

United States
Department of
Agriculture

Forest Service

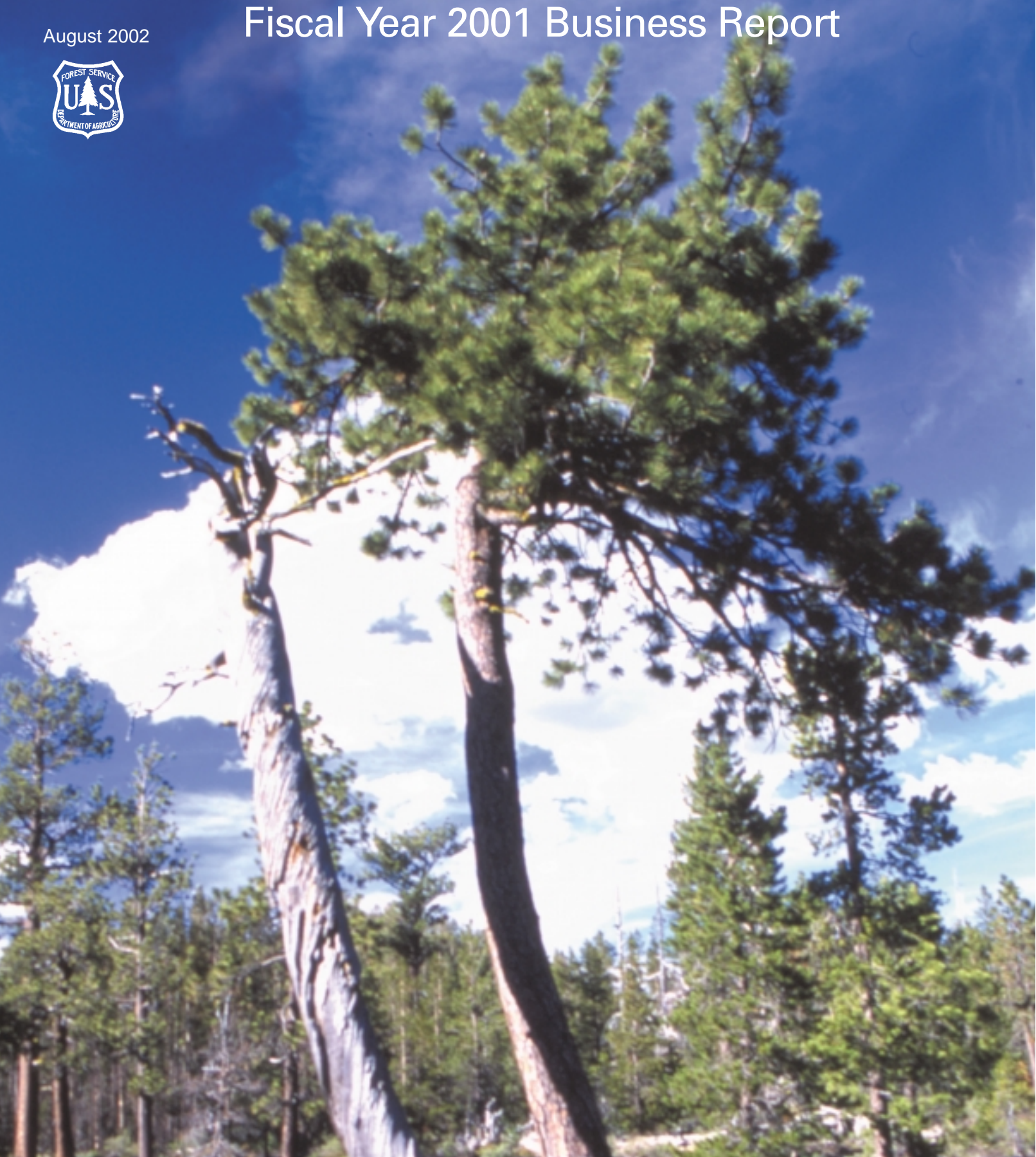
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Forest Inventory and Analysis

Fiscal Year 2001 Business Report



Contents

Introduction	1
Changes from Previous Year's Business Reports	2
Fiscal Year 2001 Program Highlights	3
Outputs and Products	3
Program Changes in FY 2001	3
Program Resources	5
Partners' Contributions	7
Fiscal Year 2001 Regional Highlights	9
North Central	9
Northeastern	9
Pacific	10
Interior West	10
Southern	11
National Office	12
Grants and Agreements	13
Consultations by FIA Staff	14
FIA-National Forest Collaboration	15
Comparing FY 2001 FIA Accomplishments With FY 2000 Goals	17
Fiscal Year 2002 FIA Program Direction	18
Long-Term Strategic Direction	19
Conclusions	20
Glossary of Terms Used in Appendixes	21
Points of Contact	24
Appendixes	25

Introduction

The Forest Inventory and Analysis (FIA) program of the U.S. Department of Agriculture (USDA) Forest Service provides the information needed to assess the status, trends, and sustainability of America's forests. This FIA 2001 Business Report, which summarizes program activities in fiscal year (FY) 2001 (October 1, 2000, through September 30, 2001), gives our customers and partners a snapshot of past activities, current business practices, and future program directions. It is designed to increase our accountability and foster performance-based management of the FIA program. (Note: This business report does not include statistical information about the forests of the United States. Those who wish to obtain such information should contact the appropriate regional or national FIA office listed on the back cover of this report.)

The FIA program is the Nation's continuous forest census. We collect, analyze, and report information on the status and trends of America's forests: how much forest exists, where it exists, who owns it, and how it is changing, as well as how the trees and other forest vegetation are growing and how much has died or been removed in recent years. This information can be used in many ways, such as in evaluating wildlife habitat conditions, assessing sustainability of current ecosystem management practices, monitoring forest health, supporting planning and decisionmaking activities undertaken by public and private enterprises, and predicting the effects of global change. The FIA program combines this information with related data on insects, diseases, and other types of forest damage to assess the current health and potential future risks to forests. The

program also projects how forests are likely to appear in 10 to 50 years under various scenarios, which enables us to evaluate whether current forest management practices are sustainable in the long run and to assess whether current policies will allow our grandchildren and their grandchildren to enjoy America's forests as we do today.

Changes from Previous Year's Business Reports

We have slightly modified the categories used in the FIA staffing summary. The category *Image Analysis* has been broadened to *Phase 1 Production Work*, to include all staff focused on processing imagery (satellite imagery or aerial photography) for purposes of completing the forest/nonforest stratification phase of the inventory. The category *Field Supervision* has been broadened to *Field Coordination*, to include those who provide the office support needed to keep field crews organized and efficient. The Rocky Mountain FIA field unit is now referred to by its preferred name, *Interior West FIA Unit*. We have added information about consultations that FIA staff provide. In reporting our publications produced in FY 2002, we now distinguish between core publications—those publications such as State analytical reports that summarize a complete State, national forest, or other reporting unit—and other kinds of reports such as peer-reviewed publications and proceedings papers.

As a result of the internal agreement signed in FY 2000 between the FIA program and the National Forest System (NFS) staff of the USDA Forest Service, we have added a section showing how FIA is delivering on implementing the terms of the agreement. We have also added a new performance element consisting of the percent of national forest lands for which FIA data are available in the Natural Resource Information System (NRIS), which is the corporate standard for making resource data available to national forest officials. This figure will be zero percent for FY 2001, and is expected to reach 100 percent of national forests covered by the end of FY 2003.

Fiscal Year 2001 Program Highlights

Program highlights for 2001 include outputs and products, program changes, program resources, and partner contributions.

Outputs and Products

Appendix 1 shows some comparisons across FIA regional units in the rates, cost, and performance of implementing the FIA program. Federal funding available for the FIA program in 2001 totaled \$49,156,950 or approximately 81 percent of the funding needed to implement the base Federal FIA program. The funding consisted of \$45,697,000 appropriated by Congress specifically for FIA; \$3,214,340 in other USDA Forest Service research funds made available to the FIA program; and \$245,610 in unspent FIA funds from the previous fiscal year, which were carried over to FY 2002 (Appendix 2). In addition, partners contributed an additional \$8,020,651 toward implementing or enhancing the FIA program.

In FY 2001, we were active in 45 States (figure 1), covering 36,655 Phase 2 and 3,254 Phase 3 sample locations, or 11 percent and 16 percent, respectively, of the total. At the end of FY 2001, 65 percent of the forested lands of the lower 48 States were covered by the new annual FIA program, an increase from 42 percent in FY 2000. The FIA program produced 115 reports and publications in FY 2001, 8 fewer than in FY 2000. Of these publications, however, 36 were core publications consisting of reports specific to a complete survey unit, complete State, or national forest. This number represents an increase of 27 core reports over the FY 2000 total of 9 core publications and

reflects the increased program emphasis and productivity in analyzing and reporting inventory data. We also published 28 articles in peer-reviewed journals (compared to 29 in FY 2000) and 19 articles in proceedings from scientific meetings and conferences (compared to 58 in FY 2000). FIA staff participated in more than 900 significant consultations with FIA customers, requiring more than 3,700 hours of staff time—nearly equal to two full-time staff positions. FIA technical staff met on several occasions to further refine the national core FIA program, resulting in the development and release of version 1.5 of the national core field guide, development of a set of core tables for reporting purposes, enhancement of Internet tools for accessing and analyzing FIA data, and documentation of the business requirements for building the next-generation information management system for internal FIA use.

