

# The Inventory

Issue 18  
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**Inside this issue:**

<b>Looking Toward the Future</b>	<b>2</b>
<b>Bluetooth Coordinate Update</b>	<b>2</b>
<b>Tenth FIA Symposium</b>	<b>4</b>
<b>Current Status of FIA Data Posted</b>	<b>4</b>
<b>Status of Current Inventories</b>	<b>5</b>
<b>Invasive Maps on the Web</b>	<b>5</b>
<b>FY2010 Research Publications Published Since March 2010</b>	<b>6</b>
<b>Demonstration for Distinguishing Common Native Palms</b>	<b>7</b>
<b>National and Southern FIA Web sites of Interest</b>	<b>8</b>

## An Update Concerning the SRS FIA Program

### *SRS FIA Information Update (June 2010)*

When some individuals think about FIA, the first item that comes into their mind is plots. Plots are a major component of FIA. The measurement of plots and the determination of area, volume, and the components of change – growth, removals, and mortality are vital pieces of information regarding forests. There are two other components of FIA that are equally important – the National Woodland Owner Survey and the Timber Product Output (TPO) or resource utilization.

The TPO program has two areas of focus, mill surveys and harvest/utilization (logging) studies, each serving important roles not performed by FIA plot measurements. Mill surveys are conducted periodically in the South (every 2 to 3 years), involve a complete census of timber processors within a State, and provide information about the characteristics of timber harvested (volume, species, product type, geographic source, etc.), characteristics of timber-processing firms (number, type, location, annual consumption, etc.), and characteristics of wood residues (volume, type, use, etc.). The TPO program is critical because it tracks the number of mills by product and species use including the disposition of mill residues. Harvest/utilization (logging) studies are as important for producing reliable estimates of removals for timber products, logging residues, and harvesting efficiency.

Mill and harvest/utilization (logging) residue production and use have changed dramatically over the past 20 years. Interest in mill and logging residue has grown and continues to grow because of the interest in biomass energy, carbon emissions and sequestration, global climate change, the ongoing need for and use of traditional wood products, and products certification. The better (i.e., higher quality, more timely, more relevant, more abundant) the TPO data are, the more important FIA will be in the realms of measuring and monitoring timber harvest, sustainability, carbon, biomass, traditional forest products, the forest products industry, and forest land management and policy decisions in general.

Nowhere else in the United States is this most critical than in the Southern United States where nearly 60 percent of the wood harvested in United States occurs. In order to track the changes in the primary wood-using industry, SRS FIA needs to focus some of our attention on TPO. There may be some changes in TPO in the near future but we will not sacrifice our current information needs, but expand the emphasis on TPO information to improve our ability to respond to the new demands placed on southern forests. We have a great, but small TPO program in the SRS FIA unit and I hope that we can expand it in the future.

If you have any 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 FIA and please let us know how we may serve you in the future.

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## Looking Toward the Future

The Southern FIA program hosted an all SRS FIA employees meeting in Chattanooga, TN the week of May 3–7, 2010. The meeting, with the theme of “165,000 Plots and Counting Southern FIA in 2010 and Beyond,” sought to unite each employee behind the mission of the Southern FIA program, to look toward the future to identify future demands on FIA data, to develop new communication strategies for our work, and to focus on finding more efficient ways to provide quality and timely southern forest resource data and information. Some of the invited speakers included, Dr. Ann Bartuska, Dr. Greg Reams, Dr. Jim Reaves, and Bill Burkman, from the USDA Forest Service, Linda Casey (AL State Forester), Dr. Al Lucier (NCASI), Scott Jones (Forest Landowners Assoc.), and Dr. Mike Clutter (UGA).

For more information, contact Chris Oswalt at 865-862-2068 or [coswalt@fs.fed.us](mailto:coswalt@fs.fed.us).

Other topics and presentations at the session related to administrative issues for all SRS

FIA employees. Rudy Cadney, Michele Ehlert, and Cheryl Jefferson, all of the USDA Forest Service, covered topics such as communication, employee relations, and conflict resolution.

In addition to focusing on the fundamentals of the FIA program, we were able to get together at Finley Stadium (home of the UTC Mocs) for great BBQ and the first ever Southern FIA Cornhole (bean bag toss for some) Tournament. The team of Carolyn Stepplenton and Horace Brooks took the prize, outlasting nine other teams in a double-elimination tournament that came down to the last point. Post-meeting feedback indicated that the meeting was a huge success and multiple changes discussed are already being implemented. The Planning Committee consisted of Sarah Combs, Jason Hewitt, Anne Jenkins, Sam Lambert, Frank McCook, Christopher Oswalt, and KaDonna Randolph.



