

Forest Inventory and Analysis

Fiscal Year 2020 Business Report

Draft tables for review

February 12, 2020

The Forest Inventory and Analysis (FIA) program of the Forest Service provides the information needed to assess the status, trends, and sustainability of America's forests. The FIA [Annual Business Report](#) provides a snapshot of how the program operates, and is a clear recognition of its responsibility to Congress and the public, who want to know if we are holding itself responsible for spending public funds. The report details how funds and human resources are used, what concrete results are achieved, and the partnerships we develop.

The draft tables included in this document quantify measures related to the program's performance, including the financial and human resources, the status of forest inventories and other conducted surveys, the data services provided to partners and public, and the research and analysis published in fiscal year 2020.

If you would like to review these data, please send your comments to Mila Alvarez (milagros.alvarezibanez@usda.gov) by April 15th, 2020.

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Table B-1. Performance measures for the FY 2020 FIA program.

	Pacific	Rocky			National	
	Northwest	Mountain	Southern	Northern	Office	Total
Total available Federal funds	\$16,947,249	\$14,012,860	\$18,613,253	\$17,259,477	\$13,390,291	\$80,223,130
Total appropriated Federal funds	\$16,098,455	\$13,597,249	\$17,177,244	\$16,736,761	\$13,390,291	\$77,000,000
Appropriated as % of 2014 Farm Bill target^a						78%
Contributions from partners:						
Supporting the 20% FIA program	\$722,188	\$209,754	\$2,405,396	\$938,663	\$0	\$4,276,001
Value-added contributions	\$2,123,420	\$1,073,187	\$143,137	\$4,054,547	\$0	\$7,394,291
Total contributions	\$2,845,608	\$1,282,941	\$2,548,533	\$4,993,210	\$0	\$11,670,292
Total all available funds	\$19,792,857	\$15,295,801	\$21,161,786	\$22,252,687	\$13,390,291	\$91,893,423
Forest plots sampled:						
Base Federal grid	1,308	1,593	6,142	4,459	-	13,502
Spatial intensification	1,032	-	398	1,470	-	2,900
Temporal intensification	-	-	1,259	377	-	1,636
Total forest plots sampled	2,340	1,593	7,799	6,306	-	18,038
Forest plots with one or more health indicators ^b	2,340	1,593	2,479	617	-	7,029
Number of base forest quality assurance plots	148	60	1,147	375	-	1,730
Percent base forest quality assurance plots	11%	4%	19%	8%	-	13%
Urban plots (forested and nonforested)	47	41	181	47	-	316
Special Studies plots (forested and nonforested)	-	17	124	-	-	-
Total base grid plots and percent sampled^d						
Total base grid plots	40,107	91,844	89,771	102,175	-	323,897
Average percent of land with forest cover	37%	24%	46%	29%	-	34%
Estimated percent of base grid sampled	9%	8%	15%	15%	-	12%
Percentage of States with annual FIA activity^d	100%	100%	100%	100%	-	100%
Number of publications:						
National forest reports	-	-	-	-	-	-
State/island resource reports	-	-	34	24	-	58
State timber product output reports	-	4	26	1	-	31
Regional reports	-	-	6	-	-	6
National reports	-	1	2	1	1	5
5-Year State reports	2	1	2	2	-	7
Subtotal – core reports	2	6	70	28	1	107
Peer-reviewed journal articles	16	19	27	39	-	101
Proceedings articles	-	1	-	1	-	2
Other station publications	4	2	8	7	-	21
Other publications	2	1	3	2	-	8
Subtotal – non-report publications	22	23	38	49	-	132
Total publications	24	29	108	77	1	239
Number of publications per federal FTE	0	0	1	1	1	1
Consulting activities:	1.7	1.4	4.2	3.2	0.0	2.8
Number of significant consultations						
Total hours of significant consultations	219	322	126	685	82	1,434
Meetings:	2,419	9,137	629	4,174	377	16,735
User-group meetings held						
Management meetings held	5	1	-	1	1	8
	2	-	1	1	4	8

FIA = Forest Inventory and Analysis; FTE = full-time equivalents; FY = fiscal year.

^a Farm Bill target adjusted for inflation.

^b Health indicators measured include crown condition, vegetation diversity and structure, down woody material, forest soils, invasive plant species, and lichen communities.

^c Includes all plots where trees were measured, except denied access and hazardous plots.

^d Base grid targets shown are 20 percent of samples per year as stated in the Farm Bill. Congressional conference notes recommended annual federal targets of 15 percent in the East and 10 percent in the West. Interior Alaska as well as the Caribbean and Pacific Island inventories are periodic and excluded from the annualized mandate in compliance with Congressional recommendations.

Table B-2. Financial statement for the FY 2020 FIA program Federal funds.

