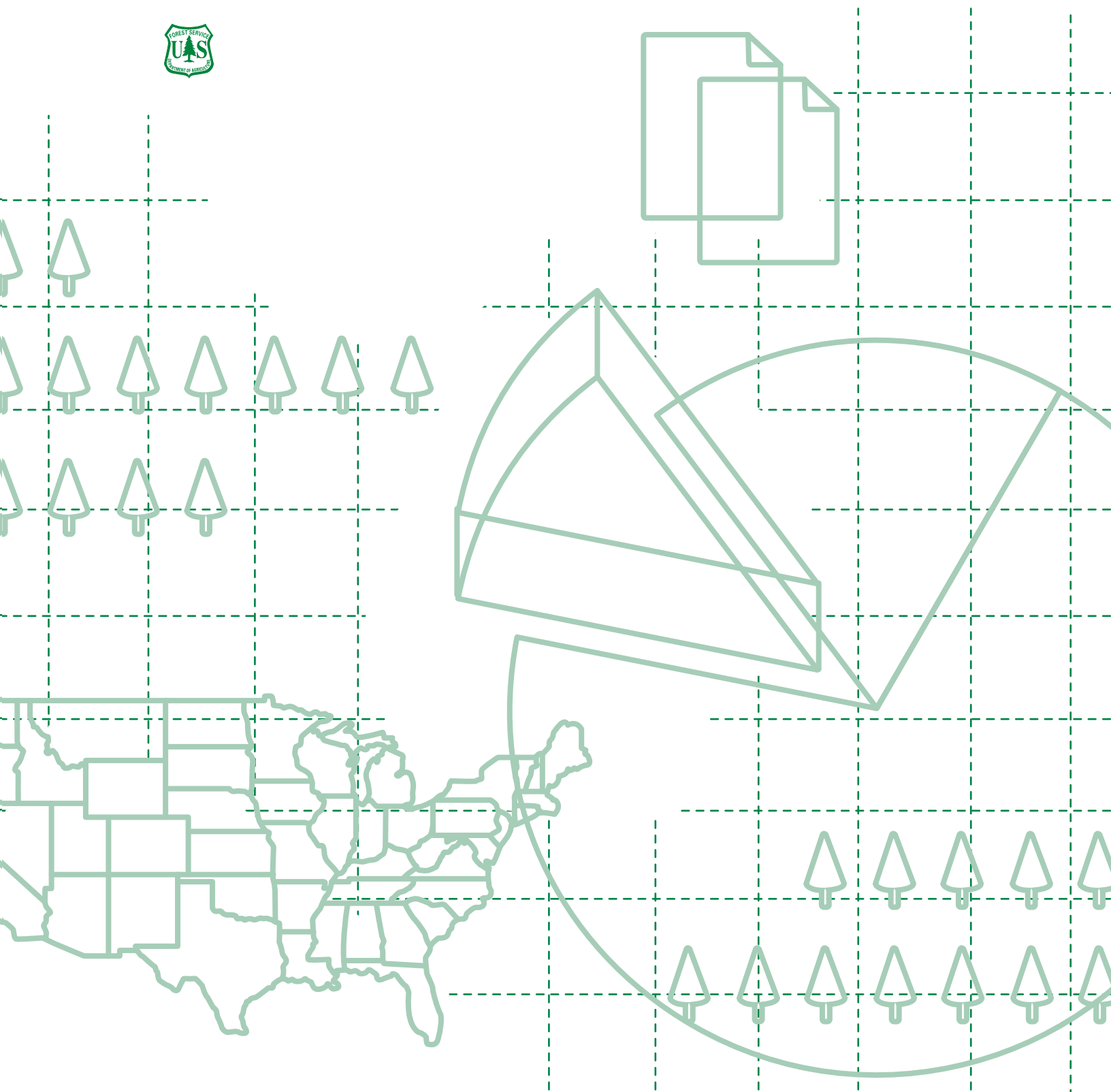
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The 2002 RPA Plot Summary Database Users Manual



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Describes the structure of the RPA 2002 Plot Summary database and provides information on generating estimates of forest statistics from these data. The RPA 2002 Plot Summary database provides a consistent framework for storing forest inventory data across all ownerships across the entire United States. The data represents the best available data as of October 2001.

KEY WORDS: RPA, inventory, forest statistics, information management, data processing

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Foreword

Forest Inventory and Analysis (FIA) is a continuing endeavor mandated by Congress in the Forest and Rangeland Renewable Resources Planning Act (RPA) of 1974 and the McSweeney-McNary Forest Research Act of 1928. FIA's primary objective is to determine the extent, condition, volume, growth, and depletions of timber on the Nation's forest land. RPA reports are generated every 5 years. This manual describes the database used to produce the tables in the report entitled "Forest Resources of the United States, 2002" (Smith *et al.*).

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The 2002 RPA Plot Summary Database Users Manual

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Chapter 1 – The RPA Database

The original RPA Plot Summary database format was developed in 1987 to meet RPA reporting requirements (Waddell *et al.* 1989). At that time computer resources were at a premium and the cost of data storage was prohibitive. For these and other reasons, data were summarized and stored at the plot level rather than the tree level even though individual tree data existed for most of the forest area of the United States.

Beginning in 1995 the FIA program began collecting tree information on all forest land across the entire Nation. Once tree data are available for all States, the Forest Inventory and Analysis Database (FIADB) will be the primary database for reporting RPA statistics. The FIADB (Miles *et al.* 2001) contains all plot and tree measurements collected by the FIA program — not just data summarized to the plot level. Although the RPA Summary Database is able to report the volume of softwoods, the FIADB, with its tree data, can report the volume of softwoods by individual tree characteristics such as species and diameter class. Although not as flexible as the FIADB, the RPA Plot Summary Database is much easier to work with and is the only format available for exploring long-term trends in the forest resources of the United States.

Data for the 2002 RPA were gathered from several different sources (appendix A). Tree data were available for the 48 coterminous States and southeast Alaska, but not for Hawaii or interior Alaska. Data were collected primarily by FIA units except for some of the lands administered by the National Forest System in California, Colorado, Idaho, Nevada, Oregon, Washington, and Wyoming.

Data in RPA Plot Summary Database format are available through the Internet at <http://www.fia.fs.fed.us>. This is the Internet address for the Forest Inventory and Analysis national program and should remain unchanged for the immediate future. On this page there is a link to “Online databases.” Also available at this Web site will be instructions for obtaining a CD-ROM containing the RPA Plot Summary Database and a Windows™ based program called the RPA Data Wiz. The RPA Data Wiz program allows users to easily generate reports and graphics on the forest resources of the United States.

Chapter 2 provides detailed documentation of the database. Chapter 3 presents algorithms on how to compute estimates of area; current timber volume; biomass; number of trees; average annual growing-stock growth; and mortality. Timber removals estimates for the RPA are derived from timber product output studies (Johnson 2001).

Chapter 2 – Database Structure

There are two tables in the RPA Database (RPA_PLOT2002 and SPDBH_2002). The format of these tables is presented in the following pages. For each column or variable in a table, there is a section that describes the unabbreviated name and other details of the variable. Coded items also include a list of the codes and their meanings.

The RPA_PLOT2002 table provides information about a condition. In 95 percent of cases a sample plot will have one condition. Sample plots will have multiple conditions only when there is a discrete change in one of the following landscape attributes: land use, reserved status, ownership group, forest type, stand-size class, stand origin, and stand density.

Data for the 1987 and 1992 RPA Assessments were submitted in similar formats. Beginning with the 1997 RPA Assessment, data were usually converted to this format from tree-level databases such as the Eastwide (Hansen *et al.* 1992), Westwide (Woudenberg and Farrenkopf 1995), or FIADB. For the 2002 RPA Assessment, all of the data except for interior Alaska and Hawaii were derived from data in FIADB format (see appendix A). Appendix B contains information on state, survey unit, and county codes.

The SPDBH_2002 table contains tree species group volume information summarized at the State level by ownership and diameter classes. This table is used solely to produce reports on species group volumes by State, ownership class, and diameter class. Appendix C contains a listing of the species group names and how they were derived from the FIADB.

Plot Table (Oracle table name is RPAPLOT_2002)

	Column name	Oracle data type	Value or unit of measure	Key data item
1.	PID	NUMBER (8)	Number	
2.	RECNUM	NUMBER (13)	PLOT	X
3.	YEAR	NUMBER (4)	Year (YYYY)	
4.	RSID	NUMBER (2)	Coded	
5.	INVSOURCE	NUMBER(1)	Coded	
6.	SRCDATE	NUMBER (4)	Year (YYYY)	
7.	STATE	NUMBER (2)	Coded	
8.	STATEABB	VARCHAR (2)	Coded	
9.	SUBREGION	NUMBER (1)	Coded	
10.	RPA_REGION	NUMBER (1)	Coded	
11.	RPA_SUBREGION	NUMBER (1)	Coded	
12.	ADMINFOR	NUMBER (2)	Coded	
13.	ADMINFORU	NUMBER (4)	Coded	

(table continued on next page)

Plot Table (Oracle table name is RPAPLOT_2002) continued

	Column name	Oracle data type	Value or unit of measure	Key data item
14.	LANDCC	NUMBER (2)	Coded	
15.	RESERCLASS	NUMBER (1)	Coded	
16.	SPCLASS	NUMBER (2)	Coded	
17.	FORCODE	NUMBER (1)	Coded	
18.	OWNGROUP	NUMBER (2)	Coded	
19.	OWNER	NUMBER (2)	Coded	
20.	AEF	NUMBER (8)	Acres	
21.	VEF	NUMBER (7)	Number	
22.	FORTYPE	NUMBER (3)	Coded	
23.	LOCALTYPE	NUMBER (3)	Coded	
24.	STANDORIGIN	NUMBER (2)	Coded	
25.	SSCLASS	NUMBER (1)	Coded	
26.	STDIAM	NUMBER (5,2)	Coded	
27.	AGECLASS	NUMBER (3)	Years	
28.	STOCKPC	NUMBER (2)	Coded	
30.	LOCALINF01	NUMBER (1)	Coded	
31.	LOCALINF02	NUMBER (1)	Coded	
32.	LOCALINF03	NUMBER (1)	Coded	
33.	LOCALINF04	NUMBER (1)	Coded	
34.	LOCALINF05	NUMBER (1)	Coded	
35.	LOCALINF06	NUMBER (1)	Coded	
36.	BDFTSW	NUMBER (6)	Number	
37.	BDFTHW	NUMBER (6)	Number	
38.	BDFT	NUMBER (6)	Number	
39.	BDFTSW__LOCAL	NUMBER (6)	Number	
40.	BDFTHW__LOCAL	NUMBER (6)	Number	
41.	BDFT__LOCAL	NUMBER (6)	Number	
42.	LOCAL_RULE	NUMBER (2)	Coded	
43.	CUBICSW	NUMBER (5)	Number	
44.	CUBICHW	NUMBER (5)	Number	
45.	CUBIC	NUMBER (5)	Number	
46.	CULLSW	NUMBER (4)	Number	
47.	CULLHW	NUMBER (4)	Name	
48.	CULL	NUMBER (4)	Number	
49.	DEADSW	NUMBER (4)	Number	

(table continued on next page)

Plot Table (Oracle table name is RPAPLOT_2002) *continued*

	Column name	Oracle data type	Value or unit of measure	Key data item
50.	DEADHW	NUMBER (4)	Number	
51.	DEAD	NUMBER (4)	Number	
52.	MORTSW	NUMBER (4)	Number	
53.	MORTHW	NUMBER (4)	Number	
54.	MORT	NUMBER (4)	Number	
55.	GROWTHSW	NUMBER (4)	Number	
56.	GROWTHHW	NUMBER (4)	Number	
57.	GROWTH	NUMBER (4)	Number	
58.	COUNTY	NUMBER (3)	Coded	
59.	CONDITION	NUMBER (1)	Coded	
60.	TSOURCE	NUMBER (2)	Coded	
61.	BIOBOLESW	NUMBER (6)	Number	
62.	BIOBOLEHW	NUMBER (7)	Number	
63.	BIOBOLE	NUMBER (7)	Number	
64.	BIOSAPSSW	NUMBER (6)	Number	
65.	BIOSAPSHW	NUMBER (6)	Number	
66.	BIOSAPS	NUMBER (6)	Number	
67.	BALIVE	NUMBER (9,1)	Number	
68.	LAT	NUMBER (6,2)	Degrees	
69.	LON	NUMBER (6,2)	Degrees	
70.	CONDPROP	NUMBER (5,4)	Number	
71.	FHMHEXID	NUMBER (6)	Coded	
72.	BALIVE_5	NUMBER (9,1)	Number	
73.	TPA_5	NUMBER (9,3)	Number	
74.	DWD	NUMBER (9,3)	Number	
75.	TPA_1	NUMBER (9,3)	Number	
76.	STDIAM_1	NUMBER (5,2)	Number	
77.	ECOSUBCD	VARCHAR2 (6)	Coded	
78.	CONGCD	NUMBER (4)	Coded	
79.	BIOSTUMPTOPSW	NUMBER (6)	Number	
80.	BIOSTUMPTOPHW	NUMBER (7)	Number	
81.	BIOSTUMPTOP	NUMBER (7)	Number	
82.	BIOSALVDEADSW	NUMBER (6)	Number	
83.	BIOSALVDEADHW	NUMBER (6)	Number	
84.	BIOSALVDEAD	NUMBER (6)	Number	

1. **PID** Plot ID. Only used in Hawaii. Used to tie plot back to original field plot data.
2. **RECNUM** Record number. Unique plot identifier. Record numbers for the 48 contiguous States and southeast Alaska were generated by combining State, unit, county, plot, and condition information to form a unique identifier. RECNUM= (state*100000000000) + (unit*1000000000) + (county*1000000) + (plot*10) + condition.
3. **YEAR** RPA Year. This is set to 2002 for all records in the 2002 RPA plot summary database.
4. **RSID** Region or station identification number. This coded value identifies which of the 16 locations submitted the record.

Code	Region or Station	Code	Region or Station
1	Region 1	9	Region 9
2	Region 2	10	Region 10
3	Region 3	22	Rocky Mountain Research Station
4	Region 4	23	North Central Research Station
5	Region 5	24	Northeastern Research Station
6	Region 6	26	Pacific Northwest Research Station
7	Bureau of Land Management (Oregon)	27	Alaska – PNW Research Station
8	Region 8	33	Southern Research Station

5. **INVSOURCE** Source of the inventory data. A coded value identifying the source of the data. Record sources include variations of original inventory data and inventory data updated by bookkeeping or projection. Code 1 is used for all State inventories in the 2002 RPA except for parts of Alaska and Hawaii.

Code	Description
1	PLOT LEVEL - Original Eastwide/Westwide or FIADB format
2	PLOT LEVEL - Updated Eastwide/Westwide standard format
3	PLOT LEVEL - Original inventory data
4	PLOT LEVEL - Updated inventory data
5	STAND LEVEL - Original inventory data
6	STAND LEVEL - Updated inventory data
7	STRATUM LEVEL - Original inventory data
8	STRATUM LEVEL - Updated inventory data

6. SRCDATE Source date. The year the field plot was measured.

7. STATE State code. The State in which the plot is located.

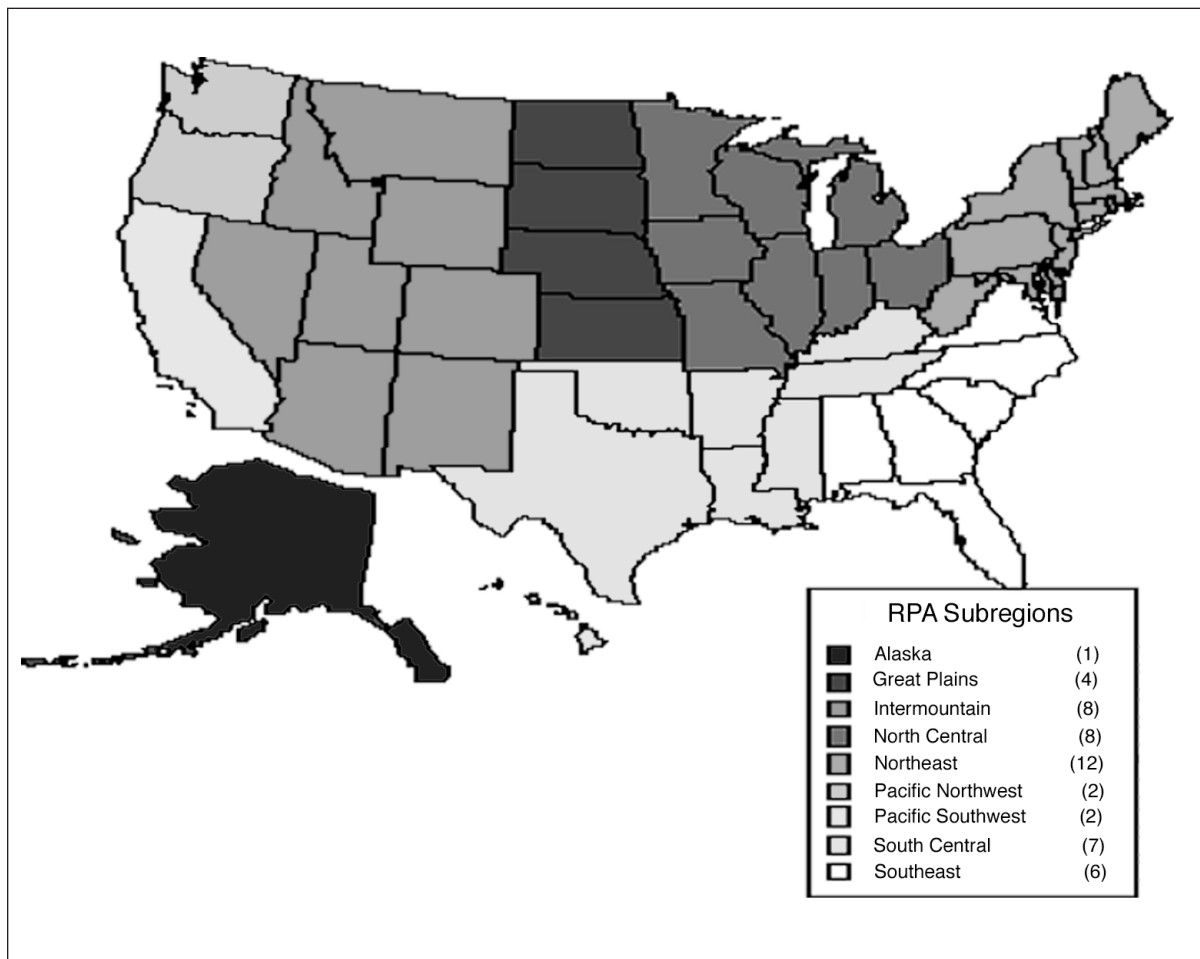
Code	Stateabb	State Name	Code	Stateabb	State Name
01	AL	Alabama	29	MO	Missouri
02	AK	Alaska	30	MT	Montana
04	AZ	Arizona	31	NE	Nebraska
05	AR	Arkansas	32	NV	Nevada
06	CA	California	33	NH	New Hampshire
08	CO	Colorado	34	NJ	New Jersey
09	CT	Connecticut	35	NM	New Mexico
10	DE	Delaware	36	NY	New York
11	DC	District of Columbia	37	NC	North Carolina
12	FL	Florida	38	ND	North Dakota
13	GA	Georgia	39	OH	Ohio
15	HI	Hawaii	40	OK	Oklahoma
16	ID	Idaho	41	OR	Oregon
17	IL	Illinois	42	PA	Pennsylvania
18	IN	Indiana	44	RI	Rhode Island
19	IA	Iowa	45	SC	South Carolina
20	KS	Kansas	46	SD	South Dakota
21	KY	Kentucky	47	TN	Tennessee
22	LA	Louisiana	48	TX	Texas
23	ME	Maine	49	UT	Utah
24	MD	Maryland	50	VT	Vermont
25	MA	Massachusetts	51	VA	Virginia
26	MI	Michigan	53	WA	Washington
27	MN	Minnesota	54	WV	West Virginia
28	MS	Mississippi	55	WI	Wisconsin
			56	WY	Wyoming

8. STATEABB State abbreviation. Two-character identifier for each State (see above).

9. SUBREGION Subregion code. The subregion code is always equal to 1 except in Alaska, Oregon, South Dakota, and Washington where values of 2 (East) and 3 (West) are used.

