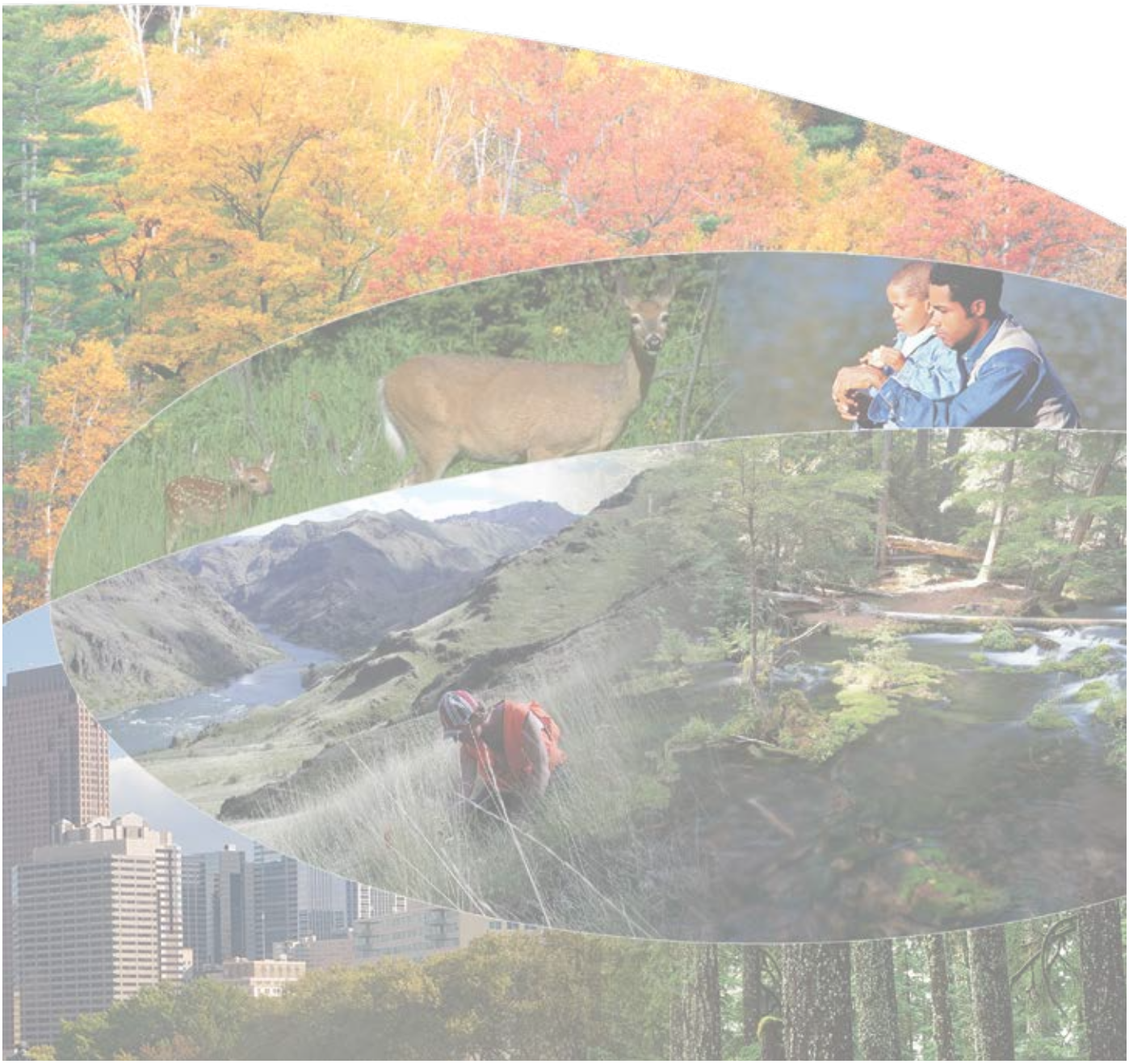
RPA Tree-level Database User Guide

Patrick D. Miles, Scott A. Pugh, W. Brad Smith, and Sonja N. Oswalt



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Abstract

The Forest and Rangeland Renewable Resources Planning Act (RPA) of 1974 calls for a periodic assessment of the Nation's renewable resources. The Forest Inventory and Analysis (FIA) program of the U.S. Forest Service supports the RPA effort by providing information on the forest resources of the United States. The RPA tree-level database (RPAtreeDB) was generated from the FIA database to facilitate the reporting of forest estimates and their associated sampling errors for the most recent RPA forest resource report (Oswalt et al. 2014). The RPAtreeDB contains plot- and tree-level data, collected by FIA, for the 48 coterminous States, southeast Alaska, and portions of Puerto Rico and the U.S. Virgin Islands. This database is available to the public as a Microsoft Access™ 2010 database. The RPA2012_EVALIDator reporting tool can generate custom reports for a variety of forest statistics based on the inventories used in compiling the 2012 RPA forest resource report (Oswalt et al 2014). The reporting tool can be used to generate tabular reports based on stand-level variables such as forest type and stand-size and tree-level variables such as species and diameter class.

Keywords: area, assessment, forest statistics, inventory, productivity, volume

Overview

The Forest and Rangeland Renewable Resources Planning Act (RPA) of 1974 directs the U.S. Forest Service to report on the status of the Nation's forests and rangelands every 10 years. The Forest Inventory and Analysis (FIA) program of the U.S. Forest Service is responsible for compiling forest resource statistics and assessing their current status and trends for the RPA assessment. In addition to the 10-year report, a 5-year update has been standard since 1982. The most current FIA data are compiled in advance of the delivery of the full RPA assessment (e.g., 1977 for the 1979 RPA Assessment, 2007 for the 2010 RPA Assessment) because the data are also used to support RPA analyses of other resource areas.

The first RPA forest resource reports (1977 and 1982) were compiled from a variety of sources, but primarily from published FIA State reports. There was no capacity for further analysis because the underlying data were not available.

Beginning with the 1987 RPA forest resource report, a plot summary database was developed to archive the plot-level and/or stand-level data used to generate forest statistics that were published in the report (Waddell et al. 1989). This plot-level database could be used to verify figures and graphs in the forest resource report and for further in-depth analysis. However, only a few analysts within the FIA program had access to both the data and the institutional knowledge required to use this database.

Three developments led to greater transparency and accessibility to the RPA forest resource datasets. The first development was the publication of an RPA plot summary database user's manual (Miles et al. 2004), which described the structure of the RPA 2002 plot summary database and provided detailed information on procedures for generating estimates of forest statistics from these data. The second development was the creation of the RPA Data Wiz reporting tool (Pugh et al. 2003). The RPA Data Wiz is a Windows™-based computer application that can be used to create summary tables, graphs, and maps based on RPA forest resource statistics. The third development was the distribution of the user guide and the reporting tool on a compact disc located on the inside back covers of the 2002 and 2007 RPA forest resource reports (Smith et al. 2004, 2009).

Improvements in computer processing and data storage make it possible to provide nearly all RPA forest resource data at the tree-level within a Microsoft Access™ database (although some secondary variables could not be included due to a 2 gigabyte database file size limit). The RPA tree-level database (RPAtreeDB) contains FIA plot and tree-level data for the 48 coterminous States, southeast Alaska, and portions of Puerto Rico and the U.S. Virgin Islands. This database is available to the public as a Microsoft Access™ database on a DVD located on the back cover of the 2012 RPA forest resource report (Oswalt et al. 2014). Many of the tables in the RPAtreeDB are derived from the Forest Inventory and Analysis Database (FIADB)(Woudenberg et al. 2010) see appendix A. For a complete list of RPAtreeDB variables see appendix B.

This user guide provides example retrievals to illustrate how the RPAtreeDB can be used to generate estimates of 2012 RPA forest statistics based on the most current (2012) RPA data. The appendices also provide detail on the technical aspects of delivering estimates of current forest conditions.

Retrieval Examples

The RPA2012_EVALIDator reporting tool is a Microsoft Access™ "form" located inside an MS-ACCESS database (fig. 1). This "form," which is really just a computer program, can be run to generate current estimates for the 48 coterminous States, southeast Alaska, and portions of Puerto Rico and the U.S. Virgin Islands, or for any subset of these areas. Appendix C contains a list of estimates that can be produced using the RPA2012_EVALIDator reporting tool. The estimates are based on RPA definitions.[1]

Two example retrievals are provided to illustrate how the reporting tool can be used to expand upon the information contained in the RPA forest resource report (Oswalt et al. 2014). If, for example, someone was interested in the area of timberland by stand-size for the State of New York they would not find this information in the published report. The best they could do would be to impute State-level stand-size estimates based on resource report Table 14 ("Timberland area in the United States by forest-type group, region, subregion, and stand-size class, 2012" found in Oswalt et al. 2014) and Table 10 ("Timberland area in the United States by ownership, region, subregion, and State, 2012, 2007, 1997, 1987, 1977, and 1953" also found in Oswalt et al. 2014). Having information on the underlying plot-level data, however, allows the analyst to generate estimates for the area of interest with known confidence intervals (example 1). Similarly, if

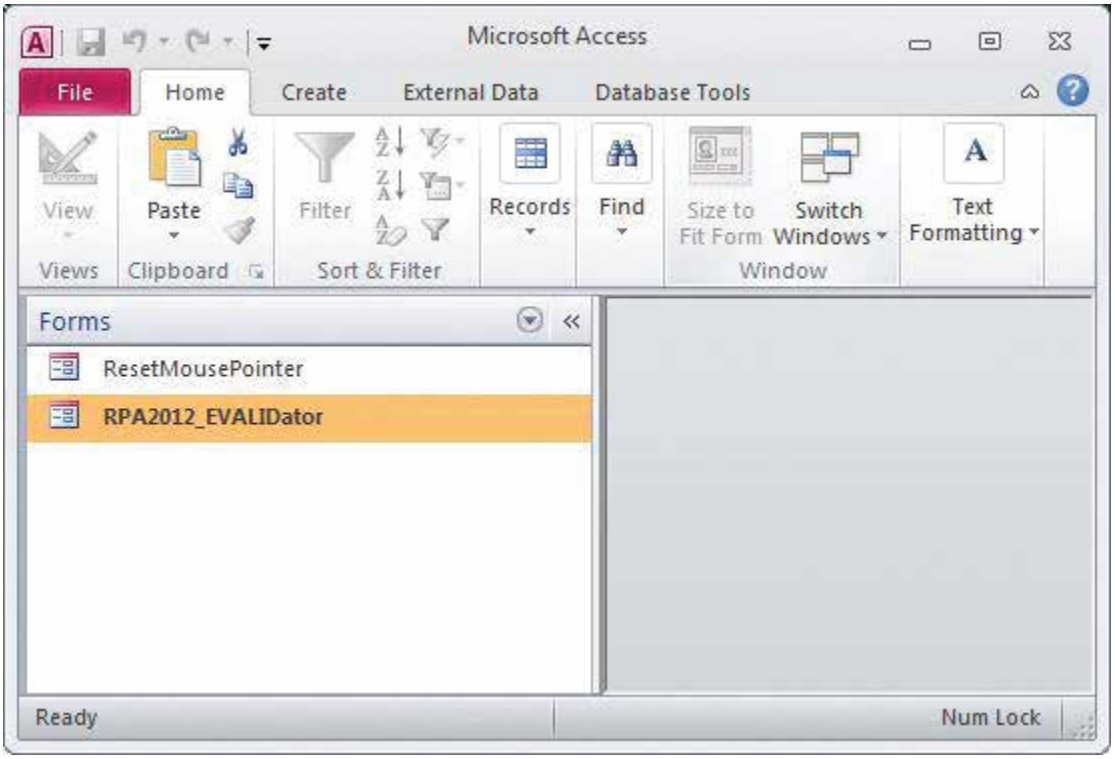

Figure 1. The reporting form available in the RPAtreeDB: RPA2012_EVALIDator (highlighted in orange).