	Pacific Northwest	Rocky Mountain	Southern	Northern	National Office	Total
----- Dollars -----						
Available funds:						
Previous year end-of-year balance	36,731	111,185	1,137,107	184,847	-	1,469,870
Post-year adjustments ^a	425,561	(55,082)	(84,192)	(121,410)	-	164,877
Subtotal pre-year adjustments	462,292	56,103	1,052,915	63,437	-	1,634,747
FY appropriated FIA funds						
Initial FIA funds added to base	15,714,752	13,388,249	17,177,244	16,636,761	13,340,291	76,257,297
Secondary FIA funds added to base ^b	383,703	209,000		100,000	50,000	742,703
Subtotal appropriated FIA funds	16,098,455	13,597,249	17,177,244	16,736,761	13,390,291	77,000,000
Inter-FIA Unit transfers	50,000	(50,000)			-	-
Other Forest Service R&D funds	333,002	409,508	383,094	459,279	-	1,584,883
Special project funding ^c	3,500	-	0	-	-	3,500
TOTAL AVAILABLE FEDERAL FUNDS	16,947,249	14,012,860	18,613,253	17,259,477	13,390,291	80,223,130
Direct expenses:						
Salary--	8,233,806	8,379,389	7,897,613	9,937,825	404,220	34,852,852
Administration	550,835	635,938	722,380	577,977	404,220	2,891,350
Data collection and quality assurance	4,737,042	4,079,949	3,081,231	4,284,080		16,182,302
Information management	897,169	1,289,815	911,282	1,545,441		4,643,706
Analysis and research	2,048,761	2,373,687	3,182,719	3,530,327		11,135,494
Travel--	525,130	245,492	266,075	179,981	10,947	1,227,625
Office travel	43,699	25,535	13,649	72,434	10,947	166,264
Field/quality assurance crew travel	481,431	219,957	252,426	107,547		1,061,361
Equipment--	426,968	482,283	267,273	452,743	-	1,629,267
Imagery	-	-		43,426	-	43,426
Vehicles	199,184	359,259	168,135	170,206	-	896,784
Field equipment	100,660	55,784	72,138	97,867	-	326,449
Information technology/communications	94,181	55,145	27,000	94,010	-	270,336
Other	32,943	12,095		47,234	-	92,272
Publications	40,658	10,863	10,000	109,738	833	172,092
Grants and agreements ^d	3,309,572	1,853,508	7,041,198	4,604,777	2,528,344	19,337,399
Field work/data	2,616,325	1,256,612	6,690,198	2,614,954		13,178,089
Information management	-	-		430,044	50,000	480,044
Research	693,247	596,896	351,000	1,559,779		3,200,922
Office space and utilities					2,478,344	2,478,344
Other direct expenses	457,700	393,128	562,800	93,606	-	1,507,234
Total direct expenses	1,091,543	135,080				1,226,623
Effective indirect expenses	14,085,376	11,499,743	16,044,959	15,378,669	2,944,344	59,953,091
Total effective indirect^e	2,692,711	2,065,101	2,475,789	1,698,004	10,445,947	19,377,552
Total effective indirect rate	16%	15%	13%	10%	78%	24%
End of year balance	169,162	448,016	92,505	182,804	-	892,487
TOTAL FEDERAL EXPENSE	16,947,249	14,012,860	18,613,253	17,259,477	13,390,291	80,223,130

EOY = end of year; FIA = Forest Inventory and Analysis; FY = fiscal year; R&D = Research and Development.

^a Some bookkeeping is not completed until after the new FY begins, which may affect beginning balances. These adjustments include items such as carryover, return of unused prior-year grants, Station adjustments, etc.

^b Mid-year additions to base funding from National Office-FIA.

^c Includes special projects and funding from National Forests and other Federal agencies.

^d Grants and Agreements include general allocation of grants to basic thematic categories and funds paid to the Forest Service Information Resources Decision Board (IRDB). The IRDB fund manages agency-sponsored information technology projects.

^e Program-wide charges for cost pools, including the Albuquerque Service Center, and other cost pools, were paid by the National Office and included as program indirect expenses.

Note1: Table does not include the additional \$500,000 FIA received from the Coronavirus Aid, Relief, and Economic Security (CARES) Act at the end of the fiscal year 2020. These funds will be spent in FY 2021.

Note2: The main cost pools are a function of the number of all FIA program's employees, including those holding permanent, temporary, intermittent, and other types of positions. This cost is estimated using Full Time Equivalents (FTEs) included in Table B-3a. Charges of other cost pools, were calculated as a function of the number of FIA program's permanent employees only, estimated with permanent FTEs.

Table B-3a. Federal staffing, in full-time equivalent (FTE) hours, for the FY 2020 FIA program.

	Pacific Northwest	Rocky Mountain	Southern	Northern	National Office	Total
Administration	4.3	5.9	6.8	5.2	2.0	24.2
Data collection and quality assurance	52.7	48.0	32.0	41.7	0.0	174.4
Information management	7.0	11.9	7.1	11.9	0	37.9
Analysis and research	14.0	20.6	26.0	24.1	0	84.7
Indirect support ^a	23.5	15.1	8.3	10.4	0	57.4
Total	101.5	101.5	80.2	93.3	2.0	378.6

FIA = Forest Inventory and Analysis; FTEs = full-time equivalents; FY = fiscal year.

^a Indirect support FTEs are salary charges of FS staff that support the FIA Program indirectly.

Table B-3b. Estimate of cooperator staffing, in full-time equivalent (FTE) hours, funded by FIA grants and agreements (FTEs) for the FY 2020 FIA program.

	Pacific Northwest	Rocky Mountain	Southern	Northern	National Office	Total
Administration	1.0	0.6	4.4	-	0.3	6.0
Data collection and quality assurance	22.0	20.7	109.8	26.0	0	178.5
Information management	0.2	1.0	1.5	7.0	0	10
Analysis and research	5.1	7.0	2.3	15.0	0	29.4
Total	28.3	29.3	118.0	48.0	0.3	223.6

FIA = Forest Inventory and Analysis; FTE = full-time equivalents; FY = fiscal year.

Table B-3c. Estimated total federally funded staffing, in full-time equivalent (FTE) hours, for the FY 2020 FIA program.