10. RPA_REGION RPA Region. Grouping of States into four regions (Northern=1, Southern=2, Rocky Mountain=3, and Pacific Coast=4) for reporting purposes (see definition and map for RPA_SUBREGION below)

11. RPA_SUBREGION RPA Subregion. Grouping of States into nine subregions for reporting purposes. Subregions 1 and 2 belong in the Northern Region, subregions 3 and 4 belong in the Southern Region, subregions 5 and 6 belong in the Rocky Mountain Region, and Regions 7, 8, and 9 belong in the Pacific Coast Region.



12. ADMINFOR

Administrative forest. A two-digit code identifying the administrative forest within a region where the inventoried land is located.

Region	Adminfor	National Forest Name	Region	Adminfor	National Forest Name
0	00	Non-national forest	3	05	Coronado
1	02	Beaverhead	3	06	Gila
1	03	Bitterroot	3	07	Kaibab
1	04	Idaho Panhandle	3	08	Lincoln
1	05	Clearwater	3	09	Prescott
1	08	Custer	3	10	Santa Fe
1	09	Deerlodge	3	12	Tonto
1	10	Flathead	3	99	Other R3
1	11	Gallatin	4	01	Ashley
1	12	Helena	4	02	Boise
1	14	Kootenai	4	03	Bridger-Teton
1	15	Lewis and Clark	4	05	Caribou
1	16	Lolo	4	06	Challis
1	17	Nez Perce	4	07	Dixie
1	20	Cedar River NGL	4	08	Fishlake
1	21	Little Missouri NGL	4	09	Humboldt
1	22	Sheyenne NGL	4	10	Manti-La Sal
1	24	Grand River NGL	4	12	Payette
1	99	Other R1	4	13	Salmon
2	02	Bighorn	4	14	Sawtooth
2	03	Black Hills	4	15	Targhee
2	04	Grand Mesa-	4	17	Toiyabe
		Uncompahgre-Gunnison	4	18	Uinta
2	06	Medicine Bow	4	19	Wasatch-Cache
2	07	Nebraska	4	20	Desert Range Exp St
2	09	Rio Grande	4	99	Other R4
2	10	Arapaho-Roosevelt	5	01	Angeles
2	11	Routt	5	02	Cleveland
2	12	Pike and San Isabel	5	03	Eldorado
2	13	San Juan	5	04	Inyo
2	14	Shoshone	5	05	Klamath
2	15	White River	5	06	Lassen
2	17	Cimarron NGL	5	07	Los Padres
2	18	Commanche NGL	5	08	Mendocino
2	19	Pawnee NGL	5	09	Modoc
2	20	Oglala NGL	5	10	Six Rivers
2	21	Buffalo Gap NGL	5	11	Plumas
2	22	Fort Pierre NGL	5	12	San Bernadino
2	23	Thunder Basin NGL	5	13	Sequoia
2	99	Other R2	5	14	Shasta-Trinity
3	01	Apache-Sitgreaves	5	15	Sierra
3	02	Carson	5	16	Stanislaus
3	03	Cibola	5	17	Tahoe
3	04	Coconino	5	19	Lake Tahoe Basin

(table continued on next page)

Region	Adminfor	National Forest Name	Region	Adminfor	National Forest Name
5	99	Other R5	8	09	Ouachita
6	01	Deschutes	8	10	Ozark and St. Francis
6	02	Fremont	8	11	NFS in North Carolina
6	03	Gifford Pinchot	8	12	Francis Marion-Sumter
6	04	Malheur	8	13	NFS in Texas
6	05	Mt. Baker-Snoqualmie	8	14	Jefferson
6	06	Mt. Hood	8	16	Caribbean
6	07	Ochoco	8	99	Other R8
6	08	Okanogan	9	02	Chequamegon
6	09	Olympic	9	03	Chippewa
6	10	Rogue River	9	04	Huron-Manistee
6	11	Siskiyou	9	05	Mark Twain
6	12	Siuslaw	9	06	Nicolet
6	14	Umatilla	9	07	Ottawa
6	15	Umpqua	9	08	Shawnee
6	16	Wallowa-Whitman	9	09	Superior
6	17	Wenatchee	9	10	Hiawatha
6	18	Willamette	9	11	Hoosier
6	20	Winema	9	18	Wayne
6	21	Colville	9	19	Allegheny
6	99	Other R6	9	20	Green Mountain
8	01	NFS in Alabama	9	21	Monongahela
8	02	Daniel Boone	9	22	White Mountain
8	03	Chattahoochee-Oconee	9	99	Other R9
8	04	Cherokee	10	02	Tongass-Stikine
8	05	NFS in Florida	10	03	Tongass-Chatham
8	06	Kisatchie	10	04	Chugach
8	07	NFS in Mississippi	10	05	Tongass-Ketchikan
8	08	George Washington	10	99	Other R10

13. ADMINFORU

Administrative Unit. A four-digit code identifying the National Forest Service Region/Forest where the inventoried land is located. The first two digits are the region code and the second two digits are the forest code (for codes see ADMINFOR above).

14. LANDCC

Land Use Class. Indicates the basic land cover.

Code	Description
-1	Denied access/hazardous/not in sample.
20	Forest land: Forest land is defined as lands with at least a stocking of 10 (or at least 5 percent cover in chaparral type) of live forest trees of any size, or formerly having such tree cover, and not currently developed for nonforest use. The minimum area for classification of forest land is usually 1 acre with a minimum width of 120 feet stem-to-stem. Forested strips must be at least 120 feet wide for a continuous length of at least 363 feet to meet the acre threshold. Unimproved roads and trails as well as clearings in forest areas are classified as forest if less than 120 feet wide or smaller than 1 acre.
60	Nonforest land: Land that has never supported forests or land formerly forested but now developed for uses such as agriculture (including Christmas tree plantations, orchards, nurseries, and agroforestry), residences, commerce, industry, city parks, or improved roads. If located within forest areas, unimproved roads and nonforested strips must be more than 120 feet wide. Clearings and other openings in a forest area must be more than 1 acre to qualify as nonforest land.
91	Census water: Streams, sloughs, estuaries, and canals more than 200 feet wide, and lakes, reservoirs, and ponds more than 4.5 acres in size (1990 census definition).
92	Noncensus water: Streams, sloughs, estuaries, and canals between 30 and 200 feet, and lakes, reservoirs, and ponds between 1 and 4.5 acres in area. This definition was used in the 1990 census and applied when the data became available. Earlier inventories defined noncensus water differently.

15. RESERCLASS

Reserved class. Reserved land is land withdrawn by law(s) prohibiting the management of the land for wood products.

Code	Description
1	Unreserved forest land: All private forest lands; and public forest lands where the harvest of trees is not prohibited by statute or administrative regulation.
2	Non-National Forest System reserved forest land: Lands that have statutory or administrative restrictions prohibiting the harvest of trees. Examples include forest land within national parks, monuments, national wilderness preservation system areas outside the national forests, State parks.
3	National Forest System reserved forest land/non-wilderness: (Not used in 2002 RPA) In 1997, this code was used to identify all reserved or withdrawn National Forest System forest lands not within the national wilderness preservation system. Examples include primitive areas, scenic research areas, scenic areas, wild and scenic rivers, recreation areas, game refuges, monument areas, and historic areas.
4	National Forest System reserved forest land: National Forest System forest lands that have statutory or administrative restrictions prohibiting the harvest of trees. Examples include land within the national wilderness preservation system or State-designated wilderness areas.

16. **SPCLASS** Site productivity class. A classification of forest land in terms of inherent capacity to grow crops of industrial wood. The class identifies the average potential growth in cubic feet/acre/year and is based on the culmination of mean annual increment of fully stocked natural stands.

Code	Description
1	225-999 Cubic feet/acre/year
2	165-224 Cubic feet/acre/year
3	120-164 Cubic feet/acre/year
4	85-119 Cubic feet/acre/year
5	50- 84 Cubic feet/acre/year
6	20- 49 Cubic feet/acre/year
7	< 20 Cubic feet/acre/year
8	Unproductive timberland

17. **FORCODE** Forest land code. Used to differentiate between productive/unproductive and reserved/nonreserved forest land.

Code	Description
0	Nonforest
1	Productive non-reserved forest land (Timberland)
2	Productive reserved forest land
3	Unproductive non-reserved forest land
4	Unproductive reserved forest land

18. **OWNGROUP** Ownership group. A broad grouping of ownership classes.

Code	Recreation Use
1	National forest land: Federal lands designated by Executive order or statute as national forests or purchase units, and other lands under the administration of the Forest Service including experimental areas and Bankhead-Jones Title III lands.
2	Other public land: Publicly owned lands other than national forest lands.
3	Forest industry land: Lands owned by companies or individuals operating wood-using plants (includes Indian lands if they qualify as industry).
4	Nonindustrial private land: All private lands except those owned by forest industry (includes nonindustrial Indian lands).
5	Unknown ownership: Owner group not recorded.

19. OWNER

Owner class code. Indicates the class in which the landowner (at the time of the inventory) belongs.

Code	Owner
11	National forest
12	Bureau of Land Management. Federal lands administered by the Bureau of Land Management, U.S. Department of the Interior.
14	Other Federal agencies: Federal lands other than lands administered by the Forest Service or BLM.
15	State: Lands owned by State governments, or lands leased by State governmental units for more than 50 years.
16	County and municipal: Lands owned by county or municipal agencies, or lands leased by these agencies for more than 50 years.
20	Forest industry: Lands owned by companies, tribes, or individuals operating wood-using plants.
60	Other private – corporate: Lands owned by private corporations other than forest industry.
70	Other private – individual: Lands owned by individuals, including farmers.
80	Other private-corporate–leased: Lands owned by corporations but leased to forest industry.
90	Other private-individual–leased: Lands owned by individuals but leased to forest industry.
99	Unknown: Ownership not recorded or unavailable. This code is legal for nonforest land and water cover classes only.

20. AEF

Area Expansion Factor. The number of acres the sample plot represents for making current estimates of area. The sum of AEF over all plot records for a particular State will closely match the area reported for that State by the Bureau of Census in 1990.

21. VEF

Volume Expansion Factor. The number of acres the sample plot represents for making current estimates of volume and biomass.

22. FORTYPE

Forest type group. The forest cover type of the inventoried stand, based on the tree species forming a plurality of the stocking within the stand. The first digit of this three-digit code represents either eastern (1) or western (2) type groups. The second and third digits are the historic RPA forest type codes.

Code	Forest Type Group Name	Code	Forest Type Group Name
100	White - red - jack pine	210	Ponderosa pine
110	Spruce - fir	220	Western white pine
120	Longleaf - slash pine	230	Fir - spruce
130	Loblolly - shortleaf pine	240	Hemlock - Sitka spruce
140	Oak - pine	250	Larch
150	Oak - hickory	260	Lodgepole pine
160	Oak - gum - cypress	270	Redwood
170	Elm - ash - cottonwood	280	Other hardwoods
180	Maple - beech - birch	290	Unclassified and other forest types
190	Aspen - birch	293	Pinyon - juniper
198	Other forest types	297	Chaparral
199	Nonstocked	299	Nonstocked
200	Douglas-fir		

23. LOCALTYPE

Local forest type. Available for every State except Hawaii and interior Alaska.

EASTERN FOREST TYPES

100	WHITE-RED-JACK PINE TYPE GROUP	120	LONGLEAF-SLASH PINE TYPE GROUP
101	Jack pine	121	Longleaf pine
102	Red pine	122	Slash pine
103	White pine		
104	White pine - hemlock	130	LOBLOLLY-SHORTLEAF PINE TYPE GROUP
105	Hemlock	131	Loblolly pine
211	Ponderosa pine	132	Shortleaf pine
		133	Virginia pine
110	SPRUCE-FIR TYPE GROUP	134	Sand pine
111	Balsam fir	135	Eastern redcedar
112	Black spruce	136	Pond pine
113	Red spruce - Balsam fir	137	Spruce pine
114	Northern white-cedar	138	Pitch pine
115	Tamarack	139	Table-mountain pine
116	White spruce		

(table continued on next page)

EASTERN FOREST TYPES (continued)

140	OAK-PINE TYPE GROUP	170	ELM-ASH-COTTONWOOD TYPE GROUP
141	White pine - northern red oak - white ash	171	Black ash - American elm - Red maple
142	Eastern redcedar - hardwood	172	River birch - sycamore
143	Longleaf pine - scrub oak	173	Cottonwood
144	Shortleaf pine - oak	174	Willow
145	Virginia pine - southern red oak	175	Sycamore - pecan - American elm
146	Loblolly pine - hardwood	176	Red maple-lowland
147	Slash pine - hardwood	179	Mixed lowland hardwoods
149	Other oak - pine		
		180	MAPLE-BEECH-BIRCH TYPE GROUP
150	OAK-HICKORY TYPE GROUP	181	Sugar maple - beech - yellow birch
151	Post oak, black oak or bear oak	182	Black cherry
152	Chestnut oak	183	Black walnut
153	White oak - red oak - hickory	184	Red maple-northern hardwoods
154	White oak	187	Red maple-upland
155	Northern red oak	188	Northern hardwood-reverting field
156	Yellow poplar - white oak - northern red oak	189	Mixed northern hardwoods
157	Southern scrub oak		
158	Sweetgum - yellow poplar	190	ASPEN-BIRCH TYPE GROUP
159	Mixed hardwoods	191	Aspen
		192	Paper birch
160	OAK-GUM-CYPRESS TYPE GROUP	194	Balsam poplar
161	Swamp chestnut oak - cherrybark oak		
162	Sweetgum - Nuttall oak - willow oak	198	OTHER FOREST TYPES
163	Sugarberry - American elm - green ash		
165	Overcup oak - water hickory	199	NONSTOCKED
166	Atlantic white cedar		
167	Baldcypress - water tupelo		
168	Sweetbay - swamp tupelo - red maple		
169	Palm-mangrove-other tropical		

WESTERN FOREST TYPES

200	DOUGLAS-FIR TYPE GROUP	220	WESTERN WHITE PINE TYPE GROUP
201	Douglas-fir	221	Western white pine
202	Douglas-fir - Western hemlock		
203	Port-Orford-cedar - Douglas-fir	230	FIR-SPRUCE TYPE GROUP
		116	White spruce (in Alaska)
210	PONDEROSA PINE TYPE GROUP	231	White fir and grand fir
211	Ponderosa pine	232	Red fir
212	Jeffrey pine	234	Pacific silver fir - hemlock
213	Ponderosa pine - sugar pine - fir	235	Engelmann spruce
		236	Engelmann spruce - subalpine fir

(table continued on next page)

WESTERN FOREST TYPES (continued)

240	HEMLOCK-SITKA SPRUCE TYPE GROUP	290	OTHER FOREST TYPES
241	Western redcedar		(includes Arizona cypress-western juniper)
242	Sitka spruce	112	Black spruce (in Alaska)
247	Mountain hemlock - subalpine fir	291	Coulter pine
248	Western hemlock	292	Digger pine - oak
		294	Knobcone pine
250	LARCH TYPE GROUP	295	Bristlecone pine
255	Larch - Douglas-fir	296	Whitebark pine
256	Grand fir - larch - Douglas-fir	298	Limber pine
257	Ponderosa pine - larch - Douglas-fir		
		293	PINYON-JUNIPER
260	LOGGEPOLE PINE TYPE GROUP	297	CHAPARRAL
261	Lodgepole pine	299	NONSTOCKED
270	REDWOOD TYPE GROUP		
271	Redwood		
280	OTHER HARDWOODS TYPE GROUP		
281	Red alder		
282	Poplar - birch		
283	Aspen		
284	California black oak		
285	Cottonwood - willow		
286	Canyon live oak		
287	Oak - Madrone		
288	Other oaks		
289	Ohia		
192	Paper birch		

24. **STANDORIGIN** Stand origin code. Method of stand regeneration for the trees in the condition. An artificially regenerated stand is established by planting or artificial seeding.

Code	Stand origin
-1	Unknown
1	Natural stands
2	Clear evidence of artificial regeneration

25. SSCLASS

Stand-size class code. Classification of the predominant (based on stocking) diameter class of live trees within the condition. Large diameter trees are at least 11.0 inches diameter for hardwoods and at least 9.0 inches diameter for softwoods. Medium diameter trees are at least 5.0 inches diameter but not as large as large diameter trees. Small diameter trees are less than 5.0 inches diameter. Chaparral communities, land consisting of chaparral with all live stocking less than 10 and at least 5 percent, are considered nonstocked.

Code	Stand-size class
-1	Unknown (only allowed for nontimberland plots)
1	Nonstocked: Forest land with all live stocking less than 10
2	Small diameter: Stands with an all live stocking value of at least 10 (base 100) on which at least 50 percent of the stocking is in small diameter trees
3	Medium diameter: Stands with an all live stocking of at least 10 (base 100); with more than 50 percent of the stocking in medium and large diameter trees; and with the stocking of large diameter trees less than the stocking of medium diameter trees
4	Large diameter: Stands with an all live stocking of at least 10 (base 100); with more than 50 percent of the stocking in medium and large diameter trees; and with the stocking of large diameter trees equal to or greater than the stocking of medium diameter trees

26. STDIAM

Mean stand diameter. Value of the mean stand diameter of the main stand (which is composed of all trees ≥ 5 " d.b.h.). Estimated by calculating the quadratic mean diameter (except for Hawaii and interior Alaska).

27. AGECLASS

Stand age. Average total age, to the nearest year, of the trees (plurality of all live trees not overtopped) in the predominant stand-size class of the condition, determined using local procedures. Age is difficult to measure and therefore stand age may have large measurement errors. Nonstocked stands are recorded as 0. Any inventory dated 1995 or later will contain stand ages recorded to the nearest year. For some older inventories, stand age was recorded in 10- or 20-year classes (CT, DE, KY, MD, NH, PA, RI, VT, and WV) for stands less than 100 years old, 20-year age classes for stands between 100 and 200 years, and 100-year age classes for stands older than 200 years. The value recorded is the midpoint of the age class. Mixed age classes were allowed in older inventories (AR, CT, KY, LA, ME, MA, MS, NH, NY, OH, OK, PA, RI, TX, VT, and WV) and were assigned a value of -999.

28. **STOCKPC** Percent stocking class. A coded value indicating the percent stocking class for growing stock in the stand; the 10-percent interval classes range from nonstocked to 100 percent stocking, relative stocking basis. All 10 codes were used for Hawaii and interior Alaska. Only codes 1, 3, 5, 7, 9, and –1 were used for the 48 contiguous States and southeast Alaska (the STOCKPC data for these States came from the GSSTKCD variable in the FIADB, which has fewer classes than STOCKPC). For the 48 contiguous States and southeast Alaska, a code of 1 is equivalent to Nonstocked, 3 Poorly stocked, 5 Medium stocked, 7 Fully stocked, 9 Overstocked, and –1 Data unavailable.
29. **TREATOPP** Treatment opportunity class code. Identifies the physical opportunity to improve stand conditions by applying management practices. This variable is mandatory for nonindustrial private timberland but may not be available for other ownerships. No values available for AL, AZ, CO, HI, ID, MT, NM, NV, SC, TN, UT, and WY.