An actual Cornhole board.



John Simpson and Nancy Walters competing.

## Bluetooth Coordinate Update

February 2009 marked the start of a new procedure for collecting GPS coordinates at plot locations. The old system of averaging coordinates with a recreational unit and manually entering the coordinates was replaced with a Bluetooth GPS receiver that copies the coordinates into the Mobile Integrated Data Acquisition System (MIDAS) program after averaging. This change enables us to take the human factor of keypunch errors out of the system to improve the accuracy of our collected coordinates. Since the start in 2009, States have collected coordinates utilizing the Bluetooth receiver with the recreational GPS unit still used as a backup system for coordinate averaging. As of May 2010 the percentage of Bluetooth

coordinates collected is at an average of 55 percent for all plots collected.

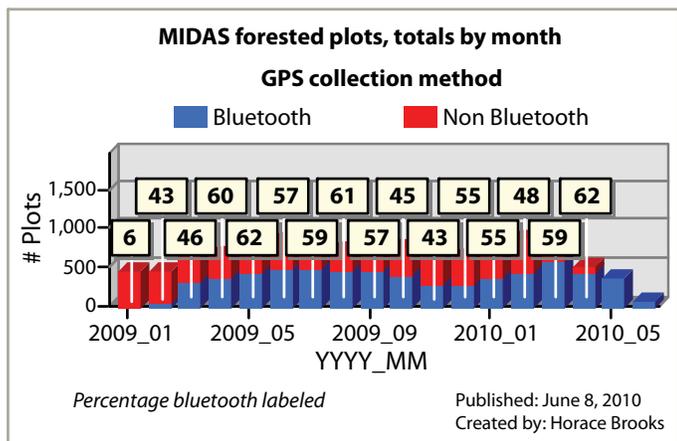
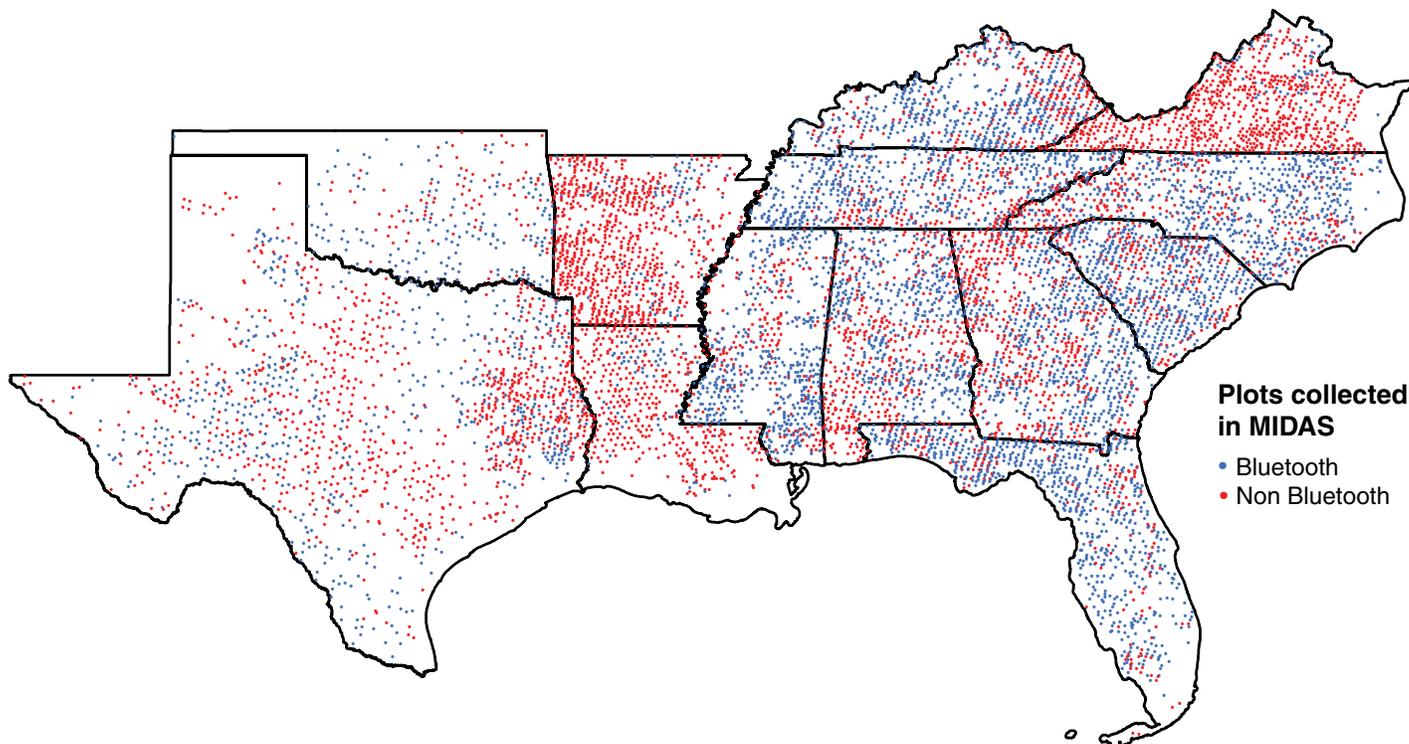
We are currently in the early stages of testing a new data recorder with an integrated GPS receiver to replace the Bluetooth system. The unit being tested is the Hydrus Luna/GPS™ manufactured by Two Technologies, Inc. This data recorder is similar to our current platform which will make ease of transition to the new unit easier for the field foresters. We hope to get the units out into the field by June 2010 for the field foresters to test on plot collection, but so far our testing of the integrated GPS system is promising for coordinate collections.

