

The Forest Inventory and Analysis Program: What's in It for Landowners?

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In 1597, Sir Francis Bacon coined the phrase, "Knowledge is power." Knowledge today often means knowing where to find reliable information from branded research sources. One such source that benefits forest landowners and the forest community is the Forest Inventory and Analysis (FIA) program.

The mandate for FIA originated from the McSweeney-McNary Forest Research Act of 1928, which directed the Secretary of Agriculture to make "...a comprehensive survey of the present and prospective requirements for timber and other forest products of the United States..." Since FIA data collection began in 1930, private forest landowners have been an integral part of the FIA program. Initially, the program established plots to estimate forestland area and timber volume. Field crews collected data by measuring tree diameter, height, trees per acre, and tree quality measurements. They also measured tree growth and mortality along with basic timber removals. The focus of the program was to ensure a timber supply for national security needs and foster a healthy economic climate.

Data Collection

In the Field

Field crews, who now include a partnership of state forestry agencies with the U.S. Forest Service, continue to revisit FIA plots on both private and public forestlands, gathering a wide

range of data. In addition to the original focus of timber supply, data collection assesses forest characteristics and dynamics, including tree regeneration; site quality; forest type and age; disturbance and treatments, such as harvesting, site preparation, tree planting, fire, weather, animal, and human influence; wood volume used by primary wood-using mills; land use change to and from forest land; and biomass availability and carbon storage. Other data collected in the field is information regarding forest health and future risks to forests, including insects and disease; nonnative plant species; air quality effects on plants; down woody materials for fire fuel assessments, wildlife habitat, and carbon storage; basic soil chemistry and soil erosion potential; tree crown conditions; and vegetation diversity and structure.

National Woodland Owner Survey

Another component of FIA's data collection is the National Woodland Owner Survey (NWOS), which collects a variety of landowner demographics. NWOS demographic information comes directly from private forest landowners who respond to NWOS surveys. From questionnaires and telephone interviews, the NWOS collects the who, how much, why, issues/concerns, and plans of private forestland ownership.

Specific FIA data are maintained as confidential by law. The provisions of the Food Security Act of 1985 (as

amended by PL 99-198, 7 U.S.C. 2276) protect the identity of private landowners. Plot locations and their identifying features, individual mill production information, and landowner interviews and surveys are not made available to the public.

Timber Product Output Reports

A final piece of the FIA information pie comes from primary forest industry mill surveys collected and compiled as Timber Product Output (TPO) reports. This is how FIA tracks logs moving from the forest to the primary wood mills. TPO reports are based on questionnaires sent to all primary wood-using mills in each state; usually every two years in the South. The questionnaire return rate is between 80 and 90 percent or more in some states. The reports disclose the volume of wood delivered to each mill by product (pulpwood, saw logs, veneer logs, poles, other), species groups, and county of origin for the survey year. The reports also provide data on mill residue, such as saw dust, bark, and chips, and on how residues are used.

In conjunction with FIA plot data, TPO data is useful for a number of things: mill wood supply plans and strategies; mill expansion assessments; new mill location; wood flow by county and across state lines; residue usage; harvesting and economic research; and mill directory updates by state agencies.

The development of new wood markets creates demand for landowners to sell timber and stimulate rural economies.

How FIA Data Helps Forest Landowners

The integration of all this data with historical trends and socioeconomic data arms researchers with a cache from which to develop models and projection tools for anticipating and assessing future trends in land use, forest health, and timber volume. Traditionally, the data have been used by forest industry and consultants to conduct wood supply plans.

Mill Operations Planning

One way that the data are important to forest landowners is that they are used to plan for mill operations. The information supplements business analytical tools used in determining mill locations and start-ups, mill expansions, and developing strategic plans. Depending on the type of process, raw wood supply costs represent 60 to 75 percent of mill production costs. As a result, the FIA database query of existing inventory volume for a wood procurement area often has significant influence on the location and the final decision to move forward with a project.

New Wood Markets

Biomass markets, for example, have the potential for additional landowner revenues. Recently, the Southern Group of State Foresters (SGSF) asked FIA analysts to evaluate the available forest biomass under both the Energy Independence and Security Act of 2007 (EISA) and the 2008 Farm Bill.

