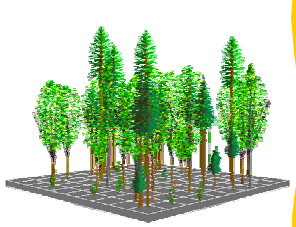
The Inventory

An Update Concerning the SRS FIA Program



Forest Inventory and Analysis
4700 Old Kingston Pike
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865-862-2000

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SRS FIA Informational Update (December 2006)

Providing access to data for external users has become one of the major roles for the Southern Research Station Forest Inventory and Analysis (SRS FIA). Traditionally this was done through the publication of State and unit reports and the multitude of tables included in these publications. This delivery tool for SRS FIA data has changed dramatically through widespread use of computers and the Internet. One of the tools that is available to external users has been Mapmaker (http://ncrs2.fs.fed.us/4801/fiadb/) which allows the user to query the SRS FIA database. Other tools developed by SRS FIA include Timber Products Output Tablemaker (http://srsfia2.fs.fed.us/php/tpo2/tpo.php) and Fuel Treatment Evaluator. Other tools have been developed by other external users of SRS FIA data such as SOLE (Southern On Line Estimator) (http://ncasi.uml.edu/SOLE/) developed by NCASI (National Council for Air and Stream Improvement, Inc.).

In order to provide training on the use of these and other tools, we have conducted three SRS FIA data workshops over the last five months. The goal of these sessions is to facilitate access to SRS FIA data on the Web and to inform users of current data request guidelines and privacy laws. These interactive sessions generally last one day. So far the response of the participants has been extremely positive. We are planning to hold additional sessions in 2007. I encourage any user of SRS FIA data to attend one of these sessions. Details on some of the upcoming sessions are included in this issue of *The Inventory*. Other sessions will be documented in future issues of *The Inventory*.

As always, if you have any other questions regarding FIA, please submit those questions to Charlene Walker (cwalker@fs.fed.us) and we will answer your questions in a future issue of *The Inventory*. Thank you for your interest in the FIA and please let us know how we may serve you in the future.

Bill Burkman
SRS FIA Program Manager
bburkman@fs.fed.us

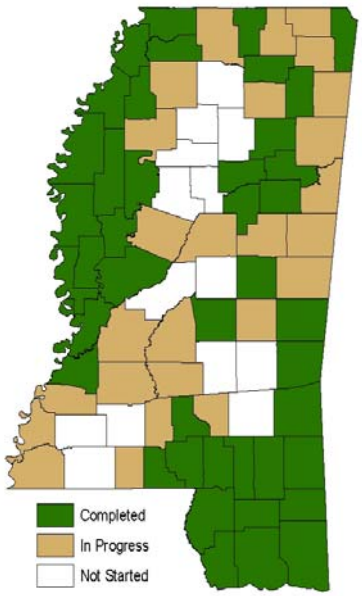
Oklahoma in 2007

The SRS FIA program is initiating plans for implementation of the annual inventory plot system in Oklahoma, contingent on funding. Bill Burkman has stated that he is generally confident that the funding will be available to start Oklahoma. Plans involve a 5-year inventory cycle in the eastern part of the State with a 10-year inventory cycle in the rest of the State. The eastern portion of Oklahoma is the traditional part of the State that corresponds to previous periodic inventories.

For more information contact Bill Burkman at 865-862-2073 or bburkman@fs.fed.us.

Inside this issue:

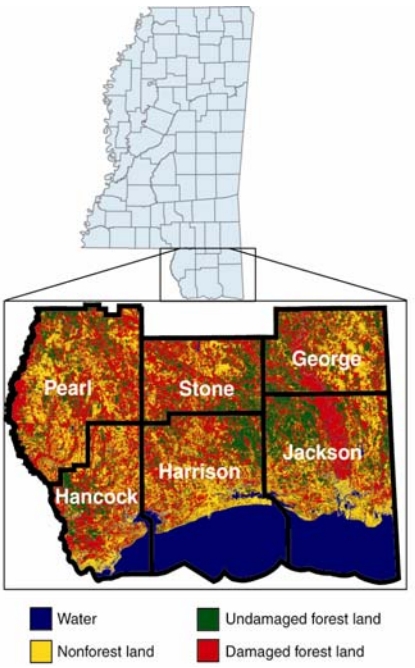
Mississippi Inventory 64% Complete!



Data collection progress in the State of Mississippi, by county and completion.

As the holidays and cold weather approach, inventory efforts in Mississippi continue to move forward at a rapid pace. Field crews have collected over 3,200 plots since November of 2005—well over 200 plots per month. In addition to moving forward with data collection, SRS FIA and the Mississippi Forestry Commission (MFC) have worked together to incorporate FIA and MFC Institute of Forest Inventory data into a joint publication of preliminary damage information for Hancock, Harrison, Jackson, Pearl River, Stone, and George Counties. The joint effort has also resulted in the production and presentation of a poster at the annual FIA Symposium in October 2006. Highlights of the preliminary document indicate that, in the 6-county area studied, about 34 percent of merchantable trees > 5 inches in diameter showed signs of appreciable damage, and windthrow was the most common type of damage observed at the stand level.