[1] For the most part, FIA and RPA definitions are identical. However, there is a significant difference in how FIA and RPA define land class (see appendix B >>Table B1>>variable COND_STATUS_CD for more information). The RPA definition of forest land does not include approximately 50 million acres of primarily low productivity pinyon juniper lands in the western United States that are currently included in the FIA database. These lands typically have a tree canopy cover of 5-10 percent combined with shrubs at least 6 feet (2 m) in height to achieve an overall cover of >10 percent woody vegetation but are classified as "woodland" in the RPA.

someone was interested in the volume of Douglas-fir on forest land they would not find this in the published report. They could, however, derive this tree-level information from the RPAtreeDB (example 2).

Example 1. Using the RPA2012_EVALIDator Form to Generate Area Estimates

In this example, the **RPA2012_EVALIDator** form is used to generate an estimate of timberland area for New Jersey and New York by State and stand size. To begin, load the DVD from the inside back cover of the 2012 RPA forest resource report (Oswalt et al. 2014) onto a computer that has Microsoft Access™ 2010 installed. Copy the file RPA2012_32or64bit.accdb to a folder on your computer that is a trusted location.[2] Double click on the file name RPA2012_32or64bit.accdb. Once MS-Access™ is running double-click on the **RPA2012_EVALIDator** name as depicted in figure 1. This will bring up the screen shown in figure 2.

Select "003 Area of timberland: in acres" as the estimate and click on the "Step1" button.

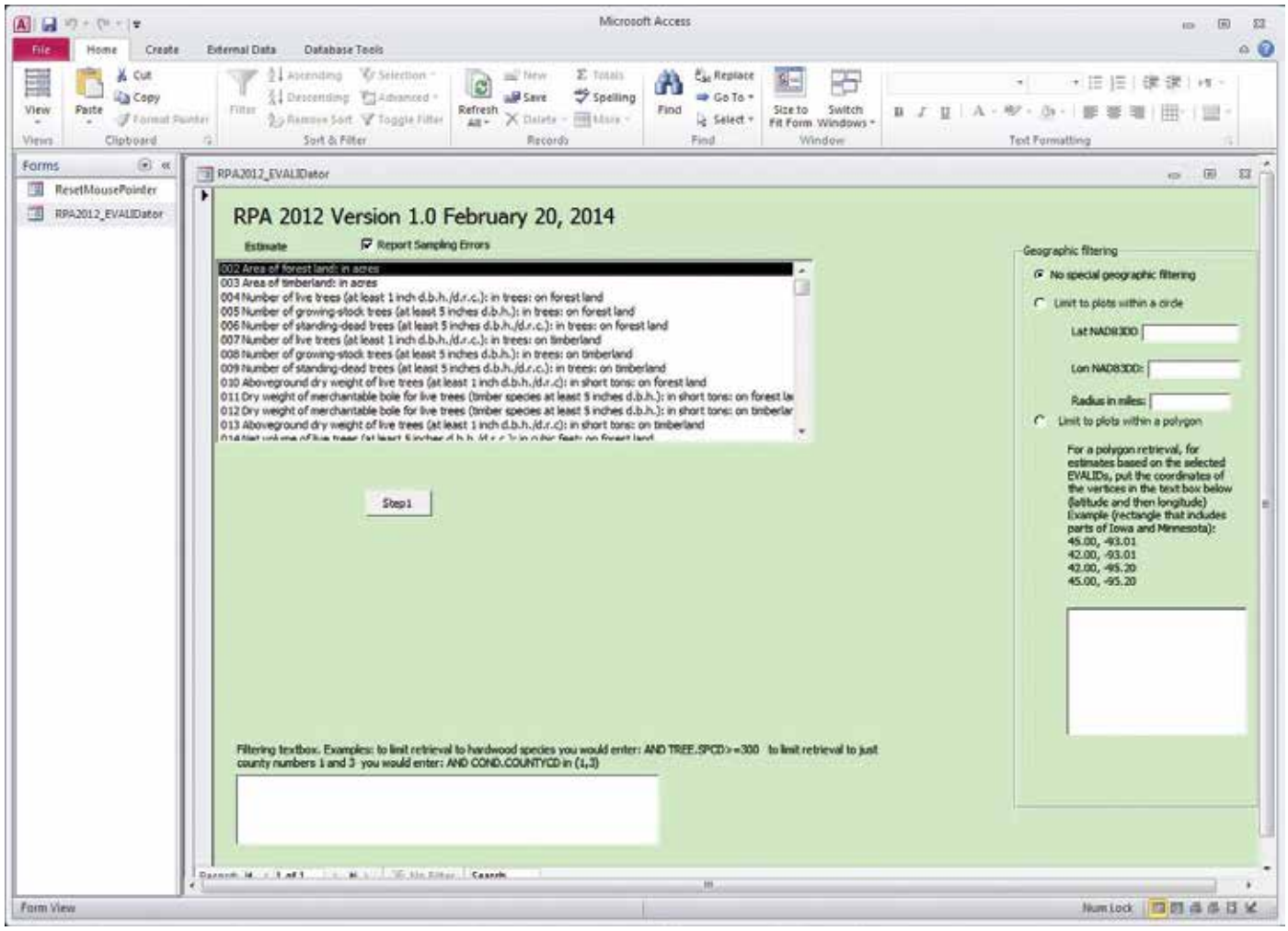

Figure 2. Screenshot of initial page of RPA2012_EVALIDator form.

[2] To make a folder a trusted location, first startup Microsoft Access™, then select the **File tab**, then select **Options**, then select **Trust Center**, then **Trust Center Settings,** then Trusted Locations, then Add new location. Browse to the folder that contains your database and add it as a trusted location.

Choosing the State Inventories

The combination of the two-digit research station code and the six-digit evalid number uniquely identify the subset of plots used to generate an estimate for a State inventory (fig. 3). In the RPAtreeDB, there is only one entry for each State in the "Eval ID" dropdown box. The Eval ID entry for New Jersey is "24 341101 New Jersey 2007.2008.2009.2010.2011" and the Eval ID entry for New York is "24 361101 New York 2007.2008.2009.2010.2011." The data used to compute the 2012 RPA inventory estimates for New Jersey and New York were collected in 2007, 2008, 2009, 2010, and 2011. This is a rolling average where 20 percent of the plots are collected each year. Select both States by clicking on the entry for New Jersey and then, while holding down the Ctrl key, click on the entry for New York.

Choosing the Classification Variables

It is possible to generate tabular reports where there are page, row, and column variables. Usually, however, analysts are more comfortable with two-way tables where there are only rows and columns. A common exception is when analysts wish to generate separate tables for each State. In this case, the analyst would choose "State" for Pages. In this example, however, we do not want to have multiple pages so we choose "None" for Pages, "Stand-size" for Rows, and "State" for Columns (fig. 3).

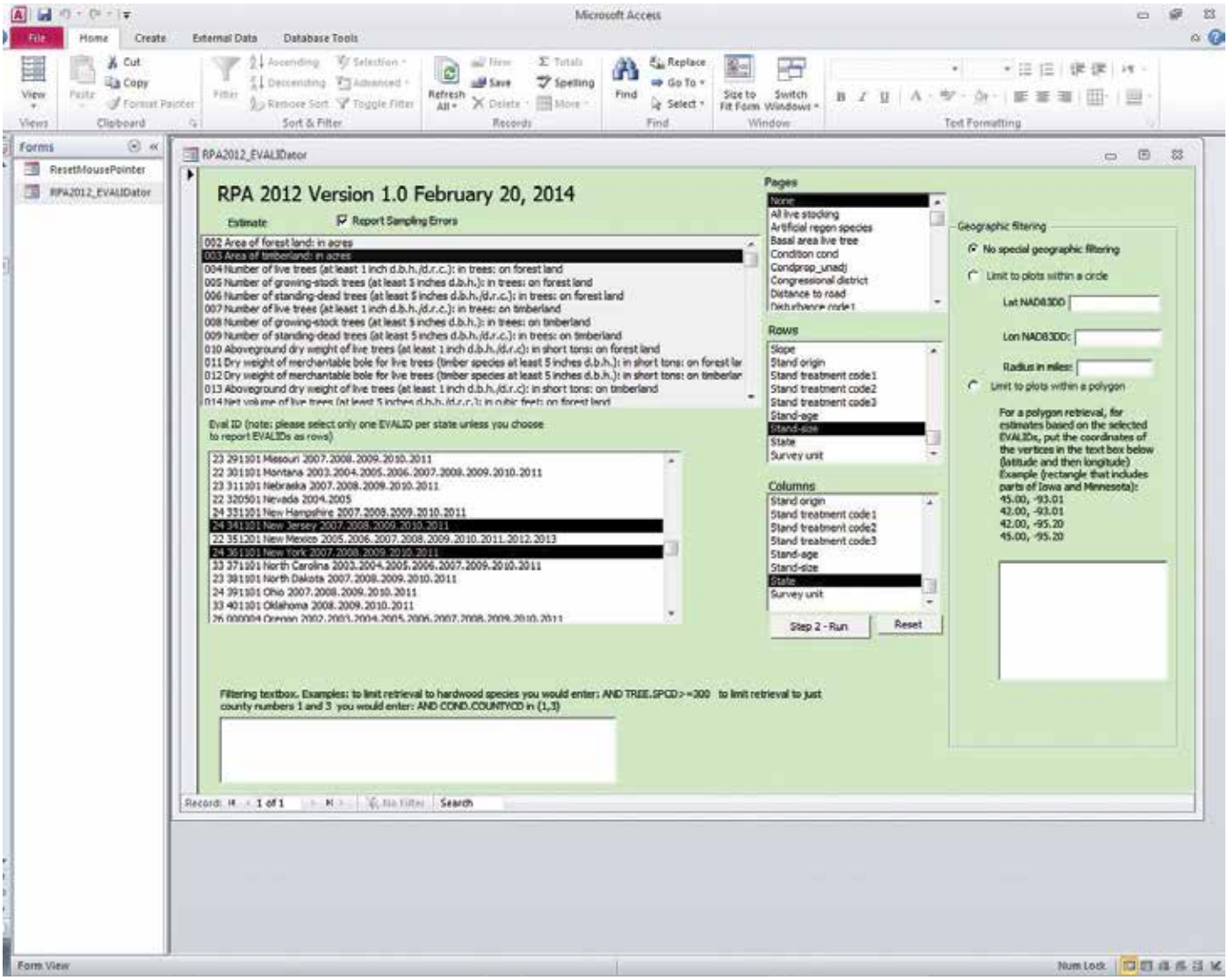

Figure 3. Choosing the state inventories and classification variables.

Then select Step2 – Run. After several seconds, a window (fig. 4) will pop up and you will be able to specify the output file name and location.

Once an output file has been specified, and the Save button has been selected, an html file will be created. To view the html file click on the hyperlink displayed at the bottom of the form. The file will contain both estimates and sampling-error percentages for 1 standard deviation of the estimate. This output is depicted in Table 1.

