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2015 State Forester Strategic Vision and Priorities for the Forest Inventory and Analysis Program

A Strategic Vision approved by Resolution
by the National Association of State Foresters



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This strategic vision was adopted by NASF membership in Resolution No. 2015-06 and expires on September 15, 2020 unless renewed or otherwise acted upon by NASF membership.

Introduction

Simply put, the Forest Inventory and Analysis (FIA) program is the nation's forest census. Housed within the U.S. Forest Service (USFS) Research and Development unit, FIA has been providing information needed to assess forests in the United States across public and private ownerships for almost 90 years. Through a national network of on-the-ground plot measurements and rigorous data processing and analysis, FIA is able to answer the tough questions that scientists and policymakers alike ask about our nation's forest resource. The recent release of the 2015 United States Department of Agriculture (USDA) FIA Strategic Plan presents an opportunity for increased program visibility, a greater recognition of the benefits it provides, and increased funding into the future. As one of its priority programs, the National Association of State Foresters (NASF) has always supported robust funding for FIA in recognition of its value in answering difficult and varied resource questions across the full membership of states and territories. However, in recent years, the realities of a fiscally-constrained appropriations process have meant that increased funding for any program, including FIA, must come with sound rationale for return on investment to American taxpayers.

The intent of this NASF strategic vision document for FIA is twofold. It is intended to highlight the value of the FIA program to State Foresters and the public across a range of disciplines, from forest health to economic development. However, it is also intended to recognize the contribution of State Foresters to the success of the program and highlight their vision for the program into the future. NASF is in a unique position with respect to FIA program delivery, as the only partner contributing significant dollars to collecting and analyzing data nationwide (approximately \$4 million in FY13 by individual member states¹). This state investment is used to "buy down" (shorten) the measurement cycle or fund collection of additional variables to the benefit of all FIA data users. Additionally, state crews are responsible for gathering FIA data in some parts of the country, including on the National Forest System (NFS) which enables the federal government to better understand and manage their lands. State crews are cost effective and represent an opportunity for efficiency savings in the FIA national program. Funds saved in this manner can be reinvested in the program and may help advance other program goals that are not being met at current funding levels. Finally, states play an essential role through established longstanding relationships with landowners in securing access to private land for FIA data collection and maintaining local program credibility.

In sum, not only are states essential implementing partners, but they also have a unique view of how the program works and their partnership role in growing it into the future. It is the intention that through this document State Foresters can share their experience with the FIA program, highlight the value states derive from it, and communicate priorities and vision for the program's future.

Importance of FIA

The FIA program provides crucial information to State Foresters as well as industry, academic, and other partners on a wide range of forestry-related topics. When aggregated, FIA data paints a picture of how the nation's forests are changing over time: Are they growing or shrinking in size? Are there changes in species composition or geographic distribution? Are there issues with regeneration? These are important questions to ask when thinking about the sustainability of the forest resource, however that may be defined, and FIA represents the only source for answers that is national in scope. Over time and with

¹ Source: Forest Inventory and Analysis, Fiscal Year 2013 Business Report, USDA Forest Service, http://www.fs.fed.us/sites/default/files/media/types/publication/field_pdf/fia-2013-fs1040-pub-508complete.pdf

repeated visits, the FIA program creates a scientifically based record for tracking changes in the forest in response to human factors, new or different climatic conditions, and disturbances including fire, insects, and disease. FIA data is crucial at the state level for these same reasons, and is an essential tool in the development and revision of State Forest Action Plans² and setting state priorities for forest management.

Data that is collected and analyzed by the FIA program is an essential component of economic planning for the forest products sector, including major forestland managers such as Timber Investment Management Organizations (TIMOs) and Real Estate Investment Trusts (REITs). Having reliable, accurate, and timely knowledge of the forest resource within a given supply area enables industry to make long-term economic decisions about where to site a facility and what products to produce. FIA is important for rural communities to attract forest industry development, a sector which contributes 2.4 million jobs to the national economy and approximately six percent of total manufacturing Gross Domestic Product³.

Reports and data sets produced by the program provide valuable information in the context of forest health, especially when coupled with early warning and rapid response detection systems such as those provided by the US Forest Health Enterprise Technology Team. FIA data is widely used to quantify the extent of host species for different insect pests and forest pathogens and to predict and plan for economic impacts as well as changes to forest structure, composition, growth, and mortality. Information on dominant forest species is also very useful in forest health risk mapping.

