

## SCIENCE AREA CHARTER

### 1. Title: Forest Inventory and Monitoring Science Area

### 2. Primary Participating Unit:

RWU-4801, Forest Inventory and Analysis (Knoxville, TN)

### 3. Description

Forests occupy 40 percent of the South's 534 million acres of total land area. These 215 million acres of forests provide many benefits and are varied in their ecological characteristics. One dominant characteristic, however, is the private ownership that prevails across the region—approximately 88 percent of the forest land is in private ownerships. This ownership pattern defines a major portion of the SRS FIA unit's customers and support base. It frames a large share of needs related to forest resource data, information, and research.

This area constitutes about 29 percent of the forest land in the total US, with roundwood removals from Southern forests accounting for 58 percent of the total removals in the US. The 13 Southern states contain 33 percent of the US population according to the 2006 estimates. Furthermore, and the South is growing faster than the rest of the nation, as evidenced by the estimated population growth since the 2000 census. Thus, not only is timber important in the South, but the region is characterized by a large and growing population, which provide additional demands on the forest lands.

The 13-State region of the South encompasses a wide range of forest conditions. The climate ranges from subtropical in southern Florida to the cool and humid slopes in the Appalachian Mountains. The 60 associate forest cover types fall into 8 physiographic regions: coastal plains, piedmont, mountains, flood plains, Great Plains, sandstone uplands, limestone uplands, and southwestern arid areas. The island entities of the Caribbean—Puerto Rico and the US Virgin Islands—add to this complexity.

Demands from the region's forest lands increasingly include environmental goods and services, recreational opportunities, and other amenities. These are in addition to the traditional timber products; however, the timber economy is also changing. The owners of the land are changing, with timber industry becoming more and more rare, as timber investment management organizations (TIMOs), and real estate investment trusts (REITs) becoming more common. An increasing phenomenon is the wildland-urban interface, the condition created as homeowners build in previously rural areas, but without the traditional tie to land that was common to farmers and forest owners previously. As urban dwellers seek more and more amenities and recreational opportunities associated with nature, it is important that urban forests satisfy associated demands for health, safety, and quality of life stemming from urban forests.

This Science Area collects, analyzes, and reports information on the status and trends of US forests. FIA information answers questions such as how much forest exists, where it exists, who owns it, and how it is changing. In addition, FIA data is used to determine how the trees and other forest vegetation are growing and how much has died or has been removed in recent years.

This information can be used in many ways, such as in evaluating wildlife habitat conditions, assessing the sustainability of ecosystem management practices, and supporting planning and decision-making activities by public and private enterprises. FIA combines this information with related data on insects, diseases, and other types of forest damages and stressors to assess the health, condition, and potential future risks to forests.

Within the Southern US, the status, condition, health, and trends of forest resources is important to State Foresters, forest industries, non-industrial private landowners, federal agencies, and non-governmental organizations. Because of the importance of wood-using industries and forest values to the southern US economy, resource sustainability must be continually assessed. One other aspect of this new approach to the inventory is the collaborative manner with the Southern State Foresters and their respective forestry organizations to implement the data collection activities.

The passage of the 1998 Farm Bill led to the development of a nationally consistent approach to forest inventory across the four regional FIA work units. This included a new National sample design, a National plot design, annual systematic measurement of a proportion of permanent plots in each state, data summaries in 6 to 12 months after the completion of the annual data collection, and state inventory reports every five years. In addition to these changes, measures relating to forest ecosystem function, condition, and health were added to FIA.

*Mission:* The National FIA program of the US Forest Service has been in continuous operation since the 1930's with a mission to:

*"... make and keep current a comprehensive inventory and analysis of the present and prospective conditions of and requirements for the renewable resources of the forest and rangelands of the US."*

Due to the potential impacts to the forest resource in the southern US, this mission is extremely critical to decision-making and forest resource management.

#### **4. Goals**

The SRS FIA Program is a major component of the Inventory and Monitoring Science Area. A major component of FIA is production of forest inventory information in electronic and paper forms. In fact the success of FIA is judged by the timely delivery of FIA information and this requirement structures the efforts within FIA.