New Jersey and New York have an estimated 17.8 million acres of timberland, based on the output results listed in table 1. In addition to providing estimates, the **RPA2012_EVALIDator** program also provides associated sampling errors. Sampling errors are provided in the lower half of table 1. The sampling error for the total forest area is 0.79 percent, therefore we would expect that if we conducted the inventory again using the same methods, that there would be a two-thirds chance that the estimate would be within the range of 17,764,381 acres plus or minus 0.79 percent, or between 17.6 and 17.9 million acres.

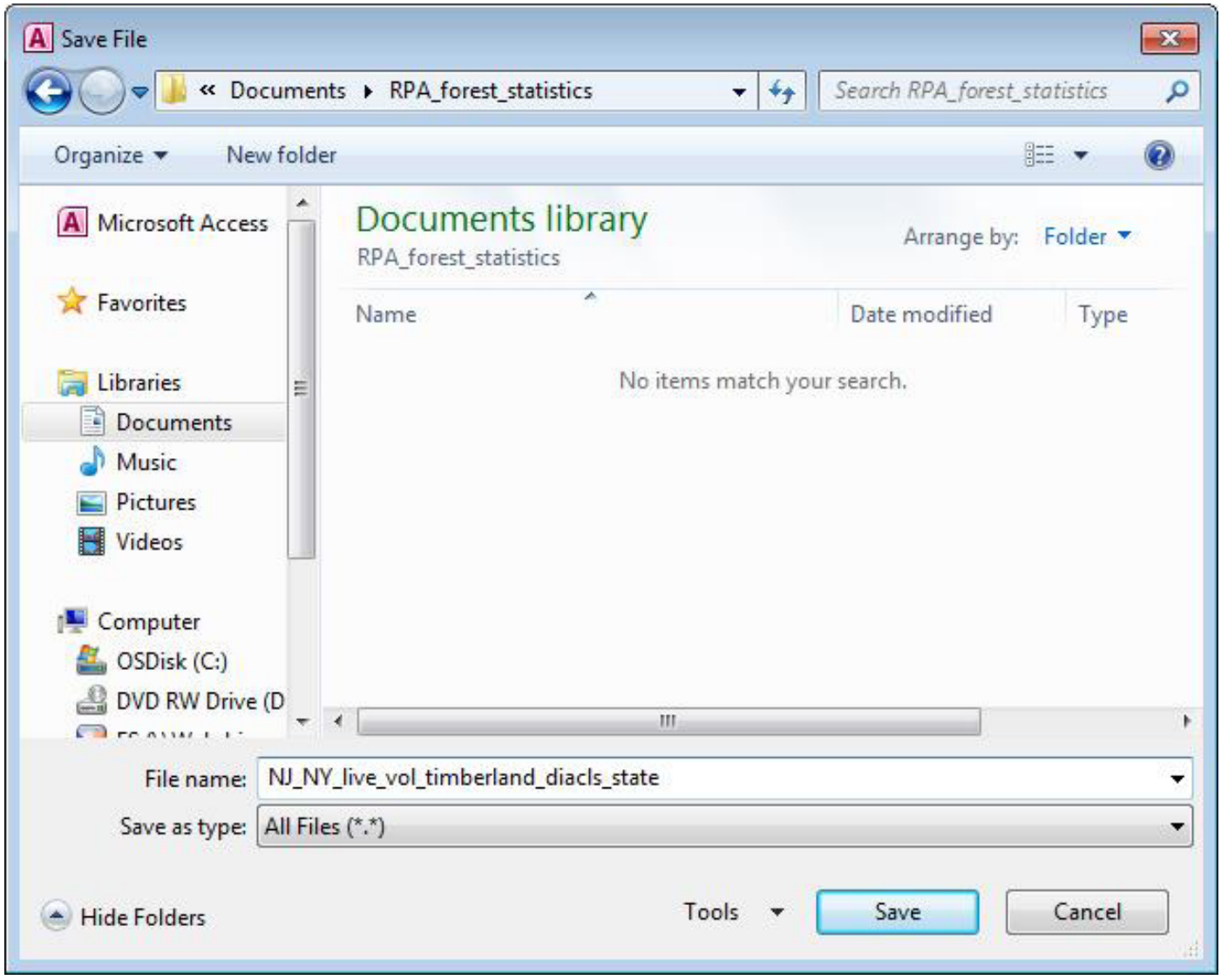

Figure 4. Saving the output file.

Table 1. Estimates and associated sampling error percentages for example 1.

Estimate type 003 Area of timberland: in acres
Statecd/EVALID: 24 341101 New Jersey
2007.2008.2009.2010.2011.24 361101 New York
2007.2008.2009.2010.2011.
Page variable=None
Row variable=Stand-size
Column variable=State

3/12/2014 9:34:39 AM

Estimate:

	State		
Stand-size	Total	NJ	NY
Total	17,764,381	1,844,713	15,919,668
Large diameter	10,636,655	1,193,875	9,442,780
Medium diameter	4,957,841	530,690	4,427,150
Small diameter	1,943,755	95,987	1,847,768
Nonstocked	226,131	24,161	201,970

Sampling error percent:

	State		
Stand-size	Total	NJ	NY
Total	0.79	2.97	0.82
Large diameter	1.57	4.70	1.67
Medium diameter	2.96	9.38	3.12
Small diameter	4.95	20.58	5.10
Nonstocked	13.38	37.75	14.28

Example 2. Volume by Species and Diameter Class for the Coterminous United States

In this example, an estimate of current volume of live trees on forest land for the 48 coterminous States using the **RPA2012_EVALIDator** form is generated. To begin, double-click on the **RPA2012_EVALIDator** name as depicted in figure 1. This will bring up the screen shown in Figure 2. This time select "014 Net volume of live trees (at least 5 inches d.b.h./d.r.c.): in cubic feet: on forest land" as the estimate and select Step1. (fig. 5).

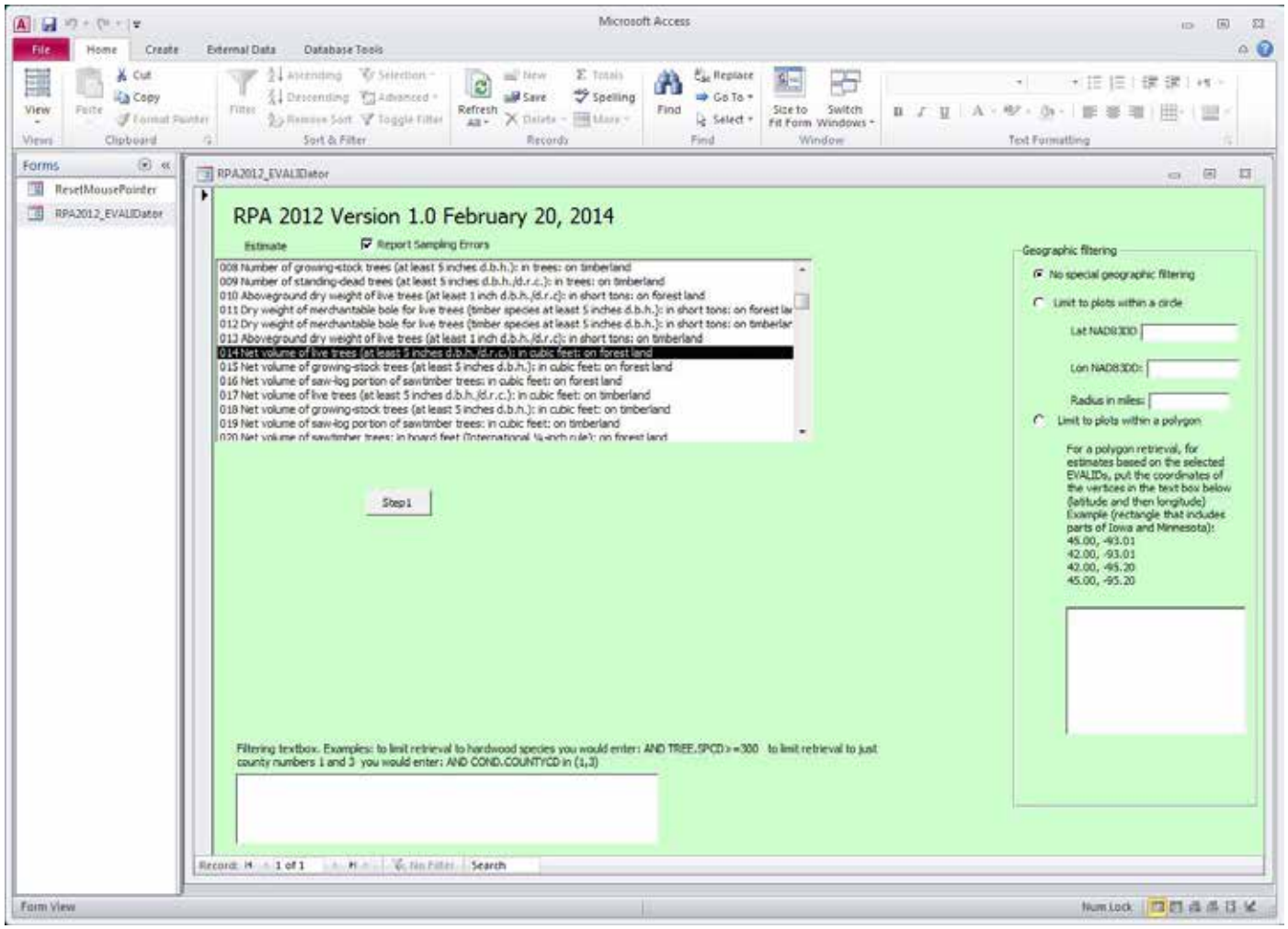

Figure 5. Choosing volume of all live on forest land as the estimate of interest.

Choosing the State Inventories

The relatively simple way to select only the 48 coterminous States requires the use of the Filtering Textbox at the bottom of the form (fig. 6). The first step is to select all of the entries in the Eval IDdrop down box. You can do this by clicking on the first entry in the list and then using the scrollbar to go to the bottom of the list and then hold down the Shift key and click on the final entry. Then in the Filtering textbox enter the following text: "and plot.statecd not in (2, 72, 78)."

This will remove Alaska (southeast), Puerto Rico (mainland), and the U.S. Virgin Islands from the retrieval.

