

South Carolina Forestry Commission Annual Report

FY 2013-2014



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STATE COMMISSION OF FORESTRY

Members of the Commission

Frank A. McLeod III, Columbia, Chair

Mitchell S. Scott, Allendale, Vice Chair

Dr. Benton H. Box, Clemson

G. Edward Muckenfuss, Summerville

H. Stro Morrison III, Estill

Dr. A.G. "Skeet" Burris, Varnville

James F. Barker, President, Clemson University

Sam Coker, Gilbert

James B. Thompson, Greenwood

Administration

Henry E. (Gene) Kodama, State Forester

Tom Patton, Deputy State Forester

MISSION

The mission of the Forestry Commission is to protect, promote, enhance, and nurture the forest lands of South Carolina in a manner consistent with achieving the greatest good for its citizens.

Responsibilities extend to all forest lands, both rural and urban, and to all associated forest values and amenities including, but not limited to, timber, wildlife, water quality, air quality, soil protection, recreation, and aesthetics.

The Forestry Commission shall have general and specific responsibilities for the promulgation and enforcement of laws and regulations related to protection of the forest and its associated values.

The Commission shall be responsible for promoting and developing the appropriate technologies to accomplish its objectives, and for the development and promulgation of Best Management Practice Guidelines for South Carolina's forest land.

FOREST PROTECTION

This section encompasses Fire Management, Law Enforcement, Forest Health, and Equipment programs.

FIRE MANAGEMENT

The South Carolina Forestry Commission is responsible for protecting 13,657,033 acres of forestland in South Carolina from wildfire. This total area protected is based on the 2001 Forest Inventory Analysis data with 10% added to cover adjacent non-forest land. This figure includes 101,320 acres of federal land protected under special contract, which includes such lands as the Carolina Sandhills National Wildlife Refuge and the Corps of Engineers land around such lakes as Lake Thurmond, Hartwell, and Russell. Also included is forestland protected by Mutual Aid, which is approximately 824,801 acres of additional federal land that includes lands such as the Francis Marion and Sumter National Forests, National Park lands, and lands owned by US Fish and Wildlife Service.

Wildfire Summary

Agency firefighters recorded 1,823 wildfires that burned 9,425 acres of forestland and grassland during the fiscal year. The number of fires and acres burned were lower than the five-year average.

In fiscal year 2013-2014 wildfires destroyed 27 homes and damaged 45 others. In addition, 77 other buildings were destroyed and 33 buildings were damaged. Agency firefighters saved 731 homes and an additional 368 structures that were directly threatened by wildfires.

Fire Protection Cooperatives

The Forestry Commission has cooperative arrangements with 12 fire and emergency management entities. Activities for each cooperative agreement during FY 2014 are as follows:

Southeastern States Forest Fire Compact Commission: Formed in 1954, the Compact allows member states to provide and receive mutual aid in fighting wildland fires. Member states of the Southeastern States Forest Fire Compact include: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, Virginia, and West Virginia. During this fiscal year, no SCFC resources were mobilized under the Compact.

SC Emergency Management Division: SC Forestry Commission personnel, including incident management teams, participated in several emergency response training sessions involving hurricanes, earthquakes, weapons of mass destruction, and dam failures. This year a wildfire response seminar was held with SCEMD, and agency response and contingency plans were evaluated and updated.

SC Army National Guard: Under an agreement with the National Guard, helicopter firefighting support is available when requested by SCFC. Requests from SCFC are channeled through EMD and the Governor's Office to activate the Guard. The Guard's primary firefighting mission is providing helibucket service to SCFC Incident Commanders using SCFC's 780-gallon Bambi buckets. Guard helicopters are also available to transport firefighters into rough or inaccessible terrain. Joint training and coordination meetings between the SC National Guard and the SC Forestry Commission are held annually to ensure mission readiness.

Volunteer Fire Assistance Program: Pass through funds from the National Fire Plan, Volunteer Fire Assistance funds through the USDA Forest Service were distributed as follows:

- Title II grant funds are for structural and wildland firefighting needs: 55 Fire Departments requested \$138,344 worth of firefighting equipment of which 34 fire departments were funded for \$84,830.
- National Fire Plan Title IV grant funds are for wildland firefighting needs: 52 Fire Departments requested \$146,878 worth of firefighting equipment of which 25 fire departments were funded for \$75,478

Federal Excess Personal Property program (FEPP) and the Firefighters Program (FFP): The amount of equipment available for screening is limited but with the SCFC enrolled in both programs, six (6) items were screened under the FEPP program valued at \$221,639.00 and two (2) items were acquired under FFP valued at \$90,018.12. The FEPP items consist of a Type 3 Fire Truck, Type 6 Fire Truck, and 4 Slip-on Units while the FFP items consist of a Trailer and Forklift. The total value of inventoried FEPP property now stands at over \$20 million for 983 items, most of which are on loan to Volunteer Fire Departments. In an effort to improve the program and bring all departments into compliance, SCFC field personnel and the FEPP program manager encouraged fire departments to turn in any equipment that was not being properly maintained or

actively in operation. Field visits were also conducted to help with the inventory verification and reiteration of the program's intent.

National Weather Service: NWS provides daily fire weather forecasts and atmospheric dispersion information. During the year, SCFC and NWS work to improve content of daily weather forecasts. The NWS provided spot weather forecasts for two wildfires as requested by the SCFC.

USDA Forest Service: A mutual aid agreement between the US Forest Service and SCFC allows both parties to provide initial attack firefighting within one-quarter mile of National Forest boundaries. SCFC provided initial attack on a number of fires on the Francis Marion and Sumter National Forests during the fire season, and SCFC investigators assisted with wildfire investigation.

DOD Corps of Engineers: Beginning in 1997, SCFC has provided all fire suppression services on 55,320 acres of Corps of Engineers land. Under the terms of the agreement, actual fire suppression costs are reimbursed to the SCFC. This year the SCFC responded to two fires on lands owned by the Corps of Engineers.

USDI Fish and Wildlife Service: Under the terms of a 1992 land acquisition agreement, SCFC provides initial attack fire suppression on the 46,000 acre Carolina Sandhills National Wildlife Refuge. The agreement terminates in 2042. SCFC maintains mutual aid firefighting agreements with the following National Wildlife Refuges: Ace Basin, Cape Romain, Savannah, Pinckney Island, and Santee.

USDI National Park Service: Agreements were maintained to provide initial attack wildfire suppression on National Park Service lands; no reportable activity occurred during this fiscal year.

Wildland Fire Protection Partnership: Organized in 1991, the Partnership seeks solutions to wildfire management problems in the wildland-urban interface. Membership includes the SC Forestry Commission, USDA Forest Service, SC Firemen's Association, Department of Health and Environmental Control, SC Division of Emergency Preparedness, SC Fire Marshal, SC Fire Academy, and SC Forestry Association (ex officio).

Prescribed Fire Council: Organized in 2003, the goal of the Prescribed Fire Council is to increase the amount of prescribed burning in SC. The Council is working on increasing the capacity to get burning done in SC and in educating the public on the benefits of burning. The SCFC is a charter member and active participant in the council.

Homeland Security: Through a grant from the Department of Homeland Security (DHS) and the South Carolina Law Enforcement Division (SLED), the SCFC continued to train incident management teams (IMT) to improve the effectiveness of response to large incidents. Forestry Commission IMTs were staffed, training was conducted for individual team members and teams, and team members participated in training assignments to complete task books to validate their training. Grant funds continued to support an Incident Management Team (IMT) Coordinator position to facilitate the development of nationally-qualified IMTs from within the Forestry Commission and to ensure consistency among four multi-disciplinary (non-SCFC) Type 3 IMTs located in each region of the State.

Fire Weather

Weather Stations: The Forestry Commission, USDA Forest Service, USDI National Park Service, Department of Defense (Ft. Jackson), and USDI Fish and Wildlife Service share a network of 17 Automated Weather Stations across the state. Data from these stations is used in daily calculations for the National Fire Danger Rating System. Weather readings from these stations are available 24 hours a day for wildfire and prescribed fire management purposes.

Inches Precipitation: FY 2014*

Month	Precipitation
July, 2013	11.17
August	6.61
September	2.22
October	1.06
November	3.22
December	5.16
January, 2014	3.34
February	3.29
March	4.28
April	4.26
May	3.97
June	3.65
Total	52.23

*Source: National Climate Data Center

Precipitation Last 5 Years*

Fiscal Year	Precipitation (inches)	Departure from Normal**
2009-10	50.51	2.60
2010-11	39.81	-8.02
2011-12	39.94	-8.07
2012-13	52.97	5.38
2013-14	52.23	4.62

*Source: National Climate Data Center

**Statewide normal, based on previous 30 years

Readiness Plan: The daily readiness level of Forestry Commission firefighters is based on fire danger data, available number of firefighters, and status of firefighting equipment. Average readiness levels for each of the three regions for FY 2012 are as follows:

Region	Coastal	Pee Dee	Piedmont
Readiness 1 (No wildfire danger)	11 days	0 days	0 days
Readiness 2 (Low wildfire danger)	274 days	158 days	281 days
Readiness 3 (Moderate wildfire danger)	74 days	203 days	78 days
Readiness 4 (High wildfire danger)	6 days	4 days	6 days
Readiness 5 (Extreme wildfire danger)	0 days	0 days	0 days

Burning Ban and Red Flag Fire Alert: A Red Flag was in effect from January 25-26, 2014 due to high winds, low relative humidity, and high fire occurrence.

Dispatch and Air Operations

Dispatch: Forestry Commission dispatch is by closest available resource, regardless of political or administrative boundaries. Dispatching was handled by regional dispatch centers located in Walterboro, Florence, and Newberry.

Aviation – During the year, SCFC pilots flew 11 different Federal Excess Property aircraft for a total of 354 missions for 957 hours. Reduced aviation budgets have curtailed aerial detection flights and have limited flights to moderate to high fire danger days when aircraft are needed for wildfire suppression assistance.

During the year, SCFC pilots flew a total of 957 hours (Coastal- 243 hours, Pee Dee-174 hours, Piedmont- 466 hours, Columbia- 74 hours).

Prescribed Fire

Certified Prescribed Fire Manager Program: Five Certified Prescribed Fire Manager Programs were conducted during the year with 194 participants. This course focuses of planning prescribed burns to comply with mandated air quality standards.

Prescribed Burning for Forestry, Wildlife, and Agriculture FY14								
	Forest Understory		Forestry Site Prep		Wildlife		Agriculture	
REGION	Number	Acres	Number	Acres	Number	Acres	Number	Acres
Coastal	1,672	138,378	1,844	15,152	754	80,960	1,847	32,857
Pee Dee	760	39,983	1,181	5,556	476	36,348	1,744	36,409
Piedmont	546	67,831	1,287	5,459	113	3,528	627	6,509
State Total	2,978	246,192	4,312	26,167	1,343	120,836	4,218	75,775

Total Forestry, Wildlife & Agriculture Burns: 12,851 for 468,640 acres

Fire Prevention Information

Wildland-Urban Interface (WUI): Work continued on assessing wildland-urban interface communities' risks to wildfire throughout the state. Primary areas of concern involve communities in Horry, Georgetown and Charleston Counties with increased interest in Oconee, Spartanburg, York and Chester Counties. The communities within the Keowee Fire District of Oconee County continue to thrive with Keowee Key leading the way. The goal of the Firewise program is to increase the awareness of homeowners to their responsibility in helping to reduce the risk of their homes from burning in a wildland fire. This is accomplished by conducting Firewise workshops such as 'How to Have a Firewise Home.' This year, 27 Firewise presentations, community and homeowner workshops with 1880 in attendance were made at various venues, including community events, fire department open houses, safety expos and the SC Firefighters Association annual meeting. Presentations included information about Firewise and the Ready, Set, Go! Program. Efforts have primarily been concentrated in Oconee County, Charleston County and in Horry/Georgetown Counties where interest has been greatest. The Firewise mobile exhibit (and the Firewise Table Top exhibit) was used 12 times by SCFC and USF&WS personnel during the year to reach over 10,500 people at such places as fire department open houses, safety days, community festivals and events, and community chipping days demonstrating how homeowners can mitigate those risks to wildfire. Fuels mitigation plans, workdays and assessments were conducted throughout the state. The SCFC has conducted a total of 1134 community assessments to date with 1077 of those rating at moderate to extreme in regards to wildfire risk. Two hundred new assessments were completed covering 200 communities. Community Wildfire Protection Plans were written for thirteen communities with a few at the fire department's request to address their entire coverage area. To date 185 Community Wildfire Protection Plans have been written in which 306 communities have benefitted.

Cooperative Firewise efforts are also occurring within communities around the Sumter and Francis Marion National Forests with Forest Service personnel. Community Wildfire Protection Plans are being written for communities around USF&WS Refuges in Jasper County with Fish and Wildlife personnel. The Nature Conservancy has also participated in the CWPP development.

Fire staff worked with contractors to complete the development of the Southern Wildfire Risk Assessment Portal, an online tool that describes wildfire risk to communities statewide. This tool is available to landowners, county planners, fire departments, and agency personnel and allows them to view maps, tables, and reports regarding wildfire risk in their area of interest.

National Fire Plan grant funds were awarded to 21 communities for projects in the amount of \$192,550 for various projects including installation of a leaf disposal site, underbrushing of undeveloped lots and common areas such as entrance roads,

and assistance with community chipping days to reduce the fuel buildups within their communities. Additional funds were used for fuels reduction and mitigation projects involving prescribed burning, underbrushing and fuelbreak installation on 18 tracts (1,016 acres) for \$85,327.

Wildfire Prevention: A statewide wildfire prevention awareness effort was made across the state prior to the spring 2014 wildfire season to promote safe debris burning; the number one cause of wildfires in the state. Field personnel utilized trap lines in counties known to have high numbers of escaped debris burns, the number one cause of wildfires in the state. Also, these types of wildfires are also commonly found near communities putting them at risk (i.e. wildland urban interface). In cooperation with local fire departments and some Clemson Extension Agents, SCFC field personnel throughout the state distributed "Think Before You Burn" (TBYB) promotional materials to schools, businesses and public buildings. The distribution of materials included TBYB brochures, various other items, i.e. cups, koozies, slap bracelets, pencils and magnets with the county 1-800 burn numbers. Burning notification magnets were placed on the store counters for customers to pick up so they would have the appropriate county outdoor burning notification phone number handy.

Interviews were conducted with local media to increase public awareness.