Program Changes in FY 2001

In FY 2001, the FIA program completed the 3rd of 5 years of transition outlined in the Strategic Plan for Forest Monitoring written in response to the Agricultural Research, Extension, and Education Reform Act of 1998 (Public Law 105-185). The enhanced FIA program now includes three sample levels: Phase 1, consisting of remote sensing; Phase 2, consisting of the original set of FIA plots (approximately one plot per 6,000 acres); and Phase 3, consisting of a subsample of FIA plots measured for a broader suite of indicators (approximately one sample location per 94,800 acres). By the end of FY 2003, we expect to implement an annual FIA program that measures at least 10 percent of all Phase 2 sample locations per year in

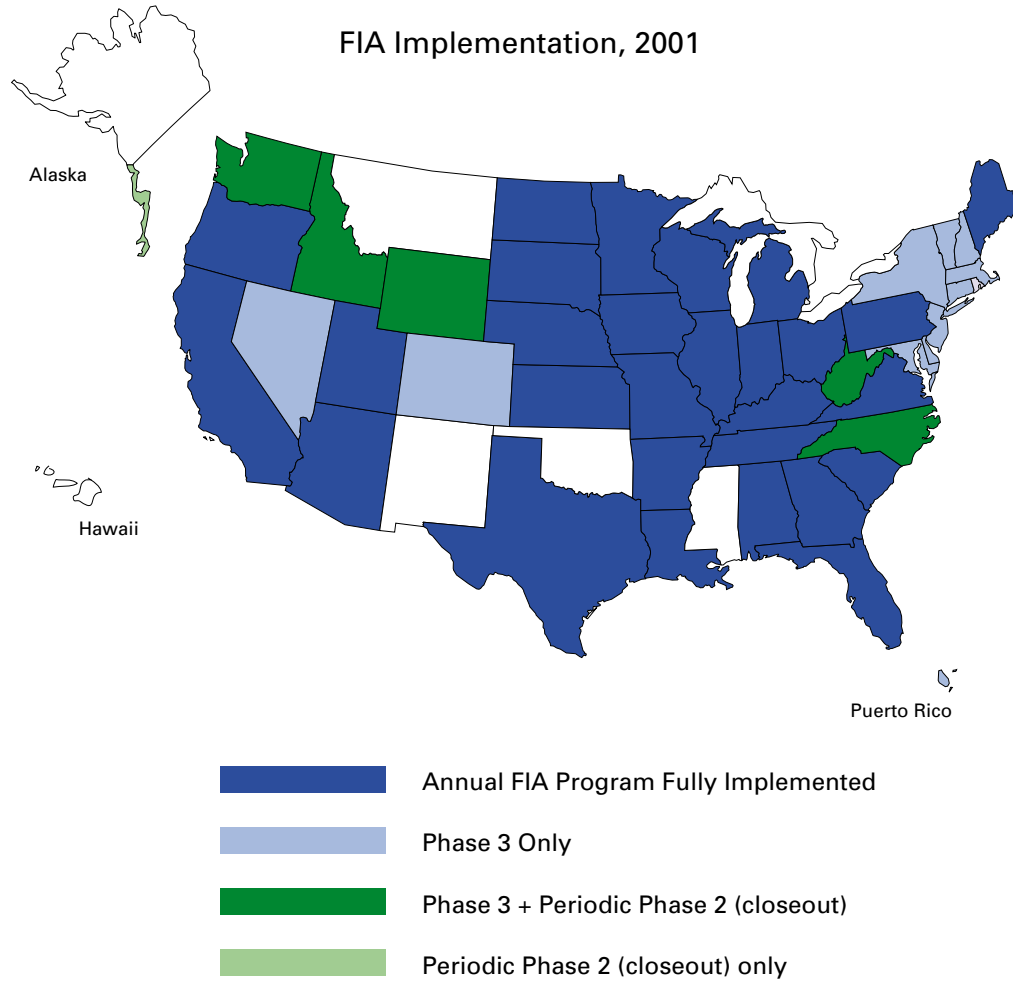


Figure 1. FIA Implementation, 2001

the Western United States, 15 percent of Phase 2 sample locations per year in the Eastern United States, and 20 percent of Phase 3 sample locations per year in all States. The base program will include annual compilations of the most recent panel of information, with full reporting at 5-year intervals. All States have the option to contribute the resources necessary to bring the program up to the full sample intensity of 20 percent per year, or to make other value-added contributions such as funding new measurements or additional sample locations.

In FY 2001, we implemented two new field sample protocols: soils sampling and down woody debris (DWD) measurements. Both protocols have been frequently requested by a wide array of FIA customers, as noted in the 1998 Report of the Second Blue Ribbon Panel on FIA. Both new protocols are done only on Phase 3 plots, and data from both measurement sets will eventually be loaded into FIA information management systems and analyzed and made available in the same manner as all other FIA data are made available.

The FIA soil sampling protocol is aimed at assessing status and trends in erosion, levels of organic matter, chemical properties and nutrient availability, compaction and other physical properties, and carbon budgets. The soil measurement and sampling procedures consist of two parts: (1) soil erosion and compaction measurements and (2) soil surface measurements and sample collection. Soil erosion measurements consist of estimates of the percentage of bare soil, percentage of litter or ground cover, and combined depth of litter and ground cover; an evaluation of litter decomposition; and an estimate of slope length. Soil compaction measurements consist of an estimate of the percentage of soil compaction on each subplot, along with a description of the type and evidence of compaction. Soil surface measurements include forest floor and litter thickness, depth to restrictive horizon, and soil texture. Samples of mineral and organic soil components are collected and sent to a laboratory for chemical analysis.

The FIA protocol for sampling down woody debris is aimed at assessing status and trends in the amount and type of dead material on the ground in various stages of decay. This information is used for many purposes, including assessments of quality and status of wildlife habitats, structural diversity within a forest, fuel loading and fire behavior, carbon sequestration (the amount of carbon tied up in dead wood), and storage and cycling of nutrients and water (important for site productivity). We use a system of transects to measure DWD in two components: (1) coarse woody debris

(dead pieces of wood greater than 3.0 inches in diameter) and (2) fine woody debris (dead branches, twigs, and wood splinters 0.1 to 2.9 inches in diameter).

Program Resources

Federal appropriated funding for the FIA program consists of three sources of funds: (1) Research, (2) NFS, and (3) State and Private Forestry (S&PF). Historically, the bulk of FIA funding was contained within the research budget of the USDA Forest Service. In FY 2001, the amount of research money provided by Congress for the FIA program remained constant relative to the FY 2000 level at \$31,687,000 (appendix 2). The NFS Deputy Area has made a permanent commitment of \$6,200,000 to help cover the cost of implementing FIA on national forest lands. The S&PF Forest Health Protection Staff has made a permanent commitment of \$2,810,000 to help cover the cost of the FIA program, particularly the Phase 3 sample component.

In FY 2001, Congress created a new appropriation within the S&PF Deputy Area of the USDA Forest Service. This appropriation, Forest Resource Inventory and Analysis (FRIA), is located within the Cooperative Forestry Staff of the S&PF Deputy Area and is earmarked for supporting the FIA program in States that provide a cost share contribution. In FY 2001, an additional \$3 million was reallocated within the research budget to increase FIA funding to the level consistent with a memorandum of understanding signed between the USDA Forest Service and the National Association of State Foresters (NASF). This reallocation was a one-time action that

will not be carried in future years unless Congress makes additional funding available. Thus, all told, \$48,697,000 was appropriated or reallocated to the FIA program in FY 2001, plus an additional \$459,950 in prior-year carryover and other internal agreements, for a total of \$49,156,950 of funding available to the FIA program in FY 2001 (appendix 2).

Of the funding available, approximately 78 percent was spent in direct support of FIA activities (figure 2), 19 percent was spent on indirect costs charged by research stations (an increase from the 17 percent expended in each of the two previous years), and 3 percent remained unspent at the end of the fiscal year. Across FIA regions, cost and productivity figures vary because of the cyclical nature

of the current inventory system and because of differences among field units in operational methods and ease of access. Rates of indirect costs in FIA field units range from about 12 to 27 percent across the country (appendix 2), reflecting differences in both sources of funding as well as research station overhead assessment practices. The National Office has a 35 percent rate of indirect cost because its FIA budget includes the U.S. Department of Agriculture overhead assessed to the entire FIA program. Figure 3 shows the total appropriated funding available for FIA from FY 1995 to FY 2001 from all sources, as well as the projected future total funding needed to deliver the base Federal FIA program as planned by FY 2003 and to maintain that program beyond FY 2003.