Code	Treatment opportunity class
1	Regeneration without site preparation: The area is characterized by the absence of a manageable stand because of inadequate stocking of growing stock. Growth will be much below the potential for the site if the area is left alone. Prospects are not good for natural regeneration. Artificial regeneration will require little or no site preparation.
2	Regeneration with site preparation: The area is characterized by the absence of a manageable stand because of inadequate stocking of growing stock. Growth will be much below the potential for the site if the area is left alone. Either natural or artificial regeneration will require site preparation.
3	Stand conversion: The area is characterized by stands of undesirable, chronically diseased, or off-site (found where not normally expected) species. Growth and quality will be much below the potential for the site if the area is left alone. The best prospect is to convert the area to a different forest type or species.
4	Thinning seedlings and saplings: The stand is characterized by a dense stocking of growing stock. Stagnation appears likely if left alone. Stocking must be reduced to help crop trees attain dominance.
5	Thinning poletimber: The stand is characterized by a dense stocking of growing stock. Stocking must be reduced to prevent stagnation or to confine growth to selected, high-quality crop trees.
6	Other stocking control: The stand is characterized by an adequate stocking of seedlings, saplings, and poletimber growing stock, mixed with competing vegetation either overtopping or otherwise inhibiting the development of crop trees. The undesirable material must be removed to release overtopped trees, to prevent stagnation, or to improve composition, form, or growth of the residual stand.
7	Other intermediate treatments: The stand would benefit from other special treatments, such as fertilization to improve the growth potential of the site, and pruning to improve the quality of individual crop trees.
8	Clearcut harvest: The area is characterized by a mature or overmature sawtimber stand of sufficient volume to justify a commercial harvest. The best prospect is to harvest the stand and regenerate.

- 9 Partial cut harvest: The stand is characterized by poletimber- or sawtimber-size trees with sufficient merchantable volume for a commercial harvest, which will meet intermediate stand treatment needs or prepare the stand for natural regeneration. The stand is of a favored species composition and may be even- or uneven-aged. Included are such treatments as commercial thinning, seed tree, or shelterwood regeneration, and use of the selection system to maintain an uneven-aged stand.
 - 10 Salvage harvest: The stand is characterized by excessive damage to merchantable timber because of fire, insects, disease, wind, ice, or other destructive agents. The best prospect is to remove damaged or threatened material.
 - 11 No treatment: No silvicultural treatment is needed.
 - 1 Not available/unclassified.
-

- 30. LOCALINF01 Local info 1. Only used in Hawaii. Class codes of 0 and 7.
- 31. LOCALINF02 Local info 2. Only used in Hawaii. Class codes of 0 and 9.
- 32. LOCALINF03 Local info 3. Only used in Hawaii. Class codes of 0, 3, and 7.
- 33. LOCALINF04 Local info 4. Only used in Hawaii. Class codes of 0, and 8.
- 34. LOCALINF05 Local info 5. Not used.
- 35. LOCALINF06 Local info 6. Not used.
- 36. BDFTSW Softwood board foot volume (International 1/4-inch rule). The net volume/acre (board feet) of softwood growing stock. Trees must be ≥ 9 inches d.b.h. The minimum saw log top is 7 inches diameter outside bark. Available only for timberland plots.
- 37. BDFTHW Hardwood board foot volume (International 1/4-inch rule). The net volume/acre (board feet) of hardwood growing stock. Trees must be ≥ 11 inches d.b.h. The minimum saw log top is 9 inches diameter outside bark. Available only for timberland plots.

38. **BDFT** Board foot volume (International 1/4-inch rule). The net volume/acre (board feet) of softwood and hardwood growing stock. Available only for timberland plots.
39. **BDFTSW_LOCAL** Softwood board foot volume (local rule). The net volume/acre (board feet) of softwood growing stock. Not used in the 2002 RPA.
40. **BDFTHW_LOCAL** Hardwood board board foot volume (local rule). The net volume/acre (board feet) of softwood growing stock. Not used in the 2002 RPA.
41. **BDFT_LOCAL** Board foot volume (local rule). The net volume/acre (board feet) of softwood and hardwood growing stock. Not used in the 2002 RPA.
42. **LOCAL_RULE** Local Board foot rule. Identifies the rule used for the local volume estimation. Not used in the 2002 RPA.

Code	Local rule
1	Scribner - long log
2	Scribner - short log
3	Doyle
4	International 1/8"
5	local cubic

43. **CUBICSW** Softwood cubic foot volume. Net volume/acre (cubic feet) of softwood growing stock. Trees must be ≥ 5 inches d.b.h., to a minimum 4-inch diameter outside bark. Available for all forest land plots. Values are imputed where the value of the variable TSOURCE is not equal to 1 (TSOURCE may not be equal to 1 for some reserved and unproductive forest land).
44. **CUBICHW** Hardwood cubic foot volume. Net volume/acre (cubic feet) of hardwood growing stock. Trees must be ≥ 5 inches d.b.h., to a minimum 4-inch diameter outside bark. Available for all forest land plots. Values are imputed where the value of the variable TSOURCE is not equal to 1 (TSOURCE may not be equal to 1 for some reserved and unproductive forest land).

45. **CUBIC** Cubic foot volume. Net volume/acre (cubic feet) of hardwood growing stock. Trees must be ≥ 5 inches d.b.h., to a minimum 4- inch diameter outside bark. Available for all forest land plots. Values are imputed where the value of the variable TSOURCE is not equal to 1 (TSOURCE may not be equal to 1 for some reserved and unproductive forest land).
46. **CULLSW** Softwood live cull volume. Net volume/acre (cubic feet) of live cull softwood trees; trees must be ≥ 5 inches d.b.h. Available for all forest land plots. Values are imputed where the value of the variable TSOURCE is not equal to 1 (TSOURCE may not be equal to 1 for some reserved and unproductive forest land).
47. **CULLHW** Hardwood live cull volume. Net volume/acre (cubic feet) of live cull hardwood trees; trees must be ≥ 5 inches d.b.h. Available for all forest land plots. Values are imputed where the value of the variable TSOURCE is not equal to 1 (TSOURCE may not be equal to 1 for some reserved and unproductive forest land).
48. **CULL** All live cull volume. Net volume/acre (cubic feet) of all live cull trees; trees must be ≥ 5 inches d.b.h. Available for all forest land plots. Values are imputed where the value of the variable TSOURCE is not equal to 1 (TSOURCE may not be equal to 1 for some reserved and unproductive forest land).
49. **DEADSW** Salvable dead softwood. Net volume/acre (cubic feet) of merchantable sound dead softwood trees – merchantability determined by regional standards. Available for all forest land plots. Values are imputed where the value of the variable TSOURCE is not equal to 1 (TSOURCE may not be equal to 1 for some reserved and unproductive forest land).
50. **DEADHW** Salvable dead hardwood. Net volume/acre (cubic feet) of merchantable sound dead hardwood trees – merchantability determined by regional standards. Available for all forest land plots. Values are imputed where the value of the variable TSOURCE is not equal to 1 (TSOURCE may not be equal to 1 for some reserved and unproductive forest land).
51. **DEAD** Salvable dead. Net volume/acre (cubic feet) of merchantable sound dead trees – merchantability determined by regional standards. Available for all forest land plots. Values are imputed where the value of the variable TSOURCE is not equal to 1 (TSOURCE may not be equal to 1 for some reserved and unproductive forest land).

52. **MORTSW** Softwood mortality. Volume/acre (cubic feet) of annual mortality of softwood growing stock; trees must be ≥ 5 inches d.b.h. Available only for timberland plots.
53. **MORTHW** Hardwood mortality. Volume/acre (cubic feet) of annual mortality of hardwood growing stock; trees must be ≥ 5 inches d.b.h. Available only for timberland plots.
54. **MORT** Mortality. Volume/acre (cubic feet) of annual mortality of growing-stock trees; trees must be ≥ 5 inches d.b.h. Available only for timberland plots.
55. **GROWTHSW** Net annual softwood growth. Net annual growth/acre (cubic feet) of softwood growing stock. Net growth is gross growth minus mortality minus negative cull increment plus positive cull increment. Negative cull increment occurs when growing-stock trees at time zero are reclassified as cull trees at time one. Positive cull increment is when trees classified as cull at time zero are reclassified as growing stock at time one. Available only for timberland plots.
56. **GROWTHHW** Net annual hardwood growth. Net annual growth/acre (cubic feet) of hardwood growing stock. Net growth is gross growth minus mortality minus negative cull increment plus positive cull increment. Negative cull increment occurs when growing-stock trees at time zero are reclassified as cull trees at time one. Positive cull increment is when trees classified as cull at time zero are reclassified as growing stock at time one. Available only for timberland plots.
57. **GROWTH** Net annual growth. Net annual growth/acre (cubic feet) of softwood growing stock. Net growth is gross growth minus mortality minus negative cull increment plus positive cull increment. Negative cull increment occurs when growing-stock trees at time zero are reclassified as cull trees at time one. Positive cull increment is when trees classified as cull at time zero are reclassified as growing stock at time one. Available only for timberland plots.
58. **COUNTY** County code. The identification number for a county, parish, watershed, borough, or similar governmental unit in a State. FIPS codes from the Bureau of the Census, 1990, are used if a single county is represented. See appendix B for specific codes. Note: A county code of 0 was allowed in Alaska, and all of Hawaii was given a county code of 1.

59 CONDITION

Condition number. Unique identifying number assigned to each condition on a plot. Condition is defined by owner group class, reserved status, and land class. Differences in broad forest type, stand size, stand origin, and stand density further define condition for forest land. Mapped nonforest conditions are also assigned numbers. The condition at the center of subplot one is given condition number 1. Other conditions on the plot are assigned numbers sequentially. Once a number has been assigned, the number is reused whenever that same condition is encountered on the plot.

60. TSOURCE

Source of volume data. Identifies whether data source for volume record (trees, stands, etc.) is based on observed or modeled tree d.b.h.

Code Source of volume data

0	Nonforest land.
1	Observed from tree data (All timberland plots are based on observed tree data).
2	Used for unproductive forest land or reserved forest land plots where no tree data were available. Plots with a value of 2 for TSOURCE have imputed values for the following variables: cubic, cubicsw, cubichw, cullsw, cullhw, cull, deadsw, deadhw, dead, biobolesw, biobolehw, biobole, biosapssw, biosapshw, biosaps, balive. These variables were assigned the average values from similar plots (unproductive plots were matched with unproductive plots and reserved plots were matched with reserved plots where the plots had the same first two characters for the ECOSUBCD variable). A minimum of five plots having the same ECOSUBCD string through two characters was required for the plot to be assigned a TSOURCE code of 2. This plot failed the requirements to receive a TSOURCE code of 3.
3	Used for unproductive forest land or reserved forest land plots where no tree data were available. Plots with a value of 3 for TSOURCE have imputed values for the following variables: cubic, cubicsw, cubichw, cullsw, cullhw, cull, deadsw, deadhw, dead, biobolesw, biobolehw, biobole, biosapssw, biosapshw, biosaps, balive. These variables were assigned the average values from similar plots. (Unproductive plots were matched with unproductive plots and reserved plots were matched with reserved plots where the plots had the same first three characters for the ECOSUBCD variable.) A minimum of five plots having the same ECOSUBCD string through three characters was required for the plot to be assigned a TSOURCE code of 3. This plot failed the requirements to receive a TSOURCE code of 4.
4	Used for unproductive forest land or reserved forest land plots where no tree data were available. Plots with a value of 4 for TSOURCE have imputed values for the following variables: cubic, cubicsw, cubichw, cullsw, cullhw, cull, deadsw, deadhw, dead, biobolesw, biobolehw, biobole, biosapssw, biosapshw, biosaps, biostumptopsw, biostumptophw, biostumptop, balive. These variables were assigned the average values from similar plots. (Unproductive plots were matched with unproductive plots and reserved plots were matched with reserved plots where the plots had the same first four characters for the ECOSUBCD variable.) A minimum of five plots having the same ECOSUBCD string through four characters was required for the plot to be assigned a TSOURCE code of 4. This plot failed the requirements to receive a TSOURCE code of 5.
5	Used for unproductive forest land or reserved forest land plots where no tree data were available. Plots with a value of 5 for TSOURCE have imputed values for the following variables: cubic, cubicsw, cubichw, cullsw, cullhw, cull, deadsw, deadhw, dead, biobolesw, biobolehw, biobole, biosapssw, biosapshw, biosaps, balive. These variables were assigned the average

values from similar plots. (Unproductive plots were matched with unproductive plots and reserved plots were matched with reserved plots where the plots had the same first five characters for the ECOSUBCD variable.) A minimum of five plots having the same ECOSUBCD string through five characters was required for the plot to be assigned a TSOURCE code of 5. This plot failed the requirements to receive a TSOURCE code of 6.

- 6 Used for unproductive forest land or reserved forest land plots where no tree data were available. Plots with a value of 2 for TSOURCE have imputed values for the following variables: cubic, cubicsw, cubichw, cullsw, cullhw, cull, deadsw, deadhw, dead, biobolesw, biobolehw, biobole, biosapssw, biosapshw, biosaps, balive. These variables were assigned the average values from similar plots. (Unproductive plots were matched with unproductive plots and reserved plots were matched with reserved plots where the plots had the same first two characters for the ECOSUBCD variable.) A minimum of five plots having the same ECOSUBCD string through six characters was required for the plot to be assigned a TSOURCE code of 6.
- 96 Hawaii. Values for variables biosapssw, biosapshw, and biosaps were imputed based on the average ratio of biostumptop to biobole for the lower 48 States. Individual tree data were unavailable for computing trees per acre and basal area variables.
- 97 Interior Alaska. Values for variables cubic, cubicsw, cubichw, cullsw, cullhw, cull, deadsw, deadhw, dead, biobolesw, biobolehw, biobole, biosapssw, biosapshw, biosaps, and balive were imputed from information contained on six plots measured in the Northwest Territories.
- 98 Productive reserved plots that did not meet requirements for codes 1 through 6. They received the average values from all other productive reserved plots that were measured in this State or neighboring States (a minimum of five plots was required to develop the average).
- 99 Unproductive plots that did not meet requirements for codes 1 through 6. They received the average values from all other unproductive plots that were measured in this State or neighboring States (a minimum of five plots was required to develop the average). Exception for Florida (332 plots). Information for these 332 plots was derived from publication by Neal Cost (1982) on unproductive forest land.

61. **BIOBOLESW** Softwood biomass in the bole. Total gross biomass (including bark) in dry pounds per acre of all live softwood trees 5 inches d.b.h. or larger from a 1-foot stump to a minimum 4-inch top diameter outside bark of the central stem. Values are imputed where the value of the variable TSOURCE is not equal to 1 (TSOURCE may not be equal to 1 for some reserved and unproductive forestland). Available for all forest land plots.

62. **BIOBOLEHW** Hardwood biomass in the bole. Total gross biomass (including bark) in dry pounds per acre of all live hardwood trees 5 inches d.b.h. or larger from a 1-foot stump to a minimum 4-inch top diameter outside bark of the central stem. Values are imputed where the value of the variable TSOURCE is not equal to 1 (TSOURCE may not be equal to 1 for some reserved and unproductive forest land). Available for all forest land plots.

63. **BIOBOLE** Biomass in the bole. Total gross biomass (including bark) in dry pounds per acre of all live trees 5 inches d.b.h. or larger from a 1-foot stump to a minimum 4-inch top diameter outside bark of the central stem. Values are imputed where the value of the variable TSOURCE is not equal to 1 (TSOURCE may not be equal to 1 for some reserved and unproductive forest land). Available for all forest land plots.
64. **BIOSAPSSW** Softwood sapling biomass. Total gross aboveground biomass (including bark) in dry pounds per acre of all live softwood trees from 1 to 5 inches d.b.h., including tops and limbs. Values are imputed where the value of the variable TSOURCE is not equal to 1 (TSOURCE may not be equal to 1 for some reserved and unproductive forest land). Available for all forest land plots.
65. **BIOSAPSHW** Hardwood sapling biomass. Total gross aboveground biomass (including bark) in dry pounds per acre of all live hardwood trees from 1 to 5 inches d.b.h., including tops and limbs. Values are imputed where the value of the variable TSOURCE is not equal to 1 (TSOURCE may not be equal to 1 for some reserved and unproductive forest land). Available for all forest land plots.
66. **BIOSAPS** Sapling biomass. Total gross aboveground biomass (including bark) in dry pounds per acre of all live trees from 1 to 5 inches d.b.h., including tops and limbs. Values are imputed where the value of the variable TSOURCE is not equal to 1 (TSOURCE may not be equal to 1 for some reserved and unproductive forest land). Available for all forest land plots.
67. **BALIVE** Basal area (sq.ft./ac.) of all live trees 1 inch and larger in diameter. Only calculated when TSOURCE=1. Diameters are usually measured at breast height except for certain woodland species where diameters are measured at the root collar. Available for forest land plots.

68. **LAT** Latitude NAD 83 datum (not available for public distribution due to privacy policy). Due to the Privacy Amendment: H.R.3423 Department of the Interior and Related Agencies Appropriations Act, 2000 (November 17, 1999) latitude and longitude are zeroed out. For internal FIA users the approximate latitude of the plot in decimal degrees to the nearest 100 seconds (0.028 degrees). The precision of this item along the meridian is ± 1542 m at latitude 45 degrees north. A value of -1 means that latitude was not recorded. However, in some cases the county centroid may be entered when the actual location is not available. Actual plot locations cannot be released.
69. **LON** Longitude NAD 83 datum (not available for public distribution due to privacy policy). Due to the Privacy Amendment: H.R.3423 Department of the Interior and Related Agencies Appropriations Act, 2000 (November 17, 1999) latitude and longitude are zeroed out. For internal FIA users the approximate longitude of the plot in decimal degrees to the nearest 100 seconds (0.028 degrees). The precision of this item along the parallel is ± 1094 m at latitude 45 degrees. A value of -1 means that longitude was not recorded. However, in some cases the county centroid may be entered when the actual location is not available.
70. **CONDPROP** Condition proportion. Proportion of the plot in the condition. Values of 1 indicate that the plot was not mapped. Values of less than 1 indicate that data for this record came from a mapped portion of a plot.
71. **FHMHEXID** Forest Health Monitoring hexagon identifier. Number of the hexagon wherein the plot resides. FHM hexagons are approximately 160,000 acres in size.
72. **BALIVE_5** Basal area (sq.ft./ac.) of all live trees 5 inches and larger in diameter. Only calculated when TSOURCE=1. Diameters are usually measured at breast height except for certain woodland species where diameters are measured at the root collar.
73. **TPA_5** Number of live trees per acre 5 inches in diameter and larger. Only calculated when TSOURCE=1. Diameters are usually measured at breast height except for certain woodland species where diameters are measured at the root collar.
74. **DWD** Down woody debris. Not populated.

75. **TPA_1** Number of live trees per acre 1 inch in diameter and larger. Only calculated when TSOURCE=1. Diameters are usually measured at breast height except for certain woodland species where diameters are measured at the root collar.
76. **STDIAM_1** Quadratic mean stand diameter using all live trees over 1 inch in diameter. Only calculated when TSOURCE=1.
77. **ECOSUBCD** Ecological subsection code. An area of similar surficial geology, lithology, geomorphic process, soil groups, subregional climate, and potential natural communities. Subsection boundaries usually correspond with discrete changes in geomorphology. Subsection information is used for broad planning and assessment. Subsection codes may consist of up to six characters and were developed by the Forest Service as part of the National Hierarchical Framework of Ecological Units.
78. **CONGCD** Congressional District code for the 107th Congress (2001-2002). A territorial division of a State from which a member of the U.S. House of Representatives is elected. There are 435 congressional districts in the United States apportioned to the States based on population; each State receives at least one congressional district. The Congressional District code assigned to a plot (regardless of when it was measured) is for the most recent Congress. CONGCD is a four-digit number. The first two digits are the State FIPS code and the last two digits are the congressional district number. If a State has only one congressional district, the congressional district number is 00.
79. **BIOSTUMPTOPSW** Biomass in the stump and tops of live softwood trees 5 inches in diameter and larger. Difference between total dry biomass and merchantable dry biomass on live trees 5 inches in diameter and larger. Values are imputed where the value of the variable TSOURCE is not equal to 1 (TSOURCE may not be equal to 1 for some reserved and unproductive forestland). Available for all forest land plots.
80. **BIOSTUMPTOPHW** Biomass in the stump and tops of live hardwood trees 5 inches in diameter and larger. Difference between total dry biomass and merchantable dry biomass on live trees 5 inches in diameter and larger. Values are imputed where the value of the variable TSOURCE is not equal to 1 (TSOURCE may not be equal to 1 for some reserved and unproductive forest land). Available for all forest land plots.