The tie between FIA and wildlife habitat conservation is also an important one. Many species across the country, including those recognized as either federally endangered or threatened, are forest-dependent and many have specific forest habitat preferences (e.g., Red-cockaded Woodpecker preference for long-leaf pine, Kirtland's Warbler preference for young jack pine, and Northern Spotted Owl preference for multi-layered forests with large trees). FIA data can help wildlife managers understand how much habitat for a specific species is present on the landscape and where it is geographically distributed.

The FIA program also provides information that is crucial to wildfire protection and risk analysis through data collection of enhanced forest indicators. These indicators include metrics on down woody materials, vegetation layers, fuel heights, and live and dead biomass. The combined data inform an adaptive landscape scale mapping tool called LANDFIRE⁴. The data is used to refine existing live vegetation and fuel layers, which are interpreted by the model to determine fire risk and identify areas in need of restoration management. Photos from FIA plots can be combined with down woody data and made available to users who need to develop regional fuel loading photo guides. Urban FIA data can also be incorporated into LANDFIRE applications to help identify areas of high risk for communities in the Wildland-Urban Interface. This information assists communities in developing or updating Community Wildfire Protection Plans (CWPPs) and allows them to prioritize scarce funding for fuel mitigation projects. Communities that are adapted to live with wildfire are an important component of the National Cohesive Wildland Fire Management Strategy.

FIA is ideally an all-tree inventory, in that it has the ability to comprehensively measure all trees in all settings, even outside large blocks of forest. For example, the collection of FIA data in urban areas is an

² For more information on State Forest Action Plans and their role in guiding management of our nation's forests, visit <http://forestactionplans.org/>

³ Source: USDA Forest Service, Forest Inventory and Analysis Strategic Plan, 2015.

⁴ LANDFIRE, Landscape Fire and Resource Management Planning Tools, is a shared program between the wildland fire management programs of the USFS and U.S. Department of the Interior, providing landscape scale geo-spatial products to support cross-boundary planning, management, and operations.

important tool for assessing the role of trees in fostering community health and well-being. In areas where urban FIA data has been collected, it has served as a vital source of information on the quantity, health, composition, and benefits of urban trees and forests. This information can be used by city planners to make decisions on their urban forests that benefit the 80% of Americans that live in urban areas and highlight the benefits of trees to the hundreds of millions of residents that might not otherwise realize their importance.

As another example, the collection of FIA data in agricultural areas is important to understanding the extent and condition of trees and their role in these areas. Wooded draws are natural riparian buffers that protect streambanks from erosion and protect water quality. Since the 1940's millions of trees have been planted across the country to protect fields from soil erosion and for energy conservation by protecting farmsteads, livestock, and public right-of-ways from wind and snow deposition. Preliminary work through FIA has helped assess where and to what extent on the Great Plains these treed areas exist, providing ecological and economic benefits.

In addition to the collection of plot data, the FIA program also engages in other activities that monitor the economic contributions of forests and the forest products sector. One of these is the Timber Products Output (TPO) database. Through survey of mills and other wood processing facilities, the FIA program is able to track the flow of raw materials and finished wood products throughout the country. The TPO database provides crucial information for economic development and assists forest managers in maintaining a sustainable timber supply. Paired with plot data, this information helps forest managers make on-the-ground silvicultural and stand management recommendations as well as policy decisions.

Another important FIA component is the National Woodland Owner Survey (NWOS). Across the United States, 58% of forest land is privately owned; of this, nearly two-thirds is owned by families and individuals. Landowner attitudes and values change over time, and NWOS helps to track these changes by surveying landowners with questions related to why they own their land, what they have done with it in the past, and what they plan to do with it in the future. Additional questions gather information on demographics and the needs and concerns of forest landowners. Individual information is confidential and survey results only report on generic education or technical assistance needs, trends, and patterns identified by the survey. Survey products contain state-level summaries that are critical for designing and implementing programs, policies, and services aimed at family forest owners and keeping forests as forests.

History of FIA and NASF Engagement

The FIA program was initially authorized by Congress in 1928 through the McSweeney-McNary Forestry Research Act. For almost 90 years, FIA has been recognized as a world leader in national-scale forest inventory data collection and analysis. Greatly contributing to this success has been the increasing collaboration of multi-disciplinary forest resource agencies, managers, academia, and user groups, among others. Salient among these were NASF and its member state forestry agencies, whose engagement in FIA program growth over the past 20 years is detailed below.