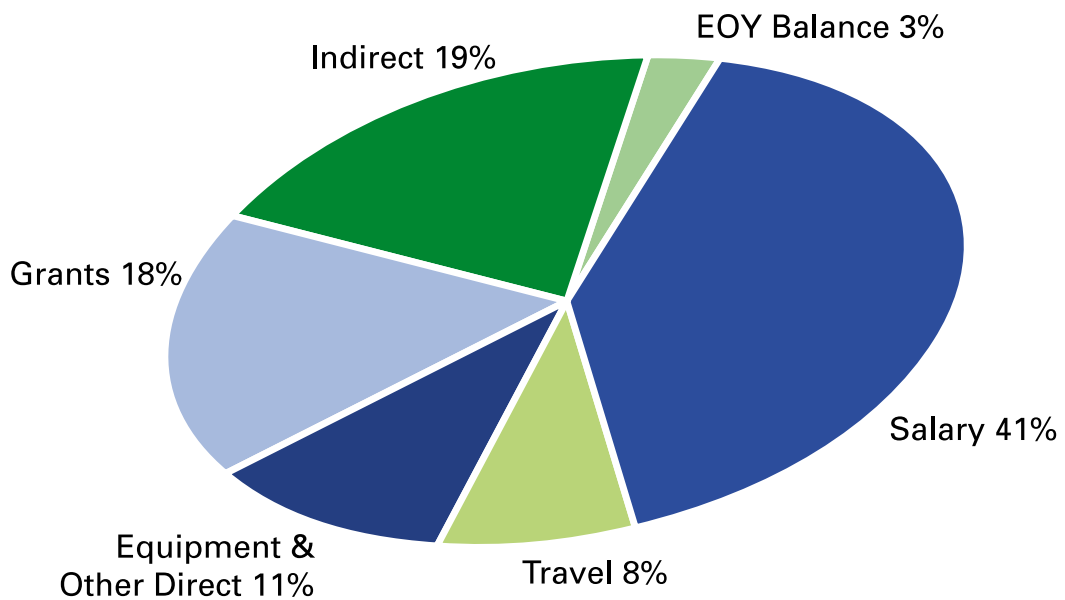


Figure 2. 2001 FIA Expenses

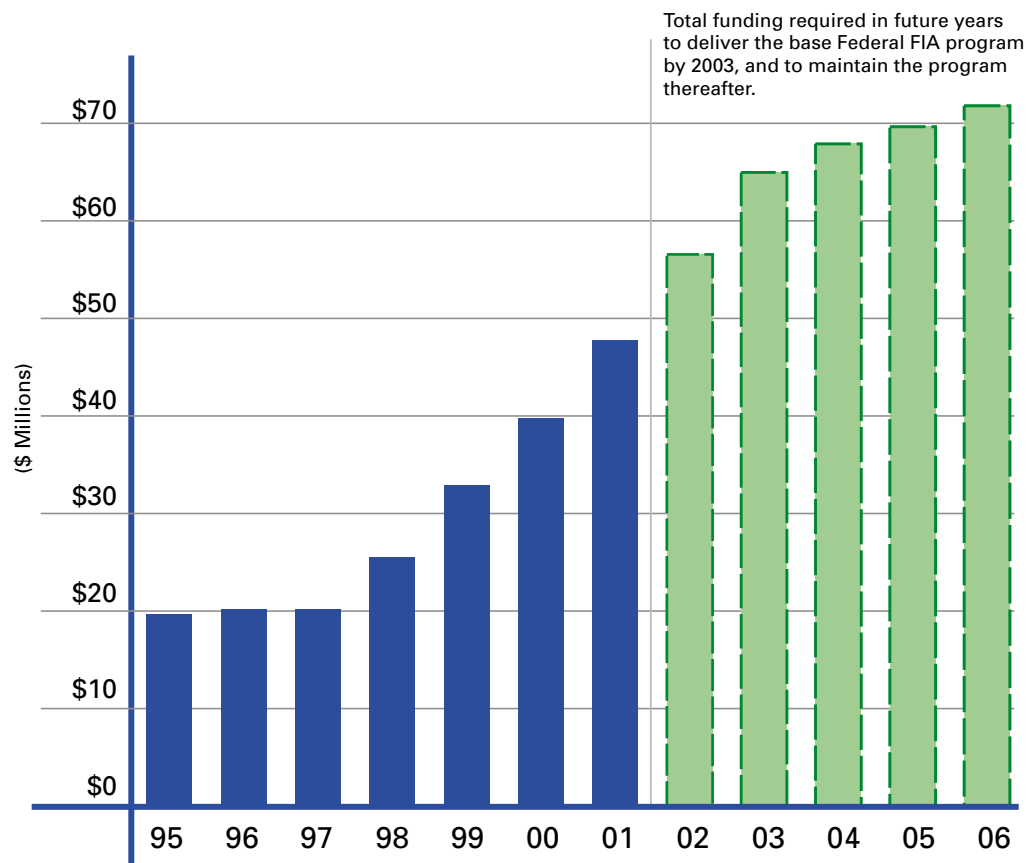


Figure 3. Funds Available

In FY 2001, FIA program staffing consisted of 375 Federal person-years of effort (appendix 3), up from 342 Federal person-years in FY 2000. All categories of staffing increased except for administration, which declined from 30 to 27 people. Otherwise, the increase was fairly well balanced among staff categories, reflective of our efforts to build up our information management and analysis staff at the same time that we build up field data collection capacity. Of the Federal FIA employees, 54 percent were involved in supervising and collecting field data, 27 percent in analysis and information management, 7 percent in program management and administration, 6 percent in techniques research, and 6 percent in Phase 1 production work (figure 4).

Partners' Contributions

The complete FIA program required by Congress is envisioned to be a Federal-State partnership, with both partners contributing resources to accomplish the work. We have agreed that the base Federal share of this program is an inventory program that collects data from 10 percent of sample locations in the Western United States and 15 percent of the sample locations in the Eastern United States on an annual basis, with reports for all States produced at 5-year intervals.

Partners, at their discretion, may choose to contribute the resources needed to bring the FIA program up to the full 20-percent measurements per year described in the

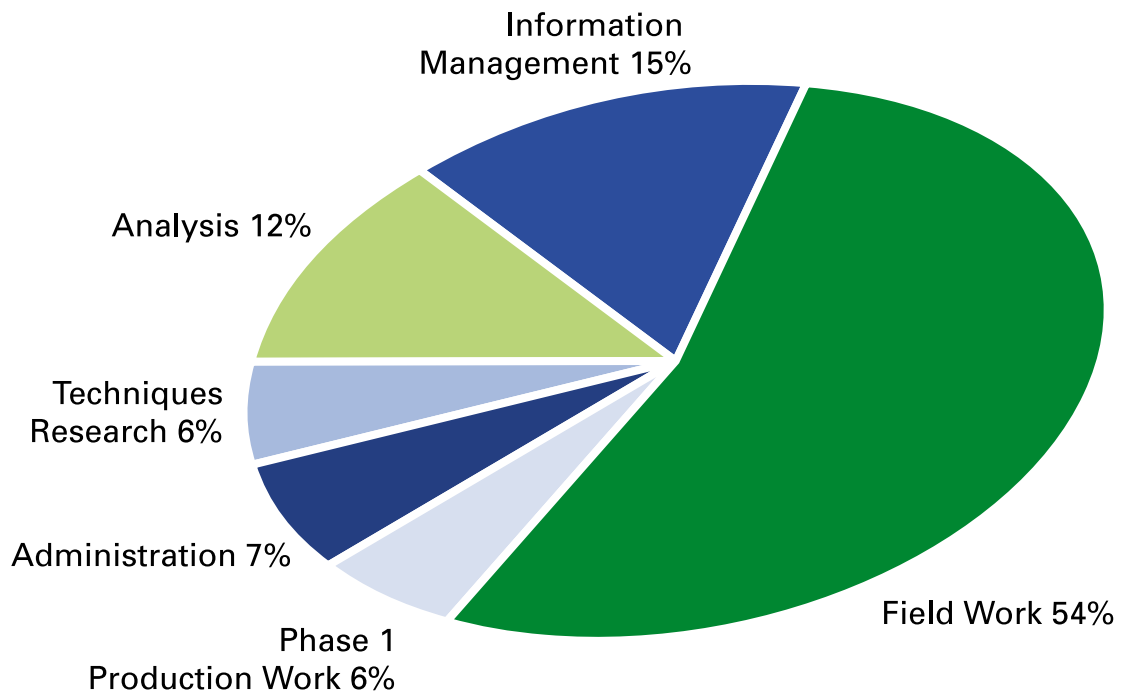


Figure 4. Federal FTEs

law. Additionally, or alternately, partners may choose to contribute resources for other purposes that add value to the FIA program, such as intensifying the base FIA sample location grid to support analysis at finer spatial resolution, funding additional types of measurements on FIA sample locations, or providing analyses or reporting beyond that provided by FIA. The willingness of partners to contribute resources demonstrates the inherent value of the FIA program.

Appendix 4 lists those partners that have chosen to contribute resources to implement the FIA program, either to achieve the 20-percent program envisioned by Congress or to add value to FIA data in other ways. These resources include staff time, vehicle use, office space, equipment, travel costs, and other

noncash items that support or add value to the FIA program. Contributions are valued for reporting purposes in terms of what it would cost the Federal FIA staff to provide the same service, which may not necessarily be the same as the actual cost to the partner making the contribution. Overall, partners contributed \$4,258,861 toward the full 20 percent FIA program envisioned by Congress, and another \$3,761,789 in contributions that add value to the FIA program, for a total of \$8,020,650 in partners' contributions. This amount is an increase from \$7,437,341 contributed by partners in FY 2000. By far the greatest contributors to the FIA program are State agencies that collectively contributed \$7,306,755 toward the program, accounting for 91 percent of all partners' contributions.

Fiscal Year 2001 Regional Highlights

The following section presents general information on the types of activities completed in each part of the country in FY 2001. Those wanting more detailed information on results, accomplishments, and impacts may contact the respective FIA unit (contact information for each FIA unit can be found on the back cover of this report).

North Central

FY 2001 accomplishments for the North Central Research Station FIA unit include—

- Continuing annual inventory fieldwork in Indiana, Iowa, Michigan, Minnesota, Missouri, and Wisconsin and initiated annual inventories in Kansas, Illinois, Nebraska, North Dakota, and South Dakota—accounting for 100 percent of the North Central FIA region.
- Becoming the first FIA unit to implement the annual inventory program in 100 percent of its region
- Measuring 16,142 Phase 2 plots (21 percent of our regional total) and 1,153 Phase 3 plots (24 percent of our regional total) (appendix 1).
- Producing 26 publications (an increase from 22 in FY 2000), including 6 State analytical reports based on annual inventory data, 2 State timber product output reports, 7 peer-reviewed journal articles, and 10 proceedings papers.
- Participating in one regional user group meeting and held no regional management meetings.
- Continuing leadership, along with the Northeastern Research Station, for the National Forest Land Ownership Study.
- Becoming the lead FIA unit for managing the Resource Planning Act (RPA) database and developing and

housing national FIA Web applications for serving FIA data to users.

- Hiring a soil scientist to serve as national coleader (east) for soil measurements in the FIA program.

North Central FIA Unit research topics included imputation and model-based updating techniques for annual forest inventories, modeling forest landscape change in the Missouri Ozarks under alternative management practices, and diameter growth models using Minnesota forest inventory and analysis data.

Northeastern

In FY 2001, the Northeastern FIA unit—

- Continued periodic fieldwork in West Virginia, which will be the final State inventoried in the Northeast under the periodic system. Continued annual FIA operations in Maine and Pennsylvania and initiated annual FIA in Ohio.
- Continued Phase 3 data collection in all these States plus Connecticut, Delaware, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont.
- Measured 3,288 Phase 2 plots (13 percent of the regional total) and 321 Phase 3 plots (20 percent of the regional total) (appendix 1). Produced 19 publications in FY 2001 (an increase from 17 in FY 2000), including 5 State statistical reports and 3 State summary brochures for New England States, 3 peer-reviewed journal articles, and 4 proceedings papers.
- Collaborated with the Maine Forest Service to complete the second annual analysis of annual inventory data collected under the new FIA system, which was released in October of FY 2001.