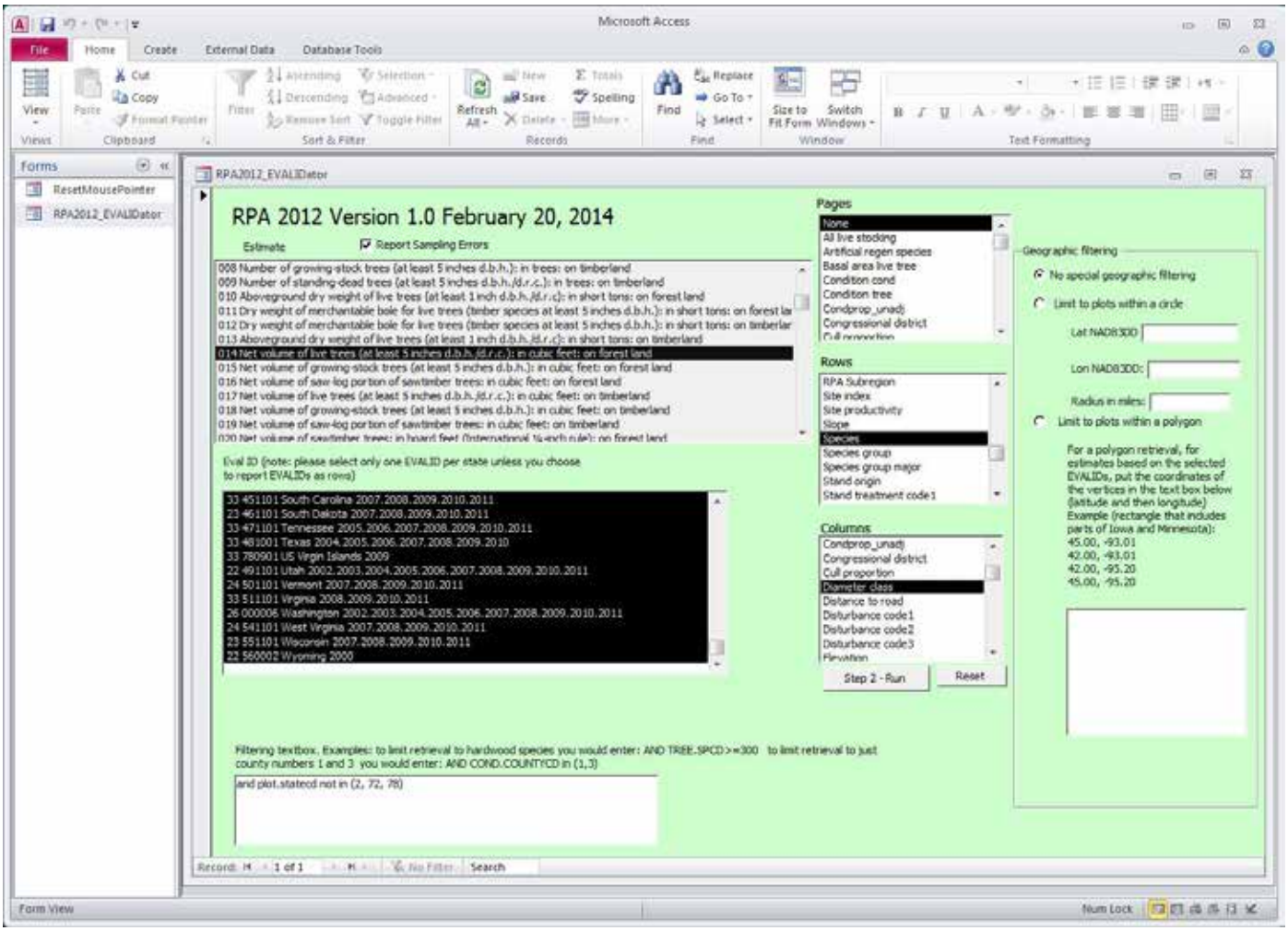

Figure 6. Choosing the State inventories and classification variables.

Choosing the Classification Variables

In this example, choose "None" for Pages, "Species" for Rows and "Diameter class" for Columns.

Then select Step2 – Run. A window (fig. 7) will pop up and you will be able to specify the output file name and location.

A portion of the output is displayed in table 2. There were 370 species measured on forested FIA plots for the 48 States in the 2012 forest resource report. Three-fifths of the total volume is from just 20 species.

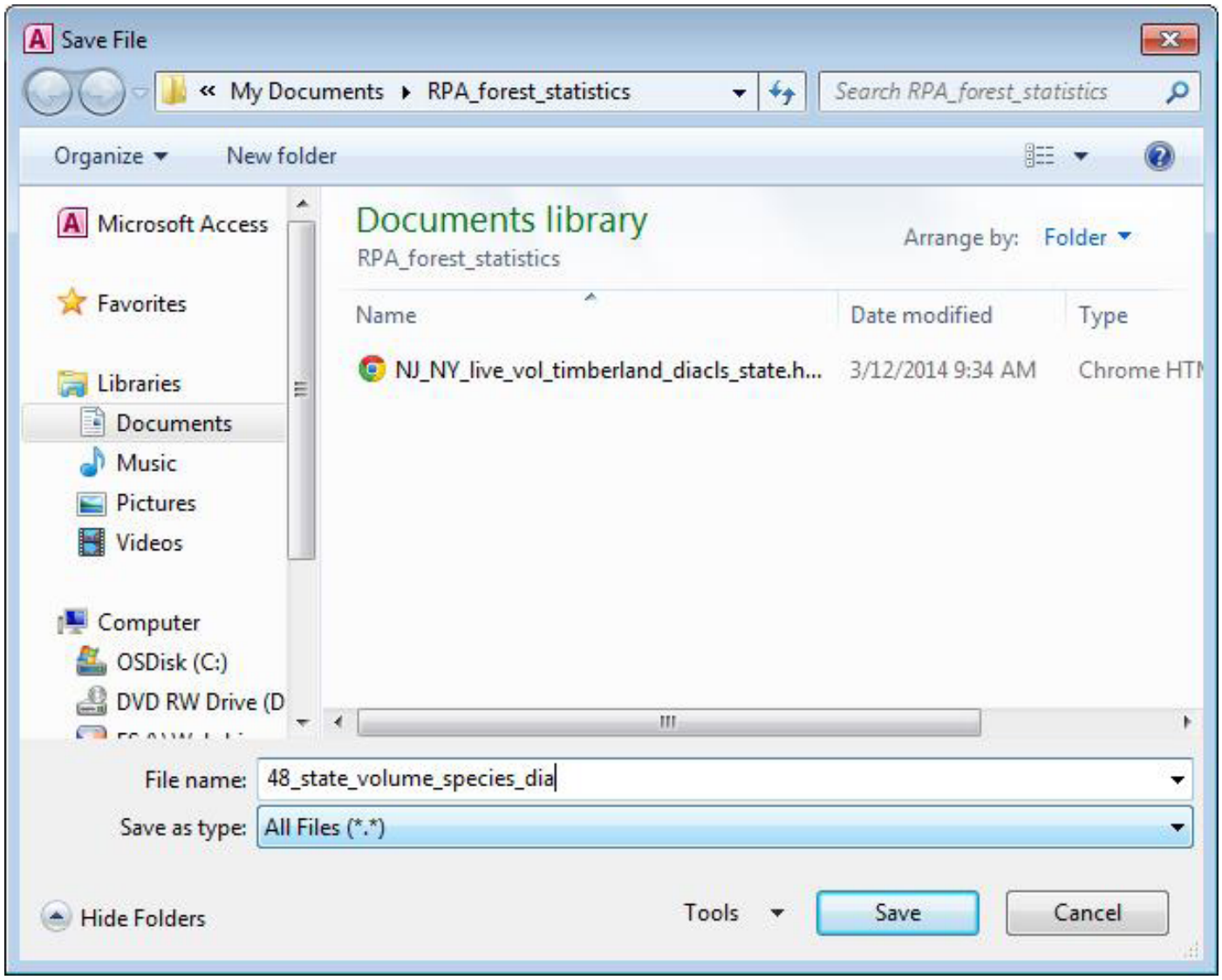

Figure 7. Saving the output file for the volume report.

Table 2. Volume (billion cubic feet) of live trees on forest land by diameter class (inches d.b.h.) for the 48 coterminous States (top 20 species)

Species	Total	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+
Total	1,185	77	118	139	143	134	117	96	75	165	122
Douglas-fir	146	3	6	9	11	12	12	11	10	29	42
Loblolly pine	85	9	14	15	13	10	8	6	4	6	1
Red maple	49	5	7	8	8	7	5	3	2	3	0
Ponderosa pine	44	1	2	3	4	4	4	4	4	10	7
Lodgepole pine	35	4	7	7	6	4	2	1	1	1	1
White oak	35	1	2	3	4	5	5	4	3	5	1
Yellow-poplar	34	1	2	3	3	4	4	4	4	7	2
Sugar maple	31	2	4	5	5	4	4	3	2	3	1
Engelmann spruce	31	1	2	3	3	4	4	3	3	6	2
Western hemlock	29	1	1	2	2	3	3	2	2	6	7
Northern red oak	27	1	1	2	3	3	3	3	3	6	2
Sweetgum	23	2	3	3	3	3	2	2	1	2	0
Eastern white pine	20	1	1	2	2	2	2	2	2	5	1
White fir	20	0	1	1	1	2	1	2	2	5	5
Quaking aspen	19	2	3	4	4	3	2	1	0	0	0
Subalpine fir	18	2	3	3	3	2	2	1	1	1	0
Chestnut oak	18	1	1	2	2	3	2	2	2	3	1
Grand fir	16	1	1	1	1	2	2	2	1	3	2
Black oak	15	0	1	1	2	2	2	2	2	3	1
Eastern hemlock	13	1	1	2	2	2	2	1	1	2	0
Other	477	38	53	59	59	54	46	36	27	58	46

The ability to report forest statistics by tree characteristics allows for a better understanding of conditions on the forest. Figure 8 was derived from table 2 and illustrates how Douglas-fir volume is concentrated in the larger diameter classes while loblolly pine volume is concentrated in the smaller diameter classes. This type of species-specific data provides valuable information on forest populations, but requires tree-level detail, something that was not available in the RPA plot summary database.

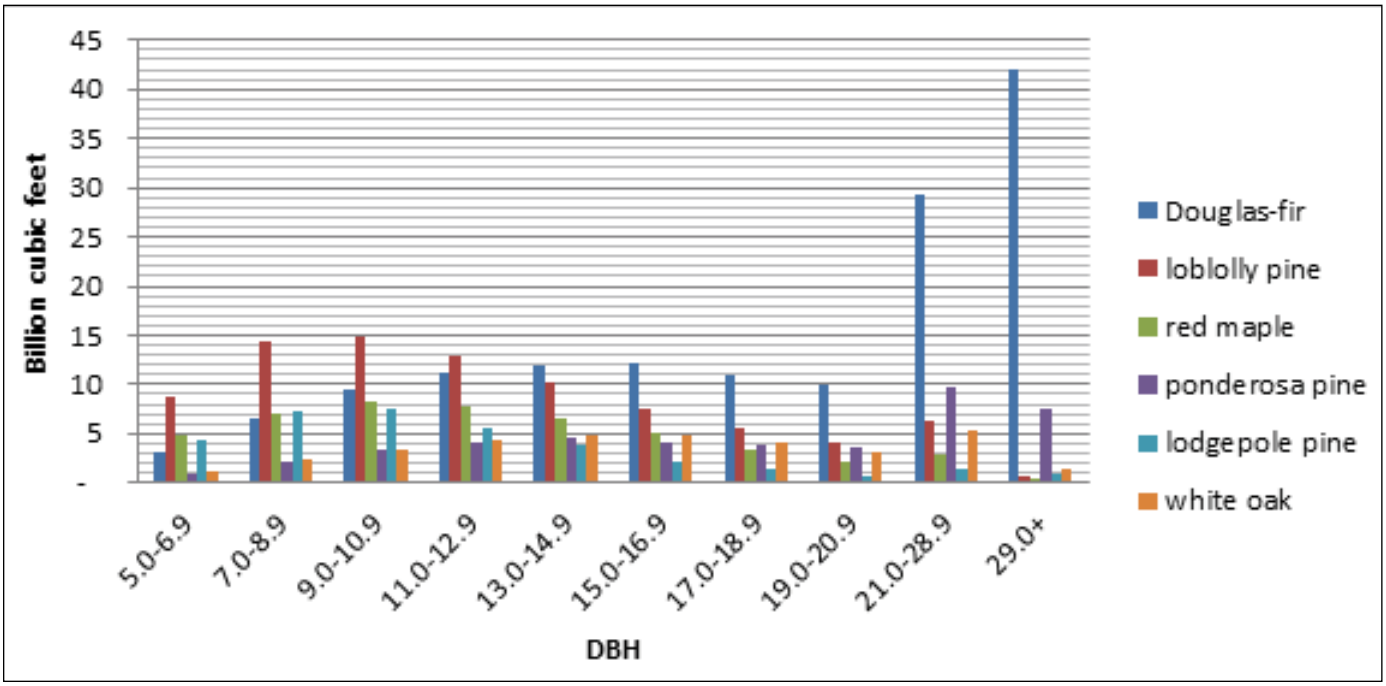

Figure 8. Live tree volume (billion cubic feet) on forest land of the top six species by diameter class (inches), 48 coterminous States.