For more information contact Sonja Oswalt at 865-862-2058 or soswalt@fs.fed.us.



Thematic classification of damage to forest land (Patrick Glass, MFC).

Current Data Posted at Mapmaker (FIADB)

State	FIADB cycle	Survey	Sub-cycle	% posted	GRM	Periodic/ Annual	Data year
AL	4	8	1,3,4,5	80	No	A	2004
AR	8	8	(1-5)	100	Yes	A	2005
FL	8	8	3,4,5	60	Yes	A	2005
GA	8	8	(1-7)	100	Yes[c]	A	2004
KY	5	5	(1-6)	100	Yes[a]	A	2004
LA	7	7	(1-5)	100	Yes	A	2005
MS	1	7	NA	100	Yes	P	1994
NC	3	7	NA	100	Yes	P	2002
OK (east)	1	6	NA	100	Yes	P	1993
SC	9	9	1,2,4,5	80	Yes[c]	A	2005
TN	4	7	(1-5)	100	Yes	A	2004
TX (east)	8	8	(1-5)[b]	40	No	A	2005
VA	8	8	(1-5)[b]	40	No	A	2003

GRM = Growth, removals, and mortality.
[a] Subcycle 6 is the remeasure of the 1988 inventory.
[b] Annual moving average. Two subcycles from cycle 7 and three subcycles from cycle 8.
[c] GRMs were expected to be posted Dec. 06 at time of printing.

For more information, contact Ali Conner at 865-862-2228 or aconner@fs.fed.us.

New Employee in Data Acquisition Phase 1 Group

The Data Acquisition section has a new employee, Jason McHan. Although Jason is new to the Knoxville office, he has been working for SRS since 2000.

Jason has brought a range of experience from working as a field Forester and QA Forester throughout the southeast. He will be working on a variety of independent and team projects such as Phase 1 land use interpretation, validation of plot coordinates, and assembly of plot materials. His expertise will improve several aspects of technical problems and day-to-day tasks as we find ways to increase workflow and ensure high quality data. Jason has adapted quickly to his new position as his can-do attitude is apparent when he comes up with a quick solution to a problem or offers his expertise to others. On his days off, Jason enjoys off-roading, hunting, fishing, and camping with his family in their RV.

FIA Data Workshops

The Information Management section is providing FIA data workshops across the region. The goal is to facilitate access to FIA data on the Web and to inform users of current FIA data request guidelines and privacy laws. Session topics include:

Data Request Procedures
- Spatial Data Services
- Privacy Laws
- Memorandum of Understanding (MOU)

FIA Publications
- Hardcopy Availability
- Electronic Publications Available on SRS Website

Forest Inventory Mapmaker 2.1
- Standard Tables
- Custom Tables
- Create Maps

FIA Data Mart: Download Files
- Snapshot_FIADB
- NIMS_FIADB
- RPA Summary DB (shape files)
- Phase 3 Data

SOLE: Southern On Line Estimator

Timber Product Output (TPO)
- SRS TPO Reports
- National TPO Reports
- RPA TPO Tablemaker

The last workshop was held September 26-27, 2006 in Auburn, AL. There were a total of 10 participants; 2 from the State forestry agencies in Alabama and Georgia. There was one TIMO representative from Georgia and a timber industry user from Alabama. There were six U.S. Forest Service (USFS) personnel, four from the SRS and two from Region 8 National Forest systems.

Future Locations and Dates:

Monticello, AR	December 19, 2006	
Athens, GA	March 1, 2007	(field trip day of Southern Silviculture Research Conference)
Columbus, OH	March 12-13, 2007	USFS ESRU (open to USFS employees only)
	March 19-20, 2007	USFS ESRU (open to USFS employees only)

If you are interested in hosting a workshop at your location please contact Jeff Turner at 865-862-2053 or jturner02@fs.fed.us.

Registration and Instructions:
To register or to obtain more information, please call Jeff Turner at 865-862-2053 or send an email with your name and phone number to jturner02@fs.fed.us.

FY2007 Research Publications Published Since September 1, 2006

Conner, Roger C.; Sheffield, Raymond M. 2005. Analysis of the timber situation in Florida, 1995 to 2025. Res.Pap. SRS–42. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 17 p.

Oswalt, Christopher M.; Clatterbuck, Wayne K.; Houston, Allen E. 2006. Impacts of deer herbivory and visual grading on the early performance of high-quality oak planting stock in Tennessee, USA. Forest Ecology and Management. 229(3): 128-135.