- Held one regional management team meeting and no user group meetings.
- Collaborated with the Northern Global Change Research Program to use FIA data to estimate forest biomass and net primary productivity for the Middle Atlantic States.
- Continued its pioneering research into geostatistical methods for producing localized estimates and maps of forest attributes at State and regional scales.
- Continued to coordinate an agreement to provide national support for the ozone indicator.
- Hosting one user group meeting and one regional management team meeting.
- Developing, testing, and implementing procedures in American Samoa for conducting forest inventory and monitoring work in the Trust Territory of the Pacific Islands.
- Conducting research into remote sensing applications for collecting data from inaccessible areas, and on fire hazard and fire history in the wildland-urban interface.

The Northeastern FIA unit also continued to provide national leadership, along with the North Central Research Station, for the National Forest Land Ownership Study, and it continued to support an assessment of the Delaware River Basin in collaboration with the Northern Global Change Research Program and the National Forest Health Monitoring Program.

Pacific

Accomplishments for the Pacific FIA unit in FY 2001 include—

- Continuing periodic inventory fieldwork in Alaska and Washington and annual inventory in Oregon.
- Initiating annual inventory in California a new inventory project in American Samoa, one of the Pacific Islands for which this unit has responsibility.
- Producing 19 publications (a decrease from 26 in FY 2000), including 3 summary reports for units of the Tongass National Forest in Alaska, 1 State analytical report for Washington and Oregon, and 7 peer-reviewed publications.

Altogether the unit measured 3,622 Phase 2 plots (9 percent of the regional total outside of interior Alaska) and 431 Phase 3 plots (17 percent of the regional total outside of interior Alaska) (appendix 1). For the first time, plots were measured on all ownerships in the region; in previous FIA inventories, NFS lands and some Bureau of Land Management (BLM) lands were excluded. The unit also accepted responsibility for providing national leadership for the understory and down woody debris indicators, and it continued research on developing field methods for measuring DWD and understory vegetation.

Interior West

In FY 2001, the Interior West FIA unit—

- Continued periodic inventory fieldwork in Idaho and Wyoming and the annual FIA program in Utah.
- Initiated the complete annual FIA system in Arizona.
- Conducted Phase 3 fieldwork in Colorado, Idaho, Nevada, and Wyoming.
- Measured 5,217 Phase 2 plots (6 percent of the total for the region) and 800

Phase 3 plots (14 percent of the total for the region) (appendix 1).

- Produced 14 publications in FY 2001 (an increase from 5 in FY 2000), including 2 peer-reviewed journal articles, 2 proceedings articles, and 5 reports specific to individual national forests demonstrating the usefulness of FIA data to national forests for strategic planning and resource characterization.
- Held one regional user group meeting and held no regional management team meetings.

The Interior West FIA unit accepted responsibility for providing national coleadership for the soil indicator (west) through an agreement with another research unit within the Rocky Mountain Research Station (RMRS). The FIA unit also conducted several pilot studies of indicators of rangeland health, and tested a modified FIA system for extension to rangeland inventory and monitoring. Finally, the unit continued its research into modeling tools for developing and querying maps of forest inventory variables.

The RMRS also hosts a FIA techniques research unit with a national mission to conduct research on the mathematical statistics of FIA surveys. In FY 2001, this unit produced eight publications pertaining to the FIA program, including six peer-reviewed journals and one State analytical report. The FIA techniques research unit published on the theoretical foundation for statistical techniques used by the annualized FIA program and NFS, including techniques that incorporate satellite data into statistical estimates and merge survey panels to improve FIA

accuracy and efficiency. The unit identified a root source of chronic problems with characterizing stand conditions from an FIA field plot. The unit also helped form a multi-institutional partnership to improve the National Forest Inventory for Mexico and the State of Jalisco. Partners include Mexican States of Jalisco and Colima, which have committed over US\$500,000 of their own funds to the pilot studies.

Southern

FY 2001 accomplishments for the Southern FIA unit include—

- Continuing periodic inventory fieldwork in North Carolina and completing periodic fieldwork in Alabama.
- Initiating annual FIA in Alabama, Florida, Texas, and Puerto Rico, and continuing annual inventory fieldwork in Arkansas, Georgia, Kentucky, Louisiana, South Carolina, Tennessee, and Virginia.
- Producing 20 publications (a decrease from 37 in FY 2000), including 3 State analytical reports, 2 State timber product output (TPO) reports, 4 survey unit statistical reports, 4 peer-reviewed articles, and 2 proceedings articles.
- Producing its first-ever compilation report using annual forest inventory data for the State of Georgia.
- Attending or hosting four regional user group meetings and one regional management team meeting.

In collaboration with its partners, the Southern FIA unit measured a total of 8,386 Phase 2 plots (9 percent of the regional total) and 549 Phase 3 plots (10 percent of the regional total) (appendix 1). Unit scientists collaborated in the

Southern Resource Assessment, a regional assessment of status and trends in southern forests. The unit responded to more than 140 requests for data, including requests for special data runs, such as the first inventory for the Great Smoky Mountains National Park. Unit researchers completed research on the use of remote sensing for rapid damage assessments, which were successfully applied to the February 1994 ice storm in Mississippi, and they developed crown-diameter models from the FIA database for use as training and validation data for classifications of forest area based on multispectral satellite data. The unit also entered into a number of cooperative ventures with university scientists and others on topics that include land use change associated with urbanization in Georgia and application of high-resolution remote sensors for estimating forest area and stand characteristics.

National Office

The National Office of the FIA program coordinates, oversees, and guides the FIA field units engaged in implementing the enhanced FIA program. In FY 2001, National Office staff produced nine publications, including several related to the final analysis for the 1997 Resource Planning Act Assessment. In collaboration with the Society of American Foresters (SAF), the National Office participated in the second national user group meeting for FIA customers, held in Alexandria, VA.

In addition, the National Office—

- Organized, facilitated, and documented one FIA executive team meeting, three FIA management team meetings, and

dozens of briefings for internal and external partners, customers, collaborators, and supporters.

- Advised the Governments of Mexico and Chile on approaches for developing their own national forest inventory program.
- Continued to collaborate in producing the forest portion of The State of the Nation's Ecosystems report.
- Finalized an agreement between the FIA program and the NFS Deputy Area that outlines the terms under which NFS will fully participate in the FIA program.
- Started work on a memorandum of understanding documenting procedures for sharing FIA data with national forest managers in a way that will protect the integrity and unbiasedness of the FIA data.

Grants and Agreements

Each year, FIA units enter into various grants and cooperative agreements with partners to accomplish specialized work in support of the FIA mission. In some cases, partners provide expertise that is not available within the FIA program; in other cases, they share the workload. Appendix 5 lists 74 grants and agreements funded in FY 2001, comprising \$8,855,673, or approximately 18 percent of the total available FIA program budget. This amount is a slight increase over the total expenditure of \$8,282,166 awarded in grants in FY 2000, and a slight decrease in both the number of grants (down from 87 in FY 2000) and in the percent of FIA budget spent on grants (down from 21 percent in FY 2000). Most of these grants

and agreements were with State agency (61 percent of funds) and university (26 percent of funds) partners (figure 5). Other cooperators included other USDA Forest Service offices (9 percent of funds), other Federal agencies (2 percent of funds), and a mix of private consultants and other organizations (2 percent of funds). The major purpose of the grants was for collaboration in data collection and for research in techniques development. In the future, we expect that we will increasingly use grants and agreements to augment FIA staff capacity in the analysis and reporting of annual FIA data for individual States.

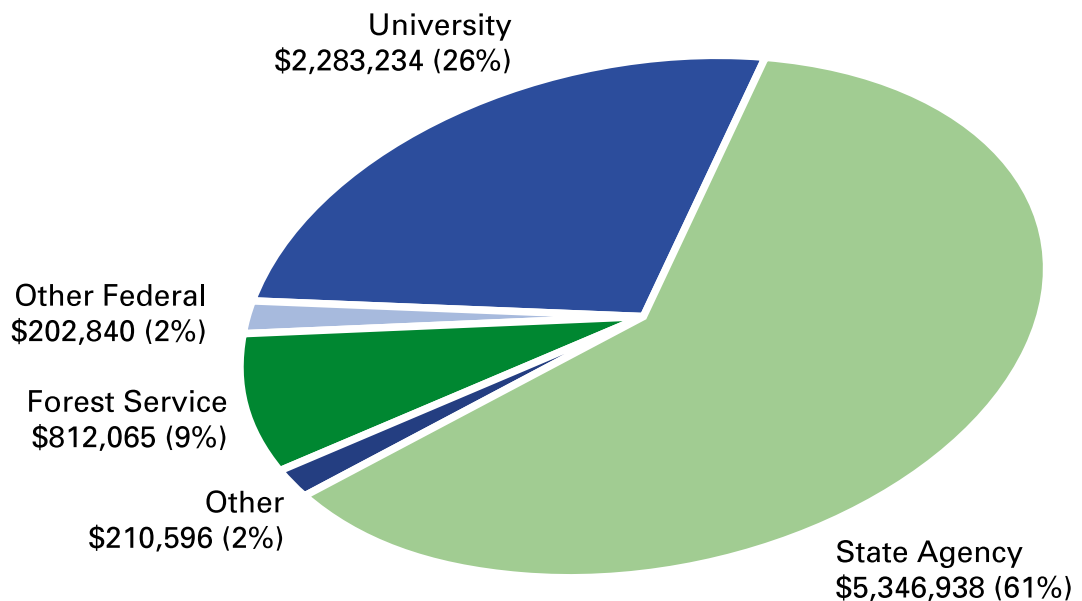


Figure 5. Grants and Agreements

Consultations by FIA Staff

Consulting with FIA customers is a growing part of our business. Just as we have increased information (both data and analyses) made available on our Web site, our FIA staff are increasingly available for customers that contact them seeking either to understand more about the FIA program and our results, or seeking to address a specific question not obviously addressed through other means.