The 2007 EISA limits the amount of forest biomass from naturally regenerated forestland, and relies primarily on forest biomass from planted stands to meet the fuel standard and qualify for

renewable fuel credits. The 2008 Farm Bill definition of forest biomass, on the other hand, does not restrict natural or plantation forestland, leaving the available biomass open to most private forestland. For the states identified in Figure 1 below, the 2007 Energy Act reduces the area available by 170.7 million acres or 79 percent compared to the definition in the 2008 Farm Bill.

The Forest Landowners Association has used this information for Congressional Hill visits to explain how woody biomass supply would be severely limited and the potential market loss to forest landowners under the 2007 Energy Act definition.

Natural Disasters

FIA data assists agencies to rapidly assess damage from large scale natural disasters. Timely assessment during and after wildfires and hurricanes is imperative for planning relief funding and public communication.

For example, FIA plots were used to help assess the value of timber destroyed in the 2007 Georgia Bay Complex Wildfire in southeast Georgia that consumed almost 442,000 acres. As the fire expanded, the outline of the fire perimeter was used to identify FIA plots within the burn area. The plot data could then be used to estimate timber volume by forest type and species group.

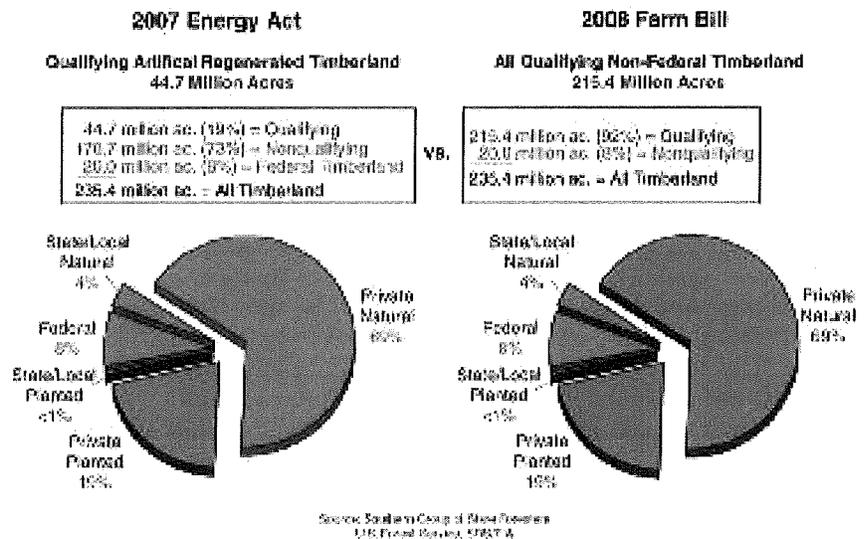


Figure 1 Comparison of acres of timberland unconditionally qualifying as "renewable biomass" under the 2007 Energy Act versus the 2008 Farm Bill (13 southern states, Maryland, Missouri, West Virginia, Puerto Rico, and U.S. Virgin Islands. Western Oklahoma was excluded.)

Federal and state forestry agencies, consultants, researchers, and others use the NWOS data to tailor effective landowner assistance programs and foster better forest policies.

The Georgia Forestry Commission fire team conducted daily aerial reconnaissance to estimate mortality created within the mosaic of burn intensities and unburned areas. This joint effort provided information that kept state elected officials and the media up to date with realistic damage estimates (Harper, et al., 2008).

FIA plot data is also used for rapid assessment of timber damage following a hurricane. Wind velocity models along the path of the hurricane are assigned a percent damage category using historical estimates. Plot data is then applied to the area by damage category to calculate volume of timber destruction. The rapid assessment (usually within a week) is valuable for emergency funding, media reporting, and predicting potential fire hazard.

Private Property Rights

Who owns America's timberland? The question is often asked by policymakers, forestry agencies, educators, researchers, and forest industry. To find answers, they use data supplied by the National Woodland Owner Survey (NWOS). Americans hold fast to the Constitutional right to own property—a major privilege. The protection of property rights is in the forefront of policymakers' legislation. By sheer numbers, private forest landowners and farmers exert enormous influence on legislation and environmental protection, and hold the key to the future of forest health and wood supply. The summaries from the NWOS make up the only comprehensive information assessing attitudes, behaviors, and intentions of forest landowners.

Conclusion

Timber from private forestland is the primary source of the nation's wood supply and over half of the forest cover, and provides environmental protection, wildlife habitat, and outdoor recreation among other things.