Fires by Cause				
			Average Acres	Percent of Total
Cause	Fires	Acres Burned	per Fire	Fires FY14
Lightning	26	417.6	16.1	1.43%
Campfire	16	549.3	34.3	0.88%
Smoking	28	56.1	2.0	1.54%
Debris Burning	952	4244.6	4.5	52.22%
Incendiary	321	1587	4.9	17.61%
Equipment Use	115	561.2	4.9	6.31%
Railroad	12	61.3	5.1	0.66%
Children	63	147.8	2.3	3.46%
Miscellaneous	167	1217	7.3	9.16%
Fireworks	4	19	4.8	0.22%
Powerline	78	491.7	6.3	4.28%
Structure	41	72.4	1.8	2.25%
Totals	1,823	9,425.0	5.2	100.00%

Five-Year Summary: All Fires					
Fiscal Year	Acres Protected	# Fires	Acres Burned	Avg. Acres/Fire	% Area Burned
2009-10	13,657,033	1,639	8,443.9	5.2	0.06%
2010-11	13,657,033	3,100	22,770.6	7.3	0.17%
2011-12	13,657,033	2,192	16,960.1	7.7	0.12%
2012-13	13,657,033	1,799	10,223.4	5.7	0.07%
2013-14	13,657,033	1,823	9,425.00	5.2	0.07%
Five Year Averages		2,111	13,564.6	6.2	0.10%

Total Burning Notifications by County -- Fiscal Year 2014			
	Acres	Smoke Mgt.	Other
County	Protected	Notifications	Notifications
Abbeville County	248,551	109	2,809
Aiken County	524,743	659	21,515
Allendale County	199,005	350	961
Anderson County	216,023	216	13,636
Bamberg County	202,862	478	2,005
Barnwell County	266,959	363	4,457
Beaufort County	130,448	278	8,507
Berkeley County	595,291	497	21,584
Calhoun County	151,294	239	3,774
Charleston County	318,526	219	7,209
Cherokee County	168,077	71	3,730
Chester County	315,565	100	3,060
Chesterfield County	416,239	333	6,821
Clarendon County	238,952	360	5,849
Colleton County	560,896	795	14,135
Darlington County	176,333	201	10,521
Dillon County	163,935	175	3,714
Dorchester County	272,524	200	11,565
Edgefield County	279,433	176	3,268
Fairfield County	408,433	122	2,265
Florence County	308,707	338	13,869
Georgetown County	400,136	417	10,553
Greenville County	296,082	80	12,533
Greenwood County	205,593	77	3,421
Hampton County	303,663	692	3,171
Horry County	493,012	449	23,707
Jasper County	341,036	556	3,089
Kershaw County	376,376	251	14,359
Lancaster County	291,845	191	4,958
Laurens County	337,499	110	5,394
Lee County	121,735	279	1,667
Lexington County	256,939	472	31,941
Marion County	226,896	123	7,519
Marlboro County	226,676	125	4,262
McCormick County	223,394	78	948
Newberry County	334,566	135	3,582
Oconee County	292,590	94	11,525
Orangeburg County	446,887	791	15,674
Pickens County	236,029	58	10,889
Richland County	352,904	248	7,063
Saluda County	196,376	168	1,596
Spartanburg County	286,496	145	8,817
Sumter County	268,338	307	13,602
Union County	277,640	43	421
Williamsburg County	407,761	612	9,569
York County	293,768	71	10,911
Total	13,657,033	12,851	386,425
Total Smoke Mgt. & Other Notifications			399,276

Total All Land Fires by County & Cause -- Fiscal Year 2014

County	LIGHTNING		CAMPFIRE		SMOKING		DEBRIS BURNING		INCENDIARY		EQUIPMENT		RAILROAD		CHILDREN		MISC		FIREWORKS		POWER LINE		STRUCTURE		Total	Total
	Fires	Acres	Fires	Acres	Fires	Acres	Fires	Acres	Fires	Acres	Fires	Acres	Fires	Acres	Fires	Acres	Fires	Acres	Fires	Acres	Fires	Acres	Fires	Acres	Fires	Acres
Abbeville	1	1.2	1	5.8			20	41.4	10	25.0	2	12.6					5	15.5			2	1.2	1	0.1	42	102.8
Aiken	3	12.5	1	6.0			80	456.6	19	57.4	7	19.7	1	27.3	9	19.5	9	33.5			12	29.7	7	14.5	148	676.7
Allendale							6	15.0	1	2.1										1	0.2	1	1.0	9	18.3	
Anderson			1	2.0			17	100.3	5	39.7	1	2.0	1	2.0	2	1.7	3	3.1			1	1.9	1	0.1	32	152.8
Bamberg	1	0.2			1	3.0	12	28.5	1	15.0	4	10.0					1	0.1			2	11.0			22	67.8
Barnwell			1	18.5			12	58.1			6	7.5			1	3.0	1	0.1			1	5.0			22	92.2
Beaufort							9	19.3	8	34.5					2	4.0	1	2.0			1	1.0			21	60.8
Berkeley	3	142.1	1	0.5			38	257.2	27	344.8	2	3.1	2	10.2	3	3.3	9	365.3	1	6.0					86	1,132.5
Calhoun					2	3.0	25	157.7			2	12.1			2	4.0	1	1.5			1	1.0			33	179.3
Charleston							6	6.2	3	15.5	3	11.0			1	1.0	1	3.0			1	0.8			15	37.5
Cherokee	1	0.1			1	5.0	9	27.4	2	2.1	3	12.5			1	15.0	3	6.5							20	68.6
Chester					1	0.2	7	23.1			4	9.2	2	5.4			1	1.5			1	3.0	1	3.0	17	45.4
Chesterfield	2	3.5			3	8.5	37	204.0	8	9.5	2	25.0					2	134.0							54	384.5
Clarendon					3	1.1	38	251.4	7	164.7	3	3.7			1	4.0	9	84.6					1	2.0	62	511.5
Colleton			1	1.0			52	236.1	29	227.2	1	1.0			2	7.5	1	0.3			5	51.3	1	1.5	92	525.9
Darlington	1	15.0	1	8.0	1	0.1	23	157.1	7	45.1	7	47.6			3	1.1	13	40.8			2	100.2	1	0.5	59	415.5
Dillon							8	17.5	9	12.3	1	4.0	1	3.0	2	2.5	6	11.2	1	3.0			1	0.5	29	54.0
Dorchester	1	3.5			1	1.0	16	27.9	7	18.8	2	6.0			3	5.2	4	21.4			1	0.2	1	3.0	36	87.0
Edgefield							5	15.6			2	9.0					1	1.5							8	26.1
Fairfield							11	15.8			2	26.0			1	1.0	3	14.5			2	2.5	3	2.1	22	61.9
Florence			1	0.5	1	1.0	18	51.5	15	81.8	6	33.2			3	6.5	13	38.2			3	1.0			60	213.7
Georgetown	2	78.0					22	164.4	11	31.6	1	7.0					2	0.2			2	63.0			40	344.2
Greenville					1	1.0	7	58.5	3	3.7	3	4.2			1	3.5	1	3.0			2	6.5	1	0.1	19	80.5
Greenwood	1	3.5					6	10.0	4	6.4	2	19.0	2	6.9	1	0.5	4	12.0			2	7.4			22	65.7
Hampton	1	100.0					14	21.3	5	35.2	6	63.3					1	3.0			3	2.7	1	0.5	31	226.0
Horry							14	16.4	15	28.8	1	21.0			1	0.2	5	28.2			1	0.5	1	0.1	38	95.2
Jasper							27	157.8	13	38.5	2	19.0			3	24.4	2	3.0			1	12.0			48	254.7
Kershaw	2	10.1			4	6.0	58	93.0	7	7.7	8	2.2	1	2.0	3	8.5	9	18.2			2	0.7	2	0.6	96	149.0
Lancaster			1	0.5			15	58.6	8	22.1	6	11.2					6	14.9					2	0.5	38	107.8
Laurens					1	4.2	7	27.7	2	2.3			1	3.0			1	11.3			3	8.0	3	13.3	18	69.8
Lee							29	91.3	5	21.0	1	4.0			1	1.0	2	0.6			2	3.0	1	5.0	41	125.9
Lexington	1	2.2	2	10.5			25	123.5	6	22.0	3	20.5	1	1.5	4	7.0	5	12.5			5	6.0	1	1.5	53	207.2
Marion							15	120.2	2	1.0	2	30.1					2	90.2			2	3.6	1	0.1	24	245.2
Marlboro	1	15.0			1	3.0	17	42.3	2	4.0	1	2.3					14	178.8							36	245.4
Mccormick							3	11.6									1	3.5			2	32.0			6	47.1
Newberry	2	14.7					2	1.8	1	0.1	1	0.1					2	1.1			1	2.0	1	10.0	10	29.8
Oconee			1	3.5	1	0.5	10	38.8									3	2.4			3	12.0			18	57.2
Orangeburg	2	15.0			4	12.5	80	218.1	5	5.5	6	11.0			3	5.0	2	1.3	1	7.0	6	13.3	2	4.1	111	292.8
Pickens			2	469.5			10	19.3	2	7.5					2	2.3	2	3.5			2	104.0			20	606.1
Richland			1	3.0	1	2.0	10	96.4	2	8.0	1	0.1			3	9.0	2	4.0	1	3.0	1	1.5	2	0.8	24	127.8
Saluda							9	62.2	4	9.2	2	10.1													15	81.5
Spartanburg							8	21.1	2	6.6	1	0.2			3	6.5	3	14.7					1	5.0	18	54.1
Sumter	1	1.0					46	262.8	4	5.4	3	10.7			1	0.5	6	25.0			2	3.5			63	308.9
Union							6	132.8									2	3.5					2	2.0	10	138.3
Williamsburg							58	213.0	60	224.9	2	36.0			1	0.1	2	2.5					1	0.5	124	477.0
York			1	20.0	1	4.0	5	14.0			3	34.0					1	1.0							11	73.0
State Total	26	417.6	16	549.3	28	56.1	952	4,244.6	321	1,587.0	115	561.2	12	61.3	63	147.8	167	1,217.0	4	19.0	78	491.7	41	72.4	1,823	9,425.0

Total All Land Fires by County & Month -- Fiscal Year 2014

County	July		August		September		October		November		December		January		February		March		April		May		June		Total	Total
	Fires	Acres	Fires	Acres	Fires	Acres	Fires	Acres	Fires	Acres	Fires	Acres	Fires	Acres	Fires	Acres	Fires	Acres	Fires	Acres	Fires	Acres	Fires	Acres	Fires	Acres
Abbeville					1	1.1	2	12.1	14	20.8	1	2.0	2	4.9	3	6.1	6	31.7	5	7.8	4	6.5	4	9.8	42	102.8
Aiken			6	9.0	7	17.0	22	78.6	12	37.0	3	10.2	14	37.6	20	49.5	18	58.7	28	306.4	13	59.2	5	13.5	148	676.7
Allendale							1	1.0	1	1.0	1	2.1	2	2.2	2	5.0	2	7.0							9	18.3
Anderson					1	2.0	1	0.1	3	2.4	2	0.6	6	22.8			6	41.8	7	65.0	2	12.0	4	6.1	32	152.8
Bamberg							1	5.0	2	11.0	1	0.5	5	12.1	4	11.0	4	8.0	4	20.0			1	0.2	22	67.8
Barnwell					3	3.0	3	6.7	1	5.0			4	8.0	1	18.5	3	29.0	5	11.0	1	8.0	1	3.0	22	92.2
Beaufort			1	2.0			3	3.0	1	2.0	2	22.0	2	6.0	1	1.0	5	16.5	3	7.0	2	1.0	1	0.3	21	60.8
Berkeley	1	0.1			2	0.2	9	6.5	5	80.8	5	35.9	15	136.5	7	36.5	16	166.3	13	486.8	7	41.4	6	141.5	86	1,132.5
Calhoun					2	3.5	1	0.2	2	1.2	1	0.3	6	13.6	1	2.0	9	58.0	6	18.3	4	81.7	1	0.5	33	179.3
Charleston			1	0.5	1	0.8			1	1.5			1	1.0	2	0.2	4	18.0	4	5.5	1	10.0			15	37.5
Cherokee					1	1.5			2	4.5			2	4.0	3	17.1	7	36.0	3	5.3	1	0.1	1	0.1	20	68.6
Chester							1	0.5	4	20.9	1	3.0	1	1.0	1	0.1	3	5.2	2	8.0	3	6.5	1	0.2	17	45.4
Chesterfield	1	0.5	2	7.0	3	2.7	4	2.5	2	20.0	4	34.0	7	23.0	5	15.3	8	53.1	11	217.5	5	7.2	2	1.7	54	384.5
Clarendon			1	5.0	3	7.2	3	51.5	6	10.8	1	2.0	13	80.1	7	133.3	10	37.4	13	172.5	3	3.7	2	8.0	62	511.5
Colleton					3	1.3	3	1.8	11	82.8	4	4.5	14	66.3	13	68.5	18	156.0	19	116.7	6	27.7	1	0.3	92	525.9
Darlington	1	2.0			1	2.0	2	4.0	3	22.0	1	0.5	3	1.6	6	34.1	11	129.1	15	35.5	7	12.1	9	172.6	59	415.5
Dillon	1	0.2					4	0.6	3	11.5	1	3.0	3	4.5	2	8.0	7	10.9	7	14.8	1	0.5			29	54.0
Dorchester			1	0.1			1	0.1	1	0.2	1	1.5	5	4.4	6	9.2	7	18.4	4	5.5	8	42.6	2	5.0	36	87.0
Edgefield					1	1.0	1	0.5					1	8.0			2	3.1	2	3.5			1	10.0	8	26.1
Fairfield					1	1.0	1	0.8	1	1.0			3	2.3			6	13.0	5	40.0	3	1.3	2	2.5	22	61.9
Florence	1	0.3			1	4.0	5	0.7	2	0.4	3	3.1	10	29.9	7	24.0	4	45.3	11	37.7	4	19.9	12	48.4	60	213.7
Georgetown	2	4.1					3	3.1					4	21.3	5	22.0	13	174.6	5	21.6	4	87.5	4	10.0	40	344.2
Greenville			1	0.2					2	2.2	1	1.0	1	0.5	2	2.5	4	35.1	6	35.0	2	4.0			19	80.5
Greenwood							2	2.6	6	25.3			1	1.0	1	2.0	5	11.6	4	17.7	2	2.0	1	3.5	22	65.7
Hampton			2	0.5			1	0.1	1	2.0	1	0.5	2	4.0	8	40.6	6	46.7	4	8.1	3	3.0	3	120.5	31	226.0
Horry	1	4.0	1	1.0	5	3.4	3	4.3	2	1.7	1	1.0	6	13.5	1	0.3	4	3.8	7	15.3			7	46.9	38	95.2
Jasper									1	4.5	2	1.6	12	62.5	10	49.0	13	47.7	8	85.1	2	4.3			48	254.7
Kershaw	2	0.6			4	1.2	8	3.1	9	9.1	3	9.0	15	17.1	6	9.0	31	60.3	10	16.8	7	12.8	1	10.0	96	149.0
Lancaster					3	0.4	1	7.0	8	9.2			4	11.1	3	9.5	5	6.3	11	13.2	3	51.1			38	107.8
Laurens									2	1.2			5	27.3			7	28.0	3	12.8	1	0.5			18	69.8
Lee			1	4.0	2	5.3	5	3.8	8	20.5	1	1.0	5	18.0	4	11.0	4	24.0	4	15.0	5	22.3	2	1.0	41	125.9
Lexington					1	1.0	8	9.3	9	58.2	3	10.2	9	37.1	1	7.2	10	42.2	6	26.5	4	7.8	2	7.7	53	207.2
Marion			1	0.1			2	1.0	1	0.1					2	12.3	5	20.3	5	79.0	6	102.2	2	30.2	24	245.2
Marlboro			1	1.0	1	3.0	4	2.0	3	28.0			5	136.0	3	6.0	5	29.1	5	2.9	5	12.0	4	25.4	36	245.4
Mecommick							1	30.0					1	3.5					3	10.1	1	3.5			6	47.1
Newberry							1	0.1	3	3.6					1	10.0	1	1.0	1	0.3	1	0.1	2	14.7	10	29.8
Oconee											1	3.5	5	11.2	3	4.2	5	33.5	3	4.7	1	0.1			18	57.2
Orangeburg			2	10.1	1	3.0	4	1.8	12	16.3	8	20.2	18	43.4	18	58.0	26	76.3	8	35.8	8	18.1	6	9.8	111	292.8
Pickens					1	0.1							5	11.0	7	19.7	2	3.5	5	571.8					20	606.1
Richland	1	1.0					1	2.5	2	3.0			5	14.7	1	4.0	6	79.4	5	16.2	3	7.0			24	127.8
Saluda							2	57.5	2	0.2			3	1.5			4	3.2	1	3.0			3	16.1	15	81.5
Spartanburg							1	0.2	3	19.7			2	2.0	1	10.5	5	13.1	5	7.6	1	1.0			18	54.1
Sumter					1	0.1	2	5.5	4	31.3	2	15.5	10	47.5	8	117.0	19	58.9	8	5.5	8	15.1	1	12.5	63	308.9
Union									3	2.3			2	126.0	1	0.5	3	9.0	1	0.5					10	138.3
Williamsburg							2	6.3	7	20.7	8	28.0	13	64.4	10	27.7	16	62.9	36	215.5	13	30.6	19	20.9	124	477.0
York							1	5.0	2	29.0	3	9.0	1	2.0			3	8.0	1	20.0					11	73.0
State Total	11	12.8	21	40.5	50	65.8	120	321.4	167	624.9	66	225.7	253	1,146.4	187	862.4	358	1,821.0	322	2,824.8	155	726.4	113	752.9	1,823	9,425.0

FOREST HEALTH

The Forest Health Program, in cooperation with the state Department of Plant Industry, and the U.S. Forest Service, maintains a program to detect, evaluate, and suppress forest pests. Through cooperative agreements, these agencies make their technical assistance and advice available to the Forestry Commission.