For more information, contact Jason Cooper at 828-713-3195 or [jasoncooper@fs.fed.us](mailto:jasoncooper@fs.fed.us).

*continued*

*Bluetooth Coordinate Update (continued)*

**GPS Coordinates Collected Using Bluetooth Technology**



STATECD	ACTIVE_ CRUISERS	BLUE_ CRUISERS	TOTAL_ PLOTS	BLUE_ PLOTS	PERCENT_ BLUE TOOTH
1	7	5	856	476	56
5	12	11	836	94	11
12	14	11	852	672	79
13	17	15	1,062	598	56
21	12	12	685	464	68
22	30	11	474	64	14
28	18	12	673	487	72
37	10	10	868	601	69
40	5	5	257	163	63
45	8	7	684	502	73
47	14	11	768	556	72
48	26	14	1,466	549	37
51	13	9	774	63	8
78	3	3	53	51	96

<b>Sum</b>	<b>10,308</b>	<b>5,340</b>	<b>55%</b>
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The Bluetooth collection percentages and distribution as of May 2010.

## Tenth FIA Symposium

The FIA Symposium 2010 Organizing Committee is excited to announce: “Monitoring Across Borders.” The FIA Symposium will be held in Knoxville, TN from October 5–7, 2010. The Symposium is a joint venture with the Southern Mensurationists (<http://www.mensurationists.com/soma/mainframe.htm>). The FIA Symposium is planning 3 days, each beginning with a plenary session of contemporary topics followed by other science sessions. Here are the initial plans to date for the sessions:

### October 5 – Day 1:

Science Policy (Jim Reaves, SRS; Rich Guldin/Greg Reams, WO FIA; Boris Tkacz, WO FHM; Al Lucier, NCASI)

### October 6 – Day 2:

Mensuration (Dean Coble, Southern Mensurationists; Mike Clutter, UGA; others TBD)

### October 7 – Day 3:

Remote Sensing/GIS/Geo-Spatial (Ken Brewer, WO FIA; Gretchen Moisen, RMRS FIA; others TBD)

Here are some broad FIA Symposium goals:

- Exchange of science and technology across borders in the broadest sense,
- Highlight cutting-edge mensuration, modeling, and related science,
- Present ways that FIA has aided in policy and management decisions,
- Provide a forum for linking issue-focused analyses with techniques development,
- Showcase collaborative efforts and foster continued work with FIA partners,
- Display state-of-the-art science and tools, and
- Communicate utility of FIA data and analyses to the broader user community.

Other issue-focused sessions may include:

- Current mainstream topics from the southern landscape,
- New quantitative approaches for analyzing emerging issues, and related science,
- Integrating FIA data with remote sensing and GIS applications,
- Assessing biomass stocks and bioenergy potential,
- Estimating and tracking carbon sequestration in time and space,
- Statistical issues in annual surveys,
- Landscape-level assessments across borders (e.g., climate scenarios, scales, ownerships, biomass, futures, science frontiers, etc.),
- Monitoring trends over time and space, including forest health, invasive species, wilderness, rangeland, etc., and
- Using FIA data in development of fire and fuels, spatial datasets, and modeling fire behavior.