Blue Ribbon Panels and NASF Engagement

By the early 1990s a keen interest had developed among forest user-groups in U.S. forest data. This shared interest and concern that primary information about U.S. forest resources was becoming out-of-date led to the 1992 convening of the first Blue Ribbon Panel (BRP) on FIA. This panel included high-level leaders from the forest-user community, including federal and state agencies, forest industry, NGOs, academia, and others. NASF participation played a critical role during these meetings.

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The first BRP released its findings through a report which carried eight recommendations for action to be met by both the USFS and Congress. These findings were as follows:

- improve and expand information on ecosystems and non-commodity values;
- recognize and identify ownership, regulatory, and social impacts on forest productivity;
- produce the most current resource data possible;
- implement a uniform approach on all ownerships;
- increase consistency and compatibility among FIA units;
- enhance coordination between FIA and public agencies;
- improve service to user groups; and
- expand clientele.

A second BRP was convened five years later due to growing concern among user-groups regarding the limited progress that had been made since the first BRP recommendations. The second BRP released its report in 1998, once again with strong representation from NASF, and presented five key findings:

- elevate the priority of the FIA program,
- initiate an annual inventory and supporting analysis,
- fulfill the mandate of reporting on all forest lands,
- concentrate on core ecological and timber data, and
- develop a strategic plan.

1998 Farm Bill

Congress responded to the BRP's findings by including strong supportive legislation in the 1998 Farm Bill, which mandated that the USFS partner with states and non-governmental interests to implement a nationally consistent annual inventory program in all states, ensuring timely availability of data and development of state-level reports every five years. In response the USFS significantly enhanced the FIA program by changing from a periodic survey to an annual survey, increasing their capacity to analyze and publish data, and merging FIA and Forest Health Monitoring (FHM) plots into a single-tiered system.

NASF FIA Resolutions

NASF has been both a strong proponent of FIA as well as an advocate for program change, and it has used organizational resolutions in 1995, 2004 and 2009 as a means of demonstrating both. NASF Resolution No. 2004-4 called attention to the need for development of an urban inventory component of the FIA program. NASF Resolution No. 2009-6 encouraged the USFS to seek funding to fully implement FIA nationwide; seek funding to enhance FIA on developing issues such as climate change, carbon, land use changes, water resources, biomass, and bio-energy; and enhance the FIA program include the following priorities:

- use remote imagery to track harvest intensity, land-use change, and land cover change;
- increase the analytical ability within FIA and within cooperating state forestry agencies;
- increase the measurement of forest floor woody and non-woody forest components, including soils;
- expand the capacity of timely forecasts for forest products markets, land use change, and future forest conditions;
- intensify plot distribution on experimental forests as a set of baseline plots for climate change monitoring and modeling to address forest management and adaptation needs; and
- evaluate the impact of timely forest resource information and communication.

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2015 USDA FIA Strategic Plan and NASF Engagement

NASF also contributed to the efforts to revise the USDA FIA Strategic Plan, as required by Congress under the 2014 Farm Bill. Capitalizing on the opportunity to elevate the profile of the program with the new strategic plan, NASF pushed the USFS to address areas such as creating a “firewall” to protect core funding, increasing program efficiencies through strengthened cooperation with state forestry agencies, and maintaining the integrity of the sampling cycles. With the release of the strategic plan in the spring of 2015, NASF led efforts to showcase the value of the program within the Administration and Congress. NASF has been a strong advocate of bringing additional resources to the FIA program and pushing for them to be used as efficiently as possible.

NASF Vision

The NASF vision for the FIA program is structured much like the 2015 USDA FIA Strategic Plan, in that supported activities are grouped into priorities based on available funding. In a non-cost-constrained world, it would be ideal for Congress to fully fund the FIA program to accomplish all that is laid out in the Strategic Plan. However, the current fiscal reality is that funding is constrained and priorities for appropriated funds need to be delineated. This vision lays out the three levels of NASF priority within FIA activities.

Priority 1 – Fully Fund and Implement a Comprehensive and Adequate Base Program

The idea of a comprehensive federally-funded base program has two components: inclusion of all states and territories and maintenance of a cycle length that can adequately track changes in the forest resource.