	Pacific Northwest	Rocky Mountain	Southern	Northern	National Office	Total
Administration	5.3	6.5	11.2	5.2	2.3	30.2
Data collection and quality assurance	74.7	68.7	141.8	67.7	-	352.9
Information management	7.2	12.9	8.6	18.9	-	47.6
Analysis and research	19.1	27.6	28.3	39.1	-	114.1
Indirect support	23.5	15.1	8.3	10.4	-	57.4
Total	129.8	130.8	198.2	141.3	2.3	602.1

FIA = Forest Inventory and Analysis; FTEs = full-time equivalents; FY = fiscal year.

Table B-4. Partner contributions toward implementing FIA in FY 2020.

Unit	Partner	Contributions toward the base program	Contributions that add value
----- Dollars -----			
Rocky Mountain	Colorado State Forest Service	72,723	
	NASA		554,261
	Nevada Dept of Conservation and Natural Resources	2673	
	PNW Research Station		70,000
	University of Montana Bureau of Business and Economics Research	113359	
	USDA Forest Service R1		338,926
	USDA Forest Service R2	2900	
	USDA Forest Service R4	18099	
	USDA Forest Service State and Private (LANDFIRE)		110,000
RMRS total		209,754	1,073,187
National Office			
NO total			
Northern	American Forest		100,000
	American Forest Foundation		155,400
	California Air Resources Board	200,000	
	City of Delta, British Columbia		6,000
	Connecticut Department of Conservation	2,000	
	Conservation Biology Institute		15,068
	Dartmouth University		10,124
	Davey Tree Expert Company		333,487
	Delaware Department of Conservation	4,392	
	Environmental Protection Agency		238,000
	Illinois Division of Forestry	19,039	
	Indiana Department of Natural Resources	26,104	
	Iowa Department of Natural Resources	15,203	
	Kansas State Forest Service	16,938	
	Maine Forest Service	169,195	233,905
	Maryland Department of Natural Resources	20,730	
	Massachusetts Department of Conservation and Recreation	7,700	
	Michigan Division of Forest Management	40,200	
	Michigan State University		5,379
	Minnesota Department of Natural Resources	126,388	285,550
	Missouri Department of Conservation		18,996
	National Aeronautics and Space Administration		144,239

National Institute for Forest Science (South Korea)		40,120
Nebraska Department of Forestry, Fish and Wildlife	3,174	
New Hampshire Department of Resources & Economic Development	19,600	
New Jersey Forest Service	21,249	137,832
New York Department of Environmental Conservation	18,195	
North Dakota Forest Service	4,590	
Ohio Department of Natural Resources	13,687	
Pennsylvania Department of Conservation & Natural Resources	43,083	6,123
Plymouth State University		7,053
Purdue University		43,842
Rhode Island Department of Environmental Management	6,471	6,471
South Dakota Department of Forestry & Natural Resource Management	13,554	
State University of New York		28,328
Syracuse University		8,250
Trout Unlimited		68,663
University of Georgia		12,250
University of Maine		18,750
University of Massachusetts-Amherst		166,295
University of Minnesota		80,085
University of Minnesota		105,000
University of Nebraska-Lincoln		3,724
University of Nevada-Las Vegas		436,101
University of New Hampshire		24,521
US Fish and Wildlife Service		24,840
USDA Forest Service Geospatial Tech and Applications Center		70,000
USDA Forest Service National Forest Systems		327,922
USDA Forest Service Research & Development		52,026
USDA Forest Service Resource Planning Act		50,000
USDA Forest Service State and Private Forestry	61,800	251,000
Vermont Department of Conservation	8,500	4,000
Washington Department of Natural Resources		60,204
West Virginia Division of Forestry	22,271	
Wisconsin Department of Natural Resources	54,600	475,000
NRS total	938,663	4,054,547
Pacific Northwest		
Alaska Department of Natural Resources	595,868	
Alaska Pacific University		9,650
Alaska Pacific University		9,650
CalFire-State of California (2 agrmts)		1,527,450
Ecotrust		8,358
Northwest Youth Corps		8,082

	Oregon Department of Forestry		22,000
	Oregon Department of Forestry		376,980
	Portland State University		10,347
	University of Alaska Anchorage		39,701
	University of Hawaii	77,420	
	University of Montana		19,861
	University of Montana		25,620
	University of Montana	48,900	
	University of Washington		15,721
	Washington Department of Natural Resources		50,000
PNW total		722,188	2,123,420
Southern	Alabama Forestry Commission	3,755	
	Alabama Forestry Commission	178,851	
	Arkansas Forestry Commission	154,423	
	Florida Department of Agriculture & Consumer Services	192,551	
	Geological Survey, U.S. Department of Interior		12,600
	Georgia Forestry Commission	275,230	
	Kentucky Division of Forestry	142,678	
	Oklahoma Department of Agriculture, Food and Forestry	137,637	
	South Carolina Forestry Commission	152,604	
	Texas A&M Forest Service	518,048	
	US Department of Interior Bureau of Indian Affairs, Cherokee Agency		30,000
	USDA Forest Service Region 8 (plot intensification)	450,100	
	Virgin Islands Department of Agriculture	20,504	
	Virginia Department of Forestry (FIA support)	179,016	
	Virginia Department of Forestry (modeling)		16,666
	Virginia Department of Forestry (RPA)		30,667
	Virginia Department of Forestry (statistical estimation)		25,000
	Virginia Department of Forestry (tree canopy)		28,204
SRS total		\$2,405,396	\$143,137
Total, all FIA units		\$4,276,001	\$7,394,291
Grant total (base program and added value)			\$11,670,292