Conclusion

Additional issues can be addressed within the framework of the forest resource assessment by providing the underlying data and tools within the publication. It is for that reason that databases and reporting tools have been included on the DVD included with the 2012 RPA forest resource report. The FIADB users guide (Woudenberg et al. 2010), and the RPA Data Wiz users manual (Pugh 2004), and the RPA Data Wiz reporting tool (Pugh 2003) have also been included on the DVD to provide additional metadata.

Analysts wishing to duplicate the results of the RPA forest resource report will find the RPA plot summary database and attendant RPA DataWiz to be quick and easy to use. Analysts requiring sampling error estimates and or needing to report tree-level variables should use the RPAtreeDB.

Additionally, the FIADB datasets used to produce the 2012 RPA forest resource datasets have been included on the DVD as comma-delimited files. The comma-delimited files are provided primarily for archival purposes but they can be loaded into an MS-Access™ database with reporting tools in FIADB_version4 included on the DVD. Within the FIADB_version4 database is a form called "Load a State's FIADB tables" that can be used to load the comma-delimited files for any State into the FIADB_version4 database. Those needing the most recent FIA data should visit the FIA DataMart – http://apps.fs.fed.us/fiadb-downloads/datamart.html.

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Appendix A

Modified FIADB Version 4.0 Format

The RPAtreeDB is based in large part on the Forest Inventory and Analysis Database (FIADB). There are 67 tables in FIADB version 4.0. Eighteen are reference tables and 49 are data tables. Because the MS-Access™ file size is limited to 2 gigabytes, the number of tables included in the RPAtreeDB has been reduced to 16 (table A1). Of these 16 tables, 11 are modified FIADB tables and 5 are new tables; new tables have an asterisk following their table name in table A1. The new tables are fully described in appendix B of this publication whereas only changes to the 11 FIADB tables are described. For a full description of the FIADB tables see Woudenberg et al. 2010.

Table A1. List of tables in RPAtreeDB Database

Table name	Description
COND	Provides information on the discrete combination of landscape attributes that define the condition. (A condition will have the same land class, reserved status, owner group, forest type, stand-size class, regeneration status, and stand density.)
PLOT	Plot table contains information relevant to the entire field plot such as latitude and longitude. This table also includes stored area expansion factors that were obtained from the PLOTSNAP table, usually for the 2011 inventory.
POP_ESTN_UNIT	Estimation unit (EU) table contains information on the area in each EU and number of pixels in EU. An estimation unit is a geographic area that can be drawn on a map. It has a known area, and the sampling intensity must be the same within a stratum within an estimation unit. Generally, estimation units are contiguous areas, but exceptions are made when certain ownerships, usually National Forests, are sampled at different intensities
POP_EVAL	An evaluation is the combination of a set of plots (the sample) and a set of Phase 1 data (obtained through remote sensing, called a stratification) that can be used to produce population estimates for a State. A record in the POP_EVAL table identifies one evaluation and provides some descriptive information about how the evaluation may be used.
POP_EVAL_ATTRIBUTE	Provides information as to which population estimates can be provided by an evaluation. If an evaluation can produce 22 of the 92 currently supported population estimates, there will be 22 records in the POP_EVAL_ATTRIBUTE table (1 per population estimate) for that evaluation.
POP_EVAL_GRP	Evaluation group is used to identify which evaluations were used for a reporting year. One record in the POP_EVAL_GRP table can be linked to all the evaluations that were used in generating estimates for a State inventory report.
POP_PLOT_STRATUM_ASSGN	The pop_plot_stratum_assgn table connects plots to strata that were used in various evaluations
POP_STRATUM	The area within an estimation unit is divided into strata. The area for each stratum can be calculated by determining the proportion of Phase 1 pixels/plots in each stratum and multiplying that proportion by the total area in the estimation unit. Information for a single stratum is stored in a single record of the POP_STRATUM table.
REF_ATTRIBUTE_ACCESS*	Reference table that contains information on how to compute estimates for current forest statistics using SQL
REF_FIADB_VERSION	Reference table identifying version of FIADB

Table A1. List of tables in RPAtreeDB Database (continued)

Table name	Description
REF_PRC*	Reference table containing classification variable names and function names
REF_RSCDEVALID*	Reference table, created when RPA2012_EVALidator is run, that contains list of evaluations
REF_SPECIES	A reference table containing the species group code, descriptive name, and several other attributes for each species group.
REF_STCTY*	Reference table that contains state and county codes and names
TempEstnUnitDescrLU*	Reference table, created when RPA2012_EVALidator is run, that contains list of estimation units for each evaluation
TREE	Provides information for each tree 1 inch in diameter and larger found on a microplot, subplot, or core optional macroplot.

Table A1. List of tables in RPAtreeDB Database.

*These tables are in the RPAtreeDB but not in the FIADB.

Appendix B

RPAtreeDB Tables

There are 16 tables in appendix B. Each of the 11 modified FIADB tables has five columns. The first column provides the RPAtreeDB field number. When this field is blank it indicates that the field existed in the FIADB but was dropped from the RPAtreeDB to save space. The second column identifies whether the variable existed in the FIADB and if so its field number. The third column contains the RPAtreeDB and/or FIADB field name. The fourth column identifies the field type for RPAtreeDB variables and the fifth column indicates the size of the field, in characters or bytes, in the RPAtreeDB. Each of the five tables created specifically for the RPAtreeDB have only four columns because there is no need for a column for the FIADB field number.

In some cases an FIADB field was altered to save space. In Table B1, for example, the FIADB variable PLT_CN was a 34 character field in the FIADB. Since there are only 333,439 plots in the RPAtreeDB it was decided that each plot in the RPAtreeDB would be issued a new six-character control number to replace the old 34-character control number. Because the values of the PLT_CN variable are different in the FIADB and the RPAtreeDB, there are two PLT_CN rows in Table B1: one for the FIADB and one for the RPAtreeDB.

Table B1. COND table description

RPAtreeDB Field Number	FIADB Field Number	Field Name	RPAtreeDB Data Type	RPAtreeDB Size
	1	CN		
	2	PLT_CN		
1		PLT_CN	Text	6
	3	INVYR		
	4	STATECD		
	5	UNITCD		
	6	COUNTYCD		
	7	PLOT		
2	8	CONDID	Integer	2
3	9	COND_STATUS_CD	Integer	2
4	10	COND_NONSAMPLE_REASN_CD	Integer	2
5	11	RESERVCD	Integer	2
6	12	OWNCD	Integer	2
7	13	OWNGRPCD	Integer	2
8	14	FORINDCD	Integer	2
9	15	ADFORCD	Integer	2
10	16	FORTYPCD	Integer	2
	17	FLDTYPCD		
11	18	MAPDEN	Integer	2
12	19	STDAGE	Integer	2
13	20	STDSZCD	Integer	2
	21	FLDSZCD		
14	22	SITECLCD	Integer	2
15	23	SICOND	Integer	2
16	24	SIBASE	Integer	2

Table B1. COND table description (continued)

RPAtreeDB Field Number	FIADB Field Number	Field Name	RPAtreeDB Data Type	RPAtreeDB Size
17	25	SISP	Integer	2
18	26	STDORGCD	Integer	2
19	27	STDORGSP	Integer	2
20	28	PROP_BASIS	Text	12
21	29	CONDPROP_UNADJ	Single	4
22	30	MICRPROP_UNADJ	Single	4
23	31	SUBPPROP_UNADJ	Single	4
24	32	MACRPROP_UNADJ	Single	4
25	33	SLOPE	Integer	2
26	34	ASPECT	Integer	2
27	35	PHYSCLCD	Integer	2
28	36	GSSTKCD	Integer	2
29	37	ALSTKCD	Integer	2
30	38	DSTRBCD1	Integer	2
31	39	DSTRBYR1	Integer	2
32	40	DSTRBCD2	Integer	2
33	41	DSTRBYR2	Integer	2
34	42	DSTRBCD3	Integer	2
35	43	DSTRBYR3	Integer	2
36	44	TRTCD1	Integer	2
37	45	TRTYR1	Integer	2
38	46	TRTCD2	Integer	2
39	47	TRTYR2	Integer	2
40	48	TRTCD3	Integer	2
41	49	TRTYR3	Integer	2
42	50	PRESNFCD	Integer	2
43	51	BALIVE	Double	8
	52	FLDAGE		
44	53	ALSTK	Single	4
45	54	GSSTK	Single	4
	55	FORTYPCDCALC		
	56	HABTYPCD1		
	57	HABTYPCD1_PUB_CD		
	58	HABTYPCD1_DESCR_PUB_CD		
	59	HABTYPCD2		
	60	HABTYPCD2_PUB_CD		
	61	HABTYPCD2_DESCR_PUB_CD		
	62	MIXEDCONFCD		
	63	VOL_LOC_GRP		

Table B1. COND table description (continued)

RPAtreeDB Field Number	FIADB Field Number	Field Name	RPAtreeDB Data Type	RPAtreeDB Size
	64	SITECLCDEST		
	65	SITETREE_TREE		
	66	SITECL_METHOD		
46	67	CARBON_DOWN_DEAD	Double	8
47	68	CARBON_LITTER	Double	8
48	69	CARBON_SOIL_ORG	Double	8
49	70	CARBON_STANDING_DEAD	Double	8
50	71	CARBON_UNDERSTORY_AG	Double	8
51	72	CARBON_UNDERSTORY_BG	Double	8
	73	CREATED_BY		
	74	CREATED_DATE		
	75	CREATED_IN_INSTANCE		
	76	MODIFIED_BY		
	77	MODIFIED_DATE		
	78	MODIFIED_IN_INSTANCE		
	79	CYCLE		
	80	SUBCYCLE		
	81	SOIL_ROOTING_DEPTH_PNW		
	82	GROUND_LAND_CLASS_PNW		
	83	PLANT_STOCKABILITY_FACTOR_PNW		
	84	STND_COND_CD_PNWRS		
	85	STND_STRUC_CD_PNWRS		
	86	STUMP_CD_PNWRS		
	87	FIRE_SRS		
	88	GRAZING_SRS		
	89	HARVEST_TYPE1_SRS		
	90	HARVEST_TYPE2_SRS		
	91	HARVEST_TYPE3_SRS		
	92	LAND_USE_SRS		
	93	OPERABILITY_SRS		
	94	STAND_STRUCTURE_SRS		
	95	NF_COND_STATUS_CD		
	96	NF_COND_NONSAMPLE_REASN_CD		
	97	CANOPY_CVR_SAMPLE_METHOD_CD		
	98	LIVE_CANOPY_CVR_PCT		
	99	LIVE_MISSING_CANOPY_CVR_PCT		
	100	NBR_LIVE_STEMS		
52		RPA_FORTYPCD	Integer	2

Table B1. COND table description

Note: Definitions for FIADB fields can be found in Woudenberg et al. 2010.