81. **BIOSTUMPTOP** Biomass in the stump and tops of live trees 5 inches in diameter and larger. Difference between total dry biomass and merchantable dry biomass on live trees 5 inches in diameter and larger. Values are imputed where the value of the variable TSOURCE is not equal to 1 (TSOURCE may not be equal to 1 for some reserved and unproductive forest land). Available for all forest land plots.
82. **BIOSALVDEADSW** Total gross biomass oven-dry weight for salvable dead softwood trees. The total aboveground biomass of a sample tree 5.0 inches in diameter or larger, including all tops and limbs (but excluding foliage). Values are imputed where the value of the variable TSOURCE is not equal to 1 (TSOURCE may not be equal to 1 for some reserved and unproductive forest land). Available for all forest land plots.
83. **BIOSALVDEADHW** Total gross biomass oven-dry weight for salvable dead hardwood trees. The total aboveground biomass of a sample tree 5.0 inches in diameter or larger, including all tops and limbs (but excluding foliage). Values are imputed where the value of the variable TSOURCE is not equal to 1 (TSOURCE may not be equal to 1 for some reserved and unproductive forest land). Available for all forest land plots.
84. **BIOSALVDEAD** Total gross biomass oven-dry weight for salvable dead trees. The total aboveground biomass of a sample tree 5.0 inches in diameter or larger, including all tops and limbs (but excluding foliage). Values are imputed where the value of the variable TSOURCE is not equal to 1 (TSOURCE may not be equal to 1 for some reserved and unproductive forest land). Available for all forest land plots.

Species Diameter Class Table (Oracle table name is SPDBH2002)

	Column name	Oracle data type	Value or unit of measure	Key data item
1.	SRID	NUMBER		
2.	STATE	NUMBER	Coded	X
3.	STATEABB	VARCHAR2(2)		
4.	RSID	NUMBER	Coded	X
5.	SUBREGION	NUMBER		
6.	RPA_REGION	NUMBER		
7.	RPA_SUBREGION	NUMBER		
8.	YEAR	NUMBER		
9.	OWNGROUP	NUMBER	Coded	X
10.	OWNN	VARCHAR2(16)		
11.	DBHCODE	NUMBER	Coded	X
12.	DCN	VARCHAR2(22)		
13.	NVGSESW	NUMBER		
14.	NVGSLGSL	NUMBER		
15.	NVGSLBSH	NUMBER		
16.	NVGSOTYP	NUMBER		
17.	NVGSEWRD	NUMBER		
18.	NVGSJACK	NUMBER		
19.	NVGSPFR	NUMBER		
20.	NVGSEHEM	NUMBER		
21.	NVGSCYPR	NUMBER		
22.	NVGSOTESW	NUMBER		
23.	NVBFESW	NUMBER		
24.	NVBFGLSL	NUMBER		
25.	NVBFBSH	NUMBER		
26.	NVBFOTYP	NUMBER		
27.	NVBFWRD	NUMBER		
28.	NVBFJACK	NUMBER		
29.	NVBFSPFR	NUMBER		
30.	NVBFHEM	NUMBER		
31.	NVBFCYPR	NUMBER		
32.	NVBFOTESW	NUMBER		
33.	NVGSEHW	NUMBER		
34.	NVGSSWOK	NUMBER		
35.	NVGSSROK	NUMBER		
36.	NVGSOWOK	NUMBER		
37.	NVGSOROK	NUMBER		
38.	NVGSHICK	NUMBER		
39.	NVGSYBIR	NUMBER		

(table continued on next page)

Species Diameter Class Table (Oracle table name is SPDBH2002) continued

	Column name	Oracle data type	Value or unit of measure	Key data item
40.	NVGSHMAP	NUMBER		
41.	NVGSSMAP	NUMBER		
42.	NVGSBECH	NUMBER		
43.	NVGSSGUM	NUMBER		
44.	NVGSBGUM	NUMBER		
45.	NVGSASH	NUMBER		
46.	NVGSBASS	NUMBER		
47.	NVGSYPOP	NUMBER		
48.	NVGSECOAS	NUMBER		
49.	NVGSBWAL	NUMBER		
50.	NVGSBCHR	NUMBER		
51.	NVGSOTEHW	NUMBER		
52.	NVBFEHW	NUMBER		
53.	NVBFSWOK	NUMBER		
54.	NVBFSROK	NUMBER		
55.	NVBFOWOK	NUMBER		
56.	NVBFOROK	NUMBER		
57.	NVBFHICK	NUMBER		
58.	NVBFYBIR	NUMBER		
59.	NVBFHMAP	NUMBER		
60.	NVBFSMAP	NUMBER		
61.	NVBFBECH	NUMBER		
62.	NVBFSGUM	NUMBER		
63.	NVBFBGUM	NUMBER		
64.	NVBFASH	NUMBER		
65.	NVFBASS	NUMBER		
66.	NVBFYPOP	NUMBER		
67.	NVBFECOAS	NUMBER		
68.	NVFBWAL	NUMBER		
69.	NVFBCHR	NUMBER		
70.	NVBFOTEHW	NUMBER		
71.	NVGSWSW	NUMBER		
72.	NVGSDOUG	NUMBER		
73.	NVGSPDJEFF	NUMBER		
74.	NVGSFIR	NUMBER		
75.	NVGSWHEM	NUMBER		
76.	NVGSSUGAR	NUMBER		
77.	NVGSWWPN	NUMBER		
78.	NVGSRDWD	NUMBER		

(table continued on next page)

Species Diameter Class Table (Oracle table name is SPDBH2002) *continued*

	Column name	Oracle data type	Value or unit of measure	Key data item
79.	NVGSSITKA	NUMBER		
80.	NVGSENGEL	NUMBER		
81.	NVGSWLARCH	NUMBER		
82.	NVGSINCEN	NUMBER		
83.	NVGSLODGE	NUMBER		
84.	NVGSWRCED	NUMBER		
85.	NVGSOTWSW	NUMBER		
86.	NVGSWHW	NUMBER		
87.	NVGSWCOAS	NUMBER		
88.	NVGSALDER	NUMBER		
89.	NVGSWOK	NUMBER		
90.	NVGSOTWHW	NUMBER		
91.	NVBFWSW	NUMBER		
92.	NVBFDOUG	NUMBER		
93.	NVBFPDJEFF	NUMBER		
94.	NVBFFIR	NUMBER		
95.	NVBFWHEM	NUMBER		
96.	NVBFSUGAR	NUMBER		
97.	NVBFWWPN	NUMBER		
98.	NVBFRDWD	NUMBER		
99.	NVBFSITKA	NUMBER		
100.	NVBFENGEL	NUMBER		
101.	NVBFWLARCH	NUMBER		
102.	NVBFINCEN	NUMBER		
103.	NVBFLODGE	NUMBER		
104.	NVBFWRCED	NUMBER		
105.	NVBFOTWSW	NUMBER		
106.	NVBFWHW	NUMBER		
107.	NVBFWCOAS	NUMBER		
108.	NVBFALDER	NUMBER		
109.	NVBFWOK	NUMBER		
110.	NVBFOTWHW	NUMBER		

1. SRID Station/Region ID number. Not used.

2. STATE State. The State in which the plot is located. Two-digit FIPS code.

3. **STATEABB** State abbreviation. Two-character State abbreviation.
4. **RSID** Region or station identification number. This coded value uniquely identifies each of the 16 locations contributing data to the RPA Database. This ID can be used as a reference key to delete an entire set of data from the aggregated database, to update a particular RSID database, to retrieve a database, or to produce a summary report for individual regions or stations.
5. **SUBREGION** The subregion code indicates geographic location (east or west) within four States (Alaska, Oregon, South Dakota, and Washington).
6. **RPA_REGION** RPA Region. Grouping of States into four regions for reporting purposes.
7. **RPA_SUBREGION** RPA Subregions. Grouping of States into nine subregions for reporting purposes. Subregions 1 and 2 belong in the Northern Region, subregions 3 and 4 belong in the Southern Region, subregions 5 and 6 belong in the Rocky Mountain Region, and Regions 7, 8, and 9 belong in the Pacific Coast Region.
8. **YEAR** RPA Year. This is set to 2002 for all records in the 2002 RPA plot summary database.
9. **OWNGROUP** Ownership group. A broad grouping of ownership classes.

Code	Recreation Use
1	National forest land: Federal lands designated by Executive order or statute as national forests or purchase units, and other lands under the administration of the Forest Service including experimental areas and Bankhead-Jones Title III lands.
2	Other public land: Publicly owned lands other than national forest lands.
3	Forest industry land: Lands owned by companies or individuals operating wood-using plants (includes Indian lands if they qualify as industry).
4	Nonindustrial private land: All private lands except those owned by forest industry (includes nonindustrial Indian lands).
10. **OWNN** Owner name. Not applicable. Value is set to "own_name" for all records.
11. **DBHCODE** Diameter class code.

DBHcode	Diameter class name
1	5.0-6.9
2	7.0-8.9
3	9.0-10.9
4	11.0-12.9
5	13.0-14.9
6	15.0-16.9
7	17.0-18.9
8	19.0-20.9
9	21.0-28.9
10	29.0+
11	All d.b.h. classes

12. DCN Diameter class name.
13. NVGSESW Net volume growing-stock all eastern softwoods. Includes species groups: NVGSLGSL, NVGSLBSH, NVGSOTYP, NVGSEWRD, NVGSJACK, NVGSSPFR, NVGSEHEM, NVGSCYPR, NVGSOTESW
14. NVGSLGSL Net volume growing-stock longleaf and slash pines.
15. NVGSLBSH Net volume growing-stock loblolly and shortleaf pines.
16. NVGSOTYP Net volume growing-stock other yellow pines.
17. NVGSEWRD Net volume growing-stock white and red pines.
18. NVGSJACK Net volume growing-stock jack pine.
19. NVGSSPFR Net volume growing-stock spruce and balsam fir.
20. NVGSEHEM Net volume growing-stock eastern hemlock.
21. NVGSCYPR Net volume growing-stock cypress.
22. NVGSOTESW Net volume growing-stock other eastern softwoods.
23. NVBFESW Net volume sawtimber all eastern softwoods. Includes species groups: NVBFLGSL, NVBFLBSH, NVBFOTYP, NVBFESWRD, NVBFJACK, NVBFSPFR, NVBFEHEM, NVBFCYPR, NVBFOTESW

24. NVBFLGSL Net volume sawtimber longleaf and slash pines.
25. NVBFLBSH Net volume sawtimber loblolly and shortleaf pines.
26. NVBFOTYP Net volume sawtimber other yellow pines.
27. NVBFEWRD Net volume sawtimber white and red pines.
28. NVBFJACK Net volume sawtimber jack pine.
29. NVBFSPFR Net volume sawtimber spruce and balsam fir.
30. NVBFEHEM Net volume sawtimber eastern hemlock.
31. NVBFCYPR Net volume sawtimber cypress.
32. NVBFOTESW Net volume sawtimber other eastern softwoods.
33. NVGSEHW Net volume growing-stock all eastern hardwoods. Includes species groups:
NVGSSWOK, NVGSSROK, NVGSOWOK, NVGSOROK, NVGSHICK,
NVGSYBIR, NVGSHMAP, NVGSSMAP, NVGSBECH, NVGSSGUM, NVGSBGUM,
NVGSASH, NVGSBASS, NVGSYPOP, NVGSECOAS, NVGSBWAL, NVGSBCHR,
NVGSOTEHW
34. NVGSSWOK Net volume growing-stock select white oak.
35. NVGSSROK Net volume growing-stock select red oak.
36. NVGSOWOK Net volume growing-stock other white oak.
37. NVGSOROK Net volume growing-stock other red oak.
38. NVGSHICK Net volume growing-stock hickory.
39. NVGSYBIR Net volume growing-stock yellow birch.
40. NVGSHMAP Net volume growing-stock hard maple.
41. NVGSSMAP Net volume growing-stock soft maple.

42. NVGSBECH	Net volume growing-stock beech.
43. NVGSSGUM	Net volume growing-stock sweetgum.
44. NVGSBGUM	Net volume growing-stock tupelo and black gum.
45. NVGSASH	Net volume growing-stock ash.
46. NVGSBASS	Net volume growing-stock basswood.
47. NVGSYPOP	Net volume growing-stock yellow-poplar.
48. NVGSECOAS	Net volume growing-stock cottonwood and aspen.
49. NVGSBWAL	Net volume growing-stock black walnut.
50. NVGSBCHR	Net volume growing-stock black cherry.
51. NVGSOTEHW	Net volume growing-stock other eastern hardwoods.
52. NVBFEHW	Net volume sawtimber all eastern hardwoods. Includes species groups: NVBFSWOK, NVBFSROK, NVBFOWOK, NVBFOROK, NVBFHICK, NVBFYBIR, NVBFHMAP, NVBFSMAP, NVBFBECH, NVBFSGUM, NVBFBGUM, NVBFASH, NVBFBASS, NVBFYPOP, NVBFECOAS, NVBFBWAL, NVBFBCHR, NVBFOTEHW
53. NVBFSWOK	Net volume sawtimber select white oak.
54. NVBFSROK	Net volume sawtimber select red oak.
55. NVBFOWOK	Net volume sawtimber other white oak.
56. NVBFOROK	Net volume sawtimber other red oak.
57. NVBFHICK	Net volume sawtimber hickory.
58. NVBFYBIR	Net volume sawtimber yellow birch.
59. NVBFHMAP	Net volume sawtimber hard maple.

60.	NVBFSMAP	Net volume sawtimber soft maple.
61.	NVBFBECH	Net volume sawtimber beech.
62.	NVBFSGUM	Net volume sawtimber sweetgum.
63.	NVFBGUM	Net volume sawtimber tupelo and black gum.
64.	NVBFASH	Net volume sawtimber ash.
65.	NVFBASS	Net volume sawtimber basswood.
66.	NVBFYPOP	Net volume sawtimber yellow-poplar.
67.	NVBFECOAS	Net volume sawtimber cottonwood and aspen.
68.	NVFBWAL	Net volume sawtimber black walnut.
69.	NVFBCHR	Net volume sawtimber black cherry.
70.	NVBFOTEHW	Net volume sawtimber other eastern hardwoods.
71.	NVGSWSW	Net volume growing-stock all western softwoods. Includes species groups: NVGSDOUG, NVGSPDJEFF, NVGSFIR, NVGSWHEM, NVGSSUGAR, NVGSWWPN, NVGSRDWD, NVGSSITKA, NVGSENGEL, NVGSWLARCH, NVGSINCEN, NVGSLODGE, NVGSWRCED, NVGSOTWSW
72.	NVGSDOUG	Net volume growing-stock Douglas fir.
73.	NVGSPDJEFF	Net volume growing-stock ponderosa and Jeffrey pine.
74.	NVGSFIR	Net volume growing-stock true fir.
75.	NVGSWHEM	Net volume growing-stock western hemlock.
76.	NVGSSUGAR	Net volume growing-stock sugar pine.
77.	NVGSWWPN	Net volume growing-stock western white pine.

78.	NVGSRDWD	Net volume growing-stock redwood.
79.	NVGSSITKA	Net volume growing-stock sitka spruce.
80.	NVGSENGEL	Net volume growing-stock Engelmann and other spruces.
81.	NVGSWLARCH	Net volume growing-stock western larch.
82.	NVGSINCEN	Net volume growing-stock incense cedar.
83.	NVGSLODGE	Net volume growing-stock lodgepole pine.
84.	NVGSWRCED	Net volume growing-stock western red cedar.
85.	NVGSOTWSW	Net volume growing-stock other western softwoods.
86.	NVGSWHW	Net volume growing-stock all western hardwoods. Includes species groups: NVGSWCOAS, NVGSALDER, NVGSWOK, NVGSOTWHW
87.	NVGSWCOAS	Net volume growing-stock cottonwood and aspen.
88.	NVGSALDER	Net volume growing-stock red alder.
89.	NVGSWOK	Net volume growing-stock oak.
90.	NVGSOTWHW	Net volume growing-stock other western hardwoods.
91.	NVBFWSW	Net volume sawtimber all western softwoods. Includes species groups: NVBFDOUG, NVBFPDJEFF, NVBFFIR, NVBFWHEM, NVBFSUGAR, NVBFWWPN, NVBFRDWD, NVBFSITKA, NVBFENGEL, NVBFWLARCH, NVBFINCEN, NVBFLODGE, NVBFWRCED, NVBFOTWSW
92.	NVBFDUG	Net volume sawtimber Douglas-fir.
93.	NVBFPDJEFF	Net volume sawtimber ponderosa and Jeffrey pine.
94.	NVBFFIR	Net volume sawtimber true fir.
95.	NVBFWHEM	Net volume sawtimber western hemlock.

96.	NVBFSUGAR	Net volume sawtimber sugar pine.
97.	NVBFWWPN	Net volume sawtimber western white pine.
98.	NVBFRDWD	Net volume sawtimber redwood.
99.	NVBF SITKA	Net volume sawtimber Sitka spruce.
100.	NVBFENGEL	Net volume sawtimber Engelmann and other spruces.
101.	NVBFWLARCH	Net volume sawtimber western larch.
102.	NVBFINCEN	Net volume sawtimber incense cedar.
103.	NVBF LODGE	Net volume sawtimber lodgepole pine.
104.	NVBFWRCED	Net volume sawtimber western red cedar.
105.	NVBFOTWSW	Net volume sawtimber other western softwoods.
106.	NVBFWHW	Net volume sawtimber all western hardwoods. Includes species groups: NVBFWCOAS, NVBFALDER, NVBFWOK, NVBFOTWHW
107.	NVBFWCOAS	Net volume sawtimber cottonwood and aspen.
108.	NVBFALDER	Net volume sawtimber red alder.
109.	NVBFWOK	Net volume sawtimber oak.
110.	NVBFOTWHW	Net volume sawtimber other western hardwoods.

Chapter 3 – Algorithms for Summarizing Data

Data in the RPADB were designed for easy use with most database management systems, statistical packages, and other data summary software. Data are typically provided as comma-delimited ASCII files. Database management systems that support hierarchical data structures, as well as those based on the relational model, can easily process RPADB files. Chapter 2 should give the user of almost any software package the information needed to input an RPADB file into a processing system.

The procedures or algorithms used to compute population estimates are provided in tables 1 through 6. Those familiar with the relational data model and the standard Structured Query Language (SQL) database language available in many database management systems will find it easy to load RPADB files into one of these systems and to retrieve information from a loaded database.

ALGORITHMS FOR POPULATION ESTIMATES

All the variables used in these algorithms are defined in Chapter 2.

Table 1. Algorithms for calculating area estimates. Use the RPA_PLOT2002 table.

Units	Type	Calculation	Requirements
Acres	Area of all land and noncensus water	Sum(aef)	landcc in (20,60,92)
Acres	Area of forest land	Sum(aef)	landcc=20
Acres	Area of timberland	Sum(aef)	forcode=1

To calculate the area of all land and noncensus water for the State of Alabama:

Select Sum(aef)

From rpa_plot2002

Where state=1 and landcc in (20,60,92)

To calculate the area of forestland for the State of Alabama:

Select Sum(aef)

From rpa_plot2002

Where state=1 and landcc in (20)

To calculate the area of timberland for the State of Alabama:

Select Sum(aef)

From rpa_plot2002

Where state=1 and landcc in (20) and spclass in (1,2,3,4,5,6) and reserclass=1

or, you could also use the following retrieval to calculate the area of timberland for Alabama:

```
Select Sum(aef)
From rpa_plot2002
Where state=1 and forcode=1
```

Table 2. Algorithms for calculating numbers of trees. Use the RPA_PLOT2002 table.