The Forest and Rangeland Renewable Resources Research Act of 1978 was amended in 1998 to instruct the FIA program to inventory the forest resources of the US on an annual basis in every state. A strong national program with regional consistency is required for FIA to be the continued leader in providing crucial data about America’s forest landscape. This includes the development of an FIA program for interior Alaska. Given the inherent differences between interior Alaska and the rest of the country and the large landmass, a unique data collection strategy is needed using remote sensing technology in addition to a less intense plot grid. FIA partnership with the state forestry agency in Alaska is crucial to developing a sampling methodology that is both statistically sound and cost-effective.

Sampling design and program delivery must be flexible enough that each state and territory is able to address the top priorities for its forest resources. The federal base FIA program should fund a measurement cycle of 7 years in the east and 10 years in west, as it did before recent decreases in appropriated funding. Regions should then have the opportunity to deliver a shorter measurement cycle through efficiencies or partnership with states. Forests in the east grow at a faster rate than in the west, which needs to be reflected in the regional re-measurement cycles. These ever-changing forests are susceptible to a great number of forest health concerns such as pests and disease that can rapidly affect the landscape. Emerging issues such as climate and land use change must be quickly identified by FIA so that management agencies can promptly address them. Timely monitoring of these forests is also crucial to maintaining national and international confidence in forest sustainability and continuing to provide forest economic development and job-creating opportunities. A case in point is the role of FIA data in addressing concerns expressed by some European NGOs and governments over the sustainability of the U.S. wood supply in relation to European greenhouse gas reduction strategies.

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FIA should not eliminate plots or change the basic plot design in response to budget shortfalls. Base grid plots that fall within an urban area should not be skipped and should be measured and reported with the same forest-plot methodology as all other base program plots. Finally, FIA program delivery has been appropriately described as a “three-legged stool” with TPO and NWOS as the other two legs in addition to plot data. Thus, we support current efforts for both of these efforts going forward as part of the top priority. Specific recommendations for enhanced design for each of these survey efforts are included in our Priority 2 and 3 respectively. ***NASF supports inclusion of all states and funding historical cycles of plot measurement – every 7 years in the east and every 10 years in the west – as the top priority for the FIA program.***

Priority 2 – Provide Funding for Essential Emerging Needs

Over the past decade, FIA has begun exploring additions to the base program of data collection and analysis, many of which are laid out in the 2015 USDA FIA Strategic Plan. Once base-program FIA functions have been implemented, NASF supports the implementation of several of these additional activities. Three items of particular interest to states and are detailed here in no particular order: implementing a baseline nationwide urban FIA program, enhancing the TPO survey, and sustaining the forest health macroplot structure.

Implementing a Baseline Nationwide Urban FIA Program

Urban trees and forests play a critical role as part of the nation’s forest landscape and are the green infrastructure that fosters community health and well-being. There is an urgent need to implement a nationwide annualized inventory of trees in urban settings that should include the status and trends of trees and forests, assessments of their ecosystem services and economic values, and risk from infestation by pests and diseases. Despite no federal FIA funding, several urban FIA projects have been conducted in cooperation with i-Tree⁵ and State Foresters. In 2014, annualized urban inventories were conducted in Baltimore, Maryland and Austin, Texas. In 2015, Baltimore has continued with plot installations and Austin with plot re-measurements, while new inventories are being planned in Des Moines, Iowa; Providence, Rhode Island; Houston, Texas; and Milwaukee and Madison Wisconsin with others under consideration. In each of these cities the USFS has worked with active state partners who initiated contact with the USFS to conduct urban inventories and contributed staff time or funds to these efforts.

The 2015 USDA FIA Strategic Plan recommends the addition of a federally-funded strategic urban inventory to the program as one of its options. This option would implement an urban FIA in the areas classified as ‘census urban’ at base FIA intensity (1 plot per 6,000 acres) and would intensify to at least 200 plots on a fixed grid across cities with populations larger than 200,000 people. This option also includes an alternative that would provide states the opportunity to expand the inventory to smaller urban areas at their own expense. ***NASF supports FIA partnering with states and other organizations to deliver the comprehensive nationwide inventory of urban data outlined in the 2015 USDA FIA Strategic Plan***

Enhancing the Timber Products Output Survey

Historically, the TPO survey has been delivered inconsistently over time with the general guideline that it be conducted every five years. The USFS has relied on the states to conduct the survey, some of which do so on a shorter timeline to generate more timely data. With TPO survey data being collected at one distinct time and repeated every five years, there has been a problem with that data becoming outdated