COND table field definitions for RPAtreeDB fields that are not in FIADB

1. PLT_CN – Plot sequence number. Foreign key linking the condition record to the plot record. Six character field.

3. COND_STATUS_CD – Condition status code. A code indicating the basic land classification. Codes 31 and 32 are not in the FIADB. Conditions with a code of 31 (woodland) were coded as accessible forest land in the FIADB. Conditions with a code of 32 (chaparral) were coded as nonforest land in the FIADB.

Code Description

1 Accessible forest land—Land within the population of interest that can be occupied safely and meets at least one of two criteria. Criterion 1 is the land must be at least 10 percent stocked by trees of any size. Criterion 2 applies to woodland species whereby the land must have at least 5 percent cover by trees of any size. Both standards include land that met the minimal requirements in the past, and are not subject to nonforest uses that prevent normal tree regeneration and succession, such as regular mowing, intensive grazing, or recreations activities. To qualify, the area must be at least 1.0 acre in size and 120.0 feet wide. Forest land includes transition zones, such as areas between forest and nonforest lands that have at the minimal tree stocking/cover and forest areas adjacent to urban and built-up lands. Roadside, streamside, and shelterbelt strips of trees must have a width of at least 120 feet and continuous length of at least 363 feet to qualify as forest land. Unimproved roads and trails, streams, and clearings in forest areas are classified as forest if they are <120 feet wide or an acre in size. Tree-covered areas in agricultural production settings, such as fruit orchards, or tree-covered areas in urban settings, such as city parks, are not considered forest land. For data collected prior to annual inventory (PLOT.MANUAL <1.0), the definition for forest land may have been slightly different.

2 Nonforest land—Any land within the sample that does not meet the definition of accessible forest land or any of the other types of basic land classifications. To qualify, the area must be at least 1.0 acre in size and 120.0 feet wide, with some exceptions that are described in the document "Forest inventory and analysis national core field guide, volume 1: field data collection procedures for Phase 2 plots, version 5.1." (http://www.fia.fs.fed.us/library/field-guidesmethods- proc/.) Evidence of "possible" or future development or conversion is not considered. A nonforest land condition will remain in the sample and will be examined at the next occasion to see if it has become forest land.

3 Noncensus water—Lakes, reservoirs, ponds, and similar bodies of water 1.0 acre to 4.5 acre in size. Rivers, streams, canals, etc., 30.0 feet to 200 feet wide. This definition was used in the 1990 census and applied when the data became available. Earlier inventories defined noncensus water differently.

4 Census water—Lakes, reservoirs, ponds, and similar bodies of water 4.5 acres in size and larger; and rivers, streams, canals, etc., more than 200 feet wide.

5 Nonsampled, possibility of forest land—Any portion of a plot within accessible forest land that cannot be sampled is delineated as a separate condition. There is no minimum size requirement. The reason the condition was not sampled is provided in COND_NONSAMPLE_REASN_CD.

31 Woodland—Land at least 120 feet (37 m) wide and at least 1 acre (0.4 ha) in size with sparse trees capable of achieving 16.4 feet (5 m) in height with a tree canopy cover of 5-10 percent combined with shrubs at least 6 feet (2 m) in height to achieve an overall cover of >10 percent woody vegetation. Trees are woody plants having more or less erect perennial stems capable of achieving at least 3 inches (7.6 cm) d.b.h., or 5 inches (12.7 cm) diameter at root collar, and a height of 16.4 feet (5 m) at maturity in situ. The definition includes all areas recently having such conditions and currently regenerating or capable of attaining such condition in the near future. It does not include land that is predominantly under agricultural or urban land use. The estimates for woodland in the 2012 RPA Assessment do not represent a complete inventory for the class. A portion of woodland was identified from the FIADB using the following criteria:

- Condition where average height of live trees at least 5 inches (12.7 cm) d.b.h. is less than 16.4 feet (5m)
- Condition with site productivity less than 20 cubic feet/acre/year (<1.4 cubic meters/hectare/year)
- Condition in the pinyon juniper or woodland hardwoods forest-type groups
- Condition located in ecoregion 311, 313, 315, 321, 322, 331, 332, 341, or 342
- Condition identified as forest land

32 Chaparral—Nonforest land that is covered with heavily branched dwarfed trees or shrubs, usually evergreen, the crown canopy of which currently covers >10 percent of the ground. The principal species are dwarf *Quercus, Cercocarpus, Garrya, Ceanothus, Arctostaphylos, Baccharis,* and *Adenostoma*.

52. RPA_FORTYPCD – RPA forest types. 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 (Miles et al. 2004).

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

Table B2. PLOT table description

RPAtreeDB Field Number	FIADB Field Number	Field Name	Type	Size
	1	CN		
1		CN	Text	6
	2	SRV_CN		
	3	CTY_CN		
	4	PREV_PLT_CN		
2	5	INVYR	Integer	2
3	6	STATECD	Integer	2
4	7	UNITCD	Integer	2
5	8	COUNTYCD	Integer	2
6	9	PLOT	Long Integer	4
	10	PLOT_STATUS_CD		
7	11	PLOT_NONSAMPLE_REASN_CD	Integer	2
8	12	MEASYEAR	Integer	2
9	13	MEASMON	Integer	2
10	14	MEASDAY	Integer	2
11	15	REMPER	Single	4
	16	KINDCD		
	17	DESIGNCD		
12	18	RDDISTCD	Integer	2
	19	WATERCD		
13	20	LAT	Double	8
14	21	LON	Double	8
15	22	ELEV	Long Integer	4
	23	GROW_TYP_CD		
	24	MORT_TYP_CD		
	25	P2PANEL		
	26	P3PANEL		
16	27	ECOSUBCD	Text	7
17	28	CONGCD	Integer	2
	29	MANUAL		
	30	SUBPANEL		
	31	KINDCD_NC		
	32	QA_STATUS		
	33	CREATED_BY		
	34	CREATED_DATE		
	35	CREATED_IN_INSTANCE		
	36	MODIFIED_BY		
	37	MODIFIED_DATE		
	38	MODIFIED_IN_INSTANCE		
	39	MICROPLOT_LOC		

Table B2. PLOT table description (continued)

RPAtreeDB Field Number	FIADB Field Number	Field Name	Type	Size
	40	DECLINATION		
	41	EMAP_HEX		
	42	SAMP_METHOD_CD		
	43	SUBP_EXAMINE_CD		
18	44	MACRO_BREAKPOINT_DIA	Integer	2
19	45	INTENSITY	Text	2
20	46	CYCLE	Integer	2
21	47	SUBCYCLE	Integer	2
	48	ECO_UNIT_PNW		
	49	TOPO_POSITION_PNW		
	50	EVAL_GRP_CN		
	51	EVAL_GRP		
22	52	EXPALL	Double	8
23	53	EXPCURR	Double	8
24	54	EXPVOL	Double	8
25	55	EXPGROW	Double	8
26	56	EXPMORT	Double	8
27	57	EXPREMV	Double	8
28	58	ADJ_EXPALL	Double	8
29	59	ADJ_EXPCURR	Double	8
30	60	ADJ_EXPVOL_MACR	Double	8
31	61	ADJ_EXPVOL_SUBP	Double	8
32	62	ADJ_EXPVOL_MICR	Double	8
33	63	ADJ_EXPGROW_MACR	Double	8
34	64	ADJ_EXPGROW_SUBP	Double	8
35	65	ADJ_EXPGROW_MICR	Double	8
36	66	ADJ_EXPMORT_MACR	Double	8
37	67	ADJ_EXPMORT_SUBP	Double	8
38	68	ADJ_EXPMORT_MICR	Double	8
39	69	ADJ_EXPREMV_MACR	Double	8
40	70	ADJ_EXPREMV_SUBP	Double	8
41	71	ADJ_EXPREMV_MICR	Double	8
42	1	PLT_CN	Text	34

Table B2. PLOT table description

Note: This table is based on the PLOTSNAP table in the FIADB. Definitions for FIADB fields can be found in Woudenberg et al. 2010.

PLOT table field definitions for RPAtreeDB fields that are not in FIADB

1. CN – Sequence number. A unique sequence number used to identify a plot record. Six character field.

42. PLT_CN – This is equivalent to the CN value in the FIADB PLOT table.

Table B3. POP_ESTN_UNIT table description

RPAtreeDB Field Number	FIADB Field Number	Field Name	Type	Size
1	1	CN	Text	34
2	2	EVAL_CN	Text	34
3	3	RSCD	Integer	2
4	4	EVALID	Long Integer	4
5	5	ESTN_UNIT	Long Integer	4
6	6	ESTN_UNIT_DESCR	Text	255
	7	STATECD		
7	8	AREALAND_EU	Double	8
8	9	AREATOT_EU	Double	8
9	10	AREA_USED	Double	8
	11	AREA_SOURCE		
10	12	P1PNTCNT_EU	Double	8
	13	P1SOURCE		
	14	CREATED_BY		
	15	CREATED_DATE		
	16	CREATED_IN_INSTANCE		
	17	MODIFIED_BY		
	18	MODIFIED_DATE		
	19	MODIFIED_IN_INSTANCE		

Table B3. POP_ESTN_UNIT table description

Note: Definitions for FIADB fields can be found in Woudenberg et al. 2010.

Table B4. POP_EVAL table description

RPAtreeDB Field Number	FIADB Field Number	Field Name	Type	Size
1	1	CN	Text	34
2	2	RSCD	Integer	2
3	3	EVALID	Long Integer	4
	4	EVAL_DESCR		
4	5	STATECD	Integer	2
5	6	LOCATION_NM	Text	255
6	7	REPORT_YEAR_NM	Text	255
	8	NOTES		
	9	CREATED_BY		
	10	CREATED_DATE		
	11	CREATED_IN_INSTANCE		
	12	MODIFIED_BY		
	13	MODIFIED_DATE		
	14	MODIFIED_IN_INSTANCE		
	15	START_INVYR		
	16	END_INVYR		

Table B4. POP_EVAL table description

Note: Definitions for FIADB fields can be found in Woudenberg et al. 2010.

Table B5. POP_EVAL_ATTRIBUTE table description

RPAtreeDB Field Number	FIADB Field Number	Field Name	Type	Size
	1	CN		
1	2	EVAL_CN	Text	34
2	3	ATTRIBUTE_NBR	Integer	2
	4	STATECD		
	5	CREATED_BY		
	6	CREATED_DATE		
	7	CREATED_IN_INSTANCE		
	8	MODIFIED_BY		
	9	MODIFIED_DATE		
	10	MODIFIED_IN_INSTANCE		

Table B5. POP_EVAL_ATTRIBUTE table description

Note: Definitions for FIADB fields can be found in Woudenberg et al. 2010.