Units	Type	Calculation	Requirements
Trees	Number of all live trees 5 inches and larger on timberland	Sum(vef*tpa_5)	Forcode=1 Note: Not available for Hawaii and interior Alaska.
Trees	Number of all live trees 1 inches and larger on timberland	Sum(vef*tpa_1)	Forcode=1 Note: Not available for Hawaii and interior Alaska.

To calculate the number of all live trees 5 inches d.b.h. and larger on timberland in Minnesota:

```
Select Sum(vef*tpa_5)
From rpa_plot2002
Where state=27 and forcode=1
```

To calculate the number of all live trees 1 inch d.b.h. and larger on timberland in Minnesota:

```
Select Sum(vef*tpa_1)
From rpa_plot2002
Where state=27 and forcode=1
```

Table 3. Algorithms for calculating volumes. Use the RPA_PLOT2002 table.

Units	Type	Calculation	Requirements
Cuft	Merchantable volume of growing-stock trees on timberland	Sum(vef*cubic)	Forcode=1
Cuft	Merchantable volume of cull trees on timberland	Sum(vef*cull)	Forcode=1
Cuft	Merchantable volume of growing-stock trees on forest land	Sum(vef*cubic)	Landcc=20
Cuft	Merchantable volume of cull trees on forest land	Sum(vef*cull)	Landcc=20
Cuft	All live volume on forest land	Sum(vef*(cubic+cull))	Landcc=20
Cuft	Salvable dead volume on timberland	Sum(vef*dead)	Forcode=1
Bdft	Merchantable volume of sawtimber trees on timberland	Sum(vef*bdft)	Forcode=1

To calculate merchantable volume of growing-stock trees on timberland in Minnesota:

```
Select Sum(vef*cubic)
From rpa_plot2002
Where state=27 and forcode=1
```

To calculate merchantable volume of cull trees on timberland in Minnesota:

```
Select Sum(vef*cull)
From rpa_plot2002
Where state=27 and forcode=1
```

To calculate merchantable volume of growing-stock trees on forest land in Minnesota:

```
Select Sum(vef*cubic)
From rpa_plot2002
Where state=27 and landcc=20
```

To calculate merchantable volume of cull trees on forest land in Minnesota:

```
Select Sum(vef*cull)
From rpa_plot2002
Where state=27 and landcc=20
```

To calculate merchantable volume of sawtimber trees on timberland in Minnesota:

```
Select Sum(vef*bdf)
From rpa_plot2002
Where state=27 and forcode=1
```

Table 4. Algorithms for estimating net average annual growth and average annual mortality. Use the RPA_PLOT2002 table.

Units	Type	Calculation	Requirements
Cuft/year	Net annual merchantable growth of growing-stock trees on timberland	Sum(vef*growth)	
Cuft/year	Annual merchantable mortality of growing-stock trees on timberland	Sum(vef*mort)	

To calculate net annual merchantable growth of growing-stock trees on timberland in Minnesota:

```
Select Sum(vef*growth)
From rpa_plot2002
Where state=27
```

To calculate annual merchantable mortality of growing-stock trees on timberland in Minnesota:

```
Select Sum(vef*mort)
From rpa_plot2002
Where state=27
```

Table 5. Algorithms for estimating biomass. Use the RPA_PLOT2002 table.

Units	Type	Calculation	Requirements
Ovendry lbs.	Gross biomass of all live trees on timberland	Sum(vef*(biobole+biosaps+biostumptop))	Forcode=1
Ovendry lbs.	Merchantable biomass of all live trees on timberland	Sum(vef*biobole)	Forcode=1
Ovendry lbs.	Gross biomass of all live trees on forest land	Sum(vef*(biobole+biosaps+biostumptop))	Landcc=20
Ovendry lbs.	Merchantable biomass of all live trees on forest land	Sum(vef*biobole)	Landcc=20

To calculate aboveground gross biomass of all live trees (excluding foliage) on timberland in Minnesota:

```
Select Sum(vef*(biobole+biosaps+biostumptop))
From rpa_plot2002
Where state=27 and forcode=1
```

To calculate aboveground merchantable biomass of all live trees (excluding foliage) on timberland in Minnesota:

```
Select Sum(vef*(biobole))
From rpa_plot2002
Where state=27 and forcode=1
```

To calculate aboveground gross biomass of all live trees (excluding foliage) on forest land in Minnesota:

```
Select Sum(vef*(biobole+biosaps+biostumptop))
From rpa_plot2002
Where state=27 and landcc=20
```

To calculate aboveground merchantable biomass of all live trees (excluding foliage) on forest land in Minnesota:

```
Select Sum(vef*(biobole))
From rpa_plot2002
Where state=27 and landcc=20
```

Table 6. Algorithms for estimating growing-stock volumes on timberland by species group and diameter class. Uses the SPDBH2002 Table.

Units	Type	Calculation	Requirements
Cuft	Merchantable volume of growing-stock trees on timberland	Sum(NVGSESW+ NVGSEHW+ NVGSWSW+ NVGSWHW)	Dbhcode<>11
Bdft	Merchantable volume of sawtimber trees on timberland	Sum(NVBFESW+ NVBFEHW+ NVBFWSW+ NVBFWHW)	Dbhcode<>11
Cuft	Merchantable volume of longleaf and slash pine growing-stock trees from 5 to 6.9 inches d.b.h. on national forest timberland	Sum (NVGSLGSL)	Dbhcode=1 and Owngroup=1
Bdft	Merchantable volume of longleaf and slash pine sawtimber trees from 11 to 12.9 inches d.b.h. on national forest timberland	Sum (NVBFLGSL)	Dbhcode=4 and Owngroup=1

To calculate merchantable volume of growing-stock trees on timberland in Minnesota:

Select Sum(NVGSESW+NVGSEHW+NVGSWSW+NVGSWHW)

From SPDBH2002

Where state=27 and Dbhcode<>11

To calculate merchantable volume of sawtimber trees on timberland in Minnesota:

Select Sum(NVBFESW+NVBFEHW+NVBFWSW+NVBFWHW)

From SPDBH2002

Where state=27 and Dbhcode<>11

Literature Cited

- Cost, Noel D.; McClure, Joe P. [1983]. Multiresource inventories: techniques for estimating biomass on a statewide basis, 1982. Res. Pap. SE-228. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southeastern Research Station. 31 p.
- Hansen, Mark H.; Frieswyk, Thomas; Glover, Joseph F.; Kelly, John F. 1992. The Eastwide forest inventory data base: users manual. Gen. Tech. Rep. NC-151. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station. 48 p.
- Johnson, Tony G. 2001. United States timber industry—an assessment of timber product output and use, 1996. Gen Tech. Rep. SRS-45. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 145 p.
- Miles, Patrick D.; Brand, Gary J.; Alerich, Carol L.; Bednar, Larry F.; Woudenberg, Sharon W.; Glover, Joseph F.; Ezzell, Edward N. 2001. The forest inventory and analysis database: database description and users manual version 1.0. Gen. Tech. Rep. NC-218. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Research Station. 130 p.
- Smith, W. Brad; Miles, Patrick D.; Vissage, John S. 2004. Forest resources of the United States, 2002. Gen. Tech. Rep. NC-241. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Research Station. 137 p.
- Waddell, K.L.; Oswald, D.D.; Powell, D.S. 1989. Forest statistics of the United States, 1987. Resour. Bull. PNW-168. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 106 p.
- Woudenberg, Sharon W.; Farrenkopf, Thomas O. 1995. The Westwide forest inventory data base: user's manual. Gen. Tech. Rep. INT-GTR-317. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Research Station. 67 p.

Appendix A

SOURCES OF 2002 RPA DATA

State	Year	Format	Submitting Unit
Alabama	2000	FIADB	Southern Research Station
Alaska	1998	FIADB/RPADB	FIADB 31 million acres of forest land in southeast Alaska were measured by the Pacific Northwest FIA; RPA Summary DB format 96 million acres of interior Alaska
Arizona	1999	FIADB	Rocky Mountain Research Station
Arkansas	1995	FIADB	Southern Research Station
California	1994	FIADB	8.1 million acres of forest land were measured by the Pacific Northwest FIA; Region 5 measured 9.6 million acres; and Region 6 measured 0.6 million acres.
Colorado	1983	FIADB	6.2 million acres of forest land were measured by the Rocky Mountain FIA; Region 2 measured 5.5 million acres
Connecticut	1998	FIADB	Northeastern Research Station
Delaware	1999	FIADB	Northeastern Research Station
District of Columbia	2002	FIADB	Southern Research Station
Florida	1995	FIADB	Southern Research Station
Georgia	1997	FIADB	Southern Research Station
Hawaii		RPADB	Pacific Northwest Research Station
Idaho	1991	FIADB	Rocky Mountain Research Station
Illinois	1998	FIADB	North Central Research Station
Indiana	1998	FIADB	North Central Research Station
Iowa	1990	FIADB	North Central Research Station
Kansas	1994	FIADB	North Central Research Station
Kentucky	1988	FIADB	Southern Research Station
Louisiana	1991	FIADB	Southern Research Station
Maine	1995	FIADB	Northeastern Research Station
Maryland	1999	FIADB	Northeastern Research Station
Massachusetts	1998	FIADB	Northeastern Research Station
Michigan	1993	FIADB	North Central Research Station
Minnesota	1990	FIADB	North Central Research Station
Mississippi	1994	FIADB	Southern Research Station
Missouri	1989	FIADB	North Central Research Station
Montana	1989	FIADB	Rocky Mountain Research Station
Nebraska	1994	FIADB	North Central Research Station

(table continued on next page)

State	Year	Format	Submitting Unit
Nevada	1989	FIADB	Rocky Mountain Research Station
New Hampshire	1997	FIADB	Northeastern Research Station
New Jersey	1999	FIADB	Northeastern Research Station
New Mexico	1999	FIADB	Rocky Mountain Research Station
New York	1993	FIADB	Northeastern Research Station
North Carolina	1990	FIADB	Southern Research Station
North Dakota	1995	FIADB	North Central Research Station
Ohio	1993	FIADB	Northeastern Research Station
Oklahoma	1993	FIADB	Southern Research Station
Oregon	1992	FIADB	9.8 million acres of forest land measured by the Pacific Northwest FIA; 14.0 million were measured by Region 6
Pennsylvania	1989	FIADB	Northeastern Research Station
Rhode Island	1998	FIADB	Northeastern Research Station
South Carolina	2000	FIADB	Southern Research Station
South Dakota	1995	FIADB	0.6 million acres of forest land were measured by the North Central FIA (1995); 1.0 million acres by the Rocky Mountain FIA
Tennessee	1999	FIADB	Southern Research Station
Texas	1992	FIADB	Southeast and northeast Texas were inventoried by the Southern FIA; West Texas was estimated using remotely sensed data (AVHRR)
Utah	1995	FIADB	Rocky Mountain Research Station
Vermont	1997	FIADB	Northeastern Research Station
Virginia	1992	FIADB	Southern Research Station
Washington	1991	FIADB	11.4 million acres of forest land were measured by the Pacific Northwest FIA; 5.9 million acres were measured by Region 6
West Virginia	1989	FIADB	Northeastern Research Station
Wisconsin	1996	FIADB	North Central Research Station
Wyoming	1984	FIADB	5.1 million acres of forest land were measured by the Rocky Mountain FIA; 0.6 million acres were measured by Region 2

Addresses of USDA Forest Service Research Stations with responsibilities for forest inventories in the United States and their area of responsibility

Address	Area of responsibility
Northeastern Research Station 11 Campus Boulevard Newtown Square, PA 19073	Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Vermont, and West Virginia
North Central Research Station 1992 Folwell Avenue St. Paul, MN 55108	Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, South Dakota, and Wisconsin
Southern Research Station 4700 Old Kingston Pike. Knoxville, TN 37919	Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and Puerto Rico
Pacific Northwest Research Station Forestry Sciences Laboratory 620 SW Main, Suite 400 Portland, OR 97205	Alaska, California, Hawaii, Oregon, and Washington
Rocky Mountain Research Station Forestry Sciences Laboratory 507 25th Street Ogden UT 84401	Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming

Addresses of National Forest System Regional Offices in the United States

Address	Region	Location of national forests
Forest Service, USDA Northern Region Federal Building 200 E. Broadway PO Box 7669 Missoula, MT 59807	Region 1	Montana, northern Idaho, North Dakota, and northwestern South Dakota
Forest Service, USDA Rocky Mountain Region 740 Simms St P.O. Box 25127 Lakewood, CO 80225-0127	Region 2	Colorado, Kansas, Nebraska, South Dakota, and eastern Wyoming
Forest Service, USDA Southwestern Region 333 Broadway SE Albuquerque, NM 87102	Region 3	Arizona and New Mexico
Forest Service, USDA Intermountain Region Federal Building 324 25th Street Ogden, UT 84401	Region 4	Southern Idaho, Nevada, Utah, and western Wyoming

Forest Service, USDA Pacific Southwest Region 1323 Club Drive Vallejo, CA 94592	Region 5	California
Forest Service, USDA Pacific Northwest Region 333 S.W. 1st Avenue P.O. Box 3623 Portland, OR 97208	Region 6	Oregon and Washington
Forest Service, USDA Southern Region 1720 Peachtree Road, N.W. Atlanta, GA 30309	Region 8	Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, Tennessee, Texas, Virginia, West Virginia, and Puerto Rico
Forest Service, USDA Eastern Region 310 West Wisconsin Avenue, Suite 500 Milwaukee, WI 53203	Region 9	Connecticut, Delaware, Illinois, Indiana, Iowa Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, New Hampshire, New Jersey New York, Ohio, Pennsylvania, Rhode Island, Vermont, West Virginia, and Wisconsin
Forest Service, USDA Alaska Region P.O. Box 21628 Juneau, AK 99802-1628	Region 10	Alaska

For additional information, contact the Internet sites for the regional offices through the USDA Forest Service home page: <http://www.fs.fed.us>. The forest management staff in each regional office manages timber inventories conducted by the region.

Appendix B – State, Survey Unit, and County Codes

01	Alabama	05	North Central	201	Prince of Wales-Outer Ketchikan Census Area
01	Southwest-South	009	Blount	220	Sitka Borough
003	Baldwin	015	Calhoun	231	Skagway-Yakutat-Angoon Census Area
039	Covington	019	Cherokee	240	Southeast Fairbanks Census Area
053	Escambia	027	Clay	261	Valdez-Cordova Census Area
097	Mobile	029	Cleburne	270	Wade Hampton Census Area
129	Washington	037	Coosa	280	Wrangell-Petersburg Census Area
02	Southwest-North	043	Cullman	290	Yukon-Koyukuk Census Area
023	Choctaw	055	Etowah		
025	Clarke	073	Jefferson	04	Arizona
035	Conecuh	111	Randolph	01	Southern
091	Marengo	115	St. Clair	003	Cochise
099	Monroe	117	Shelby	009	Graham
119	Sumter	121	Talladega	011	Greenlee
131	Wilcox	127	Walker	012	La Paz
03	Southeast	133	Winston	013	Maricopa
001	Autauga	06	North	019	Pima
005	Barbour	033	Colbert	021	Pinal
011	Bullock	049	DeKalb	023	Santa Cruz
013	Butler	059	Franklin	027	Yuma
017	Chambers	071	Jackson	02	Northern
021	Chilton	077	Lauderdale	001	Apache
031	Coffee	079	Lawrence	005	Coconino
041	Crenshaw	083	Limestone	007	Gila
045	Dale	089	Madison	015	Mohave
047	Dallas	095	Marshall	017	Navajo
051	Elmore	103	Morgan	025	Yavapai
061	Geneva				
067	Henry	02	Alaska	05	Arkansas
069	Houston	01	Alaska	01	South Delta
081	Lee	013	Aleutians East Borough	001	Arkansas
085	Lowndes	016	Aleutians West Census Area	017	Chicot
087	Macon	020	Anchorage Borough	041	Desha
101	Montgomery	050	Bethel Census Area	069	Jefferson
109	Pike	060	Bristol Bay Borough	077	Lee
113	Russell	070	Dillingham Census Area	079	Lincoln
123	Tallapoosa	090	Fairbanks North Star Borough	085	Lonoke
04	West Central	100	Haines Borough	095	Monroe
007	Bibb	110	Juneau Borough	107	Phillips
057	Fayette	122	Kenai Peninsula Borough	117	Prairie
063	Greene	130	Ketchikan Gateway Borough		
065	Hale	150	Kodiak Island Borough		
075	Lamar	164	Lake and Peninsula Borough		
093	Marion	170	Matanuska-Susitna Borough		
105	Perry	180	Nome Census Area		
107	Pickens	185	North Slope Borough		
125	Tuscaloosa	188	Northwest Arctic Borough		

02 North Delta

021 Clay
031 Craighead
035 Crittenden
037 Cross
055 Greene
067 Jackson
075 Lawrence
093 Mississippi
111 Poinsett
123 St. Francis
147 Woodruff

03 Southwest

003 Ashley
011 Bradley
013 Calhoun
019 Clark
025 Cleveland
027 Columbia
039 Dallas
043 Drew
053 Grant
057 Hempstead
059 Hot Spring
061 Howard
073 Lafayette
081 Little River
091 Miller
099 Nevada
103 Ouachita
109 Pike
133 Sevier
139 Union

04 Ouachita

051 Garland
083 Logan
097 Montgomery
105 Perry
113 Polk
119 Pulaski
125 Saline
127 Scott
131 Sebastian
149 Yell

05 Ozark

005 Baxter
007 Benton
009 Boone
015 Carroll
023 Cleburne
029 Conway
033 Crawford
045 Faulkner
047 Franklin
049 Fulton
063 Independence
065 IZard
071 Johnson
087 Madison
089 Marion
101 Newton
115 Pope
121 Randolph
129 Searcy
135 Sharp
137 Stone
141 Van Buren
143 Washington
145 White

06 California**01 North Coast**

015 Del Norte
023 Humboldt
045 Mendocino
097 Sonoma

02 North Interior

035 Lassen
049 Modoc
089 Shasta
093 Siskiyou
105 Trinity

03 Sacramento

007 Butte
011 Colusa
017 El Dorado
021 Glenn
033 Lake
055 Napa
057 Nevada
061 Placer

063 Plumas

067 Sacramento

091 Sierra

101 Sutter

103 Tehama

113 Yolo

115 Yuba

04 Central Coast

001 Alameda

013 Contra Costa

041 Marin

053 Monterey

069 San Benito

075 San Francisco

079 San Luis Obispo

081 San Mateo

083 Santa Barbara

085 Santa Clara

087 Santa Cruz

095 Solano

111 Ventura

05 San Joaquin

003 Alpine

005 Amador

009 Calaveras

019 Fresno

029 Kern

031 Kings

039 Madera

043 Mariposa

047 Merced

051 Mono

077 San Joaquin

099 Stanislaus

107 Tulare

109 Tuolumne

06 Southern

025 Imperial

027 Inyo

037 Los Angeles

059 Orange

065 Riverside

071 San Bernardino

073 San Diego

08	Colorado
01	Northern Front Range
013	Boulder
019	Clear Creek
035	Douglas
039	Elbert
041	El Paso
047	Gilpin
059	Jefferson
065	Lake
069	Larimer
093	Park
119	Teller
02	Southern Front Range
015	Chaffee
023	Costilla
027	Custer
043	Fremont
055	Huerfano
071	Las Animas
101	Pueblo
03	West Central
003	Alamosa
021	Conejos
037	Eagle
049	Grand
051	Gunnison
053	Hinsdale
057	Jackson
079	Mineral
097	Pitkin
105	Rio Grande
107	Routt
109	Saguache
111	San Juan
117	Summit
04	Western
007	Archuleta
029	Delta
033	Dolores
045	Garfield
067	La Plata
077	Mesa
081	Moffat
083	Montezuma
085	Montrose
091	Ouray