The current forest pest detection and reporting system involves the reporting by field foresters of forest pests that are causing abnormal losses, that require control action, or which may present new problems. Aerial surveys are made periodically for specific pests to determine occurrence and the need for suppression action.

Major Insect Problems

Southern Pine Beetle and Bark Beetles

The Southern Pine Beetle outbreak that began in York County in 1997 collapsed over most of the outbreak zone by 2002. As of June 30, 2014, there were no counties in outbreak status.

The calendar year 2003 was our worst on record for losses to Southern Pine Beetle. In that period, we had over \$255 million in pines killed by the SPB.

In fiscal year 2014, the losses due to the Southern Pine Beetle were minimal. During that time, aerial surveyors plotted 54 active beetle spots containing 14,110 trees. After ground checking these spots, it was found that *Ips* engraver beetles were responsible for most tree mortality. However, there were several large spots (>200 trees) in Berkeley County that also contained SPB. Together, these spots contained a volume of 801 cords and 564,400 board feet and had a green stumpage value of \$181,083.

During the spring of 2014, 32 counties were pheromone trapped for prediction of Southern Pine Beetle population trends. No counties trapped enough beetles to predict a severe outbreak. Aerial surveys were in progress at the end of the fiscal year and little beetle activity was found statewide. Surveys will continue as needed.

The SCFC continued in a SPB Prevention and Restoration Program funded by the U.S. Forest Service. This program's aim is to prevent or reduce the potential damage due to Southern Pine Beetle. In this program, SCFC personnel make forest management recommendations for practices known to minimize future beetle damage. These include thinning, prescribed burning, planting at low density, matching planted species to site, and other known mitigation measures. This program is managed by a coordinator whose salary is funded by the program. In 2014, approximately 387 acres of susceptible forest were pre-commercially thinned to lower the risk of Southern Pine Beetle (SPB) infestation on private lands in South Carolina. Additionally, 1,830 acres of longleaf (189 acres) and loblolly (1,641 acres) pine planting at a reduced tree density was completed.

Emerald Ash Borer

Currently, this exotic beetle is not yet a problem in South Carolina, but it is found in Connecticut, Illinois, Indiana, Iowa, Kansas, Kentucky, Maryland, Massachusetts, Michigan, Minnesota, Missouri, New Hampshire, New York, North Carolina, Ohio, Ontario, Pennsylvania, Tennessee, Quebec, Virginia, West Virginia, and Wisconsin. The US Forest Service has had a private contractor place early detection traps throughout SC, and the Animal Plant Health Inspection Service (APHIS) has placed traps as well. Neither entity has made detections of EAB. We continually perform checks of stressed, dying, or dead Ash in South Carolina on an on-call basis to also certify our lack of infestation.

Walnut Twig Borer/Thousand Canker Disease

Currently this beetle and the fungus it vectors has not been detected in South Carolina as of June 30, 2014. On the east coast, they have been found in Tennessee, North Carolina, Virginia, Ohio, and Pennsylvania. The SCFC and Clemson's Cooperative Agricultural Pest Survey (CAPS) have placed early detection traps in 12 counties and have not detected the Walnut Twig Beetle.

European (*Sirex noctilio*) Woodwasp

This is currently found in several counties in New York, Pennsylvania, Michigan, Connecticut, and Vermont. In 2008 and 2009, the SCFC Insect and Disease section and several other Southeastern state forest agencies cooperated in a region-wide early detection trapping of the European Woodwasp (*Sirex noctilio*). This invasive species has not been found outside the above mentioned states.

Redbay Ambrosia Beetle/ Laurel Wilt Disease

In November 2004, an exotic ambrosia beetle, *Xyleborus glabratus* Eichhoff, was discovered in a dead redbay tree on Hilton Head Island. The beetle attacks redbay trees and introduces a fungus (*Raffaelea lauricola*) into the tree. Since the discovery of *X. glabratus* in 2004, the beetle and its associated fungus has been found in sixteen (16) South Carolina counties: Jasper, Beaufort, Hampton, Colleton, Charleston, Bamberg, Barnwell, Allendale, Dorchester, Orangeburg, Horry, Georgetown, Berkeley, Lexington and, in 2014, Aiken and Sumter. The beetle and fungus has also been found in Georgia, Florida, Mississippi, and Alabama. Unfortunately, in the areas where the beetle has been found, there is a large loss of redbay (up to 90% in some locations).

Major Disease Problems

Oak Wilt

Oak wilt disease has been identified in Aiken, Barnwell, Chesterfield, Kershaw, Lancaster, Lee, Lexington, Richland, and Darlington counties. This disease appears to be static and causing losses only to low value oaks. Since there is potential for loss of valuable trees, including urban trees, surveys and on-call evaluations are made to evaluate the spread.

Dutch Elm Disease

Dutch Elm disease has been confirmed in Aiken, Anderson, Cherokee, Chester, Chesterfield, Edgefield, Fairfield, Greenville, Greenwood, Kershaw, Lancaster, Laurens, Lexington, Marlboro, Newberry, Oconee, Pickens, Richland, Saluda, Spartanburg, and York counties. It is expected to gradually spread through the state because the primary agent of spread is the smaller European elm bark beetle that occurs statewide.

Dogwood Anthracnose

In 1988 a new anthracnose disease of dogwood was noted for the first time in South Carolina. This disease is caused by the fungus, *Discula destructiva*. Symptoms include foliage blighting, canker formation, and progressive deterioration. The fungus usually kills infected trees in two to three years. At this time infected trees have been found in Anderson, Greenville, Laurens, Oconee, Pickens, and Spartanburg counties. Dogwoods in those counties will be monitored periodically to determine the rate of spread of this potentially devastating disease.

Sudden Oak Death (caused by *Phytophthora ramorum*)

Sudden Oak Death is an exotic disease caused by a fungus in the genus *Phytophthora*. It is presently known to occur only on the West Coast in the United States. This disease kills oaks and causes leaf spots on many other plant species. Testing of eastern species of oaks in California has shown that they could be susceptible to this disease if the disease were to occur in the eastern United States. Unfortunately, several nursery plants infected with *Phytophthora ramorum* were shipped to South Carolina from the area of known infestation. No local spread of the disease was detected and the infected nursery stock was destroyed.

As part of a Southeastern project, we are cooperating with Clemson University in a stream baiting survey to determine if the disease occurs in South Carolina. Stream baiting survey to detect the fungus that causes SOD continued in the spring of 2014. This survey was ongoing at the end of the fiscal year.

Cogongrass

Cogongrass, a non-native federally regulated noxious weed, has been detected in 13 South Carolina counties: Anderson, Pickens, Greenville, York, Aiken, Allendale, Hampton, Beaufort, Colleton, Dorchester, Charleston, Williamsburg and, in 2014, Florence. Most infestations are small, comprising a total of less than 2 acres, and all acres have been treated by Clemson University Department of Plant Industry. Seven (7) counties (York, Charleston, Allendale, Hampton, Beaufort, Williamsburg, and Florence) have active cogongrass sites while the sites in the remaining six counties are considered inactive. All sites (both active and inactive) will continue to be monitored to detect re-sprouting in the future.

Miscellaneous Insect and Disease Checks

Commission foresters and Insect and Disease staff made approximately 85 field checks of insect and disease problems and made recommendations for prevention and control. Other inquiries were handled by telephone, mail, and personal contact.

Insect and Disease Laboratory

During Fiscal Year 2014, the Insect and Disease Laboratory processed 7 samples submitted by SCFC employees and private individuals. Recommendations for control of various pests identified were given where needed. In addition to these samples, 1,041 southern pine beetles and 11,980 clerids were counted in the lab.

Forest Health Surveys

The SCFC entered into agreement with the USFS to evaluate permanent Forest Health plots throughout South Carolina. This was done by the Resource Development Section and reported there. As another part of this program, the Forestry Commission also received additional funding for off-plot activity to survey for and report on other forest insects and diseases.

In conjunction with the spring 20% beetle survey, the entire state was surveyed for defoliation, beaver damage, fire, and annosus root rot damage.

During the aerial survey, the observed damage due to forest tent caterpillars (defoliators) was found across 35,667 acres, mostly where the Great Pee Dee, Waccamaw, and Black Rivers join. Beaver damages were estimated at 3,053 acres (acreage is based on 20% survey); fire-caused mortality was observed on 773 acres of forestland (acreage is based on 20% survey); annosus root rot was identified on 4,095 acres.

EQUIPMENT

FY14 Equipment Purchases

FY 14 Capital Reserve Budget

	<u>Unit</u>	<u>Total</u>
Ten (10) Caterpillar D4K2 Dozers w/ Winches	\$129,490.00	\$1,294,900.00
Five (5) Caterpillar D4K2 Dozers w/ Lift Plows	\$129,490.00	<u>\$647,450.00</u>
	TOTAL	\$1,942,350.00

FY 14 Act 271 Budget

Fifteen (15) International 7500 Transports	\$83,705.00	\$1,255,575.00
Fifteen (15) Transport Bodies (Lee Transport Equipment, Inc.)	\$17,595.00	\$263,925.00
Fifteen (15) Fesco Pull-Type Fire Plows (Oliver & Dahlman)	\$17,633.36	\$264,500.00
One (1) Chevrolet 1500 4x4 Pickup for WUI	\$30,338.00	\$30,338.00
Six (6) Ford F-250 Pickups for Foresters	\$27,571.00	\$165,426.00
Two (2) Ford F-350 Pickups for Supervisors	\$35,132.00	\$70,264.00
Two (2) Freightliner Truck Tractors (DHEC Grant)	\$73,851.56	\$147,703.12
Forty (40) PM400 VHF Mobile Radios	\$432.54	\$17,301.60
Ten (10) CDM1550 VHF Mobile Radios	\$708.75	\$7,087.50
Six (6) 150 Gallon Slip-On Units	\$12,402.00	\$74,412.00
Two (2) 200 Gallon Slip-On Units	\$12,552.00	\$25,104.00
	TOTAL	\$2,321,636.22

The Forestry Commission prepared and organized equipment for auction. The auction process now takes place exclusively online at www.govdeals.com. The sale of equipment netted the Forestry Commission approximately \$106,876.58.

LAW ENFORCEMENT

During FY 2014 the Forestry Commission had 38 sworn officers statewide. Three of these were investigators that focused primarily on complex timber theft, timber fraud, and woods arson cases.

Officers prosecuted 249 fire tickets, 14 litter and environmental cases, 24 violations of state forest regulations, 8 miscellaneous cases and 1 game and fish cases. Pine Straw 2 cases for a total of \$500.00. Total fines collected were \$45,877.00. Fines collected from these cases are retained in the county where the offense occurred.

SCFC Law Enforcement Investigators investigated 96 timber theft / fraud cases which represented a loss of \$406,262.00 to the victims. SCFC collected and returned 55% or \$224,784.00 of that money to the affected landowners. During the year, there were 653 fire investigations conducted. Out of these fires 319 were from escape debris burns.

FOREST MANAGEMENT

There are 13.0 million acres of commercial forestland in South Carolina. According to 2013 National Woodlands Owner data (<http://www.fia.fs.fed.us/nwos/>), 88% of South Carolina's forests are privately owned, 56% are family-owned, and 82% of these owners live on the land. Forest industry has sold much of their forestland during the last several years and now owns only 238,100 acres (1.8%), which is down 89% since 2000. Public agencies (municipal, county, and federal) control 12% of South Carolina's forests.

The Forest Management Section assists South Carolina citizens with management and development of the forest resources of the state. Programs include woodland management assistance, reforestation assistance, forestry services, forest products utilization and marketing assistance, resource conservation and development, and urban & community forestry. These programs assist owners in growing more timber, aid industries in more efficient utilization of the timber resource, and foster conservation and multiple use of the forest resource. The urban & community forestry program strives to help local government, educational institutions and non-profit organizations develop and enhance the benefits provided by trees and greenspace where we live and work.

In addition to programs designed to assist private landowners and local communities, the Forest Management Section also coordinates development and management of over 90,000 acres of forestland included in the state forest system. These lands are owned by the Forestry Commission and provide forest based recreation opportunities and serve as examples of the benefits of active forest management. The State Lands Coordinator also assists other state agencies in the management of their forest resources.

FOREST MANAGEMENT ASSISTANCE

Professional foresters from the Forestry Commission provide forest management advice and assistance to landowners. The land is examined and a written forest management plan is prepared. Recommendations for management may include such silvicultural practices as forest protection, reforestation, harvesting, prescribed burning, wildlife habitat improvement, and recreation.

This year, 1,936 management plans were prepared for 125,367 acres. Beginning in July of 1999, customer satisfaction surveys were sent to every landowner that received a forestry management plan. In FY 14, 95% of the landowners that responded to the survey indicated that they were satisfied with the management plan they received. Of these landowners, 97% also indicated that they intended to complete most or all of the recommendations in their plan. Where practical, the landowner is referred to consulting or industrial foresters for assistance in carrying out management recommendations. This year 69 cases were referred to consulting foresters and 42 were referred to industrial foresters.

COST-SHARE PROGRAMS

Forest Renewal Program (FRP) - State

In 1982 the program was funded for the first time by a \$100,000 state appropriation. This permitted an assessment of \$400,000 from forest industry, and created a \$500,000 Forest Renewal Fund. The state funding was doubled effective July 1, 1996. This increase permitted an assessment of \$800,000 increasing the program to \$1,000,000. Beginning in 2001, the objectives of the Forest Renewal Program were expanded to include providing funds to help match federal grants that provide financial support for the Forest Inventory and Analysis (FIA) and Best Management Practices (BMP) program.

Conservation Reserve Program (CRP) - Federal

The Conservation Reserve Program (CRP) began with crop year 1986 and was renewed with the passage of the 2012 Farm Bill. This program provides technical and financial assistance to eligible farmers and ranchers to address soil, water, and related natural resource concerns on their lands in an environmentally beneficial and cost-effective manner. CRP reduces soil erosion, protects the Nation's ability to produce food and fiber, reduces sedimentation in streams and lakes, improves water quality, establishes wildlife habitat, and enhances forest and wetland resources. It encourages farmers to convert highly erodible cropland or other environmentally sensitive acreage to vegetative cover, such as tame or native grasses, wildlife plantings, trees, filter strips, or riparian buffers. CRP is administered by the USDA Farm Service Agency, with the SC Forestry Commission providing technical assistance for forestry practices.

Environmental Quality Incentives Program (EQIP) – Federal

The Environmental Quality Incentives Program (EQIP) was created by the 1996 Farm Bill. EQIP provides financial assistance to help plan and implement conservation practices that address natural resource concerns and help improve soil, water, plant, animal, air and related resources on agricultural land and non-industrial private forestland. An additional purpose of EQIP is to help landowners meet Federal, State, Tribal and local environmental regulations.

Southern Pine Beetle (SPB) – Federal

The SPB Prevention and Restoration Cost-Share Program (SPB Program) was created in 2006 for non-industrial private forest landowners. It seeks to mitigate future loss from SPB by managing pine density through prevention and restoration practices. These practices ensure that a pine stand will be of merchantable size before the stress of being overly dense develops. Receiving income and maintaining vigorous growth are usually enough incentives for landowners to thin merchantable sized pine stands and, in return, reduce the potential loss from SPB.