Table B6. POP_EVAL_GRP table description

RPAtreeDB Field Number	FIADB Field Number	Field Name	Type	Size
1	1	CN	Text	34
2	2	EVAL_CN_FOR_EXPALL	Text	34
3	3	EVAL_CN_FOR_EXPCURR	Text	34
4	4	EVAL_CN_FOR_EXPVOL	Text	34
5	5	EVAL_CN_FOR_EXPGROW	Text	34
6	6	EVAL_CN_FOR_EXPMORT	Text	34
7	7	EVAL_CN_FOR_EXPREMV	Text	34
8	8	RSCD	Integer	2
9	9	EVAL_GRP	Long Integer	4
10	10	EVAL_GRP_DESCR	Text	255
11	11	STATECD	Integer	2
12	12	LAND_ONLY	Text	1
	13	CREATED_BY	Text	30
	14	CREATED_DATE	Date/Time	8
	15	CREATED_IN_INSTANCE	Text	6
	16	MODIFIED_BY	Text	30
	17	MODIFIED_DATE	Date/Time	8
	18	MODIFIED_IN_INSTANCE	Text	6
	19	NOTES	Memo	-

Table B6. POP_EVAL_GRP table description

Note: Definitions for FIADB fields can be found in Woudenberg et al. 2010.

Table B7. POP_PLOT_STRATUM_ASSGN table description

RPAtreeDB Field Number	FIADB Field Number	Field Name	Type	Size
	1	CN		
1	2	STRATUM_CN	Text	34
2	3	PLT_CN	Text	6
	4	STATECD		
	5	INVYR		
	6	UNITCD		
	7	COUNTYCD		
	8	PLOT		
3	9	RSCD	Integer	2
4	10	EVALID	Long Integer	4
5	11	ESTN_UNIT	Long Integer	4
6	12	STRATUMCD	Long Integer	4
	13	CREATED_BY		
	14	CREATED_DATE		
	15	CREATED_IN_INSTANCE		
	16	MODIFIED_BY		
	17	MODIFIED_DATE		
	18	MODIFIED_IN_INSTANCE		

Table B7. POP_PLOT_STRATUM_ASSGN table description

Note: Definitions for FIADB fields can be found in Woudenberg et al. 2010.

Table B8. POP_STRATUM table description

RPAtreeDB Field Number	FIADB Field Number	Field Name	Type	Size
1	1	CN	Text	34
2	2	ESTN_UNIT_CN	Text	34
3	3	RSCD	Integer	2
4	4	EVALID	Long Integer	4
5	5	ESTN_UNIT	Long Integer	4
6	6	STRATUMCD	Long Integer	4
7	7	STRATUM_DESCR	Text	255
	8	STATECD		
8	9	P1POINTCNT	Double	8
9	10	P2POINTCNT	Double	8
10	11	EXPNS	Double	8
11	12	ADJ_FACTOR_MACR	Single	4
12	13	ADJ_FACTOR_SUBP	Single	4
13	14	ADJ_FACTOR_MICR	Single	4
	15	CREATED_BY		
	16	CREATED_DATE		
	17	CREATED_IN_INSTANCE		
	18	MODIFIED_BY		
	19	MODIFIED_DATE		
	20	MODIFIED_IN_INSTANCE		

Table B8. POP_STRATUM table description

Note: Definitions for FIADB fields can be found in Woudenberg et al. 2010.

Table B9. REF_ATTRIBUTE_ACCESS table description

Field Number	Field Name	Type	Size
1	ATTRIBUTE_NBR	Integer	2
2	ATTRIBUTE_DESCR	Text	255
3	VBA_SUMFROMWHERE	Memo	-
4	PEA_SURROGATE	Integer	2
5	CONDTREESEED	Text	50
6	ESTIMATE_METADATA	Memo	-

Table B9. REF_ATTRIBUTE_ACCESS table description

Note: This table is used exclusively by the RPA2012_EVALIDator form. It contains information on the estimates that can be produced by the RPA2012_EVALIDator form.

Table B10. REF_FIADB_VERSION table description

RPAtreeDB Field Number	FIADB Field Number	Field Name	Type	Size
1	1	VERSION	Single	4
2	2	DESCR	Memo	-
3	3	CREATED_BY	Text	30
4	4	CREATED_DATE	Date/Time	8
5	5	CREATED_IN_INSTANCE	Text	6
6	6	MODIFIED_BY	Text	30
7	7	MODIFIED_DATE	Date/Time	8
8	8	MODIFIED_IN_INSTANCE	Text	6

Table B10. REF_FIADB_VERSION table description

Note: Definitions for FIADB fields can be found in Woudenberg et al. 2010.

Table B11. REF_PRC table description

Field Number	Field Name	Type	Size
1	CLASSNBR	Integer	2
2	CONDTREESEED	Text	50
3	CLASSNM	Text	50
4	FUNCTIONNM	Text	255
5	PAGECLASS	Text	50
6	ROWCLASS	Text	50
7	COLCLASS	Text	50

Table B11. REF_PRC table description

Note: This table is used exclusively by the RPA2012_EVALIDator form. It contains information on the classification variables that can be used by the RPA2012_EVALIDator form for pages, rows, and columns.

Table B12. REF_RSCDEVALID table description

Field Number	Field Name	Type	Size
1	rscdEvalid	Long Integer	4
2	rscdEvalidLabel	Text	255

Table B12. REF_RSCDEVALID table description

Note: This table is used exclusively by the RPA2012_EVALIDator reporting form when reporting by evaluation. The table is dropped and recreated by the RPA2012_EVALIDator program every time the program is executed to insure that the table is up to date.

Table B13. REF_SPECIES table description

RPAtreeDB Field Number	FIADB Field Number	Field Name	Type	Size
1	1	SPCD	Long Integer	4
2	2	COMMON_NAME	Text	100
3	3	GENUS	Text	40
4	4	SPECIES	Text	50
5	5	VARIETY	Text	50
6	6	SUBSPECIES	Text	50
7	7	SPECIES_SYMBOL	Text	8
8	8	E_SPGRPCD	Integer	2
9	9	W_SPGRPCD	Integer	2
10	10	MAJOR_SPGRPCD	Integer	2
11	11	STOCKING_SPGRPCD	Integer	2
12	12	FOREST_TYPE_SPGRPCD	Integer	2
13	13	EXISTS_IN_NCRS	Text	1
14	14	EXISTS_IN_NERS	Text	1
15	15	EXISTS_IN_PNWRS	Text	1
16	16	EXISTS_IN_RMRS	Text	1
17	17	EXISTS_IN_SRS	Text	1
18	18	SITETREE	Text	1
19	19	SFTWD_HRDWD	Text	1
20	20	ST_EXISTS_IN_NCRS	Text	1
21	21	ST_EXISTS_IN_NERS	Text	1
22	22	ST_EXISTS_IN_PNWRS	Text	1
23	23	ST_EXISTS_IN_RMRS	Text	1
24	24	ST_EXISTS_IN_SRS	Text	1
25	25	EAST	Text	1
26	26	WEST	Text	1
27	27	WOODLAND	Text	1
28	28	MANUAL_START	Single	4
29	29	MANUAL_END	Single	4
30	30	CREATED_BY	Text	30
31	31	CREATED_DATE	Date/Time	8
32	32	CREATED_IN_INSTANCE	Text	6
33	33	MODIFIED_BY	Text	30
34	34	MODIFIED_DATE	Date/Time	8
35	35	MODIFIED_IN_INSTANCE	Text	6
36	36	CORE	Text	1

Table B13. REF_SPECIES table description (continued)

RPAtreeDB Field Number	FIADB Field Number	Field Name	Type	Size
37	37	JENKINS_SPGRPCD	Integer	2
38	38	JENKINS_TOTAL_B1	Double	8
39	39	JENKINS_TOTAL_B2	Double	8
40	40	JENKINS_STEM_WOOD_RATIO_B1	Double	8
41	41	JENKINS_STEM_WOOD_RATIO_B2	Double	8
42	42	JENKINS_STEM_BARK_RATIO_B1	Double	8
43	43	JENKINS_STEM_BARK_RATIO_B2	Double	8
44	44	JENKINS_FOLIAGE_RATIO_B1	Double	8
45	45	JENKINS_FOLIAGE_RATIO_B2	Double	8
46	46	JENKINS_ROOT_RATIO_B1	Double	8
47	47	JENKINS_ROOT_RATIO_B2	Double	8
48	48	JENKINS_SAPLING_ADJUSTMENT	Double	8
49	49	WOOD_SPGR_GREENVOL_DRYWT	Double	8
50	50	WOOD_SPGR_GREENVOL_DRYWT_CIT	Long Integer	4
51	51	BARK_SPGR_GREENVOL_DRYWT	Double	8
52	52	BARK_SPGR_GREENVOL_DRYWT_CIT	Long Integer	4
53	53	MC_PCT_GREEN_WOOD	Double	8
54	54	MC_PCT_GREEN_WOOD_CIT	Long Integer	4
55	55	MC_PCT_GREEN_BARK	Double	8
56	56	MC_PCT_GREEN_BARK_CIT	Long Integer	4
57	57	WOOD_SPGR_MC12VOL_DRYWT	Double	8
58	58	WOOD_SPGR_MC12VOL_DRYWT_CIT	Long Integer	4
59	59	BARK_VOL_PCT	Double	8
60	60	BARK_VOL_PCT_CIT	Long Integer	4
61	61	RAILE_STUMP_DOB_B1	Double	8
62	62	RAILE_STUMP_DIB_B1	Double	8
63	63	RAILE_STUMP_DIB_B2	Double	8

Table B13. REF_SPECIES table description

Note: Definitions for FIADB fields can be found in Woudenberg et al. 2010.

Table B14. REF_STCTY table description

Field Number	Field Name	Type	Size
1	STCTY	Double	8
2	STCTYLABEL	Text	255

Table B14. REF_STCTY table description

Note: This table is used exclusively by the RPA2012_EVALIDator form. It is a lookup table for county names.

Table B15. TempEstnUnitDescrLU table description

Field Number	Field Name	Type	Size
1	rscdEvalidEsntUnit	Text	34
2	rscdEvalidEsntUnitLabel	Text	128

Table B15. TempEstnUnitDescrLU table description

Note: This table is used by the RPA2012_EVALILDator reporting form when reporting by estimation unit. The table is dropped and recreated by the RPA2012_EVALIDator program every time the program is executed to insure that the table is up to date.