Pollard, James E.; Westfall, James A.; Patterson, Paul L. [and others]. 2006. Forest inventory and analysis national data quality assessment report for 2000 to 2003. Gen. Tech. Rep. RMRS–GTR–181. Fort Collins, CO: U.S. Department of Agriculture Forest Service, Rocky Mountain Research Station 43 p.

Randolph, KaDonna C. 2006. Descriptive statistics of tree crown condition in the Southern United States and impacts on data analysis and interpretation. Gen. Tech. Rep. SRS–94. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 17 p.

Ridley, Ted; Rudis, Victor A.; Beresford, Helen. 2006. Forest inventory nonnative invasive plant web-application, version 1.0. Knoxville, TN: U.S. Department of Agriculture Forest Service, Southern Research Station, Forest Inventory and Analysis Program. [Available only on the Internet: http://srsfia2.fs.fed.us/nonnative_invasive/Southern_Nonnative_Invasives.htm].

To access these and other publications, visit: http://www.srs.fs.usda.gov/pubs/.

A Question From A Reader

What are the relative precision of estimates of inventory (point estimates) versus GRM (change estimates)? A particular situation sometimes arises where a conflict exists between what two point estimates imply versus what the growth-removal-mortality (GRM) estimates imply. The later inventory estimate is higher than the earlier one but the growth estimate for that period is lower than the removal estimate (G/R < 1.0). One might conclude from the two inventory estimates that the inventory is increasing or conclude from the GRM estimates that the inventory is decreasing.

Conflicting interpretations of the direction of inventory change generally will not occur because FIA constrains compatibility between the difference in values at two points in time and the components of change (GRM). However, the situation may arise where definitional changes could cause conflicting interpretations. FIA scientists have been developing new estimators that take advantage of the annualized survey. Soon to appear in *Forest Science* is an article by Frank Roesch *Compatible Estimators of the Components of Change for a Rotating Panel Forest Inventory Design*. The paper presents two approaches for estimating the components of forest change utilizing data from a rotating panel sample design. One approach uses a variant of the exponentially weighted moving average estimator and the other approach uses mixed estimation. Both methods use population based definitions of the components of change (entry, live growth, mortality, and harvest) rather than the traditional sample based definitions. This alleviates issues that arise from temporally overlapping panels and forces the estimates to be compatible because the difference in values between any two points in time is equal to the total of the entry and live growth minus the total mortality and harvest. Roesch's work provides an innovative approach to analysis of the components of change.

Growth, Removals, and Mortality Data: Timberland vs Forest Land and Annual Inventory vs Periodic Inventory

FIA traditionally has been a timber inventory. Areas that were considered unproductive for timber extraction and areas that were reserved from timber harvesting were not extensively reported or, in some cases, not even sampled. Users should be aware that timberland was the only basis of the GRM data of older periodic data as well as recent data in those States where the prism plot design is currently being remeasured.

However, in States that have installed and have remeasured the annual inventory subplot design, the growth and removal estimates are calculated for both timberland and all forest land. So what does this really mean?

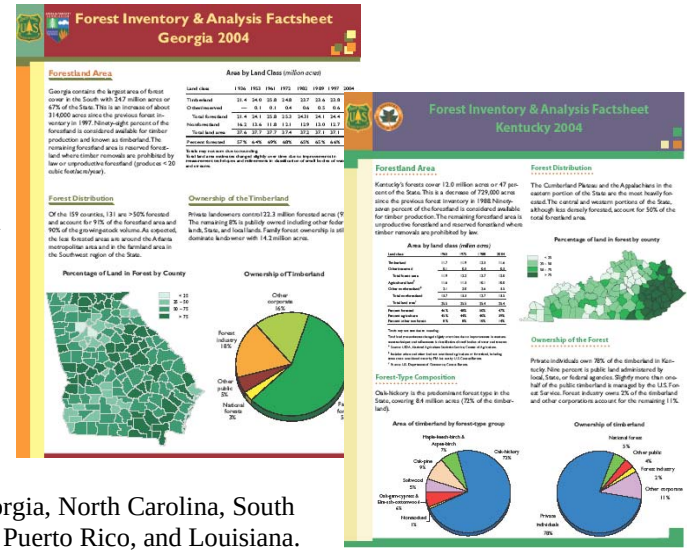
When using timberland as the base, a tree was considered "removed from timberland" when it was harvested or was killed by human activity (i.e. the volume of the tree was "removed from timberland" by humans from timberland). Further, any tree on a plot that was reclassified from timberland in the previous inventory to either reserved or unproductive forest land in the current inventory was also considered "removed from timberland" because it is no longer in the timberland area. This is true even though most of these trees are still alive and are still in a forest condition. The majority of this type of status change removal volume occurs when an area containing an FIA sample plot is designated as reserved between inventories.

