



The Forest Inventory and Analysis (FIA) Program

A Position of the Society of American Foresters

Originally adopted by the Council of the Society on December 10, 2000, revised and renewed on May 26, 2006, and revised and renewed on April 8, 2017. This position statement will expire in 2022 unless, after subsequent review, it is further extended by the SAF Board of Directors.

Position

The Society of American Foresters (SAF) supports full funding and full implementation of the Forest Inventory and Analysis (FIA) Program. The FIA Program provides scientifically credible forest inventory data across all ownerships, and it is the only national inventory system that delivers current and consistent information about the status, condition, and trends of America's forestland. SAF supports the full implementation of a national, annualized inventory system with 20% annual measurement consistently applied across all ownerships and reported for each state every five years. SAF also believes the base program must be responsive to stakeholder needs and be implemented prior to adding new components to the Program. Because the FIA Program is a nationwide, science-based inventory and reporting program, SAF recommends the continuation of its operation under the direction of the USDA Forest Service.

Issue

FIA conducts the nation's continuous forest census, collecting, analyzing, and reporting information on the status and trends of America's forests. "A forest inventory is the procedure for obtaining information on the quantity and condition of the forest resource, associated vegetation and components, and many of the characteristics of the land area on which the forest is located." (Husch et al. 2003). FIA provides data on total forest area, where these forest acres are located, who owns it, and how it is changing (growth, mortality, removal, and successional trends). These data have many applications for SAF members, state agencies and other partners, policy makers, and research analysts. In many states, the FIA program relies on active partnership with state forestry agencies, and provides critical information used by the states.

Regardless of the forest management objectives – whether water, wildlife, recreation, timber, greenhouse gas accounting and mitigation, nontraditional forest products, or other values – the forest must be quantified for informed decision-making. Forest cover is an important component of watershed dynamics, wildlife habitat, forest aesthetics, and other ecosystem services, and understanding it quantitatively helps inform sustainable and responsible management.

The core objective of any forest inventory effort is to obtain the optimal precision and accuracy with the minimum expenditure. To realize this objective, a sound and consistent design and uniform scheduled implementation over the forest area are crucial. Forest inventories, such as the FIA system, also consist of vast amounts of data. The processing and timely reporting of these data require adequate staffing, computer science, remote sensing, and advanced statistical analysis. The quality of this information will not be attained, as Congress intended, without full funding for the base program as defined by the FIA Strategic Plan. The expansion of program sampling to include Interior Alaska and urban areas should not preclude adequate support for the base program or any necessary enhancements to improve FIA system reporting, which ensures delivery of quality information predictably and within acceptable confidence limits.

Background

The national Forest Inventory and Analysis Program of the Forest Service has been in continuous operation since 1930, based initially on authorities in the McSweeney-McNary Forest Research Act of 1928. Since then, the FIA program has evolved and merged with other programs such as the Forest Health Inventory program. The FIA Program conducts and continuously updates a comprehensive nationwide inventory and analysis of the status and trends of America's forest resources. Information collected and analyzed under this Program are the primary source of ecological data on the conservation and sustainable management of forests across all ownerships in the United States.

In 1998, Congress passed the Agriculture Research, Extension, and Education Reform Act. This legislation authorized significant changes in the FIA Program, including conversion to an annual (continuous) forest inventory program; development of a core set of procedures to be implemented in a consistent fashion across all US forest lands; continuously updated databases available on an annual basis; and production of complete state-level analyses at five-year intervals. The legislation authorized the Forest Service to develop a strategic plan, in consultation with program partners and customers, detailing how these changes would be implemented over five years. A subsequent FIA Strategic Plan prepared in compliance with the Agricultural Act of 2014 Section 8301, commonly referred to as the Farm Bill, expanded the scope by providing a number of different program expansion options with anticipated costs, including additional field operations capacity, increased research and analytical resources, more spatial and aerial data capture, and expanded coverage area with installation of new plots and remote sensing technology for consideration by Congress with input from partners (USDA Forest Service 2015). Amendments to this strategic plan requirement in future Farm Bills should be developed by Congress with input from program customers and partners, with recognition that additional program functions and deliverables will require increased funding, shifts in funding within FIA, or the identification of additional program function or delivery efficiencies.

Since its inception, FIA has existed as a partnership among Forest Service Deputy Areas: Research and Development, National Forest Systems, and State and Private Forestry. In addition, external partnerships have been developed to increase the efficiency and quality of the program to achieve

desired standards across all ownerships. Recent advancements in geospatial technologies have increased the utility of previously tabular FIA survey findings. FIA and partners have made extensive use of its plot location information to advance spatial analyses, such as estimation of tree species distributions and carbon sequestration (Ohmann et al. 2014). Such information serves as the foundation for landscape-level policy decisions, economic and ecological management decisions, and offers substantial utility to land managers in devising better forest management plans and developing an understanding of future ecosystem changes. The decision to expand the inventory to island forests, riparian areas, urban forests, and interior Alaska means that about 90 percent of all U.S. forest lands are currently sampled and included in the FIA data. Enlarging the inventory area in the database provides a more complete and comprehensive inventory to address emerging questions related to environmental changes.

A comprehensive review of resource assessments and multipurpose uses of FIA data from 1976 to 2001 contains over 1,400 literature citations and reveals an evolving program that is used by a broad array of researchers (Rudis 2005). Research conducted using FIA data include those associated with forest growth, biodiversity, acid deposition, global warming and carbon accounting, recreation, economic valuation, urban conversion probability of rural land, invading nonnative species, and woody and non-woody biomass estimation. Of wide interest are broad scale forest type maps and associated forest area and change statistics. This database is the only comprehensive source of field data for evaluating forest health (Woodall et al. 2011) and for estimating forest carbon as part of the annual U.S. Greenhouse Gas Inventory (US EPA 2016).

America's FIA program is recognized as one of the world leaders in forest inventory. The institutional knowledge FIA has acquired over its years of existence is valuable to countries seeking to establish their own national forest inventories and supporting multinational efforts to address global forest issues, such as forest loss.

The FIA Program has evolved into a world leader in the science of inventory, data collection, and efficient use of current, state-of-the-art technology. Natural resource professionals, congressional staff, and other policy makers across the country depend on the consistent and continuous data collection, analysis, and dissemination provided by the FIA program. This high-quality information provides the basis for long-term strategic planning, forecasts of outputs from our nation's forest resources, insights on its sustainability, and essential current and past data integral to monitoring the state of America's forests now and into the future.

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