Questions pertaining to a single administrative unit (for example, to a single State or to a single national forest) often are referred to partners within that administrative unit (State foresters, national forest analytical staff) who can often provide better context and who prefer to maintain their contacts with their customers. When questions span multiple administrative units, FIA staff will try to the best of their ability to help the customer find an answer. FIA does not compete with private sector consultants; rather, we answer questions about our methods and help customers (including private consultants) use FIA data to answer their own questions. Appendix 6 shows the number of significant consultations that FIA staff provided in FY 2001, by unit and by type of customer. A significant consultation is defined as any dialogue with a customer outside of FIA that requires more than a single hour to address. All together, FIA staff addressed 921 significant consultations, requiring 3,751 staff hours to complete—slightly less than 2 full-time staff-years. More than half of the time was spent consulting with other government agencies, such as State agencies and other Federal agencies, as well as having internal discussions within the USDA Forest Service. Other major client groups included academic (13

percent of time spent consulting), nongovernmental organizations (NGOs) (12 percent of time spent), and industry (10 percent of time spent). The data also shows some regional variations. For example, industrial customers are the major clients of the Southern FIA unit, while NGOs are a major client in the Northeastern FIA unit and the National Office FIA unit.

FIA-National Forest Collaboration

In FY 2001, the Deputy Chief for Research and Development and the Deputy Chief for NFS signed an internal memorandum of understanding providing for permanent inclusion of all national forest lands within the FIA program. This was a significant step forward for FIA customers, guaranteeing the availability of consistent FIA information across the entire United States, including all national forest lands. Under the terms of the negotiated agreement, the national forests provide permanent funding to help cover the cost of the FIA program on national forest lands, and in return the FIA program agrees to implement the program in a

consistent manner with inventory on other lands within the same State and to load FIA data into the national forest information base for use in forest planning and other strategic scale assessments. FIA will also prepare standardized reports specific to individual national forests, provide advice and assistance in developing forest-level sampling protocols linked to FIA, and collaborate with national forests that want to contribute additional resources for additional sampling. The following table highlights some of the expectations outlined in the agreement, and the degree to which the agreement is being satisfied.

Criterion	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 8	Region 9	Region 10
Percent of national forest land covered by annual FIA	5	11	54	25	100	64	78	82	0
Percent of national forest FIA data loaded into FSveg*	0	0	0	0	0	0	0	0	0
Did region staff participate in FIA management?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Informed of plans for fieldwork within region?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satisfied with opportunities for enhancing FIA to better meet regional needs?	No	Partly	Yes	Partly	Yes	Yes	Not currently an issue	Yes	Yes
Satisfied with tech support and consultation from FIA?	Some-what	Yes	Yes	Yes	Too early to tell	Too early to tell	Yes	Yes	Yes

*FSveg is the Field Sampled Vegetation module of the Natural Resource Information System.

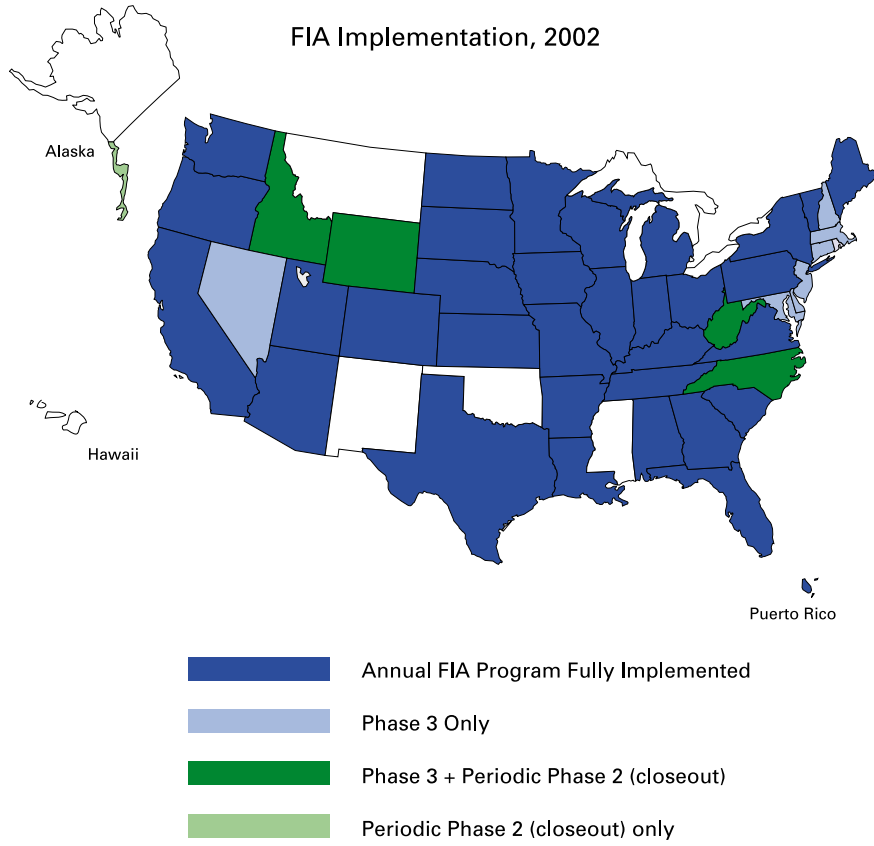


Figure 6. FIA Implementation, 2002

The most significant unresolved issue is an agreement for how national forest analysts will be provided with knowledge of exact sample plot locations on national forest lands to support forest planning analyses. A memorandum of understanding will be negotiated in FY 2002 to address this concern, while providing protection to maintain the confidentiality and integrity of the FIA sample. Another important issue is the loading of FIA data from national forests into FSVeg (Field Sampled Vegetation module of NRIS), the corporate standard database for national forest staff. FIA has hired two full-time computer analysts to complete the initial loading during the coming year. Initial focus will

be on core data, but national forests also need access to regional-specific data. Finally, some western national forests have expressed concern about making the transition directly to an annual inventory without a final closeout periodic inventory to establish a baseline.

Geographically, several national forest regions are split between two FIA units, and some adjustments still need to be made to make sure that each NFS region gets a complete set of data that includes the same regional variables across the whole region. This issue will be addressed in FY 2002, and we hope it will be resolved to mutual satisfaction.

Comparing FY 2001 FIA Accomplishments With FY 2000 Goals

In the FY 2000 business report for FIA, we included a section stating our plans for FY 2001. Below we show how our actions in

FY 2001 matched our promises in FY 2000.

In the FY 2000 Business report, we said that in FY 2001 we would—	In FY 2001, we—
Implement an annual inventory system in Alabama, Arizona, California, Florida, Illinois, Kansas, Nebraska, North Dakota, Ohio, Puerto Rico (Phase 3 only), South Dakota, and Texas.	Implemented and continued annual FIA in all States listed except Texas. In Texas, we implemented and continued annual FIA only in the eastern part of the State.
Continue periodic inventories to establish a baseline in Alaska, Colorado, Idaho, North Carolina, Washington, West Virginia, and Wyoming.	Continued periodic inventories in all States listed except Colorado.
Continue developing and documenting nationally consistent compilation, analysis, and database management procedures.	Incorporated Phase 3 measurement protocols into national manuals; continued work on a national information management system; and developed an initial set of core analytical tables.
Implement soil and DWD measures on Phase 3 plots and continue pilot-testing of vegetative diversity measures to prepare for full implementation in FY 2002.	Implemented soil and DWD measures on Phase 3 sample plots; continued pilot-testing of vegetative diversity measures, deferring full implementation until FY 2003.
Continue collaborative stewardship of the FIA program by holding user group meetings in all regions of the country and at the national level.	Held one national user group meeting, and four out of five FIA regions held or participated in regional user group meetings.
Continue to make our data more accessible and usable by adding analytical tools and program documentation to online FIA databases and Web pages.	Released FIA Mapmaker Web interface for producing tables and maps; completed initial release of FIA presentation database; continued cooperative development of Arc-Info tools for analyzing FIA data.
Conduct applied research into ways of using technology to increase program efficiency, develop new products to meet customers' needs, and explore collaboration with the U.S. Geological Survey through the Multi Resource Land Characteristics (MRLC) consortium.	Invested \$1,658,022 of program budget (3.4 percent) and 21.6 full-time employees (FTEs) of our staff (5.8 percent) in techniques research, funded approximately 26 grants for techniques development, and contributed \$200,000 toward satellite imagery purchase through the MRLC project.
Implement FIA on all national forest lands in States where FIA is conducting fieldwork.	Implemented FIA on all national forest lands in States where FIA is implemented.
Publish our first business reports for the North Central and Southern FIA regions.	Published statistical reports for some States in the Northeast, North Central, and Southern FIA regions.

Fiscal Year 2002 FIA Program Direction

The FIA program is committed to implementing the Strategic Plan for Forest Inventory and Monitoring, with an initial focus on achieving a base Federal program of 10 percent per year in the Western United States and 15 percent per year in the Eastern United States by FY 2003. We have made significant changes to our program by forming a partnership with State foresters to lead and implement the FIA program in a more responsive manner. We are implementing annual inventory systems in every region of the country.

In FY 2002, we intend to accomplish the following:

- Continue transition to an annual inventory system by initiating an annual inventory system in Colorado, New Hampshire, New York, and Washington, and by continuing annual inventories in all States that have implemented the system (figure 6). This change will mean that an annual inventory is implemented in every region of the country and will include coverage of more than 73 percent of the Nation (exclusive of interior Alaska) under a cooperative program involving full Federal-State partnerships in program management and delivery.
- Continue traditional, periodic inventories to establish a baseline in advance of implementing an annual inventory in coastal Alaska, Idaho, North Carolina, West Virginia, and Wyoming.
- Continue developing and documenting nationally consistent compilation, analysis, and database management procedures, including initiating work on version 2.0 of the national core field guide.
- Complete development and testing of vegetative diversity measures to prepare for full implementation in FY 2003.
- Continue collaborative stewardship of the FIA program by holding user group meetings in all regions of the country and at the national level, holding regional management team meetings in all regions of the country, and holding one scientific symposium on FIA.
- Continue to make our data more accessible and usable by adding analytical tools and program documentation to online FIA databases and Web pages.
- Continue to conduct applied research into ways of using technology to increase program efficiency, to develop new products to meet customers' needs, and to collaborate with the U.S. Geological Survey and other agencies through the Multi Resource Landscape Characteristics (MRLC) consortium.
- Implement FIA on all national forest lands in States where FIA is conducting fieldwork. Initiate loading of FIA data into national forest information management systems.