⁵ i-Tree is a state-of-the-art, peer-reviewed software suite from the USDA Forest Service that provides urban forestry analysis and benefits assessment tools. For more information, visit <https://www.itreetools.org/>

quickly. Combined with long processing times, there is a lag before newly collected data become available. As an example, for many states the most recent data available is from 2007 or 2008, before the nationwide economic downturn. The USFS has considered annualizing the TPO survey, similar to the FIA plot measurement process where a certain percentage of primary mills are surveyed each year. ***NASF supports annualizing the TPO survey in order to have continuous data flow, improving the accessibility of information in the TPO database, decreasing the amount of time between data collection and data delivery, and developing a sample design for the TPO survey.***

Sustaining the Forest Health Macroplot Structure

The current national core-optional macroplot protocol measures large trees on a wider area around the core FIA subplots, as well as additional down woody and understory vegetation variables. These methodologies have proven to be valuable to states, especially on the west coast given the abundance of large trees and the lower density at which they occur, and contributed to national assessments (greenhouse gas, LANDFIRE, biomass maps, etc.) Large-tree data are used to improve the precision of tree volume, biomass, and carbon content data, while estimating the abundance and quality of older forest characteristics. The macroplot provides information fundamental to carbon storage and sequestration in trees, especially those with large diameters, and stocking information. This information serves as a baseline for estimating benefits of carbon offset projects for which trading schemes require a robust baseline measurement of carbon stocks. The macroplot information is also valuable for assessing forest ecosystem restoration for large trees and wildlife habitat supplied by old-growth characteristics, as well as creating a better understanding of the differential mortality among tree age classes from wildfire, insects, and disease. ***NASF supports the collection of the macroplot forest health data in states where it is needed to assess the number of large trees on the landscape as well as down woody and understory data.***

Priority 3 – Additional Areas of Program Support

After the base program is fully funded and priority program additions are significantly underway, NASF supports the FIA program exploring and enhancing additional areas with data collection and analysis as funding allows:

Enhancing the National Woodland Owner Survey (NWOS)

The USFS proposal for the next iteration of the NWOS, scheduled to begin implementation in 2017, includes new science modules in addition to the opportunity for state-level intensifications and customizations. The next iteration would also be the first to feature expansion into urban forest areas and survey instruments specifically tailored for corporate owners. States would have the opportunity to partner with the NWOS to increase the number of respondents in their states beyond the federally funded base-level, allowing for more refined data and statistics for sub-state areas as well as state-specific questions. ***NASF supports a continued federal/state partnership on NWOS, believes that NWOS should incorporate all private owners, not just family forest owners, and that NWOS data should be collected and reported on an annual basis.***

Making FIA Statistically Reliable at Smaller (County-Level) Scales

There is an interest from some states, especially in the south, for FIA to generate more useful county-level data for economic development purposes. Understanding regional trends and differences in the forest resource across a state helps facilitate forest industry decisions and investments in forest management and wood manufacturing facilities. Innovation as well as increase use of remote sensing technology will be key attributes to reliably estimating area, volume, growth and removals in sub-regional areas of interest. A key end goal needs to be improved statistical validity around estimating forest conditions at smaller scales. ***NASF supports exploring ways to efficiently generate county-level data in regions where it is desired.***

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Carbon and Biomass

FIA should continue to maintain its status as the go-to source for estimates of biomass, carbon storage and rates of carbon sequestration on forestlands. With an increased national focus on measuring and tracking forest carbon due to forests substantial carbon sequestration potential⁶, there needs to be a reliable data source and carbon accounting methodology to support those efforts. This includes the measurement of soil carbon, proposed by the USFS as part of a redesigned carbon sampling strategy. As the only nationwide forest census, it makes sense for the FIA program to be the springboard for a national level forest carbon accounting database through a mix of federal funding and partner contributions.

NASF supports the FIA program being the national database for tracking forest carbon.