BIA = Bureau of Indian Affairs; DOI = Department of Interior; FIA = Forest Inventory and Analysis; FY = fiscal year; IITF = International Institute of Tropical Forestry; NASA = National Aeronautics and Space Administration; NCASI = National Council for Air and Stream Improvement; NF = national forests; NFHF = National Forest Hazardous Fuels; NFMP = National Forest Management Plan; NFTM= National Forest Timber Management; NFVW = National Forest Vegetation and Watershed Management; NFWF = National Forest Wildlife and Fisheries; NO = National Office; NRS = Northern Research Station; PNW = Pacific Northwest Research Station; RMRS = Rocky Mountain Research Station; RPA = Resources Planning Act; SRS = Southern Research Station; S&PF = State and Private Forestry, USDA Forest Service; SPFH= State and Private Forestry Hazardous Fuels; TPO = Timber Products Output; USDA = United States Department of Agriculture; USGS = United States Geological Survey; USGS FRXF = United States Geological Survey Research Federal External Reimbursement.

Table B-5. Grants and agreements entered into by FIA units, FY 2020.

Unit	Amount	Recipient	Purpose
Rocky Mountain	18,720	American West Forestry	Annual FIA Implementation
	799,952	Colorado State University	Annual FIA Implementation
	181,440	Integrated Resource inventories	Annual FIA Implementation
	49,500	Mike Kazio	Annual FIA Implementation
	180,000	Nature Serve	National Vegetation Classification (NVCS) for the Interior West
	36,944	Oregon State University	Carbon assessment for NFS, Disturbance mapping
	123,286	Reed College	Small Area Estimation: development of alternative estimators.
	256,666	University of Montana	Timber Product Output
	207,000	USDA RMRS Forest and Woodlands Ecosystems	Western Soils Analyses
RMRS total	1,853,508		
National Office	50,000	Society of American Foresters	Hosting the Timber Products Output meeting and Annual User Group meeting
	1,400,000	University of Nevada Las Vegas (UNLV)	Support to FIA National science delivery tools (MIDAS, DATIM, NOMS and EVALIDator) and data management (NIMS, UNIMS, NWOS, TPO, plot and protocol design, urban forest monitoring, and data storage and publication systems).
	300,000	Sothern Utah University (SUU)	Support on user manuals for BOSS and DATIM applications (508 compliance)
	209,223	ESRI (through FS Chief Information Office)	Support of FIA Digital Engagement
	200,000	FS Chief Information Office	Enterprise Application Development for BOSS
	85,000	FS Geospatial Technology and Applications Center (GTAC)	Imaged based change estimation (ICE)
	10,303	FS Chief Information Office	FIA software
	273,819	FS Chief Information Office	FIA hardware
NO total	2,528,344		
Northern	17,400	Accessibility, Inc.	Plot production assembly
	37,193	Angle, Bradley	WV_MD pandemic BPA call FY20
	100,000	Board of Regents Nevada System of Higher Education	Research and development support for the FIA national information management system
	80,208	Chestnut Ridge Forestry	New Hampshire data collection plots
	112,425	Chestnut Ridge Forestry	New York data collection plots
	47,999	Chestnut Ridge Forestry	New Jersey data collection plots
	12,089	Chestnut Ridge Forestry	Mid Atlantic data collection plots
	15,068	Conservation Biology Institute, Inc.	Pilot forest inventory and analysis summary data viewer and upgrades to the U.S. Protected Area Database
	89,984	Daniel R Huberty	Kansas data collection plots
	246,422	Daniel R Huberty	Nebraska and Kansas ground truth project
	3,174	Daniel R Huberty	New Hampshire data collection plots
	333,487	Davey Tree Expert Company	I-Tree: development, dissemination and support

27,000	Department of Research Foundation for the State University of New York	Environmental effects of urban forests
82,104	Digital Map Products Inc	Access to land parcel data
21,825	Djm Ecological Services Inc	Northern Iowa & SE Minnesota pandemic plots
194,877	Djm Ecological Services Inc	Michigan summer plots
60,450	Djm Ecological Services Inc	Massachusetts and Rhode Island data collection plots
87,105	Djm Ecological Services Inc	Ohio urban data collection plots
59,145	Djm Ecological Services Inc	Illinois data collection plots
53,785	Djm Ecological Services Inc	Mid Atlantic data collection plots
96,427	Djm Ecological Services Inc	Urban Ohio and Pittsburgh data collection plots
70,000	Grand Rapids	Soil analyses
89,195	Indiana Department of Natural Resources	Data collection for Indiana's statewide resource inventory
38,600	Johnson Chandler	Michigan data collection plots
79,985	Johnson Chandler	Iowa data collection plots
39,935	Kansas State University	Geospatial agroforestry data products for Kansas
670,598	Maine Agriculture, Conservation & Forestry	Data collection for Maine's statewide inventory for forest inventory and analysis
63,125	Mark Webb	Ohio pandemic data collection plots
51,875	Mark Webb	Southern Ohio data collection plots
102,700	Mark Webb	West Virginia data collection plots
50,000	Michigan State University	Investigating new national tree biomass models for urban FIA
70,000	Michigan State University	Developing new national tree biomass models for FIA
101,200	Michigan State University	Small domain estimation using strategic-level forest inventory data and auxiliary information
8,000	National Older Worker Career Center, Inc.	ACES agreement for technical services in support of conservation programming
10,000	National Park Service	USDA Forest Service lease of USDO National Park Service office space
24,976	New Jersey Department of Environmental Protection	FIA analytical science delivery support
79,491	Purdue University	FIA National Woodland Owner Survey support
43,842	Purdue University	Linking forest structure, function, and diversity in support of carbon estimation in the US
80,067	Regents of The University of Minnesota	Forest biometrics research and program support
85,030	Regents of The University of Minnesota	Improved characterization of land area, ecosystem services, and dynamics across scales
105,000	Regents of The University of Minnesota	Quantifying live-dead wood dynamics using remeasurements from the national forest inventory
33,048	Ryan Nowak	New York/New Hampshire pandemic P2 data collection plots
2,392	Ryan Nowak	New York/New Hampshire Pandemic P2 data collection plots
22,699	South Dakota Department of Agriculture	Annualized forest resource inventory
30,425	Strohman, Joe	inReach Air Plan, DeLorme
9,925	Strohman, Joe	inReach Air Plan, DeLorme
107,775	Summers, Glen	New York data collection plots
96,750	Texas A&M University System	Analytical support