Long-Term Strategic Direction

The Government Performance and Results Act (GPRA) of 1993 directs Federal entities to develop long-term goals and performance measures to monitor progress toward those goals. Although intended to apply at the agency level, the GPRA framework provides an excellent tool for guiding progress at the project level as well. The following tabulation shows our key goals, performance

measures, benchmarks, and targets for the FIA program for 1999-2001. In future business reports, we will repeat this table to show how we are progressing toward our goals. In FY 2001, we are adding a new performance measure: percent of national forest land for which FIA data are loaded into the NRIS, the national application for making resource data available to national forest managers.

Goal	Performance Measure	1999 Level	2000 Level	2001 Level	Target Level
Inputs					
Maintain sufficient funding to support the base Federal FIA program	Percent of necessary Federal funding received	47	67	81	100
Outputs					
Include 100 percent of U.S. forest lands in the FIA sample population	Percent forest included in the target FIA sample population	95	95	100	100
Keep fieldwork current	Percent of base sample locations visited/year:				
	East	10.6	9.0	14.6	15
	West	3.5	3.0	6.8	10
Keep analysis current	Average number of years between State analytical reports	9	8	8	5
Keep online database current	Average age (years) of most recent update of FIA data available online	7	7	6	1
Make data accessible to national forests	Percent of national forest land for which FIA data are loaded into NRIS	N/A	N/A	0	100
Outcomes					
Customer satisfaction	Percent of customers rating service as "satisfactory" or better	*	*	84	100
	Partner financial contributions expressed as percent of total Federal FIA budget	14	19	16	25

(*) Indicate years for which no data are available.

Conclusions

We have entered a new era in partnership and collaboration in which Federal and State agencies and other colleagues work side by side to plan, manage, implement, and continuously improve the FIA program. We are gathering and disseminating information on a wider array of ecological attributes, while continuing to serve our traditional customers who require timely information on forest resources. We are increasing the timeliness of our surveys and of our reporting to provide a continuously updated, publicly accessible information base that includes meaningful reports and analyses as well as elemental data for others to use. We are exploring and using modern technology to expand the scope of our products and to deliver them more efficiently. And we are openly reporting on our progress, our accomplishments, our successes, and our challenges.

In summary, we are committed to working collaboratively with our partners to deliver the best program possible with the resources that we have at our discretion. We hope this report gives you a window into the business practices of the FIA program, and we encourage you to help us improve the program with your feedback.

Glossary of Terms Used in Appendixes

Additional station funds. Additional funds redirected to the FIA unit by the research station, most commonly from savings arising from budgeted salaries for station positions that were left unfilled. These funds are typically reallocated part way through the year.

Additional WO FIA funds. Additional funds allocated to the FIA unit by the National FIA office, typically to cover the costs incurred by individual FIA units doing work that supports the entire FIA program. For example, national advisors for several measurement suites are hired by regional units and funded by the National Office budget.

Base Federal FIA program. A level of FIA program delivery that includes sampling 10 percent of base grid Phase 2 plots per year in the Western United States, 15 percent of base grid plots per year in the Eastern United States, and 20 percent of Phase 3 plots nationwide, with data compiled and made available annually and complete State analyses done every 5 years.

Base grid plots sampled. The base grid consists of one sample location per approximately 6,000 acres (Phase 2) and one location per approximately 96,000 acres (Phase 3). Some partners chose to intensify beyond the base grid.

Core reports. A class of publications that summarizes status and trends for a complete administrative unit. Examples include survey unit reports, State statistical or analytical reports, or national forest reports.

Direct expenses. All expenses directly attributable to the FIA unit incurred as a part of doing FIA business. Excludes indirect business costs (such as rent, telephones, and administrative overhead outside the FIA unit staff), which are included below in Indirect expenses. Includes work done for other units as a normal part of FIA business. Includes the following items:

Salary. Includes direct salary costs plus benefits charged to the FIA unit. Broken into the following categories:

Administration. Program manager, project leader, and clerical staff.

Phase 1 production. Aerial photo interpreters, satellite image analysts engaged in Phase 1 stratification.

Field support. Field crew supervisors who spend more than 50 percent of their time measuring plots; others involved in supporting and coordinating field crews.

Field crews. All staff spending at least 50 percent of their time measuring regular plots.

QA crews. Staff spending at least 50 percent of their time doing quality assurance fieldwork.

Information management.

Programmers, data compilers, computer system support staff.

Analysts. Staff who analyze data and write publications.

Techniques research. Mainly research staff who conduct FIA-related research on methods and techniques.

Travel. Broken into the following categories:

Office travel. Travel costs for all staff except field crews and QA crews.

Field/QA travel. Travel costs for field crews and QA crews.

Equipment. Costs for durable goods used for FIA. Includes the following:

Imagery. Aerial photos, satellite imagery data files.

Vehicles. All vehicle costs, including such items as operating costs, depreciation, and leases.

Field equipment. Measurement tools and equipment, such as data recorders carried by field crews.

Computer/telecommunications. Computer hardware, software, communications costs. Other. Anything that does not fit into one of the above equipment categories.

Grants and agreements. Cost of cooperative grants and agreements that directly support the FIA mission.

Publications. Costs for laying out, editing, printing, and distributing publications.

Miscellaneous. Anything that does not fit into one of the above categories.

FRIA. Forest Resource Inventory and Assessment, an account created by Congress within the State and Private Forestry portion of the Forest Service budget, to provide funds to support FIA.

FHP. Forest Health Protection, an account created by Congress within the State and Private Forestry portion of the Forest Service budget, to protect the health of the Nation's forests. FHP provides some financial support to the FIA program.

Indirect expenses. Indirect expenses include items such as research station management salaries, telephones, utilities, and other items for which the FIA unit does not pay for directly, but which station leaders deem to be a fair and reasonable assessment for the basic services needed to support FIA along with other station

activities. Each station has its own means for determining these assessments. Rather than reporting the different rates, we simply calculate the Indirect expenses item by subtraction:

Indirect expenses = Total available funds – (Total direct expenses + End of year balance)

Indirect rate. Indirect expenses divided by total available funds. This is not necessarily the same as the standard station overhead rate; instead this rate reflects the total indirect cost as a fraction of the total funds available to FIA.

Management meetings held. Number of national or regional management team meetings held by each FIA unit. A management team for each FIA region consists of partners who are sharing in the funding and implementation of the FIA program. This group typically consists of representatives from the FIA unit, national forest regional offices, S&PF offices, and State forestry agencies.

NGO. Nongovernmental organization; a class of customers with whom FIA staff are asked to consult. Includes environmental organizations, professional societies, and other generally not-for-profit organizations.

NIPE. Nonindustrial private forest land owners. Private individuals or organizations who own forest land for purposes other than industrial operations.

Percent of total plots sampled. Total number of base grid plots sampled divided by the total number of plots in the base grid.

Percent of full funding. Total available funds divided by the funding needed to fully implement the base Federal program.

Percent of region covered by annual FIA. Sum of forested acres in States currently implementing annual FIA, divided by the total number of forested acres in each FIA region; a measure of the degree to which the FIA region has moved from periodic to annual inventory.

Phase 1. Stratification of the land base into forested and nonforested classes using remotely sensed imagery (aerial photographs or satellite imagery). Done to increase the efficiency of fieldwork and estimation.

Phase 2. A set of sample locations, approximately one every 6,000 acres of land, measured for basic mensurational forest attributes.

Phase 3. A subset of Phase 2 sample locations, approximately one every 96,000 acres of land, measured for a more extended suite of ecosystem attributes, including tree crown condition, lichen community diversity, soil data, and down woody debris.

Publications. Number of publications per unit, by type of publication, as reported in official agency attainment reports. Publications are one of the major outputs of the FIA program. Types of publications include the following:

Survey unit reports

State statistical reports

State analytical reports

State timber product output (TPO) reports

Other station publications

Peer-reviewed journal articles

Proceeding papers

Other: Publications that do not fit into any of the above categories, such as abstracts, books, or other Government publications.

Reported FY 2000 EOY balance. Funds reported in the FY 2000 business report as unspent at the end of the 2000 fiscal year, and presumably available for use in FY 2001.

Significant consultations. Cases in which an FIA staff person spent at least 1 hour in discussion, analysis, or research to address a specific question or need raised by an external FIA program customer.

Station adjustments. Any changes to the reported FY 2000 EOY (end of year) balance made by the station before the start of the 2001 fiscal year. Allow for final adjustments after all EOY accounting is complete.

Total available funds. Total funds available for delivering the FIA program, including funds appropriated by Congress for the FIA program; other funds made available by USDA Forest Service partners; and previous year carryover funds. This is a measure of Federal funding for the base Federal program.

User group meetings held. Number of user group meetings sponsored or attended by each FIA unit. A user group meeting is an open meeting in which a complete regional cross-section of FIA partners and customers are invited to attend. User group meetings differ from the usual smaller meetings with one or two partners that all FIA units call as a normal course of business.

Points of Contact

For information about the status and trends of America's forests, please contact the appropriate office below:

Northeast

Program Manager, FIA
USDA Forest Service
Northeastern Research Station
11 Campus Boulevard, Suite 200
Newtown Square, PA 19073
610-557-4075

North Central

Program Manager, FIA
USDA Forest Service
North Central Research Station
1992 Folwell Avenue
St. Paul, MN 55108
651-649-5139

South

Program Manager, FIA
USDA Forest Service
Southern Research Station
200 Weaver Boulevard
Asheville, NC 28802
828-257-4309

Interior West

Program Manager, FIA
USDA Forest Service
Rocky Mountain Research Station
507 25th Street
Ogden, UT 84401
801-625-5388

Pacific Northwest (includes Alaska and Hawaii)

Program Manager, FIA
USDA Forest Service
Pacific Northwest Research Station
1221 SW Yamhill Street, Suite 200
Portland, OR 97205
503-808-2066

Statistical Techniques

Project Leader, FIA
USDA Forest Service
Rocky Mountain Research Station
2150 Centre Avenue, Bldg. A, Suite 350
Fort Collins, CO 80526-1891
970-295-5973

National Office

Forest Inventory National Program Leader
USDA Forest Service
Stop Code 1119
1400 Independence Avenue, SW
Washington, DC 20250-1119
703-605-4177

All of our regional Internet home pages, as well as a wealth of statistical and other information, are available through the national FIA homepage located at fia.fs.fed.us.