Statewide Accomplishments for All Cost-Share Programs 2013-2014

Reforestation and Timber Stand Improvement

Program	Number of Landowners	Acres Planted	Prescribed Burning	TSI Acres	Commercial Thinning	Pre-commercial Thinning	Cost Share Payments
FRP	266	8,601	0	595	0	0	\$726,581
SPB	53	1,783	0	0	0	387	\$204,813
CRP	*	1,267	2,365	563	83	0	\$846,845
Totals	319	11,651	2,365	1,158	83	387	\$1,778,239

*data not available for 2013-2014

The SC Forestry Commission surveyed landowners who received cost-share assistance both at the beginning of the process and at the end. This survey indicated that 93% of customers were satisfied with the assistance they received initially and the follow-up survey indicated that 87% were satisfied with the assistance received at the end of the process.

SEEDLING SURVIVAL

Survival checks were made on 10 percent of plantings using a row count or tenth acre plot method for determining survival. An average of all survival checks was used to determine the statewide survival of 82% for loblolly pine plantings. Survival rates for longleaf pine plantings were tabulated separately. Plantings with longleaf seedlings had a survival rate of 85% when containerized stock was used. Due to a decline in the use of bare root longleaf stock no bare root longleaf plantings were sampled during FY2014.

Forest Management Assistance 2013-2014						
County	Non Cost-Share		Cost-Share		Forest Stewardship	
	Exams	Acres	Exams	Acres	Plans	Acres
Abbeville	4	299	27	1841	1	125
Aiken	3	85	27	1572	0	0
Allendale	3	399	36	3277	3	136
Anderson	13	554	14	556	4	331
Bamberg	1	76	36	5337	1	150
Barnwell	0	0	77	5119	1	34
Beaufort	1	30	2	40	0	0
Berkeley	18	1390	16	1026	1	90
Calhoun	5	635	33	1266	3	406
Charleston	8	96	14	695	2	31
Cherokee	1	50	4	178	0	0
Chester	2	211	14	732	1	320
Chesterfield	4	193	61	2390	4	843
Clarendon	4	147	98	2694	1	231
Colleton	10	670	70	4717	4	835
Darlington	2	323	26	1300	7	1033
Dillon	2	58	32	1146	2	1219
Dorchester	15	856	38	2868	1	26
Edgefield	1	70	15	795	2	1484
Fairfield	11	1063	11	603	0	0
Florence	4	247	48	8796	8	1232
Georgetown	2	77	47	813	0	0
Greenville	11	624	10	433	1	933
Greenwood	3	141	20	1471	2	281
Hampton	15	840	22	1327	3	415
Horry	6	317	73	1501	3	208
Jasper	2	91	10	628	2	158
Kershaw	8	585	21	1127	1	38
Lancaster	7	367	34	390	1	442
Laurens	9	394	26	1922	3	317
Lee	0	0	28	1527	5	1101
Lexington	9	418	24	894	3	588
Marion	4	584	69	4035	3	618
Marlboro	4	352	22	1175	0	0
McCormick	0	0	12	688	2	206
Newberry	5	385	29	1125	4	830
Oconee	8	542	6	340	2	105
Orangeburg	9	892	129	7548	5	1139
Pickens	8	305	4	206	5	304
Richland	7	223	9	346	4	992
Saluda	5	244	26	864	1	88
Spartanburg	8	422	17	887	4	644
Sumter	1	8	29	1273	1	60
Union	7	835	6	377	0	0
Williamsburg	3	501	183	11070	3	717
York	7	290	15	783	2	70
State Totals:	260	16,889	1,570	89,698	106	17,843

FOREST STEWARDSHIP

The Forest Stewardship Program is a cooperative effort among the USDA Forest Service, Forestry Commission, other natural resource agencies and organizations, forest industry, and private forest consultants in South Carolina to encourage the long-term stewardship of non-industrial private forest lands. Landowners are provided technical assistance by having a multiple resource management plan developed for their property addressing their management objectives.

During the past year, 144 Stewardship Plans were written in South Carolina on 46,018 acres. South Carolina Forestry Commission foresters authored 106 plans covering 18,780 acres. Private Forestry Consultants authored 37 plans covering 11,277 acres. One Forest Stewardship plan was completed on 15,961 acres by staff from a nonprofit foundation and approved by SCFC staff. Eight landowners (comprising 17,882 acres) were recognized as Forest Stewards for FY14.

In addition, Forest Stewardship Staff completed FSP Implementation Monitoring conducting on the ground inspections on 41 Forest Stewardship Plans encompassing 42,222 acres. During FY2014 it is estimated that 93.7% of all Forest Stewardship Plans are being implemented with 96.8% estimated to be implemented in Important Forest Resource Areas. In addition to adhering to the standard implementation monitoring protocol for FY2014 the SCFC included additional evaluation of specific management outcomes that have resulted from the implementation of Forest Stewardship Plans. Results indicate that Forest Stewardship Plans are having a positive impact on specific management outcomes of interest in SC.

Forest Stewardship Monitoring Evaluation Results 2013-2014

<u>Management Outcome</u>	<u>Percent Implemented as Result of Plan</u>
Timber Harvest	57.5
Tree Planting	50
Prescribed Burning	30
Wildfire Prevention Activity	52.5
Invasive Species Control	22.5
Wildlife Habitat Enhancement	77.5
Utilized Cost Share Assistance	27.5
Used Stewardship Plan to Qualify for Farm Bill Program	25
Used Forest Stewardship Plan to Qualify for Third Party Certification (Tree Farm, etc.)	10

Of the landowners who returned customer surveys during FY 14, 95% of them indicated they were satisfied with the Forest Stewardship management plan they received and 95% of them indicated that they intended to complete most or all of the recommendations in their plan.

FORESTRY SERVICES

Through this program the SC Forestry Commission provides assistance to landowners and other state agency lands with afforestation, reforestation, and maximization of production from their woodlands. The landowner is charged the cost of all services performed. These services were available to landowners during FY14:

Firebreak Plowing - performed by Forestry Commission employees using agency equipment for \$140 for the 1st hour and \$85 for each additional hour. In FY 2006, a separate rate was established for firebreaks constructed with a heavy tractor. For FY14, these rates were \$160 for the 1st hour and \$100 for each additional hour.

Prescribed Burning - performed by Forestry Commission employees using agency equipment for \$21 per acre for understory burns and \$30 per acre for site preparation burns and for understory burns in mountainous terrain. Firebreak plowing costs are not included. The minimum charge for this service was \$500.00 during FY14.

Prescribed Burning Standby - an agency tractor and employee on standby at burning site for \$80 for the 1st hour and \$30 for each additional hour while the landowner performs burning under an approved plan. The minimum charge for this service was \$110.00.

Equipment Rental Program – agency-owned tree planters and drum choppers made available to private landowners at rates of \$5 and \$20 per acre respectively. The minimum charges were \$25 and \$100.

Timber Marking - performed by Forestry Commission employees at the rate of \$10 per thousand board feet and \$5 per cord.

Service	Number of Tracts	Units of Measure	Receipts FY 14
Firebreak Plowing	321	757 miles	\$133,529.50
Prescribed Burning	114	11,262 acres	\$244,537.50
Prescribed Burning Standby	22	18,078 acres	\$7,345.00
Equipment Rental	8	62 acres	\$320.00
Water Bar Construction	3	73 bars	\$1,015.00
Timber Marking	0	-	\$0.00
Totals	468	-	\$386,747.00

The SC Forestry Commission sent a customer survey to all landowners who received forestry services. In FY14, 98% of our customers reported they were satisfied with our forestry services and 97% of those responding indicated they plan to use our services again.

URBAN & COMMUNITY FORESTRY

The Urban and Community Forestry program exists to provide technical, financial, and educational assistance to municipal and county governments and others for the purpose of creating, maintaining, and enhancing community forest conservation and management within their jurisdictions; to provide for, coordinate and/or conduct information, education and training regarding community forestry, wildland-urban interface issues, and arboricultural best management practices; and to provide grants to local governments, non-profit organizations, and educational institutions of higher learning to create, enhance and support long-term local and regional community forestry programs. This assistance is accomplished through a variety of ways: direct contact, diverse and cooperative partnerships, and the financial assistance grant program.

Expected results include, but are not limited to: improved air quality; energy conservation through reduced heat island effect in downtown areas; local government recognition and management of the community tree resource; sustained financial support on the local level for community tree management; more professional public tree managers to provide safe walkways, streets and parks; and more public trees planted and maintained to beautify, cool, and clean South Carolina communities. These results occur when a community or county government works toward accomplishing a natural resource inventory and management plan, employs professional urban forest staffing, adopts and implements natural resource policy, and works in partnership with local advocacy organizations.

Urban and Community Forestry Financial Assistance Program

The Community Forestry Financial Assistance and Partnership Program is a state program funded with federal-level monies appropriated each year by Congress. When available, these funds are funneled through the US Forest Service to the SC Forestry Commission to administer. Due to a reduction in federal funding in FY14, the Commission was only able to provide \$20,000 in pass-through funds to Trees SC (urban and community forestry council) to assist with urban forestry and arboricultural training and continuing education for public tree managers and other professionals.

Tree City/Tree Line USA/Tree Campus

Sponsored on the national level by the Arbor Day Foundation and others, the Tree City USA program is administered in South Carolina by the SC Forestry Commission. This program seeks to stimulate and promote the management of community trees by recognizing towns and cities which meet the following criteria: (1) establishment of a municipal tree care ordinance, (2) expenditure of at least two dollars per capita on their community forestry program, (3) establishment of a

legally constituted tree board or permanent staff to address tree issues, and (4) observance of Arbor Day by a mayoral proclamation and official ceremony. The SC Forestry Commission recognized and awarded 41 municipalities, 1 county, and 2 military bases under the Tree City USA program during FY14.

The Tree Line USA program, also sponsored by the National Arbor Day Foundation, seeks to stimulate and promote proper utility line clearing and safety techniques of private and public utility companies. In order to qualify as a Tree Line USA, a utility must meet three criteria: (1) perform quality tree care regarding pruning, trenching and tunneling methods; (2) provide opportunities for annual utility line worker training; and (3) sponsor an ongoing community tree planting program to include an Arbor Day celebration and at least one educational mailing to customers. The Forestry Commission recognized the Gaffney Board of Public Works as South Carolina’s only Tree Line USA utility for the eleventh consecutive year.

The Tree Campus USA program, sponsored by the National Arbor Day Foundation, encourages institutions of higher learning to promote proper management of campus trees. South Carolina maintained 7 Tree Campus USA institutions in FY14, which included Clemson University, University of South Carolina, Furman University, University of South Carolina-Upstate, Lander University, Medical University of South Carolina, and University of South Carolina –Aiken.

Technical Assistance and Educational Programs

No Financial Assistance Grants for communities were available during this reporting period. However, funding for a part-time Regional Urban Forester increases our program exposure and assistance to customers across the state of South Carolina. Through the direct technical assistance of the community forestry staff to municipalities, schools and partner organizations, the urban and community forestry program accomplished the following in FY14:

Types of Technical Assistance	Program Accomplishments Community Forestry Staff		Program Accomplishments Financial Asst. Grants
	# of Entities	# of Assists	# of Grants Awarded
Program Development/Expansion			
Municipal Government	83	101	0
Non-profit/trade org	17	40	
Educational Institutions	10	14	
County Government	10	10	
State Government	0	0	
Others	0	0	
TOTAL	120	165	

Tree City USA	41
Tree Campus	6
Tree Line	1

Public Information/Education	Adults	Youth	Total
# Programs	10	5	15
# People	397	215	632
# Seat Hours	2400	270	2670

STATE FOREST / STATE LANDS

Harbison State Forest

Harbison State Forest, located approximately 9 miles from downtown Columbia, encompasses 2,176 acres. The Forest was purchased in 1945 and became the site of the agency headquarters in 1963. Following the adoption of a Master Plan in 1981, the Forest began to be developed as an Educational State Forest. Recreational use grew dramatically in the early 90’s with Harbison soon gaining the reputation as a mountain biking mecca for the area.

Receipts

Parking fees were initiated in March 2004 to provide more equity with regard to user fees. Since 1997, bicyclists have been required to purchase daily or annual permits while hikers, runners, picnickers, and other forest users were not required to pay fees. Starting in the fiscal year 2009-2010 all users were required to purchase a parking permit only.

Receipts for Operating Budget

Activity	Receipts
Timber Sales	\$0
Burn Assist Fee	\$0
Restitution	\$850.00
Conference Room Rentals	\$4,855.00
Annual Permits	\$46,865.00
Daily Permits	\$14,229
Special Use Permits	\$1,050.00
Campsite Rental	\$620.00
Trail Donations	\$1,045.17
Total	\$69,514.00

Note: 25% of all receipts are paid to the Richland County School System. This amounted to \$15,535.96 for the fiscal year. (Donations and rental income are not included when calculating the total to be dispersed to the school system.)

Silvicultural Practices

Two prescribed burns were conducted this year for a total of approximately 111 acres (fuel reduction, hardwood control, aesthetics, and longleaf pine management)

Forest Protection

No wildfires occurred on Harbison State Forest during this fiscal year. Trees that were considered hazardous to forest visitors and/or to buildings were felled.

Recreation/Education

Several events were held on the trails at Harbison during the 2013-2014 fiscal year. The Friends of Harbison State Forest held their eighth annual "Take a Kid Mountain Biking" day. This event helped raise awareness of the sport to a younger generation and increased awareness of the state forest. Harbison was also the site for seven races a 10k, 12k, 50k two half marathons foot races and two mountain biking races.

In addition to these events, trail work days were conducted during the 2013-2014 fiscal year. These events included improving the trails by pruning of overhanging branches and brush and the rehabilitation of wet areas and closed trails. Friends of the Forest members have taken on more responsibility in the care of the trail system in response to a smaller staff.

The Friends of Harbison State Forest (FoHSF) continue to meet on a monthly basis to plan events and promote the Forest. They have received recognition from the Secretary of State as a non-profit group and have achieved 501(c)3 status from the IRS. The mission of the Friends group is to "preserve and promote the recreational and educational aspects of this urban forest resource." Current membership of this group is estimated at 75 individuals. The FoHSF installed 4,300 feet of trail new the Midlands Mountain trail. This project was funded by a Grant from The Richland County Conservation Commission and completes the Midlands Mountain Trail project.

Boy Scouts continue to provide assistance to Harbison through Eagle Scout projects and Cub Scout activities. One Eagle Scout project was completed this fiscal year which consisted of constructing a stone fire ring and rebuilding the firewood shelter at the Bobcat campsite.

Scouts and other organized groups continue to use the four primitive camping facilities at Harbison. Harbison’s camping facilities were used by 34 groups this fiscal year for a total of 675 users.

The canoe landing at Harbison State Forest provides access to the Broad River. During the 2013-2014 fiscal year, 73 groups used this facility for a total of 192 paddlers.

Wildlife Management

Five wildlife viewing areas totaling 2 ½ acres are maintained each year. These areas are planted in cover crops such as wheat, rye, and clover to facilitate the viewing of wildlife by Forest visitors.

Rare, Threatened, and Endangered Species Management

No threatened or endangered species are known to occur on Harbison State Forest. The two vernal ponds that were established in May 2004 have become well-established. These ½-acre wetlands provide habitat for amphibians, reptiles, and many species of insects and are favorite stops on nature hikes by educational groups and other Forest visitors.

Research

No research was conducted on Harbison State Forest this year.

Manchester State Forest

Manchester State Forest, located in Sumter County and Clarendon County, is comprised of 28,675 acres. From 1939 to 1955, Manchester was leased by the State of South Carolina from the federal government and managed by the South Carolina Forestry Commission. The State received title to the property on June 28, 1955.

Receipts for Operating Budget

Activity	Receipts
Timber Sales	375,966.40
Pine Straw Sales	37,930.00
Land Lease Payments	35,084.00
Wildlife Management Area	86,668.08
Trail and Special Use Permits	38,660.00
Year End Refund	1,472.46
Total	\$ 578,780.94

Note: 25% of all forest receipts are paid to Sumter and Clarendon County Schools for a total of \$144,695.24.