103	Rio Blanco
113	San Miguel
05	Eastern
001	Adams
005	Arapahoe
009	Baca
011	Bent
017	Cheyenne
025	Crowley
031	Denver
061	Kiowa
063	Kit Carson
073	Lincoln
075	Logan
087	Morgan
089	Otero
095	Phillips
099	Prowers
115	Sedgwick
121	Washington
123	Weld
125	Yuma
09	Connecticut
01	State
001	Fairfield
003	Hartford
005	Litchfield
007	Middlesex
009	New Haven
011	New London
013	Tolland
015	Windham
10	Delaware
01	State
001	Kent
003	New Castle
005	Sussex

11 District of Columbia

12	Florida
01	Northeastern
001	Alachua
003	Baker
007	Bradford
019	Clay
023	Columbia
029	Dixie
031	Duval
035	Flagler
041	Gilchrist
047	Hamilton
067	Lafayette
075	Levy
079	Madison
083	Marion
089	Nassau
107	Putnam
109	St. Johns
121	Suwannee
123	Taylor
125	Union
127	Volusia
02	Northwestern
005	Bay
013	Calhoun
033	Escambia
037	Franklin
039	Gadsden
045	Gulf
059	Holmes
063	Jackson
065	Jefferson
073	Leon
077	Liberty
091	Okaloosa
113	Santa Rosa
129	Wakulla
131	Walton
133	Washington
03	Central
009	Brevard
017	Citrus
027	DeSoto
049	Hardee
053	Hernando
055	Highlands
057	Hillsborough

061	Indian River	175	Laurens	095	Dougherty
069	Lake	179	Liberty	125	Glascok
081	Manatee	183	Long	133	Greene
093	Okeechobee	191	McIntosh	141	Hancock
095	Orange	209	Montgomery	145	Harris
097	Osceola	229	Pierce	153	Houston
101	Pasco	251	Screven	159	Jasper
103	Pinellas	267	Tattnall	163	Jefferson
105	Polk	271	Telfair	169	Jones
111	St. Lucie	279	Toombs	171	Lamar
115	Sarasota	283	Treutlen	177	Lee
117	Seminole	299	Ware	181	Lincoln
119	Sumter	305	Wayne	189	McDuffie
		309	Wheeler	193	Macon
04	Southern			197	Marion
011	Broward	02	Southwestern	207	Monroe
015	Charlotte	007	Baker	211	Morgan
021	Collier	017	Ben Hill	215	Muscogee
025	Dade	019	Berrien	225	Peach
043	Glades	027	Brooks	231	Pike
051	Hendry	071	Colquitt	235	Pulaski
071	Lee	075	Cook	237	Putnam
085	Martin	081	Crisp	239	Quitman
087	Monroe	087	Decatur	243	Randolph
099	Palm Beach	093	Dooly	245	Richmond
		099	Early	249	Schley
		131	Grady	259	Stewart
13	Georgia	155	Irwin	261	Sumter
01	Southeastern	173	Lanier	263	Talbot
001	Appling	185	Lowndes	265	Taliaferro
003	Atkinson	201	Miller	269	Taylor
005	Bacon	205	Mitchell	273	Terrell
025	Brantley	253	Seminole	289	Twiggs
029	Bryan	275	Thomas	293	Upson
031	Bulloch	277	Tift	301	Warren
039	Camden	287	Turner	303	Washington
043	Candler	315	Wilcox	307	Webster
049	Charlton	321	Worth	317	Wilkes
051	Chatham			319	Wilkinson
065	Clinch	03	Central		
069	Coffee	009	Baldwin	04	North Central
091	Dodge	021	Bibb	011	Banks
101	Echols	023	Bleckley	013	Barrow
103	Effingham	033	Burke	045	Carroll
107	Emanuel	035	Butts	059	Clarke
109	Evans	037	Calhoun	063	Clayton
127	Glynn	053	Chattahoochee	067	Cobb
161	Jeff Davis	061	Clay	077	Coweta
165	Jenkins	073	Columbia	089	DeKalb
167	Johnson	079	Crawford	097	Douglas

105	Elbert	15	Hawaii	053	Jerome
113	Fayette	01	State	059	Lemhi
117	Forsyth	001	Hawaii	063	Lincoln
119	Franklin	003	Honolulu	065	Madison
121	Fulton	005	Kalawao	067	Minidoka
135	Gwinnett	007	Kauai	071	Oneida
139	Hall	009	Maui	077	Power
143	Haralson			081	Teton
147	Hart			083	Twin Falls
149	Heard	16	Idaho		
151	Henry	01	Northern	17	Illinois
157	Jackson	009	Benewah	01	Southern
195	Madison	017	Bonner	003	Alexander
199	Meriwether	021	Boundary	055	Franklin
217	Newton	035	Clearwater	059	Gallatin
219	Oconee	049	Idaho	065	Hamilton
221	Oglethorpe	055	Kootenai	069	Hardin
223	Paulding	057	Latah	077	Jackson
233	Polk	061	Lewis	087	Johnson
247	Rockdale	069	Nez Perce	127	Massac
255	Spalding	079	Shoshone	145	Perry
285	Troup			151	Pope
297	Walton	02	Southeastern	153	Pulaski
		001	Ada	157	Randolph
05	Northern	003	Adams	165	Saline
015	Bartow	015	Boise	181	Union
047	Catoosa	027	Canyon	193	White
055	Chattooga	039	Elmore	199	Williamson
057	Cherokee	045	Gem		
083	Dade	073	Owyhee	02	Claypan
085	Dawson	075	Payette	005	Bond
111	Fannin	085	Valley	013	Calhoun
115	Floyd	087	Washington	023	Clark
123	Gilmer			025	Clay
129	Gordon	03	Southwestern	027	Clinton
137	Habersham	005	Bannock	033	Crawford
187	Lumpkin	007	Bear Lake	035	Cumberland
213	Murray	011	Bingham	047	Edwards
227	Pickens	013	Blaine	049	Effingham
241	Rabun	019	Bonneville	051	Fayette
257	Stephens	023	Butte	061	Greene
281	Towns	025	Camas	079	Jasper
291	Union	029	Caribou	081	Jefferson
295	Walker	031	Cassia	083	Jersey
311	White	033	Clark	101	Lawrence
313	Whitfield	037	Custer	117	Macoupin
		041	Franklin	119	Madison
		043	Fremont	121	Marion
		047	Gooding	133	Monroe
		051	Jefferson		

135 Montgomery
159 Richland
163 St. Clair
173 Shelby
185 Wabash
189 Washington
191 Wayne

03 Prairie

001 Adams
007 Boone
009 Brown
011 Bureau
015 Carroll
017 Cass
019 Champaign
021 Christian
029 Coles
031 Cook
037 DeKalb
039 De Witt
041 Douglas
043 DuPage
045 Edgar
053 Ford
057 Fulton
063 Grundy
067 Hancock
071 Henderson
073 Henry
075 Iroquois
085 Jo Daviess
089 Kane
091 Kankakee
093 Kendall
095 Knox
097 Lake
099 La Salle
103 Lee
105 Livingston
107 Logan
109 McDonough
111 McHenry
113 McLean
115 Macon
123 Marshall
125 Mason
129 Menard
131 Mercer
137 Morgan

139 Moultrie
141 Ogle
143 Peoria
147 Piatt
149 Pike
155 Putnam
161 Rock Island
167 Sangamon
169 Schuyler
171 Scott
175 Stark
177 Stephenson
179 Tazewell
183 Vermilion
187 Warren
195 Whiteside
197 Will
201 Winnebago
203 Woodford

18 Indiana

01 Lower Wabash

021 Clay
027 Daviess
051 Gibson
055 Greene
083 Knox
101 Martin
121 Parke
125 Pike
129 Posey
133 Putnam
153 Sullivan
163 Vanderburgh
165 Vermillion
167 Vigo

02 Knobs

013 Brown
019 Clark
025 Crawford
037 Dubois
043 Floyd
061 Harrison
071 Jackson
093 Lawrence
105 Monroe
109 Morgan
117 Orange

119 Owen
123 Perry
143 Scott
147 Spencer
173 Warrick
175 Washington

03 Upland Flats

029 Dearborn
041 Fayette
047 Franklin
077 Jefferson
079 Jennings
115 Ohio
137 Ripley
155 Switzerland
161 Union

04 Northern

001 Adams
003 Allen
005 Bartholomew
007 Benton
009 Blackford
011 Boone
015 Carroll
017 Cass
023 Clinton
031 Decatur
033 De Kalb
035 Delaware
039 Elkhart
045 Fountain
049 Fulton
053 Grant
057 Hamilton
059 Hancock
063 Hendricks
065 Henry
067 Howard
069 Huntington
073 Jasper
075 Jay
081 Johnson
085 Kosciusko
087 Lagrange
089 Lake
091 La Porte
095 Madison
097 Marion

099	Marshall	02	Southeastern	159	Ringgold
103	Miami	007	Appanoose	165	Shelby
107	Montgomery	015	Boone	173	Taylor
111	Newton	039	Clarke	175	Union
113	Noble	049	Dallas	193	Woodbury
127	Porter	051	Davis		
131	Pulaski	053	Decatur	04	Northwestern
135	Randolph	057	Des Moines	021	Buena Vista
139	Rush	077	Guthrie	025	Calhoun
141	St. Joseph	079	Hamilton	033	Cerro Gordo
145	Shelby	083	Hardin	035	Cherokee
149	Starke	087	Henry	041	Clay
151	Steuben	095	Iowa	059	Dickinson
157	Tippecanoe	099	Jasper	063	Emmet
159	Tipton	101	Jefferson	069	Franklin
169	Wabash	107	Keokuk	081	Hancock
171	Warren	111	Lee	091	Humboldt
177	Wayne	115	Louisa	093	Ida
179	Wells	117	Lucas	109	Kossuth
181	White	121	Madison	119	Lyon
183	Whitley	123	Mahaska	141	O'Brien
		125	Marion	143	Osceola
		127	Marshall	147	Palo Alto
19	Iowa	135	Monroe	149	Plymouth
01	Northeastern	139	Muscatine	151	Pocahontas
005	Allamakee	153	Polk	161	Sac
011	Benton	157	Poweshiek	167	Sioux
013	Black Hawk	169	Story	189	Winnebago
017	Bremer	177	Van Buren	195	Worth
019	Buchanan	179	Wapello	197	Wright
023	Butler	181	Warren		
031	Cedar	183	Washington		
037	Chickasaw	185	Wayne	20	Kansas
043	Clayton	187	Webster	01	Northeastern
045	Clinton			005	Atchison
055	Delaware	03	Southwestern	013	Brown
061	Dubuque	001	Adair	027	Clay
065	Fayette	003	Adams	041	Dickinson
067	Floyd	009	Audubon	043	Doniphan
075	Grundy	027	Carroll	045	Douglas
089	Howard	029	Cass	059	Franklin
097	Jackson	047	Crawford	061	Geary
103	Johnson	071	Fremont	085	Jackson
105	Jones	073	Greene	087	Jefferson
113	Linn	085	Harrison	091	Johnson
131	Mitchell	129	Mills	103	Leavenworth
163	Scott	133	Monona	117	Marshall
171	Tama	137	Montgomery	121	Miami
191	Winneshiek	145	Page	131	Nemaha
		155	Pottawattamie	139	Osage

149 Pottawatomie
161 Riley
177 Shawnee
197 Wabaunsee
201 Washington
209 Wyandotte

02 Southeastern

001 Allen
003 Anderson
011 Bourbon
015 Butler
017 Chase
019 Chautauqua
021 Cherokee
031 Coffey
035 Cowley
037 Crawford
049 Elk
073 Greenwood
099 Labette
107 Linn
111 Lyon
115 Marion
125 Montgomery
127 Morris
133 Neosho
205 Wilson
207 Woodson

03 Western

007 Barber
009 Barton
023 Cheyenne
025 Clark
029 Cloud
033 Comanche
039 Decatur
047 Edwards
051 Ellis
053 Ellsworth
055 Finney
057 Ford
063 Gove
065 Graham
067 Grant
069 Gray
071 Greeley
075 Hamilton
077 Harper

079 Harvey
081 Haskell
083 Hodgeman
089 Jewell
093 Kearny
095 Kingman
097 Kiowa
101 Lane
105 Lincoln
109 Logan
113 McPherson
119 Meade
123 Mitchell
129 Morton
135 Ness
137 Norton
141 Osborne
143 Ottawa
145 Pawnee
147 Phillips
151 Pratt
153 Rawlins
155 Reno
157 Republic
159 Rice
163 Rooks
165 Rush
167 Russell
169 Saline
171 Scott
173 Sedgwick
175 Seward
179 Sheridan
181 Sherman
183 Smith
185 Stafford
187 Stanton
189 Stevens
191 Sumner
193 Thomas
195 Trego
199 Wallace
203 Wichita

21 Kentucky

01 Eastern

071 Floyd
095 Harlan
119 Knott

131 Leslie
133 Letcher
159 Martin
193 Perry
195 Pike

02 Northern Cumberland

019 Boyd
043 Carter
063 Elliott
089 Greenup
115 Johnson
127 Lawrence
135 Lewis
153 Magoffin
165 Menifee
175 Morgan
197 Powell
205 Rowan
237 Wolfe

03 Southern Cumberland

013 Bell
025 Breathitt
051 Clay
065 Estill
109 Jackson
121 Knox
125 Laurel
129 Lee
147 McCreary
189 Owsley
203 Rockcastle
235 Whitley

04 Bluegrass

005 Anderson
011 Bath
015 Boone
017 Bourbon
021 Boyle
023 Bracken
037 Campbell
041 Carroll
049 Clark
067 Fayette
069 Fleming
073 Franklin
077 Gallatin
079 Garrard

081	Grant	047	Christian	055	Lafayette
097	Harrison	055	Crittenden	057	Lafourche
103	Henry	059	Daviess	077	Pointe Coupee
111	Jefferson	061	Edmonson	089	St. Charles
113	Jessamine	101	Henderson	093	St. James
117	Kenton	107	Hopkins	095	St. John the Baptist
137	Lincoln	141	Logan	097	St. Landry
151	Madison	149	McLean	099	St. Martin
161	Mason	171	Monroe	101	St. Mary
167	Mercer	177	Muhlenberg	109	Terrebonne
173	Montgomery	183	Ohio	113	Vermilion
181	Nicholas	213	Simpson	121	West Baton Rouge
185	Oldham	219	Todd	125	West Feliciana
187	Owen	225	Union		
191	Pendleton	227	Warren	03 Southwest	
201	Robertson	233	Webster	003	Allen
209	Scott			011	Beauregard
211	Shelby	07 Western		019	Calcasieu
215	Spencer	007	Ballard	039	Evangeline
223	Trimble	035	Calloway	043	Grant
229	Washington	039	Carlisle	053	Jefferson Davis
239	Woodford	075	Fulton	059	La Salle
		083	Graves	069	Natchitoches
05 Pennyroyal		105	Hickman	079	Rapides
001	Adair	139	Livingston	085	Sabine
027	Breckinridge	143	Lyon	115	Vernon
029	Bullitt	145	McCracken		
045	Casey	157	Marshall	04 Southeast	
053	Clinton	221	Trigg	033	East Baton Rouge
057	Cumberland			037	East Feliciana
085	Grayson			063	Livingston
087	Green	22 Louisiana		091	St. Helena
091	Hancock	01 North Delta		103	St. Tammany
093	Hardin	025	Catahoula	105	Tangipahoa
099	Hart	029	Concordia	117	Washington
123	Larue	035	East Carroll		
155	Marion	041	Franklin	05 Northwest	
163	Meade	065	Madison	013	Bienville
169	Metcalfe	067	Morehouse	015	Bossier
179	Nelson	083	Richland	017	Caddo
199	Pulaski	107	Tensas	021	Caldwell
207	Russell	123	West Carroll	027	Claiborne
217	Taylor			031	De Soto
231	Wayne	02 South Delta		049	Jackson
		001	Acadia	061	Lincoln
06 Western Coalfield		005	Ascension	073	Ouachita
003	Allen	007	Assumption	081	Red River
009	Barren	009	Avoyelles	111	Union
031	Butler	045	Iberia	119	Webster
033	Caldwell	047	Iberville	127	Winn

Unsampled parishes

023 Cameron
051 Jefferson
071 Orleans
075 Plaquemines
087 St. Bernard

23 Maine

01 Washington
029 Washington

02 Aroostook

003 Aroostook

03 Penobscot

019 Penobscot

04 Hancock

009 Hancock

05 Piscataquis

021 Piscataquis

06 Capitol Region

011 Kennebec
013 Knox
015 Lincoln
027 Waldo

07 Somerset

025 Somerset

08 Casco Bay

001 Androscoggin
005 Cumberland
023 Sagadahoc
031 York

09 Western Maine

007 Franklin
017 Oxford

24 Maryland**02 North Central**

003 Anne Arundel
005 Baltimore
011 Caroline
013 Carroll

015 Cecil
021 Frederick
025 Harford
027 Howard
029 Kent
031 Montgomery
033 Prince George's
035 Queen Anne's
041 Talbot
043 Washington
510 Baltimore city

03 Southern

009 Calvert
017 Charles
037 St. Mary's

04 Lower Eastern Shore

019 Dorchester
039 Somerset
045 Wicomico
047 Worcester

05 Western

001 Allegany
023 Garrett

25 Massachusetts

01 State
001 Barnstable
003 Berkshire
005 Bristol
007 Dukes
009 Essex
011 Franklin
013 Hampden
015 Hampshire
017 Middlesex
019 Nantucket
021 Norfolk
023 Plymouth
025 Suffolk
027 Worcester

26 Michigan**01 Eastern Upper Peninsula**

003 Alger
033 Chippewa

041 Delta
095 Luce
097 Mackinac
109 Menominee
153 Schoolcraft

02 Western Upper Peninsula

013 Baraga
043 Dickinson
053 Gogebic
061 Houghton
071 Iron
083 Keweenaw
103 Marquette
131 Ontonagon

03 Northern Lower Peninsula

001 Alcona
007 Alpena
009 Antrim
011 Arenac
017 Bay
019 Benzie
029 Charlevoix
031 Cheboygan
035 Clare
039 Crawford
047 Emmet
051 Gladwin
055 Grand Traverse
069 Iosco
073 Isabella
079 Kalkaska
085 Lake
089 Leelanau
101 Manistee
105 Mason
107 Mecosta
111 Midland
113 Missaukee
119 Montmorency
123 Newaygo
127 Oceana
129 Ogemaw
133 Osceola
135 Oscoda
137 Otsego
141 Presque Isle
143 Roscommon
165 Wexford

04 Southern Lower Peninsula

005 Allegan
 015 Barry
 021 Berrien
 023 Branch
 025 Calhoun
 027 Cass
 037 Clinton
 045 Eaton
 049 Genesee
 057 Gratiot
 059 Hillsdale
 063 Huron
 065 Ingham
 067 Ionia
 075 Jackson
 077 Kalamazoo
 081 Kent
 087 Lapeer
 091 Lenawee
 093 Livingston
 099 Macomb
 115 Monroe
 117 Montcalm
 121 Muskegon
 125 Oakland
 139 Ottawa
 145 Saginaw
 147 St. Clair
 149 St. Joseph
 151 Sanilac
 155 Shiawassee
 157 Tuscola
 159 Van Buren
 161 Washtenaw
 163 Wayne