40,000	University of Maine System	National forest inventory analysis biomass project for the state of Maine
313,000	University of Massachusetts	Family forest research center
306,975	University System of New Hampshire	Urban FIA analytical assistance

NRS total	4,604,775.45	
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PNW	2,257,742	Alaska Department of Natural Resources	Interior Alaska FIA implementation in the Susitna unit
	50,000	Alaska Pacific University	Using advanced remote sensing to estimating woody shrub biomass: a pilot study in the Susitna-Cooper inventory unit of Interior Alaska
	20,000	BLM	Interior Alaska FIA fuel site in Lake Minchumina
	4,300	BLM	Interior Alaska FIA fuel site in Lake Minchumina
	15,000	Department of Interior	FIA program's Hawaii helicopter agreement
	22,000	Department of Interior Acquisition Services	FIA program's Hawaii helicopter agreement
	19,958	Ecotrust	Finding economically feasible forest restoration opportunities in Oregon's Blue Mountains
	83,106	NASA	Interior Alaska FIA G-LiHT collection in the Susitna-Copper unit
	22,283	Northwest Youth Corps	Urban FIA
	30,000	Portland State University	Modeling economic drivers and restoration
	128,423	University of Alaska Anchorage	Using tree rings to understand changes
	25,048	University of Alaska Fairbanks	Analyzing soil Samples to understand belowground composition in Interior Alaska
	275,000	University of Hawaii	FIA program of Hawaii's Forests
	150,000	University of Montana	Pacific West timber products output (TPO) and forest industry analysis
	90,000	University of Montana	Pacific West timber products output (TPO) and forest industry analysis
	70,000	University of Montana	CalFire California logging utilization
	46,712	University of Washington	Using advanced remote sensing to estimating woody biomass

PNW total	3,309,572	
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Southern	11,264	Alabama forestry commission	Alabama forest inventory and analysis
	536,552	Alabama forestry commission	Alabama forest inventory and analysis
	463,267	Arkansas forestry commission	Arkansas forest inventory and analysis
	30,000	Auburn University, Purdue University, University of Idaho	Tree seedling data
	460,224	Florida Department of Agriculture	Florida forest inventory and analysis
	770,198	Georgia Forestry Commission	Georgia forest inventory and analysis
	366,282	Kentucky Division of Forestry	Kentucky forest inventory and analysis
	437,925	Mississippi Forestry Commission	Mississippi forest inventory and analysis
	486,232	North Carolina Department of Agriculture and Consumer Services	North Carolina forest inventory and analysis
	19,000	Northern Research Station	Eastern forest environmental threat assessment center
	352,669	Oklahoma Department of Agriculture, Food and Forest	Oklahoma forest inventory and analysis

387,463	South Carolina Forestry Commission	South Carolina forest inventory and analysis
429,084	Tennessee Department of Agriculture	Tennessee forest inventory and analysis
23,760	Tennessee Department of Agriculture	Tennessee forest inventory and analysis
1,434,964	Texas A&M Forest Service	Texas forest inventory and analysis
54,000	Virgin Islands Department of Agriculture	Virgin Islands forest inventory and analysis
476,314	Virginia Department of Forestry	Virginia forest inventory and analysis
92,000	Virginia Polytechnic Institute and State University	RPA forest dynamics projections
50,000	Virginia Polytechnic Institute and State University	Modeling for national scale biomass estimators
85,000	Virginia Polytechnic Institute and State University	Using next generation tree canopy cover and forest disturbance data product
75,000	Virginia Polytechnic Institute and State University	Developing and testing statistical estimation approaches
SRS total	7,041,198	

Grand total 19,337,398

CIO = chief information officer; EFETAC = Eastern Forest Environmental Threat Assessment Center; ESRI = Environmental Systems Research Institute; FIA = Forest Inventory and Analysis; FY = fiscal year; GTAC = Geospatial Technology and Applications Center, Forest Service; IITF = International Institute of Tropical Forestry; NASA = National Aeronautics and Space Administration; NF = national forest; NRS = Northern Research Station; NWOS = National Woodland Owner Survey; ORISE = Oak Ridge Institute for Science and Education; PNW = Pacific Northwest Research Station; RMRS = Rocky Mountain Research Station; RPA = Resources Planning Act; SRS = Southern Research Station; TPO = Timber Products Output; UNVL = University of Nevada, Las Vegas; USDA = United States Department of Agriculture.