Table B16. TREE table description

RPAtreeDB Field Number	FIADB Field Number	Field Name	Type	Size
	1	CN		
	2	PLT_CN		
1		PLT_CN	Text	6
	3	PREV_TRE_CN		
	4	INVYR		
	5	STATECD		
	6	UNITCD		
	7	COUNTYCD		
	8	PLOT		
2	9	SUBP	Integer	2
3	10	TREE	Long Integer	4
4	11	CONDID	Integer	2
5	12	AZIMUTH	Integer	2
6	13	DIST	Single	4
	14	PREVCOND		
7	15	STATUSCD	Integer	2
8	16	SPCD	Integer	2
	17	SPGRPCD		
9	18	DIA	Single	4
	19	DIAHTCD		
10	20	HT	Integer	2
	21	HTCD		
11	22	ACTUALHT	Integer	2
12	23	TREECLCD	Integer	2
13	24	CR	Integer	2
14	25	CCLCD	Integer	2
15	26	TREEGRCD	Integer	2
16	27	AGENTCD	Integer	2
17	28	CULL	Integer	2
	29	DAMLOC1		
	30	DAMTYP1		
	31	DAMSEV1		
	32	DAMLOC2		
	33	DAMTYP2		
	34	DAMSEV2		
18	35	DECAYCD	Integer	2
	36	STOCKING		
	37	WDLDSTEM		
19	38	VOLCFNET	Double	8

Table B16. TREE table description (continued)

RPAtreeDB Field Number	FIADB Field Number	Field Name	Type	Size
20	39	VOLCFGRS	Double	8
21	40	VOLCSNET	Double	8
22	41	VOLCSGRS	Double	8
23	42	VOLBFNET	Double	8
24	43	VOLBFGRS	Double	8
25	44	VOLCFSND	Double	8
26	45	GROWCFGS	Double	8
27	46	GROWBFSL	Double	8
28	47	GROWCFAL	Double	8
29	48	MORTCFGS	Double	8
30	49	MORTBFSL	Double	8
31	50	MORTCFAL	Double	8
32	51	REMVCFGS	Double	8
33	52	REMVBFSL	Double	8
34	53	REMVCFAL	Double	8
	54	DIACHECK		
	55	MORTYR		
35	56	SALVCD	Integer	2
	57	UNCRCD		
	58	CPOSCD		
	59	CLIGHTCD		
	60	CVIGORCD		
	61	CDENCD		
	62	CDIEBKCD		
	63	TRANSCD		
36	64	TREEHISTCD	Integer	2
	65	DIACALC		
	66	BHAGE		
	67	TOTAGE		
	68	CULLDEAD		
	69	CULLFORM		
	70	CULLMSTOP		
	71	CULLBF		
	72	CULLCF		
	73	BFSND		
	74	CFSND		
	75	SAWHT		
37	76	BOLEHT	Integer	2
	77	FORMCL		

Table B16. TREE table description (continued)

RPAtreeDB Field Number	FIADB Field Number	Field Name	Type	Size
	78	HTCALC		
	79	HRDWD_CLUMP_CD		
	80	SITREE		
	81	CREATED_BY		
	82	CREATED_DATE		
	83	CREATED_IN_INSTANCE		
	84	MODIFIED_BY		
	85	MODIFIED_DATE		
	86	MODIFIED_IN_INSTANCE		
	87	MORTCD		
	88	HTDMP		
	89	ROUGHCULL		
	90	MIST_CL_CD		
	91	CULL_FLD		
	92	RECONCILECD		
	93	PREVDIA		
38	94	FGROWCFGS	Double	8
39	95	FGROWBFSL	Double	8
40	96	FGROWCFAL	Double	8
41	97	FMORTCFGS	Double	8
42	98	FMORTBFSL	Double	8
43	99	FMORTCFAL	Double	8
44	100	FREMVCFGS	Double	8
45	101	FREMVBFSL	Double	8
46	102	FREMVCFAL	Double	8
	103	P2A_GRM_FLG		
	104	TREECLCD_NERS		
	105	TREECLCD_SRS		
	106	TREECLCD_NCRS		
	107	TREECLCD_RMRS		
47	108	STANDING_DEAD_CD	Integer	2
	109	PREV_STATUS_CD		
	110	PREV_WDLDSTEM		
48	111	TPA_UNADJ	Double	8
49	112	TPAMORT_UNADJ	Double	8
50	113	TPAREMV_UNADJ	Double	8
51	114	TPAGROW_UNADJ	Double	8
52	115	DRYBIO_BOLE	Double	8
53	116	DRYBIO_TOP	Double	8

Table B16. TREE table description (continued)

RPAtreeDB Field Number	FIADB Field Number	Field Name	Type	Size
54	117	DRYBIO_STUMP	Double	8
55	118	DRYBIO_SAPLING	Double	8
56	119	DRYBIO_WDLD_SPP	Double	8
57	120	DRYBIO_BG	Double	8
58	121	CARBON_AG	Double	8
59	122	CARBON_BG	Double	8
	123	CYCLE		
	124	SUBCYCLE		
	125	BORED_CD_PNWRS		
	126	DAMLOC1_PNWRS		
	127	DAMLOC2_PNWRS		
	128	DIACHECK_PNWRS		
	129	DMG_AGENT1_CD_PNWRS		
	130	DMG_AGENT2_CD_PNWRS		
	131	DMG_AGENT3_CD_PNWRS		
	132	MIST_CL_CD_PNWRS		
	133	SEVERITY1_CD_PNWRS		
	134	SEVERITY1A_CD_PNWRS		
	135	SEVERITY1B_CD_PNWRS		
	136	SEVERITY2_CD_PNWRS		
	137	SEVERITY2A_CD_PNWRS		
	138	SEVERITY2B_CD_PNWRS		
	139	SEVERITY3_CD_PNWRS		
	140	UNKNOWN_DAMTYP1_PNWRS		
	141	UNKNOWN_DAMTYP2_PNWRS		
	142	PREV_PNTN_SRS		

Table B16. TREE table description

Note: Definitions for FIADB fields can be found in Woudenberg et al. 2010.

TREE table field definitions for RPAtreeDB fields that are not in FIADB

1. PLT_CN – Plot sequence number. Foreign key linking the tree record to the plot record. Six character field.

Appendix C

Population Estimates

Table C1. List of population estimates that can be produced from the RPAtreeDB using the RPA2012_EVALIDator reporting tool (this information is contained in the ref_attribute_access table)

ATTRIBUTE_NBR	ATTRIBUTE_DESCR
2	Area of forest land: in acres
3	Area of timberland: in acres
4	Number of live trees (at least 1 inch d.b.h./d.r.c.): in trees: on forest land
5	Number of growing-stock trees (at least 5 inches d.b.h.): in trees: on forest land
6	Number of standing-dead trees (at least 5 inches d.b.h./d.r.c.): in trees: on forest land
7	Number of live trees (at least 1 inch d.b.h./d.r.c.): in trees: on timberland
8	Number of growing-stock trees (at least 5 inches d.b.h.): in trees: on timberland
9	Number of standing-dead trees (at least 5 inches d.b.h./d.r.c.): in trees: on timberland
10	Aboveground dry weight of live trees (at least 1 inch d.b.h./d.r.c): in short tons: on forest land
11	Dry weight of merchantable bole for live trees (timber species at least 5 inches d.b.h.): in short tons: on forest land
12	Dry weight of merchantable bole for live trees (timber species at least 5 inches d.b.h.): in short tons: on timberland
13	Aboveground dry weight of live trees (at least 1 inch d.b.h./d.r.c): in short tons: on timberland
14	Net volume of live trees (at least 5 inches d.b.h./d.r.c.): in cubic feet: on forest land
15	Net volume of growing-stock trees (at least 5 inches d.b.h.): in cubic feet: on forest land
16	Net volume of saw-log portion of sawtimber trees: in cubic feet: on forest land
17	Net volume of live trees (at least 5 inches d.b.h./d.r.c.): in cubic feet: on timberland
18	Net volume of growing-stock trees (at least 5 inches d.b.h.): in cubic feet: on timberland
19	Net volume of saw-log portion of sawtimber trees: in cubic feet: on timberland
20	Net volume of sawtimber trees: in board feet (International ¼-inch rule): on forest land
21	Net volume of sawtimber trees: in board feet (International ¼-inch rule): on timberland
22	Gross volume of sawtimber trees: in board feet (International ¼-inch rule): on forest land
23	Gross volume of live trees (at least 5 inches d.b.h./d.r.c.): in cubic feet: on forest land
24	Sound volume of live trees (at least 5 inches d.b.h./d.r.c.): in cubic feet: on forest land
47	Above and belowground carbon in standing-dead trees (at least 1 inch d.b.h./d.r.c): in short tons: on forest land
48	Aboveground carbon in live seedlings: shrubs: and bushes: in short tons: on forest land
49	Belowground carbon in live seedlings: shrubs: and bushes: in short tons: on forest land
50	Carbon in stumps: coarse roots: and coarse woody debris: in short tons: on forest land
51	Carbon in litter: in short tons: on forest land
52	Carbon in organic soil: in short tons: on forest land
53	Aboveground carbon in live trees (at least 1 inch d.b.h./d.r.c): in short tons: on forest land
54	Belowground carbon in live trees (at least 1 inch d.b.h./d.r.c): in short tons: on forest land
55	Above and belowground carbon in live trees (at least 1 inch d.b.h./d.r.c): in short tons: on forest land
56	Dry weight of tops and limbs for live trees (timber species at least 5 inches d.b.h.): in short tons: on forest land

Table C1. List of population estimates that can be produced from the RPAtreeDB using the RPA2012_EVALIDator reporting tool (this information is contained in the ref_attribute_access table) (continued)

ATTRIBUTE_NBR	ATTRIBUTE_DESCR
57	Aboveground dry weight of live saplings (timber species at least 1 and less than 5 inches d.b.h.): in short tons: on forest land
58	Dry weight of stumps for live trees (timber species at least 5 inches d.b.h.): in short tons: on forest land
59	Belowground dry weight of live trees (at least 1 inch d.b.h./d.r.c): in short tons: on forest land
60	Aboveground dry weight of live trees (woodland species at least 1 inch d.r.c.): in short tons: on forest land
61	Above and belowground carbon in standing-dead trees (at least 1 inch d.b.h./d.r.c): in short tons: on timberland
62	Aboveground carbon in live seedlings: shrubs: and bushes: in short tons: on timberland
63	Belowground carbon in live seedlings: shrubs: and bushes: in short tons: on timberland
64	Carbon in stumps: coarse roots: and coarse woody debris: in short tons: on timberland
65	Carbon in litter: in short tons: on timberland
66	Carbon in organic soil: in short tons: on timberland
67	Aboveground carbon in live trees (at least 1 inch d.b.h./d.r.c): in short tons: on timberland
68	Belowground carbon in live trees (at least 1 inch d.b.h./d.r.c): in short tons: on timberland
69	Above and belowground carbon in live trees (at least 1 inch d.b.h./d.r.c): in short tons: on timberland
70	Dry weight of tops and limbs for live trees (timber species at least 5 inches d.b.h.): in short tons: on timberland
71	Aboveground dry weight of live saplings (timber species at least 1 and less than 5 inches d.b.h.): in short tons: on timberland
72	Dry weight of stumps for live trees (timber species at least 5 inches d.b.h.): in short tons: on timberland
73	Belowground dry weight of live trees (at least 1 inch d.b.h./d.r.c): in short tons: on timberland
74	Aboveground dry weight of live trees (woodland species at least 1 inch d.r.c.): in short tons: on timberland
79	Area of sampled land and water: in acres
92	Net volume of standing-dead trees (at least 5 inches d.b.h./d.r.c.): in cubic feet: on forest land
93	Net volume of standing-dead trees (at least 5 inches d.b.h./d.r.c.): in cubic feet: on timberland
94	Aboveground dry weight of bark for live trees (at least 1 inch d.b.h./d.r.c.): in short tons: on forest land
95	Aboveground green weight of live trees (at least 1 inch d.b.h./d.r.c.): in short tons: on forest land
96	Aboveground dry weight of standing-dead trees (at least 5 inches d.b.h./d.r.c.): in short tons: on forest land
97	Total carbon: in short tons: on forest land
98	Forest carbon pool 1: live aboveground: in metric tonnes: on forest land
99	Forest carbon pool 2: live belowground: in metric tonnes: on forest land
100	Forest carbon pool 3: dead wood: in metric tonnes: on forest land
101	Forest carbon pool 4: litter: in metric tonnes: on forest land
102	Forest carbon pool 5: soil organic: in metric tonnes: on forest land
103	Forest carbon total: all 5 pools: in metric tonnes: on forest land

Table C1. List of population estimates that can be produced from the RPAtreeDB using the RPA2012_EVALIDator reporting tool (this information is contained in the ref_attribute_access table).