If you would like to submit a paper, abstracts are due July 23, 2010, and should be submitted to:

Will McWilliams  
USDA Forest Service  
11 Campus Blvd., Suite 200  
Newtown Square, PA, USA 19073  
[wmcwilliams@fs.fed.us](mailto:wmcwilliams@fs.fed.us) (email submissions and MS Word are preferred)  
610-557-4050

Authors will be notified shortly after the above date if their submission has been accepted.

All presenters are given the opportunity to publish a brief manuscript (10 pages or so) on their work. The proceedings will be published as a SRS General Technical Report in CD format expected by the spring of 2011. Manuscripts are due in complete and fully edited form by December 15, 2010.

For more information, contact Will McWilliams at 610-557-4050 or [wmcwilliams@fs.fed.us](mailto:wmcwilliams@fs.fed.us).

## Current Status of FIA Data Posted

For more information, contact Ali Conner at 865-862-2228 or [aconner@fs.fed.us](mailto:aconner@fs.fed.us).

### Most Current Data Posted (all annual inventory data)

Alabama	2008	North Carolina	2007
Arkansas	2007	Oklahoma (east)	2008
Florida	2007	South Carolina	2007
Georgia	2008	Tennessee	2007
Kentucky	2007	Texas (east)	2008
Louisiana	2005	Texas (west)	2007
Mississippi	2006	Virginia	2008

## Status of Current Field Inventories

State	Cycle start date	Subcycle start date	Cycle and subcycle of current inventory	Percent of current subcycle collection completed
Alabama	2005	Sept-09	9-1	73
Arkansas	2005	Nov-09	9-2	41
Florida	2008	Sept-09	9-4	58
Georgia	2009	Sept-09	10-2	74
Kentucky	2005	Oct-09	6-1	69
Louisiana	2009	Feb-09	8-1	95
Mississippi	2008	Oct-09	9-2	57
North Carolina	2008	Oct-09	9-2	69
Oklahoma (east)	2010	Jan-10	8-1	42
Oklahoma (west)	2009	Jan-10	2-2	12
Puerto Rico	2006	Apr-09	4-4	66
South Carolina	2006	Jan-10	10-2	39
Tennessee	2009	Dec-09	9-1	44
Texas (east)	2008	Aug-09	9-2	70
Texas (west)	2004	May-09	51-6	91
U.S. Virgin Islands	2009	Aug-09	2-1	39
Virginia	2007	Apr-09	9-4	99

Information compiled April 26, 2010.

For more information, contact Dale Trenda at 865-862-2039 or dtrenda@fs.fed.us.

## Invasive Maps on the Web

The poet Terence might have said, “*Quot plantae, tot mappae*,” or “however many plants, there are so many maps.”

FIA collects data on invasive species, by species (e.g. *Ailanthus altissima*) or species group (e.g. *Lonicera* spp., *Rosa* spp.) and severity level of infestation on forest land. Certain species, such as the “one-flowered” Surinam cherry, *Eugenia uniflora*, are tallied only in Florida.

The data are processed inside Oracle™, tabulated as present or absent on each forested subplot, then divided by the number of forested subplots. The data are once again classed to the original levels of severity, such being 0, (0-1], (1-10], 11-50, 51-90, and 91-100 percent. In interval notation, parentheses are curved like the lower case “e” in “excluding” while brackets are straight like the letter “i” in “including.”

After the data are processed, Visual Basic™ macros inside ArcMap™ retrieve the data from Oracle™ and merge it with a shapefile of either the counties of the SRS or those of Florida, as appropriate. One macro handles regional maps and the other handles maps specifically for Florida.

The macro automatically generates the maps. Although the macro saves dozens of person-hours, it still takes several hours to run, far too slowly for most analysts to do on demand. The Florida macro processes 20 maps in well under an hour. Upon request, the Methods and Techniques Section will consider writing macros tailored for individual analysts.

Improvements over the 2009 maps include:

- Maps are in PDF (Portable Document Format) in addition to the JPG (Joint Photographic Experts' Group) format of 2009
- Text and map elements are crisper
- The Florida maps are produced on a map of Florida rather than one of the entire SRS
- The date stamp is created by the macro; it is the date of the map production rather than the date of data processing.

Other changes include:

- Since the words “Department of Agriculture” appear in the Forest Service logo, the U.S. Department of Agriculture (USDA) logo was dropped, and the FIA logo was added
- File names are by species code (a09\_3101.jpg; a09\_3101.pdf) rather than species name (japanese\_honeysuckle.jpg).