Table B-6. Number and hours of significant consultations by FIA staff by customer group, FY 2020.

Customer group	Pacific Northwest		Rocky Mountain		Southern		Northern		WO		Total			
	Number	Hours	Number	Hours	Number	Hours	Number	Hours	Number	Hours	Number	Percent	Hours	Percent
Academic	20	63	6	59	3	40	129	580	9	55	167	18%	797	10%
Government	142	2,668	17	839	4	24	265	1,702	20	121	448	47%	5,354	69%
Industry	13	35	1	5	4	51	73	324	7	44	98	10%	459	6%
NGO	7	20	3	5	-	-	142	620	15	90	167	18%	735	9%
NIPF	6	12	-	-	-	-	8	8	3	16	17	2%	36	0%
Media	9	17	-	-	-	-	28	64	3	17	40	4%	98	1%
Other	-	-	2	153	-	-	8	115	3	17	13	1%	285	4%
Total	197	2,815	29	1,061	11	115	653	3,413	60	360	950	100%	7,764	100%

FIA = Forest Inventory and Analysis; FY = fiscal year; NGO = nongovernmental organization; NIPF = nonindustrial private landowner.

Table B-7. FIA data access by online tools and spatial data center requests, FYs 2000–2020.

Indicator	Number of annual accesses												Total 2009-2020
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Online tools													
DATA downloads	2,014	3,033	1,929	1,512	7,383	19,768	66,000	69,025	53,315	195,836	436,119	275,444	1,131,378
DATIM									37,000	1,605	5,129	4,755	48,489
EVALIDator	3,920	2,900	55,468	34,901	33,759	35,839	36,532	34,082	38,597	42,625	46,349	46,011	410,983
EVALIDator API								75,449	38,313	63,162	3,963,560	1,041,049	5,181,533
FIDO	93,586	70,943	72,946	52,099	57,567	57,974	47,263	33,293	11,898	4,500	-	-	502,069
National TPO Tool							69,600	18,544	37,000	1,092	2,652	2,771	134,059
NWOS	6,560	1,700	2,070	5,515	4,502	2,994	2,068	1,710	2,517	3,000	2,194	2,431	37,261
Online accesses total	106,080	78,576	132,413	94,027	103,211	186,175	170,407	250,559	182,732	313,380	4,456,122	1,372,090	7,445,772
Spatial data requests													
Academia	109	114	121	168	143	155	160	162	163	158	82	103	1,638
State	49	47	36	45	29	55	91	56	43	61	37	44	593
NFS	16	32	17	46	31	32	29	40	37	26	21	24	351
Other Federal	105	116	92	169	175	131	136	130	134	105	37	70	1,400
NGO	41	31	23	41	35	31	38	35	38	44	15	22	394
Industry	28	35	34	61	41	94	84	54	65	78	30	40	644
Other	57	48	91	75	67	88	66	55	59	31	20	21	678
Spatial data requests total	405	423	414	605	521	586	604	532	539	503	242	324	5,698

API = Application Program Interface; DATIM = Design and Analysis Toolkit for Inventory and Monitoring; FIA = Forest Inventory and Analysis; FIDO = Forest Inventory Database Online; FY = fiscal year; NFS = National Forest System, NWOS = National Woodland Owners Survey; NGO = Nongovernmental Organization.

Note 1: FIDO support was discontinued in FY2019.

Note 2: Online data accesses jumped in FY 2019 due to FIA access to data through EVALIDator API for tool development.

Table B-8. Mill, fuelwood, and ownership surveys processed, and utilization sites visited, FYs 2000–2020.

Survey or site	Number of annual survey questionnaires or sites													Total 2000-2020
	Year initiated	2000-2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Timber products	1947	17,753	1,727	3,521	1,375	2,675	1,142	2,750	1,341	130	2,359	2,274	2,208	37,047
Fuelwood	1947	2,919	0	0	0	2,360	0	0	0	0	0	0	0	5,279
Ownership surveys	1978	17,281	0	7,960	4,028	5,262	0	0	0	6,407	1,713	9,920	3,135	52,571
Utilization sites	1947	503	66	58	162	189	105	216	162	39	219	132	118	1,851

DWM = Down Woody Material; FY = fiscal year.

Note 1: Ownership survey data included in fiscal years 2018 and 2019 corrects data reported in previous reports.

Note 2: FIA no longer conduct surveys to estimate fuelwood consumption. Industrial fuelwood estimates are part of the TPO mill surveys. Residential fuelwood estimates are calculated from the U.S. Department of Energy Residential Energy Consumption Survey, and the U.S. Census Bureau American Community Survey.

Table B-9. Forest health indicator, year of initiation, and number of samples collected FYs 2000–2020.

Indicator	Year initiated	Number of annual samples												Total 2000-2020
		2000-2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Crown condition	1991	9,444	761	0	1,510	5,031	3,813	4,437	5,399	5,723	6,438	4,705	4,572	42,389
Lichens	1998	2,955	167	0	33	0	98	61	193	197	351	257	-	1,357
Soils	1999	6,215	266	2	595	565	439	487	456	716	426	791	394	5,137
Vegetation profile	2001	17,471	2,097	1,624	7,145	6,703	7,098	6,666	6,757	6,294	7,025	7,000	5,497	63,906
Ozone	1994	10,055	1,018	107	-	-	-	-	-	-	-	-	-	1,125
DWM	2001	22,489	1,392	1,414	6,263	8,271	8,635	8,186	8,459	9,234	9,277	8,143	7,203	76,477
Invasive species	2013												12,476	12,476
Mortality^a	2001	72,677	15,293	15,858	20,275	13,859	17,308	16,825	14,606	17,083	16,825	16,116	16,942	180,990

FY = fiscal year; DWM = down woody material.