## 5. Focus Areas

The Forest Inventory and Monitoring Science Area focus on four areas of research:

1. Forest inventory information including area of forest land, volume, components of change (growth-removals-mortality), and regeneration. Within the area of forest ecosystems function, condition, and health, FIA collects information on tree crown condition, down-woody material, soils productivity and erosion, vegetation structure and diversity, and invasive plant distribution. All of this information is critical to and used to describe forest conditions, status, distribution, and health
2. Timber product output (TPO) studies to monitor the composition, size, and locations of the primary wood-using industry facilities; their use of roundwood (logs) by species, product, and geographic location; and its generation and disposition of mill residues. This also includes non-timber forest products and biomass availability for energy.
3. Logging utilization studies to characterize the sites logged, the trees cut, the products taken, and the residues left behind.
4. Characterization of the owners of the South's forests, and to determine their ownership objectives, management practices, and future intentions for their forest property through the National Woodland Owners Survey (NWOS).

The major challenge for the science area is to make this information accessible to the other science areas and other users of FIA information as FIA information is the background for the other science areas. Some of the information is available through the National FIA website and the National FIA data base.

In addition, FIA is examining methods to develop joint research studies with researchers from other science areas and general users of FIA information to further extract useful information from the FIA data. Some of these research studies may lead to additional measures collected on FIA plots across the South.

*Relationship to Forest Service Strategic Goals*  
*[Need to complete this list.]*

*Relationship to Forest Service Research and Development Strategic Program Areas*  
*[Need to confirm this list]*

- Wildland Fire (1)
- Invasive Species (1)
- Wildlife and Fish (1)
- Air and Water (1)
- Resource Management and Use (1, 2, 3)
- Recreation (1,4)
- Inventory and Monitoring (1,2,3,4)
- Emerging Opportunities (1,2,3,4)

### **5.1 Forest inventory information**

- a. Performance Goals
- b. Key Barriers
- c. Top Priority Research and Development Needs
- d. Role of each Research Work Unit
- e. Key Linkages
- f. Partnerships

### **5.2 Timber product output studies**

- a. Performance Goals
- b. Key Barriers
- c. Top Priority Research and Development Needs
- d. Role of each Research Work Unit
- e. Key Linkages
- f. Partnerships

### **5.3 Logging utilization studies**

- a. Performance Goals
- b. Key Barriers
- c. Top Priority Research and Development Needs
- d. Role of each Research Work Unit
- e. Key Linkages
- f. Partnerships

### **5.4 National Woodland Owners Survey**

- a. Performance Goals
- b. Key Barriers
- c. Top Priority Research and Development Needs
- d. Role of each Research Work Unit
- e. Key Linkages
- f. Partnerships

## **6. Environmental Analysis**

Proposed research activities in this science area are limited in context and intensity and are not expected to have a significant effect on the quality of the human environment. Most, but not all, activities conducted under this charter are covered by categorical exclusion. The environmental effects of specific actions will be considered during the development of study plans, at which time the existence of extraordinary circumstances related to the proposed action, and categorical exclusion will be documented as a part of the study plan as described in FSH 1909.15, Chapter 30. Where environmental concerns exist regarding particular studies, these may be evaluated within individual study plans, or by Environmental Assessments or Environmental Impact Statements prepared with and reviewed by the cooperating District or Forest staffs. For research having the

potential to affect a plant or animal species that is federally listed as endangered or threatened or proposed for such listing, the unit will consult with the U.S. Fish and Wildlife Service as per Section 7 of the Endangered Species Act of 1973, as amended.

## 7. Science Capacity

*Staffing*

*Infrastructure*

*Unique Capability/Instrumentation*

## 8. Funding

	<b>FY 2007 Continuing Resolution (\$)</b>	<b>FY 2008 President's Budget (\$)</b>
<b>Research Work Unit</b>		
SRS-4801: Forest Inventory and Analysis	\$13,914,587	\$13,914,587