Land Use/Land Cover

FIA should report on land use and land cover change. The greatest threat to loss of forest cover in the U.S. today is conversion to other uses, particularly commercial and residential development. This is particularly true on private land, which comprises 58% of the forest land in the country. The FIA program is uniquely positioned to report on these trends at different geographic levels, as high resolution photo plots and plot-level data on changes in land use or land cover can be rolled up at the state, regional or national level to identify trends in forest cover. ***NASF supports additional FIA data acquisition, analysis and reporting to highlight the threat to forests from development.***

Wooded Strips, Windbreaks, and other Agroforestry Resources

In many areas of the country, natural and planted wooded strips forming riparian buffers protect stream courses from erosion, sedimentation, and nutrient deposition from fertilizer applications and livestock operations. Windbreaks have been planted on the Great Plains since the Dust Bowl, and have been shown to increase crop yields by as much as 23% and pay for themselves within 10 to 15 years. FIA has become a model of data collection over the past decade in the Great Plains for assessing windbreak and wooded strip extent, condition, and potential threat from invasive species such as Emerald ash borer. ***NASF supports the continuation and geographic expansion of efforts to efficiently inventory and evaluate agroforestry resources and their importance to the ecological function of stream courses and agricultural operations.***

Non-Timber Forest Products

An emerging aspect of FIA program delivery that warrants further exploration is non-timber forest products (NTFPs). A better understanding of NTFPs, such as traditional foods and medicinal plants, is an important component of documenting use and tracking the forest resource over time. In many locations across the country, NTFPs are an important subsistent food and economic activity for indigenous and rural populations and a growing component of locally or regionally sourced foods for urban populations. Preliminary analysis shows significant economic benefit to state and territorial economies from these products – over \$1 billion annually across the country. Given its experience and strengths, the FIA program should serve as the venue for piloting NTFP inventory methodology. ***NASF supports further exploration of the inventory and economic impact of NTFPs, especially in areas where these products have been shown to be an important part of the economy.***

⁶ It's estimated that 14 to 15% of the nation's annual carbon emissions are offset by the additional carbon stored in US forests and wood products each year. Source: US Environmental Protection Agency. 2013. *Inventory of US greenhouse gas emissions and sinks: 1990 – 2011*. EPA 430-R-13-001, Washington, DC.

Additional Recommendations

Given the unique position of states as implementing partners in the FIA program across the country, NASF offers these recommendations for ways in which FIA program delivery can be improved and supplemented into the future.

FIA for the Pacific Island Territories and Affiliated Island States

Pacific Island forests are critically important for the basic support of human communities on small, very isolated islands. Island forests protect surface and subsurface water supplies and quality, as well as the health and stability of coastal resources, including coral reef ecosystems and coastal fisheries. They are valuable sources of specialty forest products, food and indigenous medicines, and support many endangered species, many of which are experiencing rapid declines or extinction. Current FIA methodologies are not well suited to small island forests. The rate of change in these forests from urbanization, tropical storms, changes in climate, invasive species, and other threats is very high. Forest diversity is also elevated, varies greatly from place to place, and includes many tree species that are relatively small in diameter at full maturity and thus not measured under standard FIA sampling methodology. Traditional FIA sampling designs may also not pick up smaller or irregularly shaped island forests. *NASF supports development of a unique approach to sampling Pacific Island forests, with greater spatial and temporal intensity and island-adapted sampling protocols to adequately assess island forests and the changes they are experiencing.*

Finding Efficiencies Through the Use of State or Contract Crews

Currently in many states FIA field measurements are completed by either state employees or state-contracted crews (see appendix 1), which have been shown to be more cost effective in comparison to federal crews. Most states in the Southern FIA region use state employees to conduct FIA plot measurements, as do Maine, Indiana, and Colorado. South Dakota uses contract crews to conduct plot measurements, Minnesota uses a combination of state and contracted crews, and Wisconsin uses contracted crews in order to conduct plot intensification. Most other states in the Northern, Interior West and Pacific Northwest FIA regions use a combination of USFS crews and USFS contract crews to conduct plot measurements.

Each of these types of non-federal field program arrangements have different opportunities for efficiencies. As an example of the potential efficiency of using non-federal crews, in 2013 when Wisconsin was considering conducting additional plot measurements to “buy down” to a five-year cycle, a cost-comparison showed an estimated savings of almost 40%, or approximately \$225,000, to complete the additional plots compared to a federal estimate of \$367,000. A comprehensive look at potential efficiencies in each FIA region is warranted, as logistical and safety constraints are likely to produce different efficiencies in different regions. Realizing these efficiencies will be one of the keys to accomplishing more with appropriated funding, including the NASF priority 2 and 3 items outlined in this vision. *NASF urges the USFS to focus on realizing efficiencies by conducting a cost comparison between the different program delivery options and exploring partnering with more states that are willing to conduct plot measurements or other FIA related activities with state employee or state contracted crews.*