27 Minnesota**01 Aspen-Birch**

017 Carlton
 031 Cook
 071 Koochiching
 075 Lake
 137 St. Louis

02 Northern Pine

001 Aitkin
 005 Becker
 007 Beltrami

021 Cass
 029 Clearwater
 035 Crow Wing
 057 Hubbard
 061 Itasca
 077 Lake of the Woods
 087 Mahanomen
 135 Roseau
 159 Wadena

03 Central Hardwood

003 Anoka
 009 Benton
 019 Carver
 025 Chisago
 037 Dakota
 041 Douglas
 045 Fillmore
 049 Goodhue
 053 Hennepin
 055 Houston
 059 Isanti
 065 Kanabec
 079 Le Sueur
 095 Mille Lacs
 097 Morrison
 109 Olmsted
 111 Otter Tail
 115 Pine
 123 Ramsey
 131 Rice
 139 Scott
 141 Sherburne
 145 Stearns
 153 Todd
 157 Wabasha
 163 Washington
 169 Winona
 171 Wright

04 Prairie

011 Big Stone
 013 Blue Earth
 015 Brown
 023 Chippewa
 027 Clay
 033 Cottonwood
 039 Dodge
 043 Faribault
 047 Freeborn

051 Grant
 063 Jackson
 067 Kandiyohi
 069 Kittson
 073 Lac qui Parle
 081 Lincoln
 083 Lyon
 085 McLeod
 089 Marshall
 091 Martin
 093 Meeker
 099 Mower
 101 Murray
 103 Nicollet
 105 Nobles
 107 Norman
 113 Pennington
 117 Pipestone
 119 Polk
 121 Pope
 125 Red Lake
 127 Redwood
 129 Renville
 133 Rock
 143 Sibley
 147 Steele
 149 Stevens
 151 Swift
 155 Traverse
 161 Waseca
 165 Watonwan
 167 Wilkin
 173 Yellow Medicine

28 Mississippi**01 Delta**

011 Bolivar
 027 Coahoma
 051 Holmes
 053 Humphreys
 055 Issaquena
 083 Leflore
 119 Quitman
 125 Sharkey
 133 Sunflower
 135 Tallahatchie
 143 Tunica
 149 Warren
 151 Washington
 163 Yazoo

02 North		045 Hancock	091 Howell
003 Alcorn		047 Harrison	119 McDonald
009 Benton		059 Jackson	145 Newton
013 Calhoun		065 Jefferson Davis	153 Ozark
015 Carroll		067 Jones	209 Stone
017 Chickasaw		073 Lamar	213 Taney
019 Choctaw		077 Lawrence	215 Texas
025 Clay		091 Marion	225 Webster
033 DeSoto		109 Pearl River	229 Wright
043 Grenada		111 Perry	
057 Itawamba		131 Stone	03 Northwestern Ozarks
071 Lafayette		147 Walthall	015 Benton
081 Lee		153 Wayne	029 Camden
087 Lowndes			039 Cedar
093 Marshall	05 Southwest		059 Dallas
095 Monroe	001 Adams		085 Hickory
097 Montgomery	005 Amite		105 Laclede
105 Oktibbeha	021 Claiborne		125 Maries
107 Panola	029 Copiah		131 Miller
115 Pontotoc	037 Franklin		141 Morgan
117 Prentiss	049 Hinds		161 Phelps
137 Tate	063 Jefferson		167 Polk
139 Tippah	085 Lincoln		169 Pulaski
141 Tishomingo	089 Madison		185 St. Clair
145 Union	113 Pike		
155 Webster	157 Wilkinson		04 Prairie
161 Yalobusha			001 Adair
			003 Andrew
03 Central	29 Missouri		005 Atchison
007 Attala	01 Eastern Ozarks		007 Audrain
023 Clarke	017 Bollinger		011 Barton
061 Jasper	023 Butler		013 Bates
069 Kemper	035 Carter		021 Buchanan
075 Lauderdale	055 Crawford		025 Caldwell
079 Leake	065 Dent		033 Carroll
099 Neshoba	093 Iron		037 Cass
101 Newton	123 Madison		041 Chariton
103 Noxubee	149 Oregon		045 Clark
121 Rankin	179 Reynolds		047 Clay
123 Scott	181 Ripley		049 Clinton
127 Simpson	187 St. Francois		053 Cooper
129 Smith	203 Shannon		057 Dade
159 Winston	221 Washington		061 Daviess
	223 Wayne		063 DeKalb
04 South			075 Gentry
031 Covington	02 Southwestern Ozarks		077 Greene
035 Forrest	009 Barry		079 Grundy
039 George	043 Christian		081 Harrison
041 Greene	067 Douglas		083 Henry
			087 Holt

095	Jackson	201	Scott	03	Western
097	Jasper	207	Stoddard	039	Granite
101	Johnson	219	Warren	061	Mineral
103	Knox	510	St. Louis city	063	Missoula
107	Lafayette			081	Ravalli
109	Lawrence				
111	Lewis	30	Montana	04	West Central
113	Lincoln	01	Northwestern	007	Broadwater
115	Linn	029	Flathead	013	Cascade
117	Livingston	047	Lake	043	Jefferson
121	Macon	053	Lincoln	045	Judith Basin
127	Marion	089	Sanders	049	Lewis and Clark
129	Mercer			059	Meagher
137	Monroe	02	Eastern	077	Powell
147	Nodaway	003	Big Horn	107	Wheatland
159	Pettis	005	Blaine		
163	Pike	009	Carbon	05	Southwestern
165	Platte	011	Carter	001	Beaverhead
171	Putnam	015	Chouteau	023	Deer Lodge
173	Ralls	017	Custer	031	Gallatin
175	Randolph	019	Daniels	057	Madison
177	Ray	021	Dawson	067	Park
195	Saline	025	Fallon	093	Silver Bow
197	Schuyler	027	Fergus		
199	Scotland	033	Garfield		
205	Shelby	035	Glacier	31	Nebraska
211	Sullivan	037	Golden Valley	01	Eastern
217	Vernon	041	Hill	001	Adams
227	Worth	051	Liberty	011	Boone
		055	McCone	019	Buffalo
05	Riverborder	065	Musselshell	021	Burt
019	Boone	069	Petroleum	023	Butler
027	Callaway	071	Phillips	025	Cass
031	Cape Girardeau	073	Pondera	027	Cedar
051	Cole	075	Powder River	035	Clay
069	Dunklin	079	Prairie	037	Colfax
071	Franklin	083	Richland	039	Cuming
073	Gasconade	085	Roosevelt	041	Custer
089	Howard	087	Rosebud	043	Dakota
099	Jefferson	091	Sheridan	047	Dawson
133	Mississippi	095	Stillwater	051	Dixon
135	Moniteau	097	Sweet Grass	053	Dodge
139	Montgomery	099	Teton	055	Douglas
143	New Madrid	101	Toole	059	Fillmore
151	Osage	103	Treasure	061	Franklin
155	Pemiscot	105	Valley	063	Frontier
157	Perry	109	Wibaux	065	Furnas
183	St. Charles	111	Yellowstone	067	Gage
186	Ste. Genevieve	113	Yellowstone National Park	073	Gosper
189	St. Louis			077	Greeley

079 Hall
081 Hamilton
083 Harlan
087 Hitchcock
093 Howard
095 Jefferson
097 Johnson
099 Kearney
109 Lancaster
119 Madison
121 Merrick
125 Nance
127 Nemaha
129 Nuckolls
131 Otoe
133 Pawnee
137 Phelps
139 Pierce
141 Platte
143 Polk
145 Red Willow
147 Richardson
151 Saline
153 Sarpy
155 Saunders
159 Seward
163 Sherman
167 Stanton
169 Thayer
173 Thurston
175 Valley
177 Washington
179 Wayne
181 Webster
185 York

02 Western

003 Antelope
005 Arthur
007 Banner
009 Blaine
013 Box Butte
015 Boyd
017 Brown
029 Chase
031 Cherry
033 Cheyenne
045 Dawes
049 Deuel
057 Dundy

069 Garden
071 Garfield
075 Grant
085 Hayes
089 Holt
091 Hooker
101 Keith
103 Keya Paha
105 Kimball
107 Knox
111 Lincoln
113 Logan
115 Loup
117 McPherson
123 Morrill
135 Perkins
149 Rock
157 Scotts Bluff
161 Sheridan
165 Sioux
171 Thomas
183 Wheeler

32 Nevada

01 Nevada
001 Churchill
003 Clark
005 Douglas
007 Elko
009 Esmeralda
011 Eureka
013 Humboldt
015 Lander
017 Lincoln
019 Lyon
021 Mineral
023 Nye
027 Pershing
029 Storey
031 Washoe
033 White Pine
510 Carson City

33 New Hampshire

02 Northern
003 Carroll
007 Coos
009 Grafton

03 Southern

001 Belknap
005 Cheshire
011 Hillsborough
013 Merrimack
015 Rockingham
017 Strafford
019 Sullivan

34 New Jersey

01 State

001 Atlantic
003 Bergen
005 Burlington
007 Camden
009 Cape May
011 Cumberland
013 Essex
015 Gloucester
017 Hudson
019 Hunterdon
021 Mercer
023 Middlesex
025 Monmouth
027 Morris
029 Ocean
031 Passaic
033 Salem
035 Somerset
037 Sussex
039 Union
041 Warren

35 New Mexico

01 Northwestern

001 Bernalillo
006 Cibola
028 Los Alamos
031 McKinley
039 Rio Arriba
043 Sandoval
045 San Juan
049 Santa Fe
055 Taos
061 Valencia

02	Northeastern	099	Seneca	079	Putnam
007	Colfax	117	Wayne	081	Queens
019	Guadalupe	121	Wyoming	085	Richmond
021	Harding	123	Yates	087	Rockland
033	Mora			095	Schoharie
037	Quay	03	Western Adirondack	103	Suffolk
047	San Miguel	035	Fulton	105	Sullivan
057	Torrance	043	Herkimer	111	Ulster
059	Union	049	Lewis	119	Westchester
		065	Oneida		
03	Southwestern	04	Eastern Adirondack	37	North Carolina
003	Catron	031	Essex	01	Southern Coastal Plain
013	Dona Ana	041	Hamilton	017	Bladen
017	Grant	113	Warren	019	Brunswick
023	Hidalgo			047	Columbus
029	Luna	05	Southwest Highlands	051	Cumberland
051	Sierra	003	Allegany	061	Duplin
053	Socorro	009	Cattaraugus	079	Greene
		013	Chautauqua	085	Harnett
04	Southeastern	101	Steuben	093	Hoke
005	Chaves	06	South-Central Highlands	101	Johnston
009	Curry	007	Broome	103	Jones
011	DeBaca	015	Chemung	105	Lee
015	Eddy	017	Chenango	107	Lenoir
025	Lea	023	Cortland	125	Moore
027	Lincoln	025	Delaware	129	New Hanover
035	Otero	077	Otsego	133	Onslow
041	Roosevelt	097	Schuyler	141	Pender
		107	Tioga	153	Richmond
36	New York	109	Tompkins	155	Robeson
01	Adirondack			163	Sampson
019	Clinton	07	Capitol District	165	Scotland
033	Franklin	001	Albany	191	Wayne
045	Jefferson	021	Columbia		
		057	Montgomery	02	Northern Coastal Plain
089	St. Lawrence	083	Rensselaer	013	Beaufort
		091	Saratoga	015	Bertie
02	Lake Plain	093	Schenectady	029	Camden
011	Cayuga	115	Washington	031	Carteret
029	Erie			041	Chowan
037	Genesee	08	Catskill-Lower Hudson	049	Craven
051	Livingston	005	Bronx	053	Currituck
053	Madison	027	Dutchess	055	Dare
055	Monroe	039	Greene	065	Edgecombe
063	Niagara	047	Kings	073	Gates
067	Onondaga	059	Nassau	083	Halifax
069	Ontario	061	New York	091	Hertford
073	Orleans	071	Orange	095	Hyde
075	Oswego			117	Martin
				127	Nash

131 Northampton
 137 Pamlico
 139 Pasquotank
 143 Perquimans
 147 Pitt
 177 Tyrrell
 187 Washington
 195 Wilson

03 Piedmont

001 Alamance
 003 Alexander
 007 Anson
 025 Cabarrus
 033 Caswell
 035 Catawba
 037 Chatham
 045 Cleveland
 057 Davidson
 059 Davie
 063 Durham
 067 Forsyth
 069 Franklin
 071 Gaston
 077 Granville
 081 Guilford
 097 Iredell
 109 Lincoln
 119 Mecklenburg
 123 Montgomery
 135 Orange
 145 Person
 149 Polk
 151 Randolph
 157 Rockingham
 159 Rowan
 161 Rutherford
 167 Stanly
 169 Stokes
 171 Surry
 179 Union
 181 Vance
 183 Wake
 185 Warren
 197 Yadkin

04 Mountains

005 Alleghany
 009 Ashe
 011 Avery

021 Buncombe
 023 Burke
 027 Caldwell
 039 Cherokee
 043 Clay
 075 Graham
 087 Haywood
 089 Henderson
 099 Jackson
 111 McDowell
 113 Macon
 115 Madison
 121 Mitchell
 173 Swain
 175 Transylvania
 189 Watauga
 193 Wilkes
 199 Yancey

38 North Dakota

01 Eastern

001 Adams
 003 Barnes
 005 Benson
 007 Billings
 009 Bottineau
 011 Bowman
 013 Burke
 015 Burleigh
 017 Cass
 019 Cavalier
 021 Dickey
 023 Divide
 025 Dunn
 027 Eddy
 029 Emmons
 031 Foster
 033 Golden Valley
 035 Grand Forks
 037 Grant
 039 Griggs
 041 Hettinger
 043 Kidder
 045 LaMoure
 047 Logan
 049 McHenry
 051 McIntosh
 053 McKenzie
 055 McLean

057 Mercer
 059 Morton
 061 Mountrail
 063 Nelson
 065 Oliver
 067 Pembina
 069 Pierce
 071 Ramsey
 073 Ransom
 075 Renville
 077 Richland
 079 Rolette
 081 Sargent
 083 Sheridan
 085 Sioux
 087 Slope
 089 Stark
 091 Steele
 093 Stutsman
 095 Towner
 097 Traill
 099 Walsh
 101 Ward
 103 Wells
 105 Williams

39 Ohio

01 South-Central

001 Adams
 015 Brown
 025 Clermont
 053 Gallia
 071 Highland
 079 Jackson
 087 Lawrence
 131 Pike
 141 Ross
 145 Scioto

02 Southeastern

009 Athens
 073 Hocking
 105 Meigs
 115 Morgan
 127 Perry
 163 Vinton
 167 Washington

03	East-Central	06	Northwestern	115	Ottawa
013	Belmont	003	Allen	135	Sequoyah
019	Carroll	011	Auglaize		
031	Coshocton	021	Champaign		Unsampled counties
059	Guernsey	033	Crawford	003	Alfalfa
067	Harrison	039	Defiance	007	Beaver
075	Holmes	041	Delaware	009	Beckham
081	Jefferson	051	Fulton	011	Blaine
111	Monroe	063	Hancock	015	Caddo
119	Muskingum	065	Hardin	017	Canadian
121	Noble	069	Henry	019	Carter
157	Tuscarawas	083	Knox	025	Cimarron
		091	Logan	027	Cleveland
04	Northeastern	095	Lucas	031	Comanche
005	Ashland	101	Marion	033	Cotton
007	Ashtabula	107	Mercer	035	Craig
029	Columbiana	117	Morrow	037	Creek
035	Cuyahoga	123	Ottawa	039	Custer
043	Erie	125	Paulding	043	Dewey
055	Geauga	137	Putnam	045	Ellis
077	Huron	143	Sandusky	047	Garfield
085	Lake	147	Seneca	049	Garvin
093	Lorain	149	Shelby	051	Grady
099	Mahoning	159	Union	053	Grant
103	Medina	161	Van Wert	055	Greer
133	Portage	171	Williams	057	Harmon
139	Richland	173	Wood	059	Harper
151	Stark	175	Wyandot	063	Hughes
153	Summit			065	Jackson
155	Trumbull			067	Jefferson
169	Wayne	40	Oklahoma	069	Johnston
		01	Southeast	071	Kay
05	Southwestern	005	Atoka	073	Kingfisher
017	Butler	013	Bryan	075	Kiowa
023	Clark	023	Choctaw	081	Lincoln
027	Clinton	029	Coal	083	Logan
037	Darke	061	Haskell	085	Love
045	Fairfield	077	Latimer	087	McClain
047	Fayette	079	Le Flore	093	Major
049	Franklin	089	McCurtain	095	Marshall
057	Greene	121	Pittsburg	099	Murray
061	Hamilton	127	Pushmataha	103	Noble
089	Licking			105	Nowata
097	Madison	02	Northeast	107	Okfuskee
109	Miami	001	Adair	109	Oklahoma
113	Montgomery	021	Cherokee	111	Okmulgee
129	Pickaway	041	Delaware	113	Osage
135	Preble	091	McIntosh	117	Pawnee
165	Warren	097	Mayes	119	Payne
		101	Muskogee	123	Pontotoc

125 Pottawatomie
 129 Roger Mills
 131 Rogers
 133 Seminole
 137 Stephens
 139 Texas
 141 Tillman
 143 Tulsa
 145 Wagoner
 147 Washington
 149 Washita
 151 Woods
 153 Woodward

41 Oregon

00 Northwest

005 Clackamas
 007 Clatsop
 009 Columbia
 027 Hood River
 047 Marion
 051 Multnomah
 053 Polk
 057 Tillamook
 067 Washington
 071 Yamhill

01 West Central

003 Benton
 039 Lane
 041 Lincoln
 043 Linn

02 Southwest

011 Coos
 015 Curry
 019 Douglas
 029 Jackson
 033 Josephine

03 Central

013 Crook
 017 Deschutes
 021 Gilliam
 031 Jefferson
 035 Klamath
 037 Lake
 055 Sherman
 065 Wasco
 069 Wheeler

04 Blue Mountains

001 Baker
 023 Grant
 025 Harney
 045 Malheur
 049 Morrow
 059 Umatilla
 061 Union
 063 Wallowa

42 Pennsylvania

00 South Central

043 Dauphin
 055 Franklin
 057 Fulton
 061 Huntingdon
 067 Juniata
 087 Mifflin
 099 Perry
 109 Snyder
 119 Union

05 Western

003 Allegheny
 005 Armstrong
 007 Beaver
 019 Butler
 039 Crawford
 049 Erie
 059 Greene
 063 Indiana
 073 Lawrence
 085 Mercer
 125 Washington
 129 Westmoreland

06 North Central/Allegheny

023 Cameron
 027 Centre
 031 Clarion
 033 Clearfield
 035 Clinton
 047 Elk
 053 Forest
 065 Jefferson
 081 Lycoming
 083 Mc Kean
 105 Potter
 113 Sullivan

117 Tioga
 121 Venango
 123 Warren

07 Southwestern

009 Bedford
 013 Blair
 021 Cambria
 051 Fayette
 111 Somerset

08 Northeastern/Pocono

015 Bradford
 025 Carbon
 037 Columbia
 069 Lackawanna
 079 Luzerne
 089 Monroe
 093 Montour
 097 Northumberland
 103 Pike
 107 Schuylkill
 115 Susquehanna
 127 Wayne
 131 Wyoming

09 Southeastern

001 Adams
 011 Berks
 017 Bucks
 029 Chester
 041 Cumberland
 045 Delaware
 071 Lancaster
 075 Lebanon
 077 Lehigh
 091 Montgomery
 095 Northampton
 101 Philadelphia
 133 York