Timber sales were concentrated on thinnings in overstocked stands and conversion of older slash pine stands to longleaf plantations according to the planning model.

Silvicultural Practices

Due to staffing limitations and weather constraints, only 179 acres were prescribed burned during the fiscal year for wildlife, hazard reduction, hardwood control, aesthetics, and site preparation purposes.

One hundred sixty-one acres (161) acres were sold for final harvest cuts and 333 acres were sold for improvement cuts (thinnings).

Three hundred fifty nine (359) acres were sold for pine straw raking.

The following species and number of seedlings were planted during FY14:

	<u>Acres</u>	<u>Seedlings</u>
Containerized longleaf pine	372.4	231,633
Bareroot loblolly pine	105.4	67,443

Forest Protection

Manchester personnel assisted regional personnel as well as the local fire departments with several fires which were adjacent to the Forest as well as in-state and out-of-state assignments.

Recreation/Education

Hunting, fishing, horseback riding, motorcycle/ATV riding, mountain biking, and use of the rifle/pistol range continue to be favorite activities. Manchester personnel also participated in two out of three sessions of the Wood Magic Fair.

Twenty-four (24) special use permits were issued during the year for organized events which featured bicycle, equestrian, motorcycle and rifle pistol range use. Approximately 1,318 paid participants were served which generated \$6,690 in revenue.

As the popularity of the rifle and pistol range continues to grow, temporary employees were hired on a rotating basis to provide a safe environment for the shooting public. All of the temporary employees and a number of the permanent employees at Manchester are qualified as NRA (National Rifle Association) Range Safety Officers.

Wildlife Management

Approximately 28,622 acres of the Forest are presently included in the Wildlife Management Area Program through a cooperative agreement between the Department of Natural Resources (DNR) and the South Carolina Forestry Commission. DNR provided technical assistance with game food plot establishment monitoring and dove fields, and planted the 150-acre dove field on the Oak Lea Tract. The draw hunts at Oak Lea also continue to be popular as evidenced by 22 hunts and 25 applications.

Three public dove fields were opened on Manchester and Oak Lea. Data was collected on three fields which showed an overall participation on opening day of 346 hunters. One thousand, six-hundred forty-three (1,643) doves were harvested on opening day with a total of 9,486 shots fired.

Manchester also hosted its annual youth dove hunt on the Bland Tract, which was attended by 15 youths firing 637 shots and harvesting 63 doves.

MSF continues to assist with DNR monitoring efforts of quail and turkey on the Bland, Tuomey, and Oak Lea tracts. Surveys are conducted per DNR's request adhering to their protocols. All results and data were submitted to DNR.

During the year, DNR also provided technical assistance with deer herd dynamics with 193 deer being harvested from Manchester and Oak Lea. They also assisted in tracking various game and non-game species including quail, turkey, and fox squirrels as well as pond management. DNR also assisted in law enforcement on the Forest through interagency cooperation.

Planting and maintenance was conducted on 542 acres of wildlife areas. Corn, popcorn, Egyptian wheat, sunflowers, sorghum-brown top-millet-benne mix, wheat, rye, clover, vetch and bicolor were utilized to diversify the food supply. Several of the plantings were donated by the Department of Natural Resources and planted by Manchester and DNR personnel.

Rare, Threatened, and Endangered Species Management

Manchester currently maintains six clusters of red-cockaded woodpeckers. Colony sites continue to be monitored along with scouting for new cavity and start trees in cooperation with biologists from the neighboring Poinsett Gunnery Range (USAF). An agreement was reached with the USAF that allows them to monitor and work on the colony sites only with prior agreement with the Manchester State Forest Director. A meeting with DNR, Poinsett Weapons Range, and US Fish & Wildlife Service personnel resulted in an emergency recovery plan for the RCW.

Research

Manchester continues to cooperate with the SCFC Nursery Section by providing eight (8) sites for clone banks, seed orchards, and progeny tests. A new test site was established at the Creech Seed Orchard using various planting densities, clones and SCFC Best Family trees for the purpose of biomass research.

Infrastructure

Maintenance continued on approximately 100 miles of unimproved dirt roads on Manchester including grading and mowing.

Wee Tee State Forest

Wee Tee State Forest, located on the Santee River in lower Williamsburg and Georgetown Counties, was acquired by the South Carolina Forestry Commission in November of 2003 through the partnership of eight participants. These partners included the South Carolina Forestry Commission, South Carolina Department of Natural Resources, The Conservation Fund, US Forest Service, Forest Legacy Program, US Fish and Wildlife Service, North American Wetlands Conservation Act Grant, Ducks Unlimited, National Wild Turkey Federation, and Anheuser-Bush Corporation. Wee Tee contains 12,403 acres with 166 acres in loblolly pine plantations and upland pine-hardwood type and the remaining 11,727 acres in bottomland hardwood type with the associated oxbow lakes and creeks. Being in the Santee River Focus Area of Ducks Unlimited's Lowcountry Initiative, it is a very significant, unfragmented bottomland hardwood forest. Its significance lies in its watershed and water supply protection, habitat for wildlife and a number of threatened and endangered species, and the opportunities it provides for recreation, forest practices demonstration, and education.

Receipts

During the past fiscal year \$57,414.28 was collected on Wee Tee State Forest as payment for SC DNR's WMA program. Note: 25% of all forest receipts were paid to Williamsburg and Georgetown County Schools for a total of \$14,353.57.

Recreation/Education

Fishing in the Wee Tee Lakes was opened in April, 2004 on Wednesdays and Saturdays from sunup to sundown.

A hunting season was planned with SCDNR and was implemented starting in September 2004. Harvest data was not collected, nor required; however, hunters indicate successful seasons during FY2014 for both deer and turkey.

Plans have been initiated in cooperation with the Palmetto Conservation Foundation to allow canoeing and kayaking in the Wee Tee Lakes in conjunction with the Berkeley County Blueways with an information center being opened in nearby St. Stephens.

Forest Protection

Gates have been constructed and placed on all known entrances into Wee Tee to control access for the protection of the property and infrastructure.

Wildlife Management

An agreement was reached in FY05 with SCDNR to place Wee Tee under the WMA program according to a pre-closing cooperative arrangement. Hunting and fishing schedules were agreed upon and implemented.

In FY13, a new agreement was made with the South Carolina Department of Natural Resources to allow the South Carolina Forestry Commission to set the fishing regulations. The fishing public can now enjoy Wee Tee Wednesday through Saturday with Fridays being designated as youth days.

Infrastructure

Manchester State Forest personnel made road improvements to approximately 45 miles of roads on Wee Tee during FY14. Improvements included grading, mowing and drainage improvements due to existing beaver dams, culvert replacements, and bridge replacements.

Wee Tee State Forest has one permanent employee whose primary responsibility is maintenance of roads, buildings, and other infrastructure at Wee Tee.

Sand Hills State Forest

Sand Hills State Forest (SHSF) covers 46,838 acres in Chesterfield, Darlington, and Kershaw Counties. The Forest was operated under a use agreement with the federal government from 1939 until 1991. In July of 1991, title to Sand Hills State Forest was transferred to the South Carolina Forestry Commission.

Receipts

Since 1967, Sand Hills has been totally self-supporting.

RECEIPTS FOR SAND HILLS OPERATING BUDGET	
Activity	FY 14
Burn Assist. Fee	\$ -
Timber & Stump Sales	\$ 451,544.79
Pinestraw Sales	\$ 1,070,268.61
WMA Payment	\$ 41,946.90
Rent State Owned Property	\$ 4,021.25
Rent Farmland (CPR)	\$ 390.00
Farm Products	\$ 569.25
User Fees	\$ 5,026.25
Prior Year Refund	\$ 3,032.33
Donation	\$ -
Total	\$ 1,576,799.38

Note: 25% of \$1,569,176.55 was paid to Chesterfield, Darlington and Kershaw County School Systems. Donations, prior year refunds, and rental income categories are not included when calculating the total to be dispersed to the school systems.

COUNTY PAYMENT	
County	FY 14
Chesterfield	\$ 378,822.93
Darlington	\$ 9,601.71
Kershaw	\$ 3,869.50
Total	\$ 392,294.14

Silvicultural Practices

No seedlings were planted on Sand Hills during FY14.

A total of 150 acres were prescribed burned for wildlife habitat enhancement, hardwood control, and fuel reduction.

Forest Protection

Sand Hills State Forest had no wildfires in FY14.

Pinestraw and Timber

In 1999 Sand Hills started a pinestraw enhancement program. Under this program, an individual from the public can enter into a multi-year contract with the Forestry Commission to rid longleaf pine stands of scrub oaks for pinestraw production. The individual agrees to eradicate 90% of all hardwoods on a tract of land using herbicides. In exchange, they may harvest all

the pinestraw that falls during the contract period. When the contract expires, the acreage becomes part of SHSF's quality straw production program. The straw from these areas is offered for sale on a lump sum, sealed bid basis.

In FY14 Sand Hills issued 30 enhancement contracts which consisted of 132 pine stands for a total of 5,818 acres. At the end of FY14 there were a total of 58 active enhancement contracts which consisted of 194 pine stands that totaled 7,907 acres.

Sand Hills State Forest sells pinestraw through bid sales and negotiated sales. In FY14 there were 3,371 acres sold on bid sales for \$721,092.64 and 5,818 acres sold in negotiated sales for \$436,342.50.

FY14 saw a decrease in timber sales over last year with 1,075 acres for a total of \$434,907.29. Product volumes and dollar amount by product are:

Product	Volume (Tons)	Dollar Amount
Pine Pulpwood	4,401.50	\$67,622.40
Pine CNS	4,031.30	\$80,181.12
Pine Sawtimber	9,038.40	\$285,817.15
Hardwood Pulpwood	112.00	\$1,286.62
Hardwood Sawtimber	0.00	\$0.00
Pine Chips	0.00	\$0.00
Total	17,583.20	\$434,907.29

As a result of increased pinestraw-related activity on Sand Hills State Forest, a vehicle registration system was implemented to ensure that only licensed, insured vehicles were operating on the Forest. The registration stickers provide a visible means to those patrolling the Forest that the participant has complied with the program. Red registration stickers are used for 30-day or 90-day pinestraw sales, yellow registration stickers are used for the pinestraw enhancement program, and green registration stickers are used for state forest users that want to access the "authorized vehicles only" truck trails. The majority of the green registration stickers are issued to hunters.

In FY14 Sand Hills State Forest issued 228 green stickers, 170 red stickers, and 191 yellow stickers.

Recreation

Recreational use of the Forest continues to be fairly heavy. Hunting, fishing, hiking, bird watching, and camping continue to be favorite activities. Equestrian use on SHSF remains low due to the free riding that is offered at H. Cooper Black Recreational Area under the management of SCPRT.

At Sugarloaf Mountain, there are seven primitive camping sites for family camping and eight primitive equestrian campsites. Sand Hills personnel booked 142 reservations for these sites this year. An estimated 2,595 visitors used the campsites and trails. FY14 fees were \$15 per site for those with shelters and \$10 per site without shelters. Sand Hills received \$4,021.25 in revenue from camping.

Trail use permits for horseback riding decreased to 192 permits in FY14. Thirty-eight (38) annual/daily permits were sold online. One hundred twenty permits (120) were purchased through the drop box outside the SHSF office. There were seven All State Forest permits sold this year. Revenue from trail use permits totaled \$5,026.25. The permit holders came from South Carolina, North Carolina and Georgia.

Free-use permits are issued for any activity at Sand Hills State Forest that does not have a fee. SHSF personnel issued 32 free-use permits this year. Fourteen (14) of the permits were for raking pinestraw for personal use, and 18 for gathering firewood.

Note: number of visitors does not include day users nor does it include any visitors from any other user group (i.e. hunters, fishermen, birdwatchers, pinestraw workers, etc.).

Sugarloaf Mountain shelters accommodated Boy Scout troops, church events, family reunions, birthdays, and retreats. Sugarloaf Mountain camping areas also accommodated a large number of hunters that hunted on SHSF and Carolina Wildlife Refuge.

Three special- use permits were issued for organized events.

1. AERC National Championship Endurance Ride on October 19, 2013: 87 riders and volunteers - received \$435 in fees.
2. Rally Racing Clinic on February 27, 2014: 26 participants - received \$130 in fees.
3. Sand Blast Rally on March 1, 2014: 123 competitors' entries with 116 volunteers, 42 cars, 39 motorcycles - received \$1,115 in fees.
4. Spring Fling Endurance Ride on April 12, 2014: 78 Riders and volunteers - received \$390 in fees.

These events bring many visitors to Sand Hills State Forest and surrounding areas and have a positive economic impact on the area. The local involvement and sponsorship have increased each year that these events are held.

Education

SHSF personnel visited and presented programs to the following schools: Darlington County Institute for Technology (9th-12th Grade) -50 students, Long Middle School (8th grade) -125 students, Job Shadows from McBee High School -2 students, Kershaw County Landowner's Association- 40 members. In addition to visiting classrooms, SHSF personnel also spoke to several civic clubs as well as participated in the Wood Magic Forest Fair.

Wildlife Management

Approximately 47,174 acres of the Forest is included in the Wildlife Management Area Program. This is a cooperative agreement between the Department of Natural Resources (DNR) and the SC Forestry Commission. SHSF has two public dove fields. The Wilkes Chapel field is 57 acres in size and planted in corn, sunflowers, and bicolor. The Davis Field is 40 acres and is planted in corn, sunflowers, and bicolor.

Sixty acres (50 plots) were planted as wildlife food plots. These plots were planted in wheat, corn, sunflower, spring game mix, dove mix, dove proso, wild turkey mix, quail mix, and sorghum. All plantings were fertilized at the recommended rates. All manageable bicolor patches in Compartments 11, 12, 13 & 14 were bush hogged and fertilized.

SHSF continues to conduct surveys for DNR. Ducks, turkey and quail were surveyed to track population trends.

Rare, Threatened and Endangered Species Management

Population Trends: There are currently 88 managed Red-cockaded Woodpecker clusters on SHSF. During 2014, 77 clusters were active. Of those 77 active groups, 72 can be considered potential breeding groups. Seventy-two (72) nesting attempts were made by 66 groups in 2014; 61 of those nests fledged offspring. One hundred sixteen (116) chicks fledged in 2014; of this 42 were female, 29 were male, and 45 were unknown sex.

Law Enforcement

Officers issued 10 citations for various crimes on the state forest with the common infraction being Rules & Regulations of Commission violations.

Research

A longleaf pine natural regeneration research project in conjunction with the US Forest Service is still ongoing and has been in effect for over 25 years.

Poe Creek State Forest

Poe Creek State Forest is composed of two tracts of land totaling 2,511 acres. The Poe Creek tract is located in Pickens County adjacent to SC Highway 11 and contains 1,806 acres. The property was purchased from Crescent Resources, Inc. on April 6, 1999. Approximately 800 acres is under forest management with 610 acres of planted pine and 190 acres that have been clearcut and allowed to regenerate naturally to native hardwood species. The remaining 1,006 acres are in natural upland hardwood type and a mixture of white pine and hardwoods. The steep terrain in this area limits the forest management activities that can be implemented. The Piedmont Forestry Center tract, located 5 miles north of Salem in Oconee County, encompasses 705 acres. It includes a conference center, picnic shelter, and two houses that are available for rental groups. The timber on this property is managed along with that on Poe Creek.

Receipts:

Revenue Sources	
Timber Sales	\$0
Wildlife Management Area	\$19,161
Rental State Property	\$5,155
Total Revenue	\$24,551

Note: 25% of all forest receipts were paid to Pickens and Oconee County Schools for a total of \$4,790.

Silvicultural Practices

No timber sales occurred on Poe Creek State Forest during FY14 and no prescribed burns were conducted. White pine and Virginia pine cones are collected from the orchards for SC Forestry Commission and NC Forest Service (NCFS) nurseries.

Recreational/Education

Use of the Piedmont Forestry Center during FY14 was heavy, with numerous individuals and groups taking advantage of this beautiful facility.

Use	Days	# of People
Gatehouse Rental	17	26
Cabin Rental	57	133
Conference Room	1	24
BSA Camp-outs	5	244
Fairplay Wilderness Group	8	89
Fishing Rodeo	1	580
Salem Fire & Rescue	1	110
Oconee Co. Strike Team Dinner	1	25
Dove Hunt	4	160
4-H	3	25
SCFC BMP Training	2	24
Oconee County Sherriff Dog Training	1	6
Mile Creek Church	1	45
Clemson University	1	10
TOTALS	103	1,501

The Cabin and Gate House are also used by people hunting and/or fishing, NC Forest Service personnel, and by SC DNR personnel for various surveys.

Forest Protection

Harvesting on Poe Creek and on the Piedmont Forestry Center has reduced the density in overstocked loblolly pine plantations. This harvesting has improved forest health and has reduced the hazard of wildfire and infestation by bark beetles.

Wildlife Management

The SC Forestry Commission and the Department of Natural Resources cooperate on the planting and management of a 40-acre dove field at the Piedmont Forestry Center. The Piedmont Forestry Center and Poe Creek State Forest are both in DNR's Wildlife Management Area program and are open to public hunting. DNR fisheries also stocks one mile of Cheochee Valley Creek that runs through the Piedmont Forestry Center property.

Rare, Threatened, and Endangered Species Management

Poe Creek State Forest continues to provide habitat for several populations of federally endangered plants. These areas are being protected from human encroachment. Dr. Patrick McMillan, professor at Clemson University, continues to conduct research and assist with protection of these species.

Infrastructure

Road access at both the Piedmont Forestry Center and at Poe Creek State Forest was maintained during FY14 through mowing of road shoulders and grading where needed. The south end of the pole barn now houses a Type 6 Pumper. A Fire Cache of tools and water handling equipment are kept for mountain fires. The Department of Juvenile Justice / Clemson University utilizes and manages a facility on the western edge of the property that houses and rehabilitates approximately 30 boys in the juvenile system.

Niederhof Forestry Center

Niederhof Forestry Center is located just north of the town of Tillman and approximately 9 miles northwest of Ridgeland in Jasper County and encompasses 1,594 acres. The SCFC Nurseries Section manages some of the property for tree improvement and as a production seed orchard. The remaining acreage is managed as a multiple use demonstration forest with outreach activities.

Receipts

No revenue was generated on Niederhof Forestry Center this year.

Silvicultural Practices

No seedlings were planted at Niederhof this year.

Forest Protection

Controlled burning has improved the health of the young longleaf pine, stimulating height growth and reducing the incidence of brown spot needle disease.

Wildlife Management

Approximately 10 acres of wildlife food plots were maintained with funding provided by Quality Deer Management Association (QDMA), National Wild Turkey Federation (NWTf), and Lowcountry RC&D.

Rare, Threatened, and Endangered Species Management

No rare, threatened, or endangered species are known to occur on Niederhof Forestry Center.

Infrastructure

Road access was maintained at the Niederhof Forestry Center through mowing.

Outreach

Niederhof Hunts FY 2013-14

	<u>Number of Hunt Participants</u>	<u>Other Attending</u>	<u>SCFC</u>	<u>Total</u>
<u>Deer Hunts</u>				
2 hunts				
November Rack Pack	10	25	11	46
November QDMA Mil	12	12	9	33
	22	37	20	79
<u>Turkey Hunts</u>				
3 Hunts				
WITO April	4	2	9	15
March NWTf	6	3	7	16
Youth Hunt of a Lifetime	4	4	5	13
	14	9	21	44
			TOTAL	123 people

STATE FOREST REVENUE

State Forest General Accounting Summary

	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	Average	
Revenue	\$2,700,045	\$3,542,463	\$4,077,269	\$3,126,490	\$3,072,999	\$2,146,257	\$2,363,876	\$3,004,200	
Total Operating Expenses	\$2,017,499	\$1,984,055	\$2,053,605	\$1,905,164	\$1,813,109	\$1,296,900	\$2,084,033	\$1,879,195	
25% to schools	\$668,182	\$877,430	\$980,462	\$750,485	\$747,630	\$699,817	\$581,427	\$757,919	
Back to SCFC	\$0	\$409,493	\$0	\$837,065	\$0	\$0	\$53,385	\$185,706	Total Current Carry Over
	\$14,365	\$271,485	\$1,043,203	-\$366,224	\$512,260	\$149,540	-\$354,970	\$181,380	\$1,451,039

STATE LANDS MANAGEMENT PROGRAM

The State Lands Forest Management Program was created to provide professional forest management assistance to South Carolina state agencies that own timberlands. The Department of Natural Resources hired their own forester during FY14 to conduct management of the agencies timberlands, greatly reducing their need for SCFC services. However, the State Lands Coordinator still assists in advertising their timber sales as well as providing assistance when requested. During FY14, the State Lands Coordinator provided timber sale assistance to 4 public entities / agencies on various tracts. This assistance consisted of cruising, marking, management assistance, and administering timber sales. The agencies and facilities assisted were as follows:

DNR Timber Sales	Acres	Total Tons
	796	46,006
PRT Timber Sales	Acres	Total Tons
Aiken (fuel chipping)	450	N/A
Other State Lands Timber Sales	Acres	Total Tons
DOC (management assistance only)	227	
John De La Howe School (management assistance only)	1310	

Other Activities

In addition, the five state forests (Manchester, Sand Hills, Wee Tee, Harbison, and Poe Creek) maintained dual certification under the Sustainable Forestry Initiative (S.F.I.) and American Forest Foundation (A.F.F.) standards of sustainability.

The State Lands Coordinator currently:

- Serves as primary contact and coordinator for all State Forest certification, adhering to applicable reporting and data management requirements
- Serves as the primary contact and coordinator for State Forest harvest scheduling, modeling, mapping, and inventory collection
- Serves as lead instructor for Teachers Tour, maintaining adjunct professor status with SACS accredited college
- Attends meetings with the National Enduro planning committee for Manchester State Forest
- Serves on the State Trails Committee attending all meetings
- Serves on the State Implementation Committee (S.I.C.) attending all meetings
- Facilitates timber marking with region personnel where possible

EDUCATION

Environmental Education Coordinator Highlights

- The acting Environmental Education Coordinator officially became the Environmental Education Coordinator in May 2014.
- Facilitated 10 Project Learning Tree workshops or presentations
- Coordinated 2 Wood Magic Forest Fair events
- Conducted 12 education programs, reaching almost 600 people (not including the Wood Magic Forest Fair events).
- Co-Coordinated and taught South Carolina Teachers Tour
- Created and held a forestry skills competition for the SC FFA program

Project Learning Tree

In FY 2014, 20 workshops reached 383 educators. Also, 7 exhibit booths were conducted by SC PLT, reaching 1,228 people. One presentation at a conference was also conducted. Thirteen of these workshops, exhibits, and presentations had SCFC employees involved in the facilitation

Teacher's Tour

The 2014 South Carolina Teacher's Tour was held for 7 days in June with 35 participants. Many more applications were received than the Tour could accommodate. Many SCFC employees helped make the tour possible by being speakers, handling logistics, and conducting demonstrations.

Wood Magic Forest Fair

The 2013 Wood Magic Forest Fair was held at two locations. A 5-day event was held in October at Harbison State Forest. A second event was held for 4 days in November at the Sewee Environmental Education and Visitor Center. Over 1,100 students, teachers, and chaperones attended the events. Forty-eight SCFC employees volunteered at the two events.

2013 Wood Magic School Participation

Location	#Application Received	#Classes Applied	#Classes Attended	#Children Attended	#Teachers & Other Adults	Total # Participants
Harbison	34	89	39	670	121	791
Sewee	4	15	15	337	57	394

Educational Activities at Harbison State Forest

	Date	School/Organization	Grade Level/Age	# of Children	# of Adults
1	10/16/2013	Midlands Tech	college		17
2	10/23/2013	Midlands Tech	college		18
3	3/28/2014	SC Virtual Charter School	high school	12	10
4	3/26/2014	Midlands Tech	college		13
5	4/2/2014	Midlands Tech	college		22
6	4/8/2014	Northside Middle	7th	115	8
7	4/16/2014	Midlands Tech	college		20
8	4/24/2014	Covenant Classical Christian	3rd	8	5
		TOTALS		135	113

Total Participating (Adults +children) = 248

Educational Activities Outside of Harbison

	Date	School/Organization	Grade Level/Age	# of Children	# of Adults
1	12/4/2013	St. Joseph Catholic	2nd	42	2
2	3/7/2014	Central Carolina Tech	college		9
3	4/12/2014	FT. Jackson Earth Day Event	families	10	8
4	5/16/2014	Richland Co. Recycles Day	4th/5th	250	24
		TOTALS		302	43

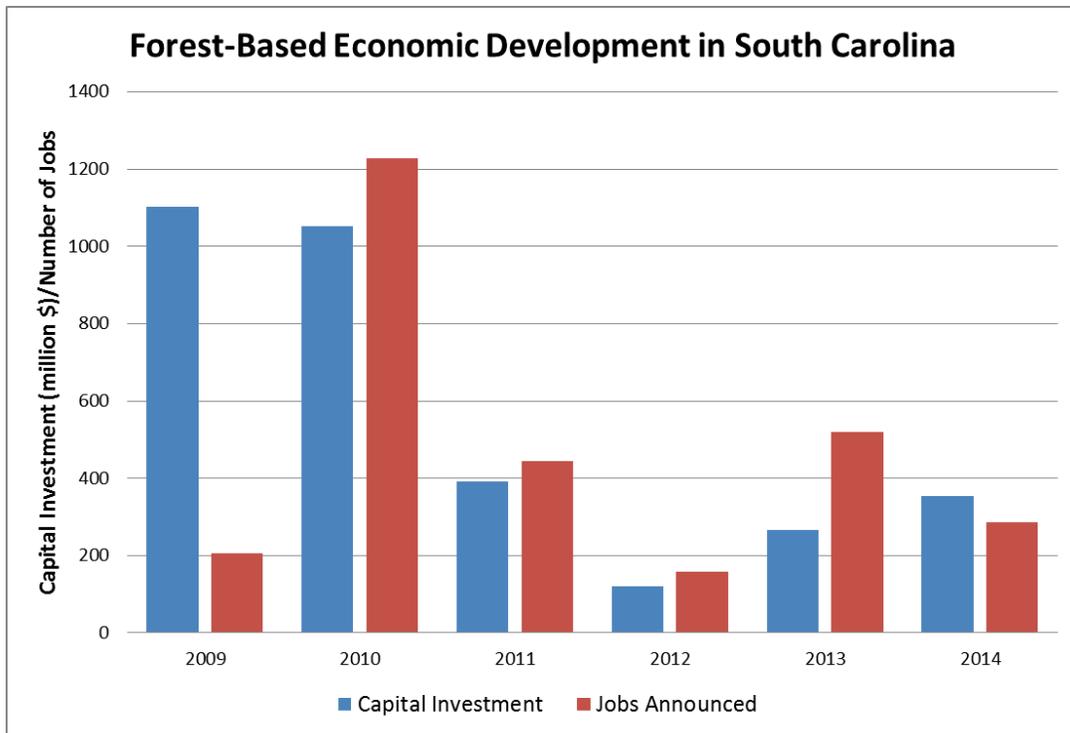
Total Participating (Adults +children) = 345

RESOURCE DEVELOPMENT DIVISION

BUSINESS DEVELOPMENT

Interest in forestry-related economic development was steady throughout the year and the announced capital investment has grown for two years in a row. A total of 18 different forestry-related projects were active during fiscal year 2014. Eleven of the 18 projects were biomass energy related, either involving the production and export of wood pellets or the domestic production of steam or electricity from biomass. Other projects involved the manufacture of traditional products such as veneer, lumber and log exports. A project making cross-laminated timber (CLT) considered SC as a possible manufacturing site.

Seventeen forestry projects were announced during fiscal year 2014. EDF-Renewable Energy opened two biomass energy plants in Allendale and Dorchester counties. Along with Sonoco's new biomass boiler, biomass energy projects accounted for \$235 million in capital investment this year. Three existing sawmills announced upgrades, primarily for continuous dryers, totaling \$47 million. Norbord's OSB plant announced a \$30 million upgrade in their debarker and water treatment system. The Kronotex flooring plant in Barnwell County announced a \$30 million upgrade. The Kearsae veneer plant in Bamberg County re-opened under the name Green Linke.



During FY 2014, the SCFC Resource Development Division represented the agency and the forestry community through 42 statewide and regional economic development organizations. A Forest Resource Analyst was hired in Spring, 2014. The Resource Development team assisted with completing an ice storm damage assessment as well as monitoring the salvage following the storm. We initiated the 2013 TPO survey which will be completed by December 2014. We formed a Mid-Atlantic Wood Export Coalition with NC and VA and attended an export conference in New Bern, NC. We updated our forest product export fact sheet. The primary and secondary forest product mill directories were both updated. Finally, during FY 2014, 164 individual business assists were made to address single-issue requests.

Forestry's 20/15 Initiative continued making progress toward meeting program goals during FY '14. Major accomplishments included: (1) working on industry recruitment with the agribusiness project manager with the SC Department of Commerce, (2) releasing the results of our 20/15 wood supply study, (3) sponsoring a Forest Finance workshop for forest landowners by providing textbooks, and (4) providing leadership for a national forest markets committee.

FOREST INVENTORY & ANALYSIS

The Forest Inventory and Analysis (FIA) program is a cooperative program with the US Forest Service – Southern Research Station (SRS) to collect forest inventory and forest health monitoring data from a network of permanent sample plots. Funding for the program is provided through a 75% federal grant and a 25% state match of the federal grant funds. There are 3,452 total forest inventory plots located in South Carolina. Plots are sampled in 20% increments of the total, referred to as panels. Plots are measured for growth projections, mortality and harvest assessments, and land-use classification. In addition, FIA provides information about South Carolina's forest resources including forest acreage, timber quality, timber volume, timber growth, forage, water, and recreation. This network of plot data collection is referred to as the Phase 2 portion of FIA field data collection. The information provided by FIA Phase 2 allows the evaluation of both quantity and quality of these important resources. The US Forest Service furnishes data analysis and reporting for this program.

Each year, during the summer growing season, a subset of the standard FIA plot grid is selected to collect forest health attributes. This part of the program is now referred to as Phase 2+. Phase 2+ plots were set at one-eighth intensity for the summer of 2013 and at one-sixteenth the intensity for the summer of 2014 of the standard FIA plot grid. Phase 2+ plots include additional measurements that are collected to provide data on forest vegetative structure, down woody material, and tree crowns.

Currently, three full-time inventory crews, consisting of two employees each, are stationed throughout the state with field offices in Newberry, Florence, and Walterboro. The program coordinator is stationed in Columbia. All crew members are required to exceed a minimal accuracy average of 87% for all inventory plots. US Forest Service personnel conduct quality assurance and quality control checks to insure the accuracy of the data collected by Forestry Commission field crews. During FY 2013-2014, the average accuracy for all crewmembers was 93.56% with each crewmember exceeding the 87% yearly average required by SRS.

During fiscal year 2013-2014, field crews completed one panel of plots that began in fiscal year 2012-2013 and began the next subsequent panel. For the fiscal year, a total of 567 Phase 2 sample plots were completed by Forestry Commission crews with 74 Phase 2+ plots being a subset of these plots. SRS completed 87 plots, consisting of 53 nonforest plots and 34 plots classified as census water, identified in the office and not sent to the SCFC field crews. The FIA program completed data collection on the second panel in the Cycle 11 inventory and has completed 47% of the third panel of the Cycle 11 inventory of data collection. The FIA program completed 12 product utilization studies on active logging operations across the state to develop factors for logging residues, logging damage, and utilization of the unmerchantable portion of harvested trees. In addition to the standard FIA plot grid, 47 FIA plots were installed on the Sumter and Francis Marion National Forests as intensification plots.

The Forestry Commission FIA program is 49% complete with the 11th inventory of the state through fiscal year 2014. Of the 13 southern states, South Carolina was the first state to complete the 8th inventory (2001), the 9th inventory (2006), and the 10th inventory (2011). Subsequently, South Carolina is the first state in the nation to initiate the 11th inventory. The SCFC FIA program is on schedule to complete the 11th inventory measurements in five years, with December 2016 as a target date for completion. Data for the 10th inventory are available online and the published report is expected to be released by SRS in 2015.

NURSERY AND TREE IMPROVEMENT

The South Carolina Forestry Commission operates two Nursery and Tree Improvement (N&TI) facilities: Taylor Nursery in Edgefield County and Niederhof Forestry Center in Jasper County. The goal of the N&TI Program is to provide landowners with the highest-quality seed and seedlings available for timber production, wildlife habitat improvement, Christmas tree production, and restoration of valuable forested ecosystems.

Taylor Nursery

Taylor Nursery, located one mile east of Trenton, SC in Edgefield County, produces bare-root and containerized seedlings for South Carolina landowners. Originally named Ridge Nursery when built in 1958, the facility was renamed Taylor Nursery in 1981 when the main office complex was rebuilt following a fire. The new name was in honor of A. Brandon Taylor Jr., an Upstate industrial leader in wood treatment, who served as a Commissioner from 1961-1982 and Commission Chairman from 1975-1981. The nursery property, including office complex, roads, & irrigation pond, consists of 345 acres. 106 acres are under irrigation and used for seedling production.

The SCFC conducts a nursery survey annually to determine the number of seedlings planted in South Carolina. During FY 2013-2014, 54,422,900 pines and 548,981 hardwood and other seedlings were planted in South Carolina for a total of 54,971,881 seedlings from all nursery sources. This number is 3% higher than the 53.34 million seedlings reported planted in FY 2012-2013. However, the number of seedlings planted in South Carolina remains about half the number of seedlings

planted in FY 1999-2000 due to fewer acres of final harvest, lower timber stumpage prices and a slowdown in government cost-share funding.

Taylor Nursery distributed 2,098,400 pines and 146,988 hardwood and other seedlings in FY 2013-2014 for a total of 2,245,388 seedlings. Of this total, 119,812 seedlings were sold out of state. The total amount distributed represents 65% of the total number of bareroot and containerized seedlings grown at Taylor Nursery. The SCFC sold 3.9% of the seedlings distributed in South Carolina this year from all public and private sources. Taylor Nursery is one of the primary producers of hardwood and longleaf pine seedlings in the state. The nursery has the capacity to grow over 2 million containerized longleaf seedlings, depending on germination rates.

In past years the SCFC has surveyed at least a 10% sample of seedling customers to determine general satisfaction with our seedlings and to target areas for improvement. This year the survey was e-mailed to all customers who supplied us with an e-mail address. Of the 461 surveys e-mailed out, 223 (48%) customers responded. The 2014 survey indicated that 92.3% of our customers were satisfied with our seedling quality and service. Of the customers who had a problem with their seedling order, 71% of the customers were satisfied with our response. Of the customer comments on returned survey forms, 62% of the comments were very complimentary of the nursery program.

Taylor Nursery keeps up-to-date with technology through association with the Auburn University Forest Nursery Management Cooperative, the Southern Forest Nursery Association, and the Longleaf Alliance. In order to help restore the native ground cover plants of the longleaf pine ecosystem, a seed production area was established at the nursery in cooperation with the US Forest Service. As the plants become established the seed will be harvested and grown as container plugs or sold to interested land owners. Seedlings planted include *Coreopsis*, *Helianthus*, and *Liatris*.

Niederhof Forestry Center

Niederhof Forestry Center (NFC) is located on a 1,593-acre tract of land that the SCFC purchased on December 1, 1983. Originally part of the Hoover Plantation, a 3,950-acre plantation north of Tillman, SC, Niederhof was acquired to establish second-generation seed orchards and to provide areas for future advanced-generation orchards. NFC was located in an area of the state that is well known for good seed production and minimal frost and ice damage. The facility was named for Cam Niederhof, a Westvaco executive, who served as a SCFC Commissioner for 24 years.

NFC is staffed by a full-time Seed Orchard Manager with assistance as needed by Coastal Region staff. A Warden Technician I is assigned to NFC as part of his work duties when scheduled on-call on normal workdays. Additional personnel from the Edisto Unit assist as needed with seed orchard establishment and management. NFC attempts to operate solely based upon revenues generated through cone/seed sales and funding from research agreements.

Second-generation loblolly pine orchards were established from 1985-1989, totaling 322 acres; 30 acres of 1.5-generation longleaf pine were established from 1988-1992. NFC's loblolly orchards came into production in 1993 with some 4,542 bushels collected from both Coastal and Piedmont province orchards and the longleaf orchard has been in production since 2008. To date, some 64,787+ bushels have been collected. In 2004, as a result of budget cuts, a strategic change in goals for NFC resulted in the reduction of 2nd-generation orchards to 115.2 acres. It is worthy to note that during the years 1993-2005, NFC orchards consistently produced 25% of all second generation seed within the cooperative.

Third-cycle orchard establishment occurred between 2005-2011. These new orchards represent the culmination of over 40 years' breeding and testing work by our agency as part of the NCSU Cooperative Tree Improvement Program (NCSUCTIP) and will provide landowners in South Carolina with very high-quality genetically-improved seedlings that are specifically adapted to our state. There are 17.6 acres of coastal 3rd cycle loblolly pine orchard and 12.4 acres of piedmont 3rd cycle loblolly pine orchard.

Cone collection for 2013 yielded 1,407 bushels 2nd-generation loblolly pine, 98 bushels 3rd-cycle loblolly pine, and 897 bushels 1.5 generation longleaf pine. 20 bushels of cones were collected from the Commission's Virginia pine orchard at Piedmont Forestry Center. Seed processing generated 863.95 pounds 2nd-generation loblolly seed, 112.10 pounds of 3rd-cycle loblolly seed, and 718.45 pounds of longleaf seed. Virginia pine collected at Piedmont Forestry Center yielded 11.35 pounds of seed.

NFC's annual sale of seed and pine cones generated \$85,160.02 in revenue: to date, Niederhof's 2nd-generation orchards have created additional revenue in the amount of \$1,864,975.60 from cone and seed sales. The value of seed and pine cones sales is in addition to the value of seed delivered to Taylor Nursery for internal seedling production.

In the fall of 2013, NFC staff collected cones from controlled crosses made in the 3rd-Cycle Piedmont Loblolly pine orchard. Seed collected from these crosses were sown in containers at Taylor Nursery in the spring of 2014 to grow a series of demonstration plantings. The crosses consisted of our top three selections as determined by the NCSUCTIP database, along with a cross between these same selections mated with pollen collected from our top 2nd-Gen Coastal Loblolly selection.

Seedlings from these crosses will be established at NFC and Taylor Nursery for comparison. Trees will be measured for height, diameter, straightness, and rust. It is our hope that these selections will yield valuable information concerning the viability of developing MCP seedlings or rooted cutting plants in the future.

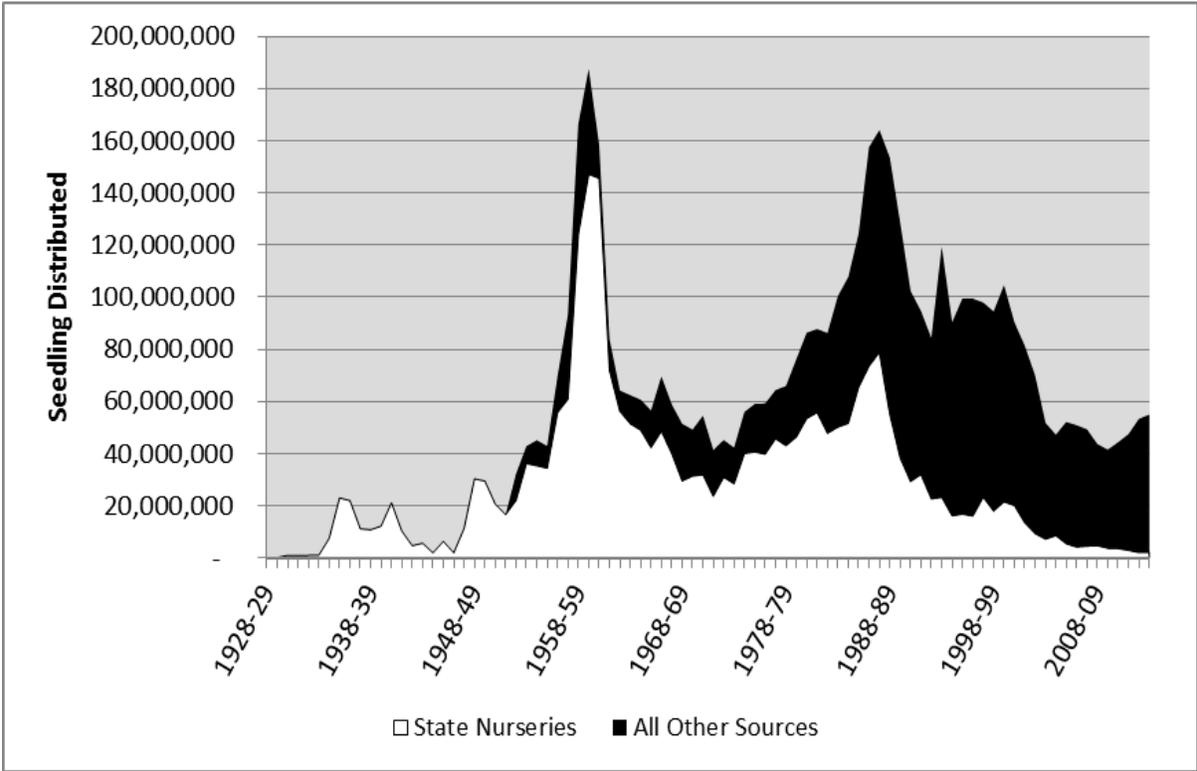
A block of Elite 3rd-Cycle Piedmont loblolly pine selections was established in the spring of 2014. This orchard block is comprised of the top three selections plus a superior 3rd-Cycle Coastal loblolly selection for pollination. The Elite block is established on a 45' x 30' spacing, to minimize self-pollination and to provide the flexibility of producing superior wind-pollinated seed, while lending itself to the employment of controlled mass pollination, if so desired.

Tree Seedlings Planted by Landowner Classification 2013-2014				
Land Ownership	Pines Planted	Hardwoods & Others Planted	Total Number of Trees Planted	Percent of Total
Non-Industrial Private Landowners	36,904,533	154,722	37,059,255	67.4%
Forest Industry	10,823,088	1,100	10,824,188	19.7%
Corporate	5,981,579	346,601	6,328,180	11.5%
Government	713,700	46,558	760,258	1.4%
Total	54,422,900	548,981	54,971,881	
Source of Seedlings Distributed in South Carolina				
Nurseries in South Carolina	Pines Distributed	Hardwoods & Others Distributed	Total Number of Trees Distributed	Percent of Grand Total
ArborGen (Bleinheim, SC)	23,598,670	403,700	24,002,370	43.7%
Weyerhaeuser	17,021,636	900	17,022,536	31.0%
South Carolina Forestry Commission	1,990,470	135,106	2,125,576	3.9%
Total	42,610,776	539,706	43,150,482	78.5%
Nurseries Outside of South Carolina				
Plum Creek	5,900,000	0	5,900,000	10.7%
ArborGen (Bellville, GA)	2,075,286	0	2,075,286	3.8%
International Forest Company	1,547,013	0	1,547,013	2.8%
Bodenhamer Farms & Nursery	1,500,000	0	1,500,000	2.7%
Georgia Forestry Commission	341,100	5,000	346,100	0.6%
North Carolina Forest Service	255,000	0	255,000	0.5%
Whitfield Nursery	159,000	0	159,000	0.3%
Florida Forest Service	28,000	0	28,000	0.1%
Superior Trees	6,725	4,275	11,000	<0.1%
Total	11,812,124	9,275	11,821,399	21.5%
Grand Total	54,422,900	548,981	54,971,881	100%

State Nursery Seedling Production & Sales for FY 2013-2014			
<u>Species</u>	<u>Seedlings Produced</u>	<u>Seedlings Sold</u>	<u>% Sold</u>
Ash, Green	200	100	50%
Atlantic White Cedar CTR	1,500	1,500	100%
Baldcypress	8,000	4,100	51%
Carolina Sapphire CTR	1,584	1,584	100%
Cedar, Eastern Red	23,500	23,500	100%
Clemson Greenspire CTR	2,484	2,088	84%
Crabapple, Southern	3,070	2,920	95%
Dogwood	6,010	5,830	97%
Leyland Cypress CTR	18,000	7,506	42%
Loblolly Pine, Coastal 2nd gen.	250,000	104,800	42%
Loblolly Pine, Coastal 3rd gen	61,000	61,000	100%
Loblolly Pine, Coastal 3 rd gen CTR	110,000	84,100	76%
Loblolly Pine, Coastal Best Family	400,000	128,200	32%
Loblolly Pine, Piedmont 2nd gen.	306,050	306,050	100%
Loblolly Pine, Piedmont 3rd gen. CTR	90,000	89,800	100%
Loblolly Pine, Piedmont Best Family	393,950	217,960	55%
Longleaf Pine	300,000	106,800	36%
Longleaf Pine Natural Stand CTR	400,000	84,000	21%
Longleaf Pine Improved CTR	895,000	864,250	97%
Oak, Cherrybark	10,000	6,640	66%
Oak, Gobbler	7,000	6,290	90%
Oak, Live	5,000	2,040	41%
Oak, Northern Red	5,000	2,770	55%
Oak, Sawtooth	12,000	7,060	59%
Oak, Swamp Chestnut	15,000	2,850	19%
Oak, White	7,000	6,420	92%
Oak, Willow	5,000	1,900	38%
Persimmon	7,210	7,210	100%
Plum, Chickasaw	10,550	10,550	100%
Redbud	3,000	2,090	70%
Shortleaf Pine	18,000	3,200	18%
Sycamore	1,560	1,560	100%
Virginia Pine Christmas Tree Stock	29,430	29,430	100%
Walnut, Black	1,910	1,550	81%
White Pine	30,000	18,810	63%
Wire Grass CTR	31,750	31,750	100%
Yellow Poplar	7,180	7,180	100%
	3,476,938	2,245,388	65%

Seedling Distribution 1928-2014

Year	Total State Nurseries	Total All Sources	Year	Total State Nurseries	Total All Sources
1928-29	142,000	142,000	1971-72	23,678,000	41,357,000
1929-30	148,000	148,000	1972-73	30,978,000	45,239,000
1930-31	986,000	986,000	1973-74	28,443,000	42,306,000
1931-32	976,000	976,000	1974-75	40,082,000	55,997,000
1932-33	996,000	996,000	1975-76	40,664,000	59,063,000
1933-34	1,031,000	1,031,000	1976-77	39,795,000	59,238,000
1934-35	7,529,000	7,529,000	1977-78	45,735,000	64,380,000
1935-36	23,000,000	23,000,000	1978-79	43,010,000	65,937,000
1936-37	22,000,000	22,000,000	1979-80	46,375,000	76,207,000
1937-38	11,192,000	11,192,000	1980-81	53,513,000	86,420,000
1938-39	10,854,000	10,854,000	1981-82	55,728,000	87,793,000
1939-40	12,244,000	12,244,000	1982-83	47,799,000	86,265,000
1940-41	21,165,000	21,165,000	1983-84	50,170,000	100,394,000
1941-42	10,275,000	10,275,000	1984-85	51,636,000	107,718,000
1942-43	4,742,000	4,742,000	1985-86	65,465,000	124,381,000
1943-44	5,663,000	5,663,000	1986-87	73,555,000	157,523,000
1944-45	1,963,000	1,963,000	1987-88	78,788,000	164,095,000
1945-46	6,402,000	6,402,000	1988-89	55,052,000	153,450,000
1946-47	1,963,000	1,963,000	1989-90	38,356,000	128,475,000
1947-48	11,357,000	11,357,000	1990-91	29,297,000	102,384,000
1948-49	30,389,000	30,339,000	1991-92	31,984,000	94,710,000
1949-50	29,502,000	29,502,000	1992-93	22,665,000	84,287,000
1950-51	20,615,000	20,615,000	1993-94	23,286,000	119,311,000
1951-52	16,619,000	16,619,000	1994-95	16,154,000	90,336,000
1952-53	22,036,000	32,246,000	1995-96	16,841,000	99,549,000
1953-54	36,210,000	42,852,000	1996-97	16,058,000	99,439,000
1954-55	35,373,000	45,182,000	1997-98	23,278,000	97,963,000
1955-56	34,414,000	42,932,000	1998-99	17,955,000	94,539,000
1956-57	55,754,000	69,659,000	1999-00	21,524,000	104,594,000
1957-58	60,846,000	93,369,000	2000-01	20,095,000	90,346,000
1958-59	123,985,000	166,351,000	2001-02	13,500,000	81,431,000
1959-60	147,146,000	187,516,000	2002-03	9,376,000	69,989,000
1960-61	145,609,000	158,331,000	2003-04	7,202,000	51,823,000
1961-62	71,892,000	83,844,000	2004-05	8,563,000	47,243,000
1962-63	56,191,000	64,202,000	2005-06	5,437,000	52,165,000
1963-64	51,446,000	62,424,000	2006-07	4,206,000	50,900,000
1964-65	49,010,000	60,683,000	2007-08	4,539,842	49,320,517
1965-66	42,311,000	56,529,000	2008-09	4,739,783	43,692,314
1966-67	48,575,000	69,598,000	2009-10	3,762,989	41,549,345
1967-68	39,970,000	58,812,000	2010-11	3,629,610	44,374,915
1968-69	29,529,000	51,453,000	2011-12	2,922,880	47,468,239
1969-70	31,415,000	49,203,000	2012-13	2,091,256	53,342,588
1970-71	31,940,000	54,541,000	2013-14	2,125,576	54,971,881
				Total State Nurseries: 2,585,409,936	
				Total All Sources: 5,173,396,799	



SCFC Active Seed Orchards

Orchard Type	Years Established	Acres
Creech Seed Orchard/Manchester State Forest		
Genetic Diversity Archives (Clone Banks)	1977-1983	25
Coastal Loblolly Pine 1.0 Rust Resistant	1971	5
Longleaf Pine 1.0	1971	12
Virginia Pine 1.0 (Creech)	1980	1
Virginia Pine 1.0 (Manchester)	1986	2
Sawtooth Oak 1.0 Seedling	1990	2
Total		47
Niederhof Seed Orchard		
Genetic Archives, 3rd Cycle	2008-2009	4.2
Coastal Loblolly Pine 2.0	1985-1988	68.3
Piedmont Loblolly Pine 2.0	1985-1988	63.1
Longleaf Pine 1.5	1988-1990	30
Longleaf Pine 1.5 Expansion	2010-2011	1.6
Loblolly Pine Breeding Orchard 3.0	1997-2003	7.2
Longleaf Pine Seedling Seed Orchard	1998	8
Coastal Loblolly Pine 3.0	2005-2011	17.6
Piedmont Loblolly Pine 3.0	2005-2011	12.4
Total		212.4
Coastal Seed Orchard		
Sycamore 2.0	1992-1995	4
Sweetgum 2.0	1992-1995	6
Willow Oak Seedling Seed Orchard	1992-1995	1
Swamp Chestnut Oak Seedling Seed Orchard	1992-1995	1
Green Ash Seedling Seed Orchard	1992-1995	3
Red Maple Seedling Seed Orchard	1992-1995	1
Southern Red Oak Seedling Seed Orchard	1992-1995	2
White Oak Seedling Seed Orchard	1992-1995	2
Total		20
Piedmont Seed Orchard		
White Pine 1.5	1991-1993	12
Virginia Pine 1.0	1993	3
Northern Red Oak Seedling Seed Orchard	1993-1995	2
Total		17
Grand Total		296.4

ENVIRONMENTAL MANAGEMENT

The Environmental Management Section is responsible for the development and implementation of South Carolina Forestry Commission programs that are related to the environmental protection of forest and associated natural resources. Issues that are addressed include the protection of water quality, site productivity, endangered species, and unique ecosystems.

BMP Compliance and Implementation Monitoring

BMP monitoring in South Carolina is conducted in accordance with the Southern Group of State Foresters Water Resource Committee's *Silviculture Best Management Practices Implementation Monitoring – A Framework for State Forestry Agencies* published in 1997 and revised in 2002. This ensures consistency among the thirteen states in the southeastern United States.

The latest monitoring survey was conducted in 2012 and showed a compliance rate of 93.4% with an implementation rate of applicable BMPs of 92.1%. This survey was designed for each site surveyed to be visited again at one year post-harvest and two years post-harvest to study BMP effectiveness and BMP implementation during any non-harvest activities that may have occurred since the initial visit. All site visits have been completed and the final report is due out by the end of 2014.

BMP Education/Training Program

BMP training and education are essential to the success of the Forestry Commission's non-regulatory BMP program. During this fiscal year, 32 training programs were held across the state reaching 782 loggers, landowners, contractors, and forest resource professionals. Included in these meetings were eight workshops for the Timber Operations Professional (TOP) logger training and education program.

Courtesy Exam Program

The S.C. Forestry Commission's BMP Foresters, located in each of the three operating regions of South Carolina, offer courtesy BMP exams to landowners, foresters, and timber buyers. The BMP Forester makes site-specific BMP recommendations to follow while conducting forestry activities. During this fiscal year, the BMP Foresters provided assistance during 1,455 visits to 649 sites and completed 289 courtesy exams. BMP Foresters also conducted 44.1 hours of aerial observation for active forestry operations and responded to 35 complaints.

Environmental Issues and Ecosystem Services

The Environmental Management Section monitored issues related to endangered species, wetlands, ecosystem services, EPA's proposed waters of the U.S. rule, and biomass harvesting. BMP Foresters are available to provide information and assistance to SCFC personnel, forestry professionals, and landowners. This assistance may include site visits, cooperation with other agencies, and assistance on state lands. BMP Foresters also provide forestry expertise to organizations and agencies addressing policy and regulation related to these issues.

Cooperation with Other Agencies

Programs related to environmental protection of forest resources require close cooperation with other agencies. S.C. Forestry Commission has a Memorandum of Understanding with S.C. Department of Health and Environmental Control (DHEC) addressing cooperation on water quality issues. The Environmental Management Section serves as technical authority on silvicultural activities, and cooperates with DHEC on evaluation and remediation of possible impacts. In March 2010 SCFC entered a Memorandum of Understanding with the US Army Corps of Engineers to better serve forest landowners and jointly address silvicultural issues in jurisdictional wetlands. BMP Foresters often work with DHEC and the U.S. Army Corps of Engineers when those agencies have regulatory authority over issues which may affect forestry operations, such as wetlands and navigable waterways. BMP Foresters also provide assistance with planning and implementation of Best Management Practices on public lands managed by other agencies.

TECHNOLOGY DIVISION

This Division comprises of the Information Technology Section, Geographic Information Systems (GIS) Section, Communications Section, and Dispatch Operations Section.

INFORMATION TECHNOLOGY

The Information Technology Section is responsible directly and indirectly for the maintenance, support, and security of the agency's local and wide area networks; Seven (7) Windows servers; network storage devices; computers and laptops in use by over 190 employees; software applications; and implementation of various initiatives to support agency operations and programs.

A major accomplishment this fiscal year was upgrading the agency's email server and migrating email accounts to this new server. This required upgrading all email users to Microsoft Office 2010 beforehand to give users the compatibility to access email accounts from the old and new servers during the migration process. Once email accounts were migrated to the new email server, users could be upgraded to Microsoft Office 2013. The new agency email domain of @scfc.gov was established with this new email server along with a more secure and encrypted connection for remote users.

Other major accomplishments was the migration from a legacy tape backup system to a hard disk backup solution and the installation of a new "next generation" firewall for improved cyber security. The hard disk backup system greatly expanded the storage capacity for backing up critical data and allows for unattended backups 7 days a week/365 days a year. The new firewall has additional security features and functions and provides a more secure and encrypted connection for remote users.

The agency purchased 55 desktops and 8 laptops in FY 2014. The majority of these were Windows 7 replacements for the remaining agency computers that were running the "end-of-life" Windows XP operating system. With Microsoft ending support for Windows XP and Office 2003 after April 8, 2014, except for a few computers needing to run legacy software, all agency computers were upgraded to Windows 7 or Windows 8 operating systems and Office 2010 or Office 2013 by May, 2014.

In response to the hacking of the Department of Revenue computer system, thirteen (13) information security policies have been issued that all state agencies are required to implement by July 1, 2016. A precursor to this, a survey was conducted to identify who and what computers have access to protected and confidential information within the agency.

GIS

With assistant from the GIS Coordinating Council, the agency is receiving parcel data from a majority of counties in the state. The GIS Section merged individual county data into Unit administrative area layers in the agency's GIS Server and in formats to be utilized in other GIS applications. This information will save the agency time and money by allowing personnel to identify property ownership and boundary lines without having to visit individual county tax offices.

The GIS section produced maps of ice accumulation and storm damage across the state and created a database of damage surveys from aerial assessments. This data was then used for ground surveys to validate the aerial assessments. Numerous other map products were produced in support of the agency's response to the February storm. The Conserve Working Forests portion of the South Carolina Forest Resource Assessment was also updated this year.

Leaf-on, color aerial photography was acquired during the summer of 2013 for South Carolina under the National Agriculture Imagery Program (NAIP). The GIS section created a state mosaic of this imagery from the 46 individual county mosaics produced under this program for use in the agency's dispatch and fire management mapping applications.

A new GIS Server running Windows Server 2008 R2 and ESRI ArcGIS 10 software was installed this fiscal year to replace an 8 year old server. This will now allow the agency to upgrade ArcGIS users to the most current version of ESRI mapping software.

A graduate level GIS internship program with the University of South Carolina was established in 2006. This program provides an opportunity for students to be exposed to state government activities and utilize GIS technology in a real world setting. During FY14, the intern position was entering stewardship plan data for the agency's geodatabase; updating layers for the agency's computer aided dispatch system; and GIS support of various forest and fire management programs. The intern also assisting in the development of training material associated with upgrading users to ESRI ArcGIS 10.1.

COMMUNICATIONS

The agency maintains approximately 555 mobile radios, 7 base stations, 29 repeaters, and 300 portable radios. The Communications Section also supports the 19 communications consoles and related systems in the 3 regional dispatch center and at Columbia Headquarters.

A new repeater was established this year on an SCETV tower site in Horry County to provide better radio coverage in this high wildfire prone county. This new repeater provides almost complete coverage in the county with a hand held radio.

The agency maintains 46 Palmetto 800Mhz radios for Law Enforcement Officers; Hurricane Evacuation; and Incident Management Teams for better interoperability with other Federal, State, and local agencies. One mobile radio is being used as a base station that is incorporated with the agency’s dispatch centers. Two 800Mhz radios are installed in agency aircraft that are utilized to monitor Hurricane Evacuation routes along the coast.

DISPATCH OPERATIONS

The Forestry Commission operates three (3) dispatch centers that handle about 40,000 phone calls for burn notifications and reporting of wildfires. On July 1, 2005 (i.e. FY 2006), the agency went “live” with a new computer aided dispatch and records management systems. These systems replaced a custom developed application implemented in 1996. Federal funds from the National Fire Plan and other grants were used to fund this new system.

The agency’s dispatch operations utilizes commercial, “off-the-shelf” dispatching software from Logistic Systems, Inc. This system incorporates many of the features and functionality of 9-1-1 dispatch systems. This system determines the closest available resource based on road mileage and travel speeds; automates the notification of personnel of wildfires; alerts dispatchers when certain dispatching timeframes are exceeded; and automates the compliance issues with smoke management regulations on forestry, wildlife and agricultural burn notifications.

As a performance measure in the Forestry Commission’s Accountability Report, the average time from receiving the wildfire call and assigning a firefighter (i.e. Dispatching) has been cut almost in half compared to the old software average -- prior to FY 2006 (see table below). The processing of smoke management notifications has also decreased by 36% compared to the FY 2005 average. These time savings can be attributed to the new dispatch software’s automation of dispatching and compliance with smoke management guidelines.

**SUMMARY AND COMPARISON OF DISPATCH TIMES
FOR FISCAL YEAR 2004 through 2014**

TIMES	Fiscal Year Average Dispatching Times (Minutes)										
	2004	2005	2006*	2007	2008	2009	2010	2011	2012	2013	2014
Dispatching	5.10	6.33	4.18	3.56	3.53	3.22	3.13	3.39	3.28	3.57	3.38

*New software implemented in FY 2006

**SUMMARY AND COMPARISON OF SMOKE MANAGEMENT NOTIFICATIONS
PROCESSING TIMES
FOR FISCAL YEAR 2004 through 2014**

TIMES	Fiscal Year Average Notification Processing Times (Minutes)										
	2004	2005	2006*	2007	2008	2009	2010	2011	2012	2013	2014
Processing Time	4.16	4.61	3.49	2.81	3.00	3.13	3.21	2.97	2.94	2.99	2.70

*New software implemented in FY 2006

The computer aided dispatch system also allows for real-time access to wildfire, prescribed fires, and resource activity by Fire Managers and Fire Information Officers for command and control functions and media requests. Current smoke management burn notifications and wildfires are available to the public on the agency’s website in a web mapping application. This information is updated every 10 minutes.

The remaining fourteen (14) Windows XP workstations used in the dispatch centers were replaced this year with Windows 7 workstations -- ahead of Microsoft’s end of support of the Windows XP operating system.

ADMINISTRATION

SOUTH CAROLINA FORESTRY COMMISSION FINANCIAL STATEMENT FISCAL YEAR 2013 - 2014

Carry Forward - July, 1 2013	\$ 5,738,037
<u>REVENUES</u>	
State Appropriations	\$ 14,240,962
Federal Grants	\$ 3,885,181
Earmarked Funds	
Hunting & Fishing License	\$ 208,191
Refund of Prior Year Expenditure	204,188
Burning Assistance Fee	237,593
Fire Lane Fee	134,266
Timber Marking Fee	-
Training Conference - Registration Fee	6,550
User Fee - State Park & Forest	103,685
Forest Product Assessment	455,786
Construction of Water Bar	2,965
Stand By for Prescribed Burning	5,505
Sale of Seedlings	430,431
Sale of Timber	1,980,085
Conviction Surcharge	17,286
Other Penalties, Cost & Settlements	913
Rent - Residence	11,375
Rent - Farm Land	51,444
Rent - State Owned Property	48,975
Rent - Equipment	1,815
Contributions & Donations	8,808
Insurance Claims	1,332
Sale of Services	29,954
Sale of Nursery and Farm Products	569
Sale of Recycling Material	4,083
Sale of Vehicles (Capitalized)	39,728
Sale of Machinery and Equipment (Capitalized)	19,730
Sale of Buildings (Non-Capitalized)	-
Sale of Land (Capitalized)	7,500
Sale of Other Assets	-
Insurance Premium Taxes - Firefighting Equipment	2,908,553
Capital Reserve Funds - Firefighting Equipment	2,000,000
Total Earmarked	\$ 8,921,310
Total Revenue	\$ 27,047,452
<u>EXPENDITURES</u>	
State	\$ 15,777,494
Federal	\$ 3,826,814
Other	\$ 8,873,021
Total Expenditures	\$ 28,477,328
Balance as of June 30, 2014	\$ 4,308,161

ORGANIZATIONAL CHART