^a Number of remeasured annual inventory plots from which tree mortality can be estimated.

Note: In 2013, all FIA units adopted the national invasive protocol. However, some states have collected data on invasive species as early as 1999. This is the first year FIA reports on the number of samples collected.

Table B-10. Status of FIA survey in U.S. islands and territories.

Region and area	Land area in inventory		Percent forest	Number of major islands	Year of current inventory	Year of inventory available in database	Year of published report	Number of base field plots	Number of intensified plots	Available online Data
	Acres	Forest Area								
Pacific (PNW)										
American Samoa	48,434	43,631	90%	4	2012	2012	2020	28	0	Yes
Guam	135,660	63,833	47%	1	2013	2013	2020	66	70	Yes
Palau	110,028	90,685	82%	10	2014	2014	2007	56	0	Yes
Commonwealth of the Northern Mariana Islands Federated States of										
Micronesia	161,917	143,466	89%	4	2016	2016	2012	78	78	Yes
Marshall Islands	33,182	23,230	70%	10	2018	2008	2012	50	20	Yes
Hawaii	4,141,469	1,990,000	48%	8	2015	2015	in progress	554	82	Yes
Atlantic (SRS)										
Commonwealth of Puerto Rico	2,192,327	1,219,178	56%	4	2019	2019	2019	343	61	Yes
U.S. Virgin Islands	82,164	46,967	57%	3	2014*	2014	2020	88	25	Yes
Total	6,980,727	3,671,999	53%	47				1,300	336	

FIA = Forest Inventory and Analysis; PNW = Pacific Northwest Research Station; SRS = Southern Research Station.

* The 2019 inventory year for the U.S. Virgin Islands, scheduled to start collecting field data in FY 2020, was delayed due to COVID-19.

Table B-11. Land and forest area and FIA annualized implementation status by State and region, FY 2020.

Region and State	Bureau of the Census land area	Forest land area defined by current FIADB (Sep 2020)	Forest land area defined by 2017 RPA Assessment	Annual inventory entry date	State annualized as of 2020
				<i>Thousand acres</i>	
Northern	606,841	180,872	182,587		24
Connecticut	3,099	1,763	1,808	2003	Yes
Delaware	1,247	355	361	2004	Yes
Illinois	35,532	4,855	4,980	2001	Yes
Indiana	22,929	4,774	4,876	1999	Yes
Iowa	35,749	2,876	2,923	1999	Yes
Kansas	52,326	2,458	2,527	2001	Yes
Maine	19,739	17,522	17,579	1999	Yes
Maryland	6,252	2,448	2,463	2004	Yes
Massachusetts	4,992	2,984	3,025	2003	Yes
Michigan	36,185	20,167	20,311	2000	Yes
Minnesota	50,961	17,675	17,413	1999	Yes
Missouri	43,995	15,289	15,409	1999	Yes
Nebraska	49,167	1,402	1,532	2001	Yes
New Hampshire	5,730	4,692	4,758	2002	Yes
New Jersey	4,707	1,989	1,990	2004	Yes
New York	30,161	18,622	18,887	2002	Yes
North Dakota	44,161	809	789	2001	Yes
Ohio	26,151	7,810	8,077	2001	Yes
Pennsylvania	28,635	16,622	16,898	2000	Yes
Rhode Island	662	361	370	2003	Yes
South Dakota	48,519	1,897	1,949	2001	Yes
Vermont	5,899	4,523	4,511	2003	Yes
West Virginia	15,384	12,018	12,077	2004	Yes
Wisconsin	34,661	16,960	17,074	2000	Yes
Southern	533,031	265,534	245,513		13
Alabama	32,413	23,105	23,127	2001	Yes
Arkansas	33,303	18,926	19,040	2000	Yes
Florida	34,447	16,970	17,253	2001	Yes
Georgia	36,809	24,464	24,635	1998	Yes
Kentucky	25,271	12,376	12,442	1999	Yes
Louisiana	27,650	15,002	14,984	2000	Yes
Mississippi	30,031	19,204	19,380	2007	Yes
North Carolina	31,115	18,750	18,829	2003	Yes
Oklahoma	43,901	11,839	11,911	2008	Yes
South Carolina	19,239	12,857	12,931	1998	Yes

Tennessee	26,390	13,882	13,967	1999	Yes
Texas	167,188	62,090	40,970	2000	Yes
Virginia	25,274	16,068	16,043	1998	Yes
Rocky Mountain	547,691	152,786	123,844		8
Arizona	72,700	18,478	10,934	2001	Yes
Colorado	66,331	22,938	20,063	2002	Yes
Idaho	52,892	21,709	21,386	2004	Yes
Montana	93,149	25,869	25,517	2003	Yes
Nevada	70,260	10,607	7,487	2010	Yes
New Mexico	77,631	24,625	16,619	2008	Yes
Utah	52,589	18,002	12,087	2000	Yes
Wyoming	62,140	10,557	9,751	2010	Yes
Pacific Coastal	573,389	213,459	213,391		4
Alaska, Coast	39,041	14,426	14,426	2004	Yes
Alaska, Interior	326,575	114,151	114,151	2016	Periodic
California	99,699	31,606	31,515	2001	Yes
Hawaii	4,110	1,471	1,471	2010	Periodic
Oregon	61,432	29,741	29,653	2001	Yes
Washington	42,532	22,064	22,174	2002	Yes
TOTAL	2,260,953	812,650	765,335		49
Forest area performance measure, excluding Interior Alaska					100%
Forest area performance measure, including Interior Alaska					90%
State activity performance measure, includes all active States					100%

FIA = Forest Inventory and Analysis; FIADB = Forest Inventory and Analysis Database; FY = fiscal year; RPA = Research Planning Act.

