FOREST HEALTH
PROGRAM
GEORGIA FORESTRY
COMMISSION

Georgia's Forest Health Highlights 2013

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Summary:

The Forest Health Management Group provides statewide leadership and guidance to consulting firms, industry, natural resource managers, landowners, and Georgia Forestry Commission (GFC) foresters on a wide range of forest health related issues. This information and technology transfer enables a diverse group to increase awareness of forest health issues in Georgia and contribute additional resources in the fight against forest pests. Our forest health staff is increased by each person trained and our team grows by communicating information. Our goal is to train more than our personnel and staff inside the GFC, as we strive to create cooperative partnerships meeting the needs of the landowners and forestry professionals throughout the state of Georgia.

Georgia Forestry Commission foresters incorporated insect, disease, or invasive species advise into 586 management cases involving 26,777 acres for the year. Each Stewardship and Tree Farm plan written in the State of Georgia incorporates advice to landowners concerning forest health issues, and insect and disease advice is incorporated in each plan; 240 plans were presented to landowners with a total acreage of 73,528 acres.

Statewide, forest health training was provided to foresters, resource managers, loggers, public works departments (state and county), nurserymen, regulatory agencies, and landowners on 131 occasions with 39,171 attendees being reached. This training included field days, exhibits, demonstration plots, field training, hands-on education, and classroom presentations. These sessions involve most of the program areas listed in this report.

Our forest health staff conducted four radio interviews with Georgia Public Radio (GPR), and National Public Radio (NPR), ten television interviews were also conducted in the Albany and Atlanta areas in 2013. Our goal is to share our Forest Health Management message, which is "Protecting the health of our forest is a top priority of the Georgia Forestry Commission and the people of Georgia."

Special notes of interest:

- **Emerald ash borer** (EAB) was discovered in DeKalb and Fulton Counties, Georgia, in July 2013. More than 400 traps were established throughout the state by Georgia Forestry Commission, Georgia Department of Agriculture, University of Georgia, Athens, and private contractors. These traps targeted areas with increased risk of introduction, such as campgrounds and cargo centers, and traps were placed in stands with a high component of ash (*Fraxinus* spp.). Only two traps out of the 400 returned positive for emerald ash borer.

The discovery of EAB in Georgia prompted the release of a Frequently Asked Questions brochure (http://gatrees.org/forest-management/forest-health/alerts-and-updates/FAQ-EAB-GA.pdf), an emerald ash borer update for Georgia (http://gatrees.org/forest-management/forest-health/alerts-and-updates/EAB-GAUpdate.pdf) and regulated areas have been proposed for DeKalb and Fulton counties. These are the first steps in Georgia's efforts to alert residents about the severity of this new pest and to prevent potentially infested ash material from spreading outside this area. Quarantine regulations have been drafted to prevent potentially infested ash material from spreading by human-assistance outside the proposed quarantine area.

- In 2012, a new first introduction of **Tremex woodwasp** *(Tremex fuscicornis)* was identified during warehouse trapping in Elberton, Georgia. This new pest to Georgia was submitted to Dr. Rick Hoebeke, Collection Manager, Museum of Natural History, University of Georgia, who initially identified a male and female Tremex woodwasp *(Tremex fuscicornis)*.

  The Georgia Forestry Commission is taking this introduction very seriously and in 2013 a series of ten (10) early detection traps were established in the Elberton area to detect populations of Tremex woodwasp that may have become established from the 2012 introduction. Two suspect Tremex samples were collected late in the summer and presented to Dr. Hoebeke for identification. The two specimens were ***Tremex columba* L.**, the "pigeon horntail" and ***Urocerus cressoni*** Norton, the "black and red horntail."

  In 2014, early detection traps will be established near these warehouse sites to detect populations of Tremex woodwasp.

- **Rhizoctonia seedling blight** of longleaf pine was first observed in Georgia in 2010 causing mortality in longleaf seedlings. This mortality was associated with prolific seeding of partridge pea, which created excessive shading of the forest floor, restricted available sunlight, and possibly created a microclimate conducive to the success of the unwanted fungus.

  In 2013, Rhizoctonia seedling blight has decreased, and many landowners eliminated the use of partridge pea in warm season grass mixes. However, some landowners still report mortality due to the prolific seeding of partridge pea. Mowing infested fields is the standard control method followed by landowners, and the elimination of partridge pea from the seed mix is the best solution to the problem.

- The Georgia Forestry Commission (GFC) participates annually in the **southern pine beetle (SPB) trapping program**, which enables foresters to predict seasonal SPB population levels. This insect has the potential to cause more forest destruction in the southeastern states than all other forest pests combined, so anticipating potential

damage is important. Insect traps are deployed in early spring by GFC foresters and are checked weekly for at least four weeks. A model developed by Dr. Ronald Billings (Texas Forest Service) is used to predict population levels. The model is based on the number of southern pine beetles captured and the number of clerid beetles, a SPB predator, caught in the traps. The history of the trapping program over the past 20 years indicates this model is more than 75 percent accurate.