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Appendixes

Appendix 1. Performance measures for the FY 2001 FIA program

	Pacific Northwest	Interior West	Southern	North Central	North East	Fort Collins	National Office	Total
Total Available Funds in FY 2001	\$10,170,417	\$8,003,857	\$14,304,000	\$6,129,737	\$6,995,000	\$419,000	\$3,134,939	\$49,156,950
Percent of Full Funding (FY 2001)	63%	80%	94%	96%	82%	98%	80%	81%
Contributions from Partners								
Supporting the 20% FIA program	\$70,000	\$255,626	\$2,248,111	\$1,021,374	\$661,500	\$0	\$2,250	\$4,258,861
Value-added contributions	\$537,000	\$0	\$163,326	\$3,061,463	\$0	\$0	\$0	\$3,761,789
Base Grid Plots Sampled:								
Phase 2, Forested	1,575	1,316	5,531	2,773	2,541			13,736
Phase 2, Nonforested	2,047	3,901	2,855	13,369	747			22,919
Total Phase 2 Plots	3,622	5,217	8,386	16,142	3,288			36,655
Phase 3, Forested	183	245	322	248	193			1,191
Phase 3, Nonforested	248	555	227	905	128			2,063
Total Phase 3 Plots	431	800	549	1,153	321			3,254
TOTAL BASE PLOTS	4,053	6,017	8,935	17,295	3,609			39,909
Number of Quality Assurance Plots								
Phase 2 (Forest + Nonforest)	189	82	656	205	421			1,553
Phase 3 (Forest + Nonforest)	12	30	33	11	19			105
TOTAL QA PLOTS	201	112	689	216	440			1,658
Percent of total plots sampled (1)								
Phase 2 (10% west, 15% east)	9%	6%	9%	21%	13%			11%
Phase 3 (20% overall)	17%	14%	10%	24%	20%			16%
Percent of region covered by annual FIA (1)								
	65%	26%	79%	100%	45%			65%
Publications								
Survey Unit Reports	0	0	4	0	0	0	0	4
State Statistical Reports	0	0	0	0	6	0	0	6
State Analytical Reports	1	0	3	6	3	1	0	14
State TPO Reports	0	0	2	2	0	0	0	4
National Forest Reports	3	5	0	0	0	0	0	8
SUBTOTAL - CORE REPORTS	4	5	9	8	9	1	0	36
Other Station Publications	1	3	3	1	1	1	3	13
Peer Reviewed Journal Articles	6	2	4	7	3	6	0	28
Proceedings Articles	1	2	2	10	4	0	0	19
Other	7	2	2	0	2	0	6	19
TOTAL - ALL REPORTS	19	14	20	26	19	8	9	115
# Publications per Federal FTE	0.25	0.18	0.21	0.46	0.29	2.35	4.50	0.31
Consulting Activities								
Number of significant consultations	152	50	428	44	197	5	45	921
Total hours of significant consultations	786	1,107	646	352	698	5	157	3,751
User Group Meetings Held	1	1	4	1	0	0	1	8
Management Meetings Held	1	0	1	0	1	N/A	3	6

1) Excludes interior Alaska, Hawaii, and Pacific Island territories that will be handled through special projects

Appendix 2. Financial statement for the FY 2001 FIA program

	Pacific Northwest	Interior West	Southern	North Central	North East	Fort Collins	National Office	Total
I. AVAILABLE FUNDS								
Reported 2000								
EOY Balance	\$72,000	\$185,857	(\$28,000)	\$0	\$0	\$0	\$0	\$229,857
Station Adjustments	\$0	\$0	\$0	\$15,753	\$0	\$0	\$0	\$15,753
2001 Initial Balance	\$72,000	\$185,857	(\$28,000)	\$15,753	\$0	\$0	\$0	\$245,610
2001 Appropriation								
Research	\$5,327,000	\$3,647,000	\$10,836,000	\$4,518,000	\$5,015,000	\$419,000	\$1,925,000	\$31,687,000
National Forest System	\$2,787,000	\$2,595,000	\$385,000	\$366,000	\$67,000	\$0	\$0	\$6,200,000
State and Private-FRIA	\$997,000	\$968,000	\$1,743,000	\$375,000	\$917,000	\$0	\$0	\$5,000,000
State and Private-FHP	\$281,077	\$55,000	\$200,000	\$215,000	\$550,000	\$0	\$1,508,923	\$2,810,000
Redirected Research Funds	\$503,000	\$503,000	\$1,168,000	\$380,000	\$446,000	\$0	\$0	\$3,000,000
Additional Station Funds	\$189,340	\$0	\$0	\$25,000	\$0	\$0	\$0	\$214,340
Additional WO FIA Funds	\$14,000	\$50,000	\$0	\$234,984	\$0	\$0	(\$298,984)	\$0
Total Available Funds	\$10,170,417	\$8,003,857	\$14,304,000	\$6,129,737	\$6,995,000	\$419,000	\$3,134,939	\$49,156,950
	Pacific Northwest	Interior West	Southern	North Central	North East	Fort Collins	National Office	Total
II. DIRECT EXPENSES								
Salary								
Administration	\$369,200	\$428,886	\$311,766	\$210,333	\$321,852	\$45,691	\$217,140	\$1,904,868
Phase 1 Production	\$338,899	\$148,966	\$201,969	\$274,060	\$48,392	\$0	\$0	\$1,012,286
Field support	\$589,238	\$440,498	\$417,793	\$256,574	\$549,050	\$0	\$0	\$2,253,153
Field crews	\$992,757	\$1,190,798	\$897,462	\$861,956	\$1,041,900	\$0	\$0	\$4,984,873
QA Crews	\$164,385	\$301,885	\$493,393	\$55,237	\$306,540	\$0	\$0	\$1,321,440
Information Management	\$734,901	\$720,842	\$1,241,938	\$579,562	\$312,220	\$0	\$0	\$3,589,463
Analysis	\$974,567	\$315,887	\$1,247,211	\$476,917	\$478,143	\$0	\$0	\$3,492,725
Techniques Research	\$478,032	\$104,766	\$256,015	\$274,136	\$331,931	\$213,142	\$0	\$1,658,022
Travel								
Office travel	\$148,500	\$90,066	\$349,323	\$168,415	\$131,145	\$40,806	\$33,733	\$961,988
Field/QA crew travel	\$735,625	\$987,994	\$851,187	\$310,535	\$236,517	\$0	\$0	\$3,121,858
Equipment								
Imagery	\$128,251	\$76,806	\$89,437	\$49,500	\$6,100	\$0	\$0	\$350,094
Vehicles	\$785,740	\$277,769	\$161,518	\$139,048	\$290,487	\$0	\$0	\$1,654,562
Field Equipment	\$244,426	\$86,282	\$212,695	\$72,392	\$16,515	\$0	\$965	\$633,275
Computer/Telecommunications	\$492,300	\$538,346	\$213,358	\$49,452	\$112,112	\$4,953	\$0	\$1,410,521
Other	\$262,620	\$113,592	\$48,440	\$48,453	\$66,153	\$133	\$0	\$539,391
Grants and Agreements	\$558,919	\$432,262	\$4,434,005	\$946,894	\$695,770	\$15,000	\$1,772,823	\$8,855,673
Publications (printing, distribution)	\$25,000	\$10,634	\$13,421	\$3,704	\$3,746	\$0	\$2,250	\$58,755
Miscellaneous	\$79,000	\$253,752	\$195,345	\$25,363	\$74,878	\$293	\$12,328	\$640,959
TOTAL DIRECT EXPENSES	\$8,102,360	\$6,520,031	\$11,636,276	\$4,802,531	\$5,023,451	\$320,018	\$2,039,239	\$38,443,906
III. INDIRECT EXPENSES								
(indirect rate)	18%	15%	12%	22%	27%	26%	35%	19%
IV. 2001 EOY BALANCE								
	\$229,600	\$250,000	\$941,774	\$0	\$73,200	(\$9,784)	\$0	\$1,484,790

Appendix 3. Federal staffing (full-time equivalents) for the FY 2001 FIA program

	Pacific Northwest	Interior West	Southern	North Central	North East	Fort Collins	National Office	Total
Administration	4.5	7.3	5.4	3.5	3.6	0.6	2.0	26.9
Phase 1								
Production Work	6.7	2.5	4.9	6.1	3.2	0.0	0.0	23.3
Field coordination	8.7	11.2	5.1	3.4	8.0	0.0	0.0	36.4
Field crew	29.1	34.7	23.3	23.5	29.9	0.0	0.0	140.4
QA Crews	2.3	7.3	12.8	1.0	2.6	0.0	0.0	26.0
Information Management	10.9	8.9	20.0	8.4	7.1	0.0	0.0	55.2
Analysis	8.8	3.9	18.6	7.1	6.5	0.0	0.0	44.9
Techniques Research	5.7	2.0	3.6	3.4	4.1	2.8	0.0	21.6
TOTAL	76.5	77.7	93.5	56.4	65.0	3.4	2.0	374.5