*continued*

## Invasive Maps on the Web (continued)

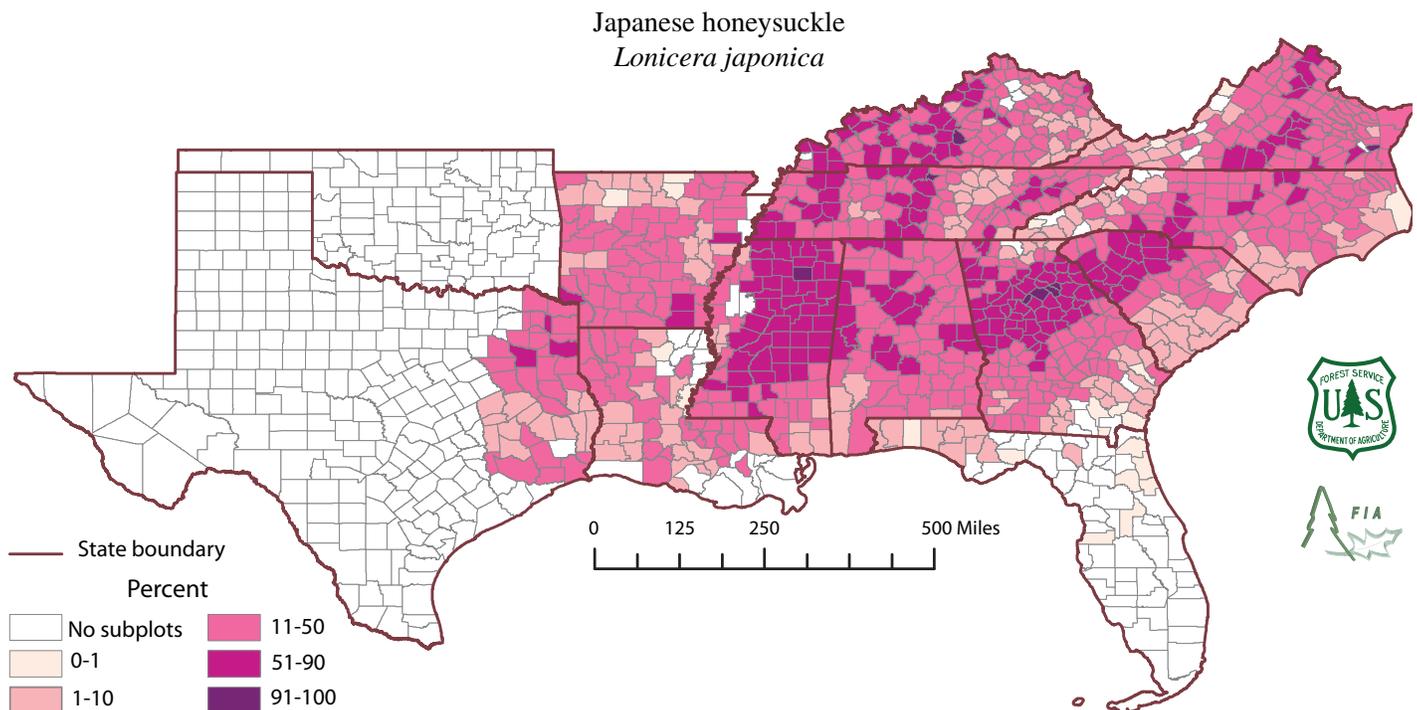
For more information, contact Joe McCollum at 865-862-2065 or [jmccollum@fs.fed.us](mailto:jmccollum@fs.fed.us).

With the regional list, the first digit of the species code indicates the lifeform: 0 for tree, 1 for subshrub, 2 for shrub, 3 for vine, 4 for grass, 5 for fern, and 6 for forb, herb, or other non-woody species. Beyond that, codes are generally in alphabetical order by scientific name. With the Florida list, the first two characters are FL and the third character indicates the lifeform. For now, the a09 indicates the data was processed in 2009.

It is the author's wish that the interpretation of the colors is more intuitive than they were in the 2009 maps. The Florida map colors consist of alternate solids and solids with

hatches, with increasing saturation meaning increasing severity of infestation. The SRS maps consist of colors inspired by the ColorBrewer tools (<http://colorbrewer2.org>) of Dr. Cynthia Brewer of Pennsylvania State University. The author chose the Red-Purple scheme because Dr. Brewer thought it was good for sequential data, was colorblind safe, print friendly, and laptop friendly.