In addition to the traditional timberland base, FIA has recently begun calculating GRM volume using forest land as the base. This only applies to the most recent subplot design remeasurement. It is not calculated on prism plot remeasurement. The forest land base measurements will vary from the timberland base data. For example, the tree that is still alive from the previous survey but was classified as timberland and is now in reserved forest land will be a removal tree on the timberland base area, but will not be a removal tree when using forest land as the base area. Each tree record has a set of data for the timberland base and the forest land base as follows:

Definition	Timberland base	Forest land base
Net growth of growing stock (cubic feet)	GROWCFGS	FGROWCFGS
Net growth of sawtimber (board feet)	GROWBFSL	FGROWBFSL
Net growth of all live trees (cubic feet)	GROWCFAL	FGROWCFAL
Mortality of growing stock (cubic feet)	MORTCFGS	FMORTCFGS
Mortality of sawtimber (board feet)	MORTBFSL	FMORTBFSL
Mortality of all live trees (cubic feet)	MORTCFAL	FMORTCFAL
Removals of growing stock (cubic feet)	REMVCFGS	FREMVCFGS
Removals of sawtimber (board feet)	REMVBFSL	FREMVBFSL
Removals of all live trees (cubic feet)	REMVCFAL	FREMVCFAL

Users need to be aware of this distinction between GRM on timberland versus forest land when using FIADB Mapmaker, requesting data, and especially when using the raw FIADB csv files.

SRS FIA Factsheets



After statewide inventories are completed, demand for the data and related analysis intensifies. The traditional publication reporting process is time consuming. The need for quick methods to deliver key findings from statewide inventories became paramount. The most recent instrument SRS FIA has developed to address timely output is the "Factsheet." The 2-4 page factsheet style of reporting has proven to be our quickest approach to data output and analysis thus far. They have been well received and feedback indicates high value for legislative and executive summaries. In-house production and reproduction on an immediate or as needed basis offer tremendous advantages in time, cost, and distribution. Although similar in design and content, they have flexibility for varying data highlighted based upon differing issues and economies among the States. The SRS FIA has completed factsheets for: Kentucky, Georgia, North Carolina, South Carolina, Alabama, East Texas, Mississippi, Virginia, Virgin Islands, Puerto Rico, and Louisiana. Factsheets for Tennessee and Arkansas should be available by mid-December.

Factsheets are available online at: http://srsfia2.fs.fed.us/states/state_information.shtml.

Status of Current Field Inventories

State	Cycle start date	Subcycle start date	Cycle and subcycle of current inventory	Percent of current subcycle collection completed	Projected web posting date for next subcycle
Alabama	2005	Dec-05	9-4	97	Jun-07
Arkansas	2005	Nov-05	9-3	93	May-07
Florida	2001	Jun-05	3-1	93	May-07
Georgia	2004	Oct-05	9-3	100	May-07
Kentucky	2005	Mar-05	6-2	99	May-07
Louisiana	2000	Nov-04	3-3	100	Aug-07
Mississippi	2005	Nov-05	8-6	63	Oct-07
North Carolina	2003	Mar-06	4-3	65	Oct-07
Oklahoma	NA	NA	NA	NA	NA
Puerto Rico	2002	Jan-06	4-1	75	May-07
South Carolina	2006	Jan-06	4-3	97	Jun-07
Tennessee	2005	Apr-06	8-3	48	Dec-07
Texas (east)	2003	Jul-05	4-4	44	Sep-07
Texas (west)	2004	Mar-05	1-3	39	**
U.S. Virgin Islands	2004	Jul-04	1	100	Jun-07
Virginia	2002	Jun-06	4-3	27	Dec-07

** Data not posted due to only two panels of data completed. Information compiled August 6, 2006.

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FIA is a USDA Forest Service research work unit which collects, analyzes, and reports on data pertaining to our forest land in the Southern region. This region includes Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, Puerto Rico, South Carolina, Tennessee, Texas, the U.S. Virgin Islands, and Virginia.

FIA conducts this program of research to improve the understanding of the Southern forest ecosystem.

Government and private agencies utilize this data to monitor forest resources, forest use, and forest health. The collection of data is done on private and public land.

Our system development success is a direct result of our partners, our talented scientists, analysts, computer specialists, and other staff members who have continually contributed to the mission of this complex project

National and Southern FIA Websites of Interest

National FIA website: http://www.fia.fs.fed.us
National FIA database available at: http://www.ncrs2.fs.fed.us/4801/fiadb
National Timber Product Output (TPO) database available at: http://srsfia2.fs.fed.us/php/tpo2/tpo.php
National Woodland Owner Survey website: http://www.fs.fed.us/woodlandowners/
Information specific to Southern States: http://srsfia2.fs.fed.us/
Electronic copies of SRS FIA publications at: http://www.srs.fs.usda.gov/pubs/