FIA data would not have near the

appeal nor influence without the data collected on private forestland. The depth of the FIA data is dependent on access to all forestland. However, the bulk of FIA data and information comes from access to private forestland where most of the harvesting, land trading, tree planting, and other

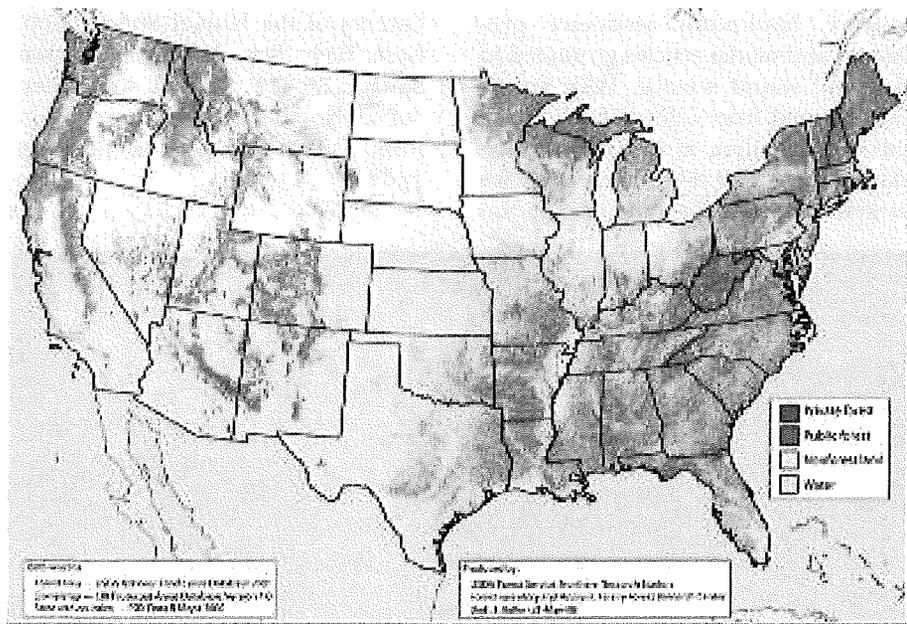


Figure 2 According to the NWOS, there are 751 million acres of forestland in the United States, and 56 percent is privately held by more than 11 million owners. The majority of private ownership (46 percent) is in the 33 eastern states with almost 10 million owners. The South comprises the largest private ownership of the four U.S. regions with 25 percent of the U.S. forestland held by almost 5 million owners. But only 20 percent of privately-owned acres have a written management plan, and only 40 percent have received professional advice. For policy makers and the forestry community, this raises some questions:

- Are landowners reaping the long-term and diverse benefits from their forests to meet objectives and offer a family legacy?
- Do landowners have a plan of action to develop future forest health and sustainability?
- Are there better ways for the forestry community to assist landowners with management plan alternatives and family transfer?

Landowners benefit from the development of new markets,
and use the mill directories for solicitation for timber sales.

development take place.

As Sir Francis Bacon pointed out, there is power in knowledge. The FIA knowledge base depends on the cooperation and contributions of private forest landowners. Confidential questionnaires take time from other duties or personal time from landowners and mill operators, but the results pay dividends through better-informed policy makers, landowner assistance programs, and media articles grounded in fact and sound science. With knowledge gained from information provided by FIA, there is a higher understanding of forest dynamics and trends as well as the benefits of managing this

valuable renewable resource for future generations. Do you have the power?

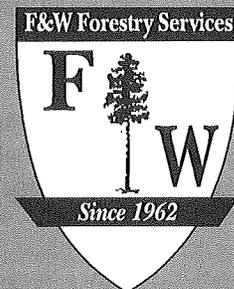
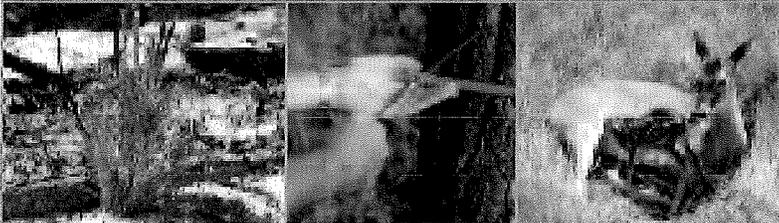
About FIA

To learn more about FIA, please visit the FIA website for information and online query tools: www.fia.fs.fed.us.

Sources

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