44 Rhode Island

01 State

001 Bristol
 003 Kent
 005 Newport
 007 Providence
 009 Washington

45	South Carolina
01	Southern Coastal Plain
003	Aiken
005	Allendale
009	Bamberg
011	Barnwell
013	Beaufort
017	Calhoun
029	Colleton
035	Dorchester
049	Hampton
053	Jasper
063	Lexington
075	Orangeburg
02	Northern Coastal Plain
015	Berkeley
019	Charleston
025	Chesterfield
027	Clarendon
031	Darlington
033	Dillon
041	Florence
043	Georgetown
051	Horry
055	Kershaw
061	Lee
067	Marion
069	Marlboro
079	Richland
085	Sumter
089	Williamsburg
03	Piedmont
001	Abbeville
007	Anderson
021	Cherokee
023	Chester
037	Edgefield
039	Fairfield
045	Greenville
047	Greenwood
057	Lancaster
059	Laurens
065	McCormick
071	Newberry
073	Oconee
077	Pickens
081	Saluda
083	Spartanburg

087	Union
091	York
46	South Dakota
01	Eastern
003	Aurora
005	Beadle
007	Bennett
009	Bon Homme
011	Brookings
013	Brown
015	Brule
017	Buffalo
021	Campbell
023	Charles Mix
025	Clark
027	Clay
029	Codington
031	Corson
035	Davison
037	Day
039	Deuel
041	Dewey
043	Douglas
045	Edmunds
049	Faulk
051	Grant
053	Gregory
055	Haakon
057	Hamlin
059	Hand
061	Hanson
065	Hughes
067	Hutchinson
069	Hyde
071	Jackson
073	Jerauld
075	Jones
077	Kingsbury
079	Lake
083	Lincoln
085	Lyman
087	McCook
089	McPherson
091	Marshall
095	Mellette
097	Miner
099	Minnehaha
101	Moody

105	Perkins
107	Potter
109	Roberts
111	Sanborn
115	Spink
117	Stanley
119	Sully
121	Todd
123	Tripp
125	Turner
127	Union
129	Walworth
135	Yankton
137	Ziebach
02	Western
019	Butte
033	Custer
047	Fall River
063	Harding
081	Lawrence
093	Meade
103	Pennington
113	Shannon
47	Tennessee
01	West
017	Carroll
023	Chester
033	Crockett
045	Dyer
047	Fayette
053	Gibson
069	Hardeman
075	Haywood
077	Henderson
079	Henry
095	Lake
097	Lauderdale
109	McNairy
113	Madison
131	Obion
157	Shelby
167	Tipton
183	Weakley
02	West Central
005	Benton
039	Decatur

071	Hardin	177	Warren	373	Polk
081	Hickman	185	White	403	Sabine
083	Houston			405	San Augustine
085	Humphreys	05	East	407	San Jacinto
099	Lawrence	001	Anderson	455	Trinity
101	Lewis	009	Blount	457	Tyler
135	Perry	011	Bradley	471	Walker
161	Stewart	019	Carter	473	Waller
181	Wayne	025	Claiborne		
		029	Cocke	02	Northeast
03	Central	057	Grainger	001	Anderson
003	Bedford	059	Greene	037	Bowie
015	Cannon	063	Hamblen	063	Camp
021	Cheatham	065	Hamilton	067	Cass
027	Clay	067	Hancock	073	Cherokee
031	Coffee	073	Hawkins	159	Franklin
037	Davidson	089	Jefferson	183	Gregg
041	DeKalb	091	Johnson	203	Harrison
043	Dickson	093	Knox	213	Henderson
055	Giles	105	Loudon	315	Marion
087	Jackson	107	McMinn	343	Morris
103	Lincoln	121	Meigs	347	Nacogdoches
111	Macon	123	Monroe	365	Panola
117	Marshall	139	Polk	387	Red River
119	Mauzy	143	Rhea	401	Rusk
125	Montgomery	145	Roane	419	Shelby
127	Moore	155	Sevier	423	Smith
147	Robertson	163	Sullivan	449	Titus
149	Rutherford	171	Unicoi	459	Upshur
159	Smith	173	Union	467	Van Zandt
165	Sumner	179	Washington	499	Wood
169	Trousdale				
187	Williamson				Unsampled counties
189	Wilson			003	Andrews
		48	Texas	007	Aransas
04	Plateau	01	Southeast	009	Archer
007	Bledsoe	005	Angelina	011	Armstrong
013	Campbell	071	Chambers	013	Atascosa
035	Cumberland	185	Grimes	015	Austin
049	Fentress	199	Hardin	017	Bailey
051	Franklin	201	Harris	019	Bandera
061	Grundy	225	Houston	021	Bastrop
115	Marion	241	Jasper	023	Baylor
129	Morgan	245	Jefferson	025	Bee
133	Overton	289	Leon	027	Bell
137	Pickett	291	Liberty	029	Bexar
141	Putnam	313	Madison	031	Blanco
151	Scott	339	Montgomery	033	Borden
153	Sequatchie	351	Newton	035	Bosque
175	Van Buren	361	Orange	039	Brazoria

041	Brazos	149	Fayette	269	King
043	Brewster	151	Fisher	271	Kinney
045	Briscoe	153	Floyd	273	Kleberg
047	Brooks	155	Foard	275	Knox
049	Brown	157	Fort Bend	277	Lamar
051	Burleson	161	Freestone	279	Lamb
053	Burnet	163	Frio	281	Lampasas
055	Caldwell	165	Gaines	283	La Salle
057	Calhoun	167	Galveston	285	Lavaca
059	Callahan	169	Garza	287	Lee
061	Cameron	171	Gillespie	293	Limestone
065	Carson	173	Glasscock	295	Lipscomb
069	Castro	175	Goliad	297	Live Oak
075	Childress	177	Gonzales	299	Llano
077	Clay	179	Gray	301	Loving
079	Cochran	181	Grayson	303	Lubbock
081	Coke	187	Guadalupe	305	Lynn
083	Coleman	189	Hale	307	McCulloch
085	Collin	191	Hall	309	McLennan
087	Collingsworth	193	Hamilton	311	McMullen
089	Colorado	195	Hansford	317	Martin
091	Comal	197	Hardeman	319	Mason
093	Comanche	205	Hartley	321	Matagorda
095	Concho	207	Haskell	323	Maverick
097	Cooke	209	Hays	325	Medina
099	Coryell	211	Hemphill	327	Menard
101	Cottle	215	Hidalgo	329	Midland
103	Crane	217	Hill	331	Milam
105	Crockett	219	Hockley	333	Mills
107	Crosby	221	Hood	335	Mitchell
109	Culberson	223	Hopkins	337	Montague
111	Dallam	227	Howard	341	Moore
113	Dallas	229	Hudspeth	345	Motley
115	Dawson	231	Hunt	349	Navarro
117	Deaf Smith	233	Hutchinson	353	Nolan
119	Delta	235	Irion	355	Nueces
121	Denton	237	Jack	357	Ochiltree
123	DeWitt	239	Jackson	359	Oldham
125	Dickens	243	Jeff Davis	363	Palo Pinto
127	Dimmit	247	Jim Hogg	367	Parker
129	Donley	249	Jim Wells	369	Parmer
131	Duval	251	Johnson	371	Pecos
133	Eastland	253	Jones	375	Potter
135	Ector	255	Karnes	377	Presidio
137	Edwards	257	Kaufman	379	Rains
139	Ellis	259	Kendall	381	Randall
141	El Paso	261	Kenedy	383	Reagan
143	Erath	263	Kent	385	Real
145	Falls	265	Kerr	389	Reeves
147	Fannin	267	Kimble	391	Refugio

393	Roberts	011	Davis	003	Bennington
395	Robertson	029	Morgan	007	Chittenden
397	Rockwall	033	Rich	021	Rutland
399	Runnels	035	Salt Lake	025	Windham
409	San Patricio	043	Summit	027	Windsor
411	San Saba	045	Tooele		
413	Schleicher	049	Utah	51	Virginia
415	Scurry	051	Wasatch	01	Coastal Plain
417	Shackelford	057	Weber	001	Accomack
421	Sherman			025	Brunswick
425	Somervell	02	Uinta	033	Caroline
427	Starr	009	Daggett	036	Charles City
429	Stephens	013	Duchesne	041	Chesterfield
431	Sterling	047	Uintah	053	Dinwiddie
433	Stonewall			057	Essex
435	Sutton	03	Central	073	Gloucester
437	Swisher	023	Juab	081	Greensville
439	Tarrant	027	Millard	085	Hanover
441	Taylor	031	Piute	087	Henrico
443	Terrell	039	Sanpete	093	Isle of Wight
445	Terry	041	Sevier	095	James City
447	Throckmorton	055	Wayne	097	King and Queen
451	Tom Green			099	King George
453	Travis	04	Eastern	101	King William
461	Upton	007	Carbon	103	Lancaster
463	Uvalde	015	Emery	115	Mathews
465	Val Verde	019	Grand	119	Middlesex
469	Victoria	037	San Juan	127	New Kent
475	Ward			131	Northampton
477	Washington	05	Southwestern	133	Northumberland
479	Webb	001	Beaver	149	Prince George
481	Wharton	017	Garfield	159	Richmond
483	Wheeler	021	Iron	175	Southampton
485	Wichita	025	Kane	181	Surry
487	Wilbarger	053	Washington	183	Sussex
489	Willacy			193	Westmoreland
491	Williamson			199	York
493	Wilson	50	Vermont	550	Chesapeake city
495	Winkler	02	Northern	650	Hampton city
497	Wise	005	Caledonia	700	Newport News city
501	Yoakum	009	Essex	800	Suffolk city
503	Young	011	Franklin	810	Virginia Beach city
505	Zapata	013	Grand Isle		
507	Zavala	015	Lamoille	02	Southern Piedmont
		017	Orange	007	Amelia
		019	Orleans	011	Appomattox
		023	Washington	019	Bedford
49	Utah			029	Buckingham
01	Northern	003	Southern	031	Campbell
003	Box Elder	001	Addison	037	Charlotte
005	Cache				

049	Cumberland	027	Buchanan	790	Staunton city
067	Franklin	035	Carroll	820	Waynesboro city
083	Halifax	051	Dickenson	830	Williamsburg city
089	Henry	063	Floyd	840	Winchester city
111	Lunenburg	071	Giles		
117	Mecklenburg	077	Grayson		
135	Nottoway	105	Lee	53	Washington
141	Patrick	121	Montgomery	05	Puget Sound
143	Pittsylvania	155	Pulaski	029	Island
145	Powhatan	167	Russell	033	King
147	Prince Edward	169	Scott	035	Kitsap
		173	Smyth	053	Pierce
03	Northern Piedmont	185	Tazewell	055	San Juan
003	Albemarle	191	Washington	057	Skagit
009	Amherst	195	Wise	061	Snohomish
013	Arlington	197	Wythe	073	Whatcom
047	Culpeper				
059	Fairfax		Unsampled cities	06	Olympic Peninsula
061	Fauquier	510	Alexandria city	009	Clallam
065	Fluvanna	515	Bedford city	027	Grays Harbor
075	Goochland	520	Bristol city	031	Jefferson
079	Greene	530	Buena Vista city	045	Mason
107	Loudoun	540	Charlottesville city	067	Thurston
109	Louisa	560	Clifton Forge city		
113	Madison	570	Colonial Heights city	07	Southwest
125	Nelson	580	Covington city	011	Clark
137	Orange	590	Danville city	015	Cowlitz
153	Prince William	595	Emporia city	041	Lewis
157	Rappahannock	600	Fairfax city	049	Pacific
177	Spotsylvania	610	Falls Church city	059	Skamania
179	Stafford	620	Franklin city	069	Wahkiakum
		630	Fredericksburg city		
04	Northern Mountains	640	Galax city	08	Central
005	Alleghany	660	Harrisonburg city	001	Adams
015	Augusta	670	Hopewell city	003	Asotin
017	Bath	678	Lexington city	005	Benton
023	Botetourt	680	Lynchburg city	013	Columbia
043	Clarke	683	Manassas city	019	Ferry
045	Craig	685	Manassas Park city	021	Franklin
069	Frederick	690	Martinsville city	023	Garfield
091	Highland	710	Norfolk city	025	Grant
139	Page	720	Norton city	043	Lincoln
161	Roanoke	730	Petersburg city	051	Pend Oreille
163	Rockbridge	735	Poquoson city	063	Spokane
165	Rockingham	740	Portsmouth city	065	Stevens
171	Shenandoah	750	Radford city	071	Walla Walla
187	Warren	760	Richmond city	075	Whitman
		770	Roanoke city		
05	Southern Mountains	775	Salem city	09	Inland Empire
021	Bland	780	South Boston city	007	Chelan

017 Douglas
037 Kittitas
039 Klickitat
047 Okanogan
077 Yakima

54 West Virginia

02 Northeastern

001 Barbour
003 Berkeley
007 Braxton
023 Grant
027 Hampshire
031 Hardy
033 Harrison
037 Jefferson
041 Lewis
057 Mineral
065 Morgan
071 Pendleton
075 Pocahontas
077 Preston
083 Randolph
091 Taylor
093 Tucker
097 Upshur
101 Webster

03 Southern

005 Boone
015 Clay
019 Fayette
025 Greenbrier
039 Kanawha
045 Logan
047 McDowell
055 Mercer
059 Mingo
063 Monroe
067 Nicholas
081 Raleigh
089 Summers
109 Wyoming

04 Northwestern

009 Brooke
011 Cabell
013 Calhoun
017 Doddridge
021 Gilmer

029 Hancock
035 Jackson
043 Lincoln
049 Marion
051 Marshall
053 Mason
061 Monongalia
069 Ohio
073 Pleasants
079 Putnam
085 Ritchie
087 Roane
095 Tyler
099 Wayne
103 Wetzel
105 Wirt
107 Wood

55 Wisconsin

01 Northeastern

037 Florence
041 Forest
067 Langlade
069 Lincoln
075 Marinette
078 Menominee
083 Oconto
085 Oneida
115 Shawano
125 Vilas

02 Northwestern

003 Ashland
005 Barron
007 Bayfield
013 Burnett
031 Douglas
051 Iron
095 Polk
099 Price
107 Rusk
113 Sawyer
119 Taylor
129 Washburn

03 Central

001 Adams
017 Chippewa
019 Clark
035 Eau Claire
053 Jackson
057 Juneau
073 Marathon
077 Marquette
081 Monroe
097 Portage
135 Waupaca
137 Waushara
141 Wood

04 Southwestern

011 Buffalo
023 Crawford
033 Dunn
043 Grant
049 Iowa
063 La Crosse
065 Lafayette
091 Pepin
093 Pierce
103 Richland
109 St. Croix
111 Sauk
121 Trempealeau
123 Vernon

05 Southeastern

009 Brown
015 Calumet
021 Columbia
025 Dane
027 Dodge
029 Door
039 Fond du Lac
045 Green
047 Green Lake
055 Jefferson
059 Kenosha
061 Kewaunee
071 Manitowoc
079 Milwaukee
087 Outagamie
089 Ozaukee
101 Racine
105 Rock

117	Sheboygan	021	Bayamon	119	Rio Grande
127	Walworth	023	Cabo Rojo	121	Sabana Grande
131	Washington	025	Caguas	123	Salinas
133	Waukesha	027	Camuy	125	San German
139	Winnebago	029	Canovanas	127	San Juan
		031	Carolina	129	San Lorenzo
		033	Catano	131	San Sebastian
56	Wyoming	035	Cayey	133	Santa Isabel
01	Western	037	Ceiba	135	Toa Alta
013	Fremont	039	Ciales	137	Toa Baja
017	Hot Springs	041	Cidra	139	Trujillo Alto
023	Lincoln	043	Coamo	141	Utua
029	Park	045	Comerio	143	Vega Alta
035	Sublette	047	Corozal	145	Vega Baja
037	Sweetwater	049	Culebra	147	Vieques
039	Teton	051	Dorado	149	Villalba
041	Uinta	053	Fajardo	151	Yabucoa
		054	Florida	153	Yauco
02	Central and Southeastern	055	Guanica		
001	Albany	057	Guayama		
003	Big Horn	059	Guayanilla		
007	Carbon	061	Guaynabo		
009	Converse	063	Gurabo		
015	Goshen	065	Hatillo		
019	Johnson	067	Hormigueros		
021	Laramie	069	Humacao		
025	Natrona	071	Isabela		
027	Niobrara	073	Jayuya		
031	Platte	075	Juana Diaz		
033	Sheridan	077	Juncos		
043	Washakie	079	Lajas		
		081	Lares		
03	Northeastern	083	Las Marias		
005	Campbell	085	Las Piedras		
011	Crook	087	Loiza		
045	Weston	089	Luquillo		
		091	Manati		
		093	Maricao		
72	Puerto Rico	095	Maunabo		
01	Puerto Rico	097	Mayaguez		
001	Adjuntas	099	Moca		
003	Aguada	101	Morovis		
005	Aguadilla	103	Naguabo		
007	Aguas Buenas	105	Naranjito		
009	Aibonito	107	Orocovis		
011	Anasco	109	Patillas		
013	Arecibo	111	Penuelas		
015	Arroyo	113	Ponce		
017	Barceloneta	115	Quebradillas		
019	Barranquitas	117	Rincon		

Appendix C – Species group names and crosswalk to FIADB.

Species group name	Crosswalk from FIADB to SPDBH2002 table	Variable suffix
Longleaf and slash pines	spgrpcd=1	lgsl
Loblolly and shortleaf pines	spgrpcd=2	lbsh
Other yellow pines	spgrpcd=3	otyp
Eastern white and red pines	spgrpcd=4	ewrd
Jack pine	spgrpcd=5	jack
Spruce and balsam fir	spgrpcd=6	spfr
Eastern hemlock	spgrpcd=7	ehem
Cypress	spgrpcd=8	cypr
Other eastern softwoods	spgrpcd=9	otesw
Douglas-fir	spgrpcd=10	doug
Ponderosa and Jeffrey pines	spgrpcd=11	pdjeff
True fir	spgrpcd=12	fir
Western hemlock	spgrpcd=13	whem
Sugar pine	spgrpcd=14	sugar
Western white pine	spgrpcd=15	wwpn
Redwood	spgrpcd=16	rdwd
Sitka spruce	spgrpcd=17	sitka
Engelmann and other spruces	spgrpcd=18	engel
Western larch	spgrpcd=19	wlarch
Incense-cedar	spgrpcd=20	incen
Lodgepole pine	spgrpcd=21	lodge
Western redcedar	spgrpcd=22	wrced
Western woodland softwoods	spgrpcd=23	N/A
Other western softwoods	spgrpcd=24	otwsw
Select white oaks	spgrpcd=25	swok
Select red oaks	spgrpcd=26	srok
Other white oaks	spgrpcd=27	owok
Other red oaks	spgrpcd=28	orok
Hickory	spgrpcd=29	hick
Yellow birch	spgrpcd=30	ybir
Hard maple	spgrpcd=31	hmap
Soft maple	spgrpcd=32	smap
Beech	spgrpcd=33	bech
Sweetgum	spgrpcd=34	sgum
Tupelo and blackgum	spgrpcd=35	bgum
Ash	spgrpcd=36	ash

(table continued on next page)

Species group name	Crosswalk from FIADB to SPDBH2002 table	Variable suffix
Cottonwood and aspen	spgrpcd=37	ecoas
Basswood	spgrpcd=38	bass
Yellow-poplar	spgrpcd=39	ypop
Black walnut	spgrpcd=40	bwal
Black cherry	spgrpcd=41 and spcd=762	bchr
Other eastern hardwoods	spgrpcd=41,42,43 but not spcd=762	otehw
Cottonwood and aspen	spgrpcd=44	wcoas
Red alder	spgrpcd=45	alder
Oak	spgrpcd=46	wok
Other western hardwoods	spgrpcd=47,48	otwhw

MISSION STATEMENT

We believe the good life has its roots in clean air, sparkling water, rich soil, healthy economies and a diverse living landscape. Maintaining the good life for generations to come begins with everyday choices about natural resources. The North Central Research Station provides the knowledge and the tools to help people make informed choices. That's how the science we do enhances the quality of people's lives.

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