In the spring southern pine beetle prediction survey, conducted as a cooperative effort between U.S.D.A. Forest Service, Department of Defense (Fort Stewart), and Georgia Forestry Commission, a total of 37 traps were placed statewide. All prediction traps in Georgia indicated low SPB populations/activity for 2013, except two north Georgia traps with moderate activity. One trap on Department of Defense land in Bryan County showed high SPB activity and salvage work is being conducted on active beetle spots in the area. (See 2013 Southern Pine Beetle Prediction Map) http://www.gatrees.org/forest-management/forest-health/pine-bark-beetles/SouthernPineBeetlePredictionTrapping-2013.pdf \

Based on the trapping data alone, GFC did not expect to see significant SPB activity in the state this year, and these predictions proved accurate with the low SPB numbers revealed during the aerial survey. In 2013, GFC Foresters flew a 30% statewide survey to detect the presence of southern pine beetle activity. This amounts to approximately 7,000 miles flown with visual observations of 10,500,000 acres. During the early detection flights in August and September, little to no mortality was observed across most of the state. This lack of activity could have been attributed to increased rainfall across the state. Two areas of the state have seen significant beetle activity since this summer: Bryan and Appling counties. The spots in Appling County are located on The Nature Conservancy's Moody Forest Natural Area and work is being conducted to remove the beetle infested areas. Department of Defense lands in Bryan County have had high activity this year, following a few small spots in 2012. Approximately 37 spots have been detected there, ranging in size from 0.5 to 30 acres. Department of Defense is working to remove all beetle infested areas.

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- The common name annosum root disease has been updated. It was brought to the attention of the forest health staff that The Northeastern pathologists have adopted a new scientific name, *Heterobasidion irregulare*, with the common name of **Heterobasidion root disease**. With USDA Forest Service and the University of Georgia updating the name, it was time to replace annosus root disease with Heterobasidion root disease.

  Widespread mortality caused by Heterobasidion root disease in recently thinned pine plantations (slash and loblolly) was reported in 2005, and the disease continues to cause ongoing damage with new sites being reported in 2013. Although the incidence of Heterobasidion root disease has declined, we continue to get calls to investigate infected stands. The region with the highest incidence and most severe mortality is a zone approximately 75 mile wide from Augusta to Columbus (corresponding to the sandhill and upper coastal plain regions). Ongoing educational outreach programs and one-on-one field visits with professional land managers have resulted in most foresters being able to diagnose this condition.

  Georgia Forestry Commission field foresters perform the majority of field inspections, and the forest health staff responded to support the field foresters as needed. Forest industry, consultants, and GFC foresters have performed field visits throughout the state and Heterobasidion root disease and pine bark beetles were the primary concern in many of these inspections.

  Georgia Forestry Commission field foresters recommend treatment of freshly-cut stumps in thinned stands with dry granular borax powder, such as Sporax® or water-soluble borate powder, such as Cellu-Treat® (disodium octaborate tetrahydrate). Consultants have observed that these treatments have been successful in thinned pine plantations with a high risk of Heterobasidion root disease. The general recommendation is to apply these treatments to stump surfaces with a spray applicator, to the point of runoff. Sporax® and Cellu-Treat® need to be applied within twenty-four hours of harvest.

- Significant **pine health issues** in natural pine stands and pine plantations have been observed in various areas in Georgia in recent years. Much of the mortality can be attributed to the causes documented in this report including: prolonged drought, Heterobasidion root disease, southern pine engraver beetles (*Ips* species), and the southern pine beetle (*Dendroctonus frontalis*). However, the factors associated with thin crowns, declining growth rates, and mortality in some mature loblolly stands and younger loblolly pine plantations, especially in southwestern Georgia and central Alabama, are unclear and have been brought to the attention of Georgia Forestry Commission foresters, among others. Many predisposing factors, biological organisms, and cultural practices may be involved in pine health problems and the role that each may play is a topic of considerable discussion and controversy.

  The Georgia Forestry Commission's forest health staff is conducting field visits documenting mortality of pine trees that are showing signs of pine health issues. In the

spring of 2014 an aerial survey will be conducted in two counties to document cases of pine mortality. Field evaluations will then be performed to determine the cause of mortality. The Georgia Forestry Commission has offered to facilitate the location of these mortality sites, and to act as liaison between research scientists and local landowners. The objectives of this project are to determine the extent and causes of declining pine growth and pine mortality in southwest and central Georgia.

- **Laurel wilt Disease** (LWD) is a disease of plants in the Lauraceae family in the United States caused by the fungus *Raffaelea lauricola* that is vectored by *Xyleborus glabratus*, the redbay ambrosia beetle (RAB), both of which originated in Asia. Since laurel wilt disease (LWD) was first recognized near Savannah in 2002, it has spread rapidly through the abundant redbay trees (*Persea borbonia)* in the maritime and coastal plain forests of Georgia, north through South Carolina into southeastern North Carolina, and south nearly to the southern tip of the Florida peninsula. The disease has also killed numerous sassafras trees, *Sassafras albidum,* as it spread inland. Other plants in the laurel family known to be susceptible to varying degrees include: camphor (*Cinnamomum camphora*), avocado (*Persea americana*), pondspice (*Litsea aestivalis*), and pondberry (*Lindera melissifolia*).

  As of October 2013, the Laurel wilt disease front in Georgia extends about 150 miles to the northwest, 130 miles to the west, and 175 miles to the southwest from where it was originally discovered near Savannah and includes 40 counties, where approximately eight (8) million acres of forest have been subjected to the disease. The rate of spread has varied along the advancing disease front in Georgia from over 17 miles/year in the southern coastal plain, where redbay trees are well distributed, to about 9 miles/year to the west in the upper coastal plain where host plants are widely scattered. The rate of spread in Georgia appears to have slowed in areas with sparse host. In 2012 and 2013 much of the disease spread has occurred in sassafras trees, indicating that LWD can infect sassafras in the absence of redbay and may spread beyond previously predicted limits.

  The Georgia Forestry Commission continues to work with the USDA Forest Service, and other partners to document the spread of this destructive nonnative invasive insect and disease. Long distance spread of LWD continues to occur, emphasizing a need for more effective education concentrating on limit movement of host materials harboring RAB. Additional information on LWD can be found at: http://gatrees.org/forest-management/forest-health/laurel-wilt-disease/index.cfm This Georgia Forestry Commission web page provides a summary of this disease, as well as links to a distribution map, progress reports, a poster presentation, and the USDA Forest Service Laurel Wilt website http://www.fs.fed.us/r8/foresthealth/laurelwilt/index.shtml

  Below, please find many of the insects, plants, and diseases we are working with across Georgia. If there is additional information needed, please do not hesitate to contact me

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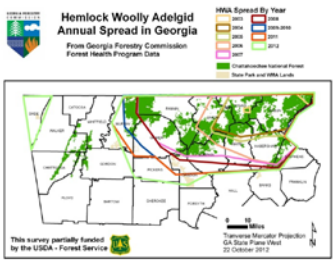
Tremex woodwasp	
Tremex fuscicornis	
Region 8	**Georgia** (Elbert county)
Host(s):	Solid Wood Packing Material (See preferred host list below)
Survey Date:	April – October 2013
Survey Method:	Warehouse Survey (Lindgren funnel traps)
Damage Type(s):	None Noted
Setting(s):	Warehouse
Origin:	Nonnative
Acres Affected:	Unknown
Affected Area:	None
Narrative: 	In 2012, A contact in a warehouse in Elberton, Georgia collected insects from a container that was opened at the facility. The insects that were captured alive were submitted to Dr. Rick Hoebeke, Collection Manager, Museum of Natural History, University of Georgia who initially identified them as a male and female **Tremex woodwasp** *(Tremex fuscicornis).* New threats such as **Tremex woodwasp** *(Tremex fuscicornis)* have been introduced in international cargo with solid wood packing material (**SWPM**). This pest causes severe damage to healthy trees of importance in agriculture, arboriculture and forestry in Chile, and the host list of potential species closely matches the composition of our North Georgia native hardwood forest. These new pest introductions illustrate that increased global trade carries with it new challenges for our forest health program and emphasizes the importance of our early detection programs. A series of Lindgren funnel insect traps (baited with ethanol, alpha-pinene/ethanol, and Sirex lures) were deployed at high risk warehouses receiving solid wood packing materials near Savannah and Elberton Georgia. Trapping began in June with twenty (20) traps established (ten Sirex traps and ten additional traps to detect Tremex woodwasp) in the vicinity of warehouse sites; trapping was completed at the end of October. Traps were inspected on a two week interval with suspect catches being hand carried to Rick Hoebeke in Athens. Two suspect Tremex samples were collected late in the summer and were identified as ***Tremex columba* L**., the "pigeon horntail" and ***Urocerus cressoni*** Norton, the "black and red horntail." No *Sirex noctilio* have been caught in our traps to date.

Xyleborinus artestriatus	
Xyleborinus artestriatus	
Region 8	**Georgia:** (Chatham)
Host(s):	Unknown
Survey Date:	Summer 2013
Survey Method:	Delimit trapping / General Observation
Damage Type(s):	Unknown
Setting(s):	Industrial /Port/ Forest
Origin:	Non-Native
Acres Affected:	Undetermined
Affected Area:	Unknown
Narrative:	In 2010, a new United States record for *Xyleborinus artestriatus* was documented when the insect was found in a trap near a warehouse in Port Wentworth, Georgia. In 2011, trapping at this same warehouse resulted in the capture of forty-eight *X. artestriatus*, but none were caught at traps set a few miles from the initial catch site. In 2012, the forest health staff continued to catch *X. artestriatus* at the original warehouse, but *X. artestriatus* also was captured in four additional warehouses located within 2.5 miles from the initial catch area, which would suggest that this new exotic ambrosia beetle is established in coastal Georgia and is producing breeding populations. To date no damage has been documented on native vegetation in the area, and the preferred native plants have not been determined. For 2013, trap catch information is pending, but it has been confirmed from initial screening that *X. artestriatus* has been caught in traps in the Savannah area. These results will be included in the 2014 report.

Heterobasidion root disease	
Heterobasidion annosum	
Region 8	**Georgia:** Highest incidence of occurrence and most severe mortality from this disease is found in a zone from Augusta to Columbus and south for about 75 miles (correlating to the sandhills and upper coastal plain regions).
Host(s):	Loblolly pine
Survey Date:	Annual
Survey Method:	General Observation
Damage Type(s):	Mortality
Setting(s):	Rural Forest
Origin:	Native
Acres Affected:	Undetermined
Affected Area:	Thinned southern pine plantations, primarily Loblolly, region wide
Narrative:	The common name annosum root disease has been updated. It was brought to the attention of the forest health staff that The Northeastern pathologists have adopted a new scientific name, *Heterobasidion irregulare*, with the common name of Heterobasidion root disease. With USDA Forest Service and the University of Georgia updating the name, it was time to replace annosus root disease with Heterobasidion root disease. Widespread mortality caused by Heterobasidion root disease in recently thinned pine plantations (slash and loblolly) was reported in 2005, and the disease continues to cause ongoing damage with new sites being reported in 2013. Although the incidence of Heterobasidion root disease has declined, we continue to get calls to investigate infected stands. The region with the highest incidence and most severe mortality is a zone approximately 75 mile wide from Augusta to Columbus (corresponding to the sandhill and upper coastal plain regions). Ongoing educational outreach programs and one-on-one field visits with professional land managers have resulted in most foresters being able to diagnose this condition. Georgia Forestry Commission field foresters perform the majority of field inspections, and the forest health staff responded to support the field foresters as needed. Forest industry, consultants, and GFC foresters have performed field visits throughout the state and Heterobasidion root disease and pine bark beetles were the primary concern in many of these inspections. Georgia Forestry Commission field foresters recommend treatment of freshly-

	cut stumps in thinned stands with dry granular borax powder, such as Sporax® or water-soluble borate powder, such as Cellu-Treat® (disodium octaborate tetrahydrate). Consultants have observed that these treatments have been successful in thinned pine plantations with a high risk of Heterobasidion root disease. The general recommendation is to apply these treatments to stump surfaces with a spray applicator, to the point of runoff. Sporax® and Cellu-Treat® need to be applied within twenty-four hours of harvest.

Hemlock woolly adelgid	
Adelges tsugae	
Region 8	Georgia: (Rabun, Towns, Union, White, Habersham, Stephens, Lumpkin, Dawson, Fannin, Gilmer, Pickens, Murray, Dade and Walker Counties)
Host(s):	Eastern hemlock, Carolina hemlock
Survey Date:	Annual
Survey Method:	General Observation
Damage Type(s):	Mortality
Setting(s):	Rural Forest
Origin:	Nonnative
Acres Affected:	Undetermined
Affected Area:	HWA has now spread throughout the entire natural range of hemlock in Georgia.
Narrative: 	A survey for the hemlock woolly adelgid (HWA) was conducted in 2013 for the eleventh consecutive year. One temporary employee worked on this survey, concentrating on the western part of the Blue Ridge and the Cumberland Plateau in the northwest corner of the state. The hemlock woolly adelgid has now spread throughout the entire natural range of hemlock in Georgia. Surveys this year focused on tree condition and level of infestation in order to facilitate the supply of foliage to rearing labs and identify predator release opportunities. Many of the eastern stands are experiencing rapid decline and mortality. The counties with HWA include Rabun, Towns, Union, White, Habersham, Stephens, Lumpkin, Dawson, Fannin, Gilmer, Pickens Murray, Dade, and Walker. Georgia Forestry Commission provided assistance to the predator beetle rearing labs at Clemson University, University of Georgia, University of North Georgia and Young Harris College. Activities include scouting for and collecting foliage for rearing, scouting and preparing beetle release locations and releasing predators. GFC played a critical role in the logistics of delivering foliage to the labs and getting predators to the forest as the location of these activities moves greater distances from the labs. The Georgia Forestry Commission scouted for suitable foliage collection sites and delivered infested foliage as needed from November through early May. In 2013, GFC assisted in scouting and flagging predator release areas on the Chattahoochee National Forest, two Georgia State Parks, two Georgia Wildlife

	Management Areas and one land trust property. Twenty-two potential release areas were scouted. The GFC conducted 33 predator releases on 15 of the scouted sites, representing all four ownerships. Both *Laricobius nigrinus* and *Sasajiscymnus tsugae* were released at all fifteen sites. The first predator release in the Cumberland Plateau in Georgia was conducted on Lula Lake Land Trust property near Cloudland Canyon State Park. Georgia Forestry Commission continued to serve in an advisory capacity working with the Georgia Department of Natural Resources (DNR) to help survey and protect hemlocks on state lands. Work this year focused on developing plans for chemical treatment and predator releases on the Rich Mountain Wildlife Management Area-Cartecay Tract, Fort Mountain State Park, Cloudland Canyon State Park and adjacent Lula Lake Land Trust properties. Partnerships continue with non-profit groups with trained volunteers to chemically treat thousands of trees according to developed plans. The GFC assisted numerous cities, communities, homeowner associations and individuals regarding HWA. Kioritz soil injectors are available at GFC offices in Habersham, Union, Lumpkin, Gilmer, Fannin, Murray, and Pickens counties. One injector was also placed in Rabun County at the UGA Cooperative Extension Office. Most counties reported frequent use of the tool with some counties having a waiting list. An injector will be available for use in Northwest Georgia in 2013. At least 10 presentations were made to the public on HWA. The Georgia Forestry Commission continued to work with UGA researchers and others to gather the most up to date information on HWA. GFC public website postings were added and updated in an effort to relay this information. http://www.gatrees.org/forest-management/forest-health/hemlock-woolly-adelgid/

Rhizoctonia longleaf seedling blight	
Rhizoctonia	
Region 8	**Georgia:** (Ben Hill, Bulloch, Coffee, Dodge, Irwin, Jenkins, Jones, Pulaski, Screven, Telfair, Wheeler, Wilcox Counties and in Alabama)
Host(s):	Longleaf pine seedlings and saplings
Survey Date:	Annual
Survey Method:	General Observation
Damage Type(s):	Mortality
Setting(s):	Rural Forest
Origin:	Native
Acres Affected:	250 plus
Affected Area:	Three year old Longleaf pine plantation overtopped by prolific seeding of Partridge Pea.
Narrative:	Rhizoctonia seedling blight of longleaf pine was first observed in Georgia in 2010 causing mortality in longleaf seedlings. This mortality was associated with prolific seeding of partridge pea, which created excessive shading of the forest floor, restricted available sunlight, and possibly created a microclimate conducive to the success of the unwanted fungus. In 2013, Rhizoctonia seedling blight has decreased, and many landowners eliminated the use of partridge pea in warm season grass mixes. However, some landowners still report mortality due to the prolific seeding of partridge pea. Mowing infested fields is the standard control method followed by landowners, and the elimination of partridge pea from the seed mix is the best solution to the problem.

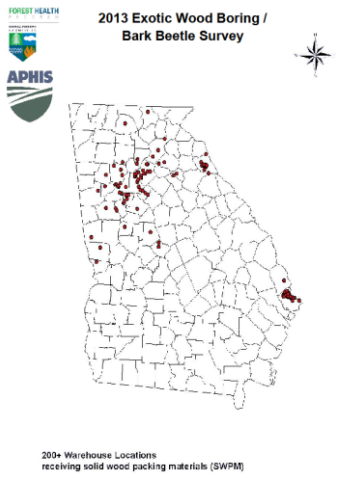
Pine engraver beetle	
Ips calligraphus, I. grandicollis, I. avulsus	
Region 8	**Georgia** (Appling, Atkinson, Bacon, Baker , Baldwin , Banks , Barrow , Bartow , Ben Hill , Berrien , Bibb , Bleckley , Brantley , Brooks , Bryan , Bulloch , Burke , Butts , Calhoun , Camden , Candler , Carroll , Catoosa , Charlton , Chatham , Chattahoochee , Chattooga , Cherokee , Clarke , Clay , Clayton , Clinch , Cobb , Coffee , Colquitt , Columbia , Cook , Coweta , Crawford , Crisp , Dade , Dawson , Decatur , DeKalb , Dodge , Dooly , Dougherty , Douglas , Early , Echols , Effingham , Elbert , Emanuel , Evans , Fannin , Fayette , Floyd , Forsyth , Franklin , Fulton , Gilmer , Glascock , Glynn , Gordon , Grady , Greene , Gwinnett , Habersham , Hall , Hancock , Haralson , Harris , Hart , Heard , Henry , Houston , Irwin , Jackson , Jasper , Jeff Davis , Jefferson , Jenkins , Johnson , Jones , Lamar , Lanier , Laurens , Lee , Liberty , Lincoln , Long , Lowndes , Lumpkin , Macon , Madison , Marion , McDuffie , McIntosh , Meriwether , Miller , Mitchell , Monroe , Montgomery , Morgan , Murray , Muscogee , Newton , Oconee , Oglethorpe , Paulding , Peach , Pickens , Pierce , Pike , Polk , Pulaski , Putnam , Quitman , Rabun , Randolph , Richmond , Rockdale , Schley , Screven , Seminole , Spalding , Stephens , Stewart , Sumter , Talbot , Taliaferro , Tattnall , Taylor , Telfair , Terrell , Thomas , Tift , Toombs , Towns , Treutlen , Troup , Turner , Twiggs , Union , Upson , Walker , Walton , Ware , Warren , Washington , Wayne , Webster , Wheeler , White , Whitfield , Wilcox , Wilkes , Wilkinson , Worth counties)
Host(s):	Loblolly, Slash, Shortleaf, Virginia pine
Survey Date:	Annual
Survey Method:	Aerial Survey / General Observation
Damage Type(s):	Mortality
Setting(s):	Rural Forest
Origin:	Native
Acres Affected:	Undetermined
Affected Area:	Southern pine plantations

Narrative:  	In 2013, GFC Forest Health Specialists flew a 30% statewide survey to detect the presence of southern bark beetle activity. During the early detection flights, in July, little to no mortality was observed due to active beetle infestation across the state. This lack of activity could have been attributed to increased rainfall across the state. During the late summer of 2013 significant Ips beetle activity was detected with ground or aerial surveys. Ips beetle activity was noted to be much greater than in 2012 and the amount of mortality from Ips Engraver Beetle was noted not in number of trees but in some areas as much as thirty acres of damage.
Southern pine beetle	
Dendroctonus frontalis	
Region 8	Georgia: 44 infestations detected in Georgia
Host(s):	Loblolly pine
Survey Date:	Annual Survey
Survey Method:	Aerial Survey / General Observation
Damage Type(s):	Mortality
Setting(s):	Rural Forest
Origin:	Native
Acres Affected:	1,100 Acres
Affected Area:	Southern pine plantations, region wide

Narrative:	The Georgia Forestry Commission (GFC) participates annually in the southern pine beetle (SPB) trapping program, which enables foresters to predict seasonal SPB population levels. Insect traps are deployed in early spring by GFC foresters and are checked weekly for at least four weeks. In the spring southern pine beetle prediction survey, conducted as a cooperative effort between U.S.D.A. Forest Service, Department of Defense (Fort Stewart), and Georgia Forestry Commission, a total of 37 traps were placed statewide. All prediction traps in Georgia indicated low SPB populations/activity for 2013, except two north Georgia traps with moderate activity. One trap on Department of Defense land in Bryan County showed high SPB activity and salvage work is being conducted on active beetle spots in the area. (See 2013 Southern Pine Beetle Prediction Map) http://www.gatrees.org/forest-management/forest-health/pine-bark-beetles/SouthernPineBeetlePredictionTrapping-2013.pdf \ Two areas of the state have seen significant beetle activity since this summer: Bryan and Appling counties. The spots in Appling County are located on The Nature Conservancy's Moody Forest Natural Area and work is being conducted to remove the beetle infested areas. Department of Defense lands in Bryan County have had high activity this year, following a few small spots in 2012. Approximately 37 spots have been detected there, ranging in size from 0.5 to 30 acres. Department of Defense is working to remove all beetle infested areas.
Sudden oak death	
Phytophthora ramorum	
Region 8	**Georgia** (Metro Atlanta Area)
Host(s):	No damage to Native Hosts Detected in Georgia
Survey Date:	Annual as stream temperatures are within survey parameters
Survey Method:	Stream Baiting and Bottle of Bait
Damage Type(s):	None
Setting(s):	Urban
Origin:	Nonnative
Acres Affected:	No damage to native hosts detected in Georgia

Affected Area:	Targeted watersheds near the positive nursery sites
Narrative:	The sudden oak death early detection program continued with 10 watersheds chosen in north Georgia to monitor for the presence of the pathogen *Phytopthora ramorum,* which is responsible for substantial west coast tree mortality. Sampling targeted watersheds that include Georgia's past positive nursery sites and watersheds with abundant new residential development in the metro Atlanta area. It is believed that many of the plants from these nurseries were sold and planted locally and could be causing further undetected *P. ramorum* infections in the landscape. In 2013, special focus was placed on watersheds adjacent to the new positive watershed detected in Forsyth County in 2012. Four new watersheds west of Atlanta, in an area that has had no early detection sampling to date, were also chosen for sampling. In addition, stream-baiting continued in two watersheds producing multiple positive samples in the past few years. Both of these watersheds have nurseries that had positive plants and soil in the past. Georgia Forestry Commission continues to sample at five locations in these two positive watersheds. All stream sampling in 2013 was done using the bottle of baits (BOB) method. Two 900ml samples were taken at each site and baited with a whole rhododendron leaf and ten punched rhododendron leaf pieces per bottle. Samples were incubated before being sent to the lab. All samples from three spring periods in 2013 were negative for *P. ramorum*. Three additional sampling periods will be completed in October and November of 2013.

Exotic wood boring / bark beetle	
Various	
Region 8	**Georgia** (Elberton and Savannah Area)
Host(s):	Solid Wood Packing Material
Survey Date:	April – October, 2013
Survey Method:	Warehouse Survey
Damage Type(s):	None
Setting(s):	Warehouse
Origin:	Nonnative
Acres Affected:	None

Affected Area:	None
Narrative: 	Fifty-two (52) new facilities were found as potential risks in 2013 with over two-hundred (200) total facilities identified as potential risks for exotic pest introductions statewide. Over 130 site visits were made to these facilities this year for warehouse inspection and trapping of nonnative bark and ambrosia beetles; thirty-six (36) traps were established and monitored between March 16 and October 31, 2013. An additional twenty (30) emerald ash borer (EAB), twenty-five (10) Tremex woodwasp and ten (10) Sirex woodwasp traps were deployed at multiple locations in the Elberton and Savannah area. An estimate of the number of trees located at each facility was determined as well as their health. No declining or dying trees were noted during the 2013 survey. It was also noted how long each warehouse existed at a location. An older warehouse has more potential for a pest introduction than a facility that had operated for a short period of time. In 2013, the forest health staff continued to catch *X. artestriatus* at the original warehouse, but *X. artestriatus* also was captured in four additional warehouses located within 2.5 miles from the initial catch area To date no damage has been documented on native vegetation in the area, and the preferred native plants have not been determined. For 2013, trap catch information is pending, but it has been confirmed from initial screening that *X. artestriatus* has been caught in traps in the Savannah area. These results will be included in the 2014 report. In 2013, Reggie Morgan conduct early detection insect trapping around facilities accepting international cargo. A contact in a warehouse in Elberton, Georgia collected insects from a container that was opened at the facility, Two suspect Tremex samples were collected late in the summer and presented to Dr. Hoebeke for identification. The two specimens were ***Tremex columba* L.**, the "pigeon horntail" and ***Urocerus cressoni*** Norton, the "black and red horntail."

Emerald ash borer	
Agrilus planipenis	
Region 8	**Georgia** (Statewide)
Host(s):	Ash
Survey Date:	April – August 2013
Survey Method:	Systematic Trapping / Ground Observation
Damage Type(s):	None Noted
Setting(s):	Rural Forest / Urban
Origin:	Nonnative
Acres Affected:	None
Affected Area:	None

Narrative:

The emerald ash borer (EAB) has devastated ash trees in the northeast and mid-west and could have the same impact in Georgia. EAB was introduced in Detroit, Michigan in 2002 and has since been detected in 21 states and Canada. Georgia has been part of a nationwide trapping program to detect the presence of this forest pest since 2005.

EAB was discovered in DeKalb and Fulton Counties, Georgia, in July 2013 as part of this national detection survey funded by USDA Animal and Plant Health Inspection Service (APHIS). In 2013, more than 400 traps were established throughout the state by Georgia Forestry Commission, Georgia Department of Agriculture, University of Georgia, Athens, and private contractors. These traps targeted areas with increased risk of introduction, such as campgrounds and cargo centers, and traps were placed in stands with a high component of ash trees (Fraxinus spp.). Only two traps out of the 400 returned positive for emerald ash borer.

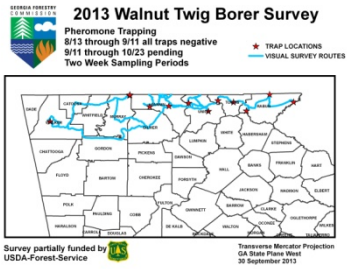
The discovery of EAB in Georgia prompted the release of a Frequently Asked Questions (FAQ) sheet (http://gatrees.org/forest-management/forest-health/alerts-and-updates/FAQ-EAB-GA.pdf), an emerald ash borer update for Georgia (http://gatrees.org/forest-management/forest-health/alerts-and-updates/EAB-GAUpdate.pdf), and regulated areas are proposed for DeKalb and Fulton counties. These are the first steps in Georgia's efforts to alert residents about the severity of this new pest and to prevent potentially infested ash material from spreading outside this area. In the winter of 2013 there will be emerald ash borer workshops held to inform landowners and communities about EAB, and information will be updated as new information is released. Information is being maintained on our public website at: http://gatrees.org/forest-management/forest-health/eab/index.cfm

Both the Georgia Forestry Commission and Department of Agriculture are concerned about this pest spreading unchecked. Quarantine regulations have been drafted to prevent potentially infested ash material from spreading by human-assistance outside the proposed quarantine area. Both agencies will work with forest landowners, loggers, firewood producers, nurseries, municipalities and others to insure that commerce can still occur while safeguards are in place to prevent emerald ash borer movement. Early detection of this new invasive insect is critical to the protection of the forests of Georgia; with positive catches in metro Atlanta, it will be imperative to trap for emerald ash borer across north Georgia in 2014.

In 2013, EAB traps were deployed across Georgia in an attempt to detect new introductions present in Georgia. Between April and September triangular, purple, sticky traps (baited with a manuka oil lure and a Hexenol lures) were deployed and inspected every two months for suspect EAB. The Georgia Forestry Commission established 145 traps using GFC, UGA Warnell School of Forestry and Natural Resources, and Georgia Department of Agriculture personally. Additionally, Delta-21 Resources, Inc. contracted with APHIS and set the remainder of the 400 traps.