^a Based on area defined as forest in FIADB plus area defined as forest by 2012 RPA Assessment.

Table B-12. FIA summary statistics and performance measures, FYs 2011–2020.

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
AVAILABLE PROGRAM FUNDS (in thousand \$)											
Appropriated funds	71,817	71,452	69,186	65,567	66,805	70,000	75,000	77,000	77,000	78000*	77,000
Other federal funds ^a	930	856	528	2,668	3,077	743	304	85	2,377	3,036	3,223
Total federal funds	72,747	72,308	69,714	68,235	69,882	69,882	75,304	77,085	79,666	81,036	80,223
Total partner funds ^b	7,516	9,109	10,129	7,772	7,833	8,972	10,176	10,906	10,883	11,735	11,670
Total available funds	80,263	81,417	79,843	76,007	77,715	77,715	85,480	87,991	90,549	93,351	91,893
% Full federal appropriated funding ^c	89%	86%	81%	76%	74%	78%	82%	83%	81%	80%	78%
PROGRAM EXPENSES AND BALANCES											
Administration	3,262	3,233	2,735	2,854	3,036	2,703	2,759	3,632	3,532	3,714	3,058
Data collection and quality assurance ^d	916	724	519	589	597	635	761	680	833	981	31,688
Information management ^d	3,594	3,917	3,946	4,151	4,082	3,782	4,029	3,797	3,770	3,776	7,872
Analysis and research ^d	26,162	27,057	24,387	22,559	23,590	22,807	26,888	28,369	26,952	28,610	14,336
Miscellaneous/other	7,476	6,794	6,740	5,933	6,737	7,680	7,962	7,599	8,807	7,920	2,998
Total direct expense	58,143	57,692	54,854	53,124	56,037	55,651	60,625	62,002	60,452	45,001	59,953
Total indirect expenses	14,189	13,958	14,180	14,704	13,461	14,708	14,652	15,083	19,076	19,024	19,378
<i>Indirect rate</i>	19.8%	19.5%	20.5%	22.4%	20.2%	21.0%	19.5%	19.6%	24%	23%	24%
Total Federal expense	72,332	71,650	69,034	67,828	69,498	70,359	75,277	77,085	79,529	80,147	80,223
Fire Transfer	-	-	-	-	-	449	181	-	-	-	-
Total EOY balance	415	658	680	407	384	312	452	120	137	1,470	892
Total Federal expense and EOY balance	72,747	72,308	69,714	68,235	69,882	71,119	75,910	77,205	79,666	81,617	81,116
OTHER MEASURES											
% States with annual activity	100	100	100	100	100	100	100	100	100	100	100
% States with FIADB 1-2 yrs old	88	94	94	94	96	96	96	96	94	86	88
Federal employees	392	397	372	366	366	338	352	341	339	382	379
Other employees	205	201	203	184	204	185	213	209	220	237	224
Total employees	596	598	575	550	570	523	565	550	559	618	602
P2 base forest plots	19,272	21,233	19,673	21,263	19,789	18,346	14,308	15,543	14,598	14,848	13,502
P2 base QA plots	4,020	4,550	4,417	5,465	2,312	3,083	1,529	2,199	2,171	1,839	1,730
Percent QA plots	9%	9%	9%	11%	5%	7%	11%	11%	15%	12%	13%
All publications	203	204	272	238	234	236	371	206	211	204	239
Journal publications	74	62	90	90	87	122	122	92	122	112	101
Percent journal publications	36%	30%	33%	38%	37%	52%	33%	45%	58%	55%	42%
Consultations, number	991	1,753	848	824	945	1,350	1,289	1,341	1,648	950	1,434
Consultations, hours	10,381	8,584	8,807	8,124	7,987	13,806	7,547	8,781	8,000	7,764	16,735
User/management meetings	10	14	15	12	14	13	12	9	14	19	16
Spatial data requests filled	423	414	605	605	586	604	532	586	503	5,374	324
Online accesses	104,676	132,413	94,027	103,211	186,175	170,407	250,559	182,732	310,758	4,456,122	1,372,090

EOY= end of year; FIA = Forest Inventory and Analysis; FIADB = Forest Inventory and Analysis Database; FY = fiscal year.

^a Includes return of previous year carryover, return of fire transfers, and additional Forest Service research commitments.

^b Includes partner contributions towards the base program and partner contributions that add value.

^c Considering full program implementation funding to achieve 2007 Strategic Plan for FY 2007 through 2013, and 2014 Farm Bill options A through C. Full funding was adjusted for inflation.

^d Includes Federal grants and agreements.

Note 1: Indirect expenses rate jumped in FY 2018 because of the Forest Service approach, adopted that year, to charge cost pools, which are considered an indirect expense rather than a direct expense in this report.

Note 2: Online data accesses jumped in FY 2019 due to FIA access to data through EVALIDator API for tool development.