User-Friendly Data/Reports/Publications

FIA data products generally fall into three categories - raw plot-level data, published summary reports, and user generated reports using on-line tools. Timely data is essential for industry and others tracking forest resource conditions and making real-time decisions. This need for access to data includes those collected on enhanced forest indicators, which at present are hard to obtain. Summary publications are important as well for understanding aggregate trends in the forest resource, but their data lose value the

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longer it takes to complete publication. NASF urges the USFS to publish five-year reports within one year of receiving the last submittal of field data. Biennial factsheets should be published within six months of receiving the last submittal of field data. Meeting these timelines would help ensure the usefulness of report products. We also support the continued development of user-friendly online tools to help users generate their own reports, as well as USFS efforts to present FIA data in new formats (e.g., – spatially, through on-line applications, story maps, etc.), as these communications enhance the delivery of FIA data and messaging to new audiences. We urge the USFS to continue exploring which products and formats are of most value to FIA data users, and on what time frames the provision of those products is useful. ***NASF urges the USFS to explore which current products, formats and delivery timetables are of most value to FIA data users, and adjust its delivery of those products accordingly.***

Additional Funding Support

As the FIA program has grown, the diversity of users of FIA data has similarly increased. Unfortunately, the amount of USFS funding for the program has declined. The USFS budget previously included State and Private Forestry (SPF) as well as Research and Development (R&D) funding for the FIA program. SPF funding of approximately \$5 million was eliminated in FY14 and the R&D budget has struggled to bridge this gap among many competing priorities.

In the current federal budget environment and given the many other USFS programs valued by NASF members, funding diversification will likely be required for the FIA program to fully deliver on all the services being requested by its many stakeholders. One option is for other federal agencies relying on FIA data to fulfill their missions to contribute funding. Some examples are the U.S. Fish and Wildlife Service (USFWS) which uses FIA data to track habitat for wildlife species, the Environmental Protection Agency (EPA) which is increasingly relying on FIA data to help understand the role of forests in climate change and carbon sequestration, the Department of Commerce, and the Department of Health and Human Services. Another option is for private sector organizations that directly benefit from the collection and analysis of FIA data to contribute funding, especially to “buy down” the measurement cycle, generate statistically-valid county-level data, or fund specific items of interest. ***NASF urges other federal agencies and private sector organizations who are beneficiaries of the FIA program to provide additional funding support.***

Support for the USFS Annual FIA Business Report

The USFS annually puts out a business report on the FIA program, which serves as an invaluable resource in highlighting program accomplishments and tracking program funding. The business report allows appropriators and the public to see the return on taxpayer investment in the program, as well as the financial contribution from states towards generation of data that benefits all users. Going forward, we urge the USFS to continue to transparently report on the accomplishments, finances, and partner contributions in this important document. ***NASF supports continued emphasis on the USFS FIA Annual Business Report, which provides essential transparency in how the program is being funded and delivered, as well as annual recognition of the contribution of state resources to the program.***

Appendix 1 - FIA Plot Measurement Crews

Region/State	state crews	state contracted crews	federal contracted crews	forest service crews
Northern FIA Region				
Connecticut				X
Delaware				X
Illinois				X
Indiana	X			
Iowa				X
Kansas			X	
Maine	X			
Maryland				X
Massachusetts			X	X
Michigan			X	X
Minnesota	X	X		
Missouri			X	X
Nebraska			X	
New Hampshire			X	X
New Jersey			X	X
New York			X	X
North Dakota			X	
Ohio			X	X
Pennsylvania			X	X
Rhode Island				X
South Dakota		X		
Vermont			X	X
West Virginia			X	X
Wisconsin		X		X
Southern FIA Region				
Alabama	X			
Arkansas	X			
Florida	X			
Georgia	X			
Kentucky	X			
Louisiana				X
Mississippi	X			
North Carolina	X			
Oklahoma	X			
South Carolina	X			
Tennessee	X			
Texas	X			
Virginia	X			
Interior West FIA Region				
Arizona			X	X
Colorado		X		
Idaho			X	X
Montana			X	X
Nevada			X	X
New Mexico			X	X
Utah			X	X
Wyoming			X	X
Pacific Northwest FIA Region				
Alaska		X		X
California			X	X
Hawaii		X	X	X
Oregon			X	X
Washington			X	X