	Georgia Forestry Commission Trap Establishment **Trap Locations** **2013** **Forest / Roadside / Camp/Park** 118 **Warehouse/Distributor** 20 **Other** 7 **Total** **145** *This includes traps deployed by Georgia Department of Agriculture, and University of Georgia. Does not include the traps set by Delta-21 Resources, Inc

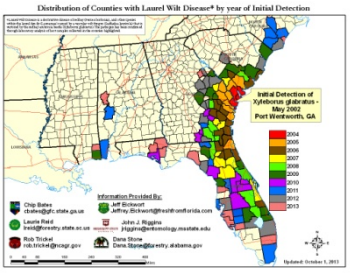
Thousand canker disease / Walnut twig borer	
Pityophthorus juglandis	
Region 8	**Georgia** (North Georgia)
Host(s):	Black walnut
Survey Date:	June – October 2013
Survey Method:	Ground Survey
Damage Type(s):	None Noted
Setting(s):	Rural Forest

Origin:	Nonnative
Acres Affected:	None
Affected Area:	None
Narrative: 	The Georgia Forest Health Staff is concerned about the rapid spread of the walnut twig borer and the associated thousand cankers disease from its recent introduction near Knoxville, Tennessee. In 2013, the pheromone trapping for walnut twig borer was expanded from ten to twelve locations, focusing more closely on the counties sharing boundaries with Tennessee and North Carolina. The sites are either pure black walnut plantations or bottomland forests with a large component of black walnut. Five sites were in the Chattahoochee National Forest, two on state property, two on Tennessee Valley Authority land, and three on private property. The survey began in mid-August and lasted through five 2 week periods. Samples were collected every two weeks and sent to Dr. Rick Hoebeke, Collection Manager, Museum of Natural History, University of Georgia, for identification. Results for all sampling periods were negative for the walnut twig beetle (*Pityophthorus juglandis*). Results for all trapping periods can be seen in the **(Appendix A - "Thousand Canker Disease")** In 2013, we also began windshield surveys for thousand canker disease on various routes connecting the trapping sites. Routes totaled 371 miles as of 30 September with approximately 2,500 black walnut trees observed along the routes. Trees showing twig die-back were inspected more carefully. No suspected thousand canker disease was found on these routes.

Sirex woodwasp	
Sirex noctilio	
Region 8	**Georgia** (Statewide)
Host(s):	Solid Wood Packing Material
Survey Date:	April – September 2012
Survey Method:	Warehouse Survey
Damage Type(s):	None Noted
Setting(s):	Warehouse
Origin:	Nonnative
Acres Affected:	None

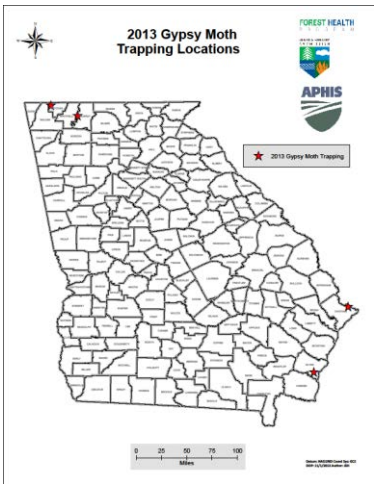
Affected Area:	None
Narrative:  	Huge losses of both loblolly and slash pine have occurred on other continents due the Sirex Woodwasp *Sirex noctilio*, and it remains as a high concern pest that has yet to be detected in Georgia (or the southeastern U.S). The sirex woodwasp poses a threat to all of Georgia's southern yellow pines and warrants monitoring through our early detection rapid response protocols. A series of Lindgren funnel insect traps (baited with ethanol, alpha-pinene/ethanol, and Sirex lures) were deployed at high risk warehouses receiving solid wood packing materials near Savannah and Elberton Georgia. Trapping began in June with twenty (20) traps established (ten Sirex traps and ten additional traps to detect Tremex woodwasp) in the vicinity of warehouse sites; trapping was completed at the end of October. Traps were inspected on a two week interval with suspect catches being hand carried to Rick Hoebeke in Athens. Two suspect Tremex samples were collected late in the summer and were identified as ***Tremex columba* L.**, the "pigeon horntail" and ***Urocerus cressoni*** Norton, the "black and red horntail." No *Sirex noctilio* have been caught in our traps to date. No *Sirex noctilio* have been caught in our traps to date.

Laurel wilt disease	
Raffaelea lauricola	
Region 8	**Georgia:** (Appling, Atkinson, Bacon, Brantley, Bryan, Bulloch, Burke, Camden, Candler, Charlton, Chatham, Clinch, Coffee, Echols, Effingham, Emanuel, Evans, Glynn, Jeff Davis, Jefferson, Jenkins, Johnson, Lanier, Laurens, Liberty, Long, Lowndes, McDuffie, McIntosh, Montgomery, Pierce, Richmond, Screven, Tattnall, Toombs, Ware, Warren, Washington, Wayne, Wheeler Counties)
Host(s):	Redbay, Sassafras, Camphor, Avocado, Pondspice, Pondberry
Survey Date:	Annual
Survey Method:	Annual Survey / General Observation

Damage Type(s):	Mortality
Setting(s):	Rural Forest / Urban
Origin:	Nonnative
Acres Affected:	8 Million Acres
Affected Area:	Southeast Georgia
Narrative: 	In 2013