Maps may be found at: [http://srsf a2.fs.fed.us/data\\_center/data\\_mapping.shtml](http://srsf a2.fs.fed.us/data_center/data_mapping.shtml). Feedback, even negative, is welcome. As Terence said, "Quot homines, tot sententiae," – "however many humans, there are so many opinions."



This map is a product of the Southern Research Station (SRS), Forest Inventory and Analysis (FIA) program and therefore includes SRS FIA data. 'No observation' does not indicate that the species is absent from a particular county, only that the species was not found on SRS-FIA field sampling sites within that county at the time the sample was taken. Produced by: Methods and Techniques, Southern Research Station, U.S. Forest Service

## FY2010 Research Publications Published Since March 2010

**Oswalt, Christopher M.; Oswalt, Sonja N.** 2010. Documentation of significant losses in *Cornus florida* L. populations throughout the Appalachian ecoregion. *International Journal of Forestry Research*. Vol. 2010. Article ID 401951. 10 p.

**Oswalt, Christopher M.; Oswalt, Sonja N.; Brandeis, Thomas J.** 2010. Big trees in the Southern Forest Inventory. Res. Note SRS-19. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 36 p.

**Oswalt, Sonja N.** 2010. Chinese Tallow (*Triadica sebifera* (L.) Small) population expansion in Louisiana, East Texas, and Mississippi. Res. Note SRS-20. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 5 p.

**Rosson, James F., Jr.; Rose, Anita K.** 2010. Arkansas' forests, 2005. Resour. Bull. SRS-166. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 126 p.

## Demonstration for Distinguishing Common Native Palms

Foresters working in the Gulf and Atlantic coastal plains may each have a “palmetto” they encounter on a daily basis, or possibly only on a monthly basis. If it’s a forester in South Carolina, the “palmetto” is likely to be the State tree, *Sabal palmetto*. In Louisiana, the “palmetto” foresters refer to most often there is actually a different species, *S. minor*, which has similar foliage but different growth habits. Even in Florida, where the State tree is the same palm as South Carolina, “palmetto” is instead foresters’ common name for Florida’s most common palm, *Serenoa repens*.

Although there is some disagreement among scientists, most sources list 15 species of palms that are native to the continental United States, and 8 species are on the FIA list of tree species tallied. Many of the native palm species don’t mature to tree size. While palms found in the forest are occasionally exotic, nonnative species, of the natives, only royal palm (*Roystonea regia*) and coconut palm (*Cocos nucifera*) have pinnate leaves. The others have palmate or fan-shaped leaves that have only a few distinct characteristics to aid in identification. FIA forester Jay Frost was at a research plot in

central Florida scrub habitat when he realized the scrub palmetto (*Sabal etonia*), which has adapted to its environment by having its stem underground, could be mistakenly identified as young *S. palmetto*, which is a tallied species. Scrub palmetto is not tallied in the inventory.

Using the resources of the North Florida Palm Society, Jay Frost cooperated with the City of Tallahassee, FL Parks Department to supplement a parking lot median’s new landscaping with the five cold-hardest species of palms that are native to Florida, and could be found growing in other Southern States. The public planting will feature labels for the palms to aid in identification and appreciation of these monocots. A noteworthy palm species tallied in FIA that is absent from the demonstration is Mexican palmetto (*S. mexicana*), which was not included in the proposal since the primary focus was Florida natives. It isn’t planted as widely as *S. palmetto*, but both species can escape cultivation and establish in forests far from their natural range. The species featured are saw palmetto (*Serenoa repens*), cabbage palm (*Sabal palmetto*), bluestem palmetto (*S. minor*), scrub palmetto (*S. etonia*), and needle palm (*Rhapidophyllum hystrix*).

For more information, contact  
Jay Frost at 828-712-7966 or  
[jfrost@fs.fed.us](mailto:jfrost@fs.fed.us).



Scrub palmetto (*Sabal etonia*).

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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 Web sites of Interest*

National FIA Web site: <http://www.fia.fs.fed.us>

National FIA database available at: <http://fia.fs.fed.us/tools-data/other/default.asp>

National Timber Product Output (TPO) database available at: <http://srsfia2.fs.fed.us/>

National Woodland Owner Survey Web site: <http://www.fia.fs.fed.us/nwos/>

Information specific to Southern States: <http://srsfia2.fs.fed.us/>

Electronic copies of SRS FIA publications at: <http://www.srs.fs.usda.gov/pubs/>