Appendix 4. Partner contributions toward implementing FIA in FY 2001

Unit	Partner	Contributions towards the base program	Contributions that add value
Interior West FIA			
	Arizona State Land Department	\$25,000	
	Colorado State Forest Service	\$25,000	
	Idaho Department of Lands	\$25,000	
	Montana Department of Natural Resources and Conservation	\$25,000	
	Nevada Division of Forestry	\$25,000	
	New Mexico Forestry Division	\$25,000	
	University of Montana	\$55,626	
	Utah Department of Natural Resources	\$25,000	
	Wyoming State Forestry Division	\$25,000	
	Subtotal, Interior West FIA	\$255,626	\$0
North Central FIA			
	GLIFWC		\$10,669
	Illinois Division of Forest Resources	\$28,875	
	Indiana Department of Natural Resources	\$43,545	
	Iowa Department of Natural Resources	\$23,666	
	Kansas State Forest Service	\$49,542	
	Mark Twain National Forest		\$20,690
	Michigan Division of Forest Management	\$434,700	\$1,270,000
	Minnesota Division of Forestry	\$143,179	\$457,354
	Missouri Department of Conservation	\$125,253	\$266,700
	Nebraska Department of Forestry, Fish, and Wildlife	\$26,134	
	North Dakota Forest Service	\$8,190	
	South Dakota Department of Forestry & Natural Resource Management	\$29,796	
	Superior National Forest		\$91,050
	University of Minnesota	\$21,611	
	Wisconsin Department of Natural Resources	\$86,883	\$945,000
	Subtotal, North Central FIA	\$1,021,374	\$3,061,463
Northeast FIA			
	Maine Forest Service	\$604,000	
	Monongahela National Forest	\$10,000	
	Ohio Division of Forestry	\$7,500	
	Pennsylvania Bureau of Forestry	\$30,000	
	West Virginia Division of Forestry	\$10,000	
	Subtotal, Northeast FIA	\$661,500	\$0
Pacific Northwest FIA			
	Alaska Division of Forestry	\$10,000	
	California Department of Forestry and Fire Protection	\$20,000	
	Oregon Department of Forestry	\$20,000	
	Oregon Department of Forestry		\$35,000
	Forest Service Region 5		\$50,000
	Forest Service Region 5		\$432,000
	Forest Service Region 6 State and Private Forestry		\$20,000
	Washington Department of Natural Resources	\$20,000	
	Subtotal, Pacific Northwest FIA	\$70,000	\$537,000
Southern FIA			
	Georgia Forestry Commission	\$523,461	
	Alabama Forestry Commission	\$540,753	
	Arkansas Forestry Commission	\$370,209	
	Florida Division of Forestry	\$102,669	
	Kentucky Division of Forestry	\$66,974	
	Louisiana Office of Forestry	\$0	
	North Carolina Division of Forest Resources	\$75,613	
	South Carolina Forestry Commission	\$133,934	
	Tennessee Department of Agriculture	\$165,385	
	Texas Forest Service	\$114,878	
	Virginia Department of Forestry	\$154,235	\$163,326
	Subtotal, Southern FIA	\$2,248,111	\$163,326
Fort Collins FIA			
	Subtotal, Fort Collins FIA	\$0	\$0
National Office FIA			
	Society of American Foresters	\$2,250	
	Subtotal, National Office FIA	\$2,250	\$0
	Total, All FIA Units	\$4,258,861	\$3,761,789

Appendix 5. Grants and agreements entered into by FIA units, FY 2001

Unit	Amount	Recipient	Purpose
Interior West FIA			
	\$99,995	Iowa State University	To develop and test new methods for the efficient use of auxiliary information
	\$180,000	Southern Research Station	To facilitate the development of the FIA National Information Management System
	\$152,267	University of Montana	Timber Product Output data collection and analysis
	\$432,262	Subtotal, Interior West FIA	
North Central FIA			
	\$4,438	Agenda 20/20 Partnership	Remote sensing research in forest inventory
	\$40,425	Great Lakes Indian Fish and Wildlife Commission	Development of a birch bark evaluation guide
	\$7,200	Hiawatha National Forest	Field office rental
	\$15,835	Iowa Department of Natural Resources	For P3 data collection and expertise
	\$33,460	Indiana Department of Natural Resources	For P3 data collection and expertise
	\$88,777	Kansas State University	For P2/P3 data collection and expertise
	\$40,695	Lumber Jack RC&D	For P3 data collection and expertise
	\$6,000	Mark Twain National Forest	Field office rental
	\$3,000	Michigan Tech Univ	Field office rental
	\$37,500	Minnesota Division of Forestry	Updating forest/nonforest masks and cover type maps with satellite imagery
	\$333,037	Minnesota Division of Forestry	For P2/P3 data collection and expertise
	\$15,961	North Dakota Forest Service	For P3 data collection and expertise
	\$11,240	NC Research Station RWU-4502	Provide P3/forest health monitoring expertise and analyses
	\$77,183	South Dakota Dept. of Forestry & Natural Resource Management	For P2/P3 data collection and expertise
	\$2,625	Shawnee National Forest	Field office rental
	\$30,400	University of Illinois	For P3 data collection and expertise
	\$74,024	University of Michigan	For P3 data collection and expertise
	\$10,000	University of Minnesota	Forest/nonforest classifications using Landsat™ satellite imagery
	\$53,461	University of Nebraska	For P2/P3 data collection and expertise
	\$16,000	University of Minnesota	Stratification using k-nearest neighbor techniques and single season satellite imagery
	\$13,333	Virginia Tech	Development of a forest classification algorithm for satellite imagery
	\$32,300	Wisconsin Department of Natural Resources	For P3 data collection and expertise
	\$946,894	Subtotal, North Central FIA	
Northeast FIA			
	\$1,800	Delaware Dept. Agriculture	For P3 data collection and expertise
	\$377,450	Maine Forest Service	For P2/P3 data collection and expertise
	\$25,520	NH Dept. of Resources & Economic Development	For P3 data collection and expertise
	\$59,000	NY Dept. of Environmental Conservation	For P3 data collection and expertise
	\$73,000	The Pennsylvania State University	For P3 data collection and expertise
	\$102,000	University of Massachusetts	National Ozone Indicator Advisor
	\$21,000	VT Dept. of Forests, Parks, and Recreation	For P3 data collection and expertise
	\$36,000	WV Division of Forestry	For P3 data collection and expertise
	\$695,770	Subtotal, Northeast FIA	
Pacific Northwest FIA			
	\$2,840	National Park Service	Ozone monitoring
	\$40,949	Oregon State University	Characterization of forest canopy and wildlife habitat in Western Oregon
	\$40,795	Oregon State University	Quantification of carbon sequestration in the west coast States

Appendix 5. Grants and agreements entered into by FIA units, FY 2001 (continued)

\$29,836	Univeristy of Montana	Use of computer generated images to represent forest structure of FIA plots
\$126,939	Univeristy of Wisconsin	The changing location and extent of wildland-urban interface in OR, WA, CA
\$24,300	University of Arizona	Workshop on Fire & Climate History in Western North and South America
\$15,000	University of Fairbanks	Tests of repeatability of field techniques
\$175,218	University of Leeds	Biodiversity analysis of Southeast Alaska
\$83,042	University of Montana	Develop utilization factors and firewood harvest estimates for OR, WA, CA
\$20,000	Washington Department of Natural Resources	Mill Survey
\$558,919	Subtotal, Pacific Northwest FIA	

Southern FIA

\$475,412	Alabama Forestry Commission	Implementation of annual forest inventories
\$425,592	Arkansas Forestry Commission	Implementation of annual forest inventories
\$364,282	Florida Division of Forestry	Implementation of annual forest inventories
\$525,231	Georgia Forestry Commission	Implementation of annual forest inventories
\$314,910	Kentucky Division of Forestry	Implementation of annual forest inventories
\$336,996	Louisiana Office of Forestry	Implementation of annual forest inventories
\$10,000	Michigan Tech	FIA Model License Agreement
\$130,984	Mississippi State University	Estimating Forest and Stand Characteristics by Remote Sensing
\$425,592	North Carolina Division of Forest Resources	Implementation of annual forest inventories
\$290,000	South Carolina Forestry Commission	Implementation of annual forest inventories
\$334,896	Tennessee Division of Forestry	Implementation of annual forest inventories
\$344,205	Texas Forest Service	Implementation of annual forest inventories
\$34,000	University of Georgia	An Assessment of Timberland Loss and Fragmentation in Georgia
\$20,000	University of Tennessee	Coordination of UT/FIA Campus Operations
\$361,905	Virginia Department of Forestry	Implementation of annual forest inventories
\$40,000	Virginia Tech	Satellite-Derived Estimates of Forest Cover
\$4,434,005	Subtotal, Southern FIA	

Fort Collins FIA

\$15,000	Colorado State University	Techniques to improve FIA efficiency using the NRCS National Resources Inventory
\$15,000	Subtotal, Fort Collins FIA	

National Office FIA

\$61,871	Colorado Forest Service	Crown indicator advisor
\$116,138	Eastern Sierra Institute	Lichen indicator advisor support (west)
\$25,000	Iowa State University	Digital government proposal
\$10,000	Michigan Tech University	Loading Western States into FIA Model
\$33,000	Northeastern Area	Damage indicator advisor
\$10,000	Purdue University	Classroom teaching tools
\$8,900	Society of American Foresters	National User Group
\$569,000	Southern Research Station RWU 4803	Support of FHM program
\$53,494	University of Missouri	Soil lab work
\$480,586	University of Nevada at Las Vegas	Information management support
\$105,000	University of Nevada at Las Vegas	Quality Assurance support
\$89,834	University of Wisconsin	Lichen indicator advisor support (east)
\$200,000	U.S. Geological Survey	MRLC image purchase
\$10,000	Virginia Tech	Classroom teaching tools
\$1,772,823	Subtotal, National Office FIA	

\$8,855,673 Total Grants and Agreements, All FIA Units

**Appendix 6. Number and hours of significant consultations by FIA staff, by customer group,
FY 2001**

Customer Group	Pacific Northwest		Interior West		Southern		North Central		Northeast		Fort Collins		National Office		Total	
	number	hours	number	hours	number	hours	number	hours	number	hours	number	hours	number	hours	number	hours
Government	60	494	33	783	71	142	32	256	67	296	5	5	9	88	277	2064
Academic	24	164	6	101	87	141	3	24	52	56	0	0	5	10	177	496
NGO	15	30	3	26	34	68	0	0	28	274	0	0	4	39	84	437
Industry	13	36	2	7	180	260	3	24	35	57	0	0	2	3	235	387
Other	34	44	6	190	0	0	6	48	4	11	0	0	0	0	50	293
NIPF	5	14	0	0	45	28	0	0	6	1	0	0	20	10	76	53
Media	1	4	0	0	11	7	0	0	5	3	0	0	5	7	22	21
TOTAL	152	786	50	1107	428	646	44	352	197	698	5	5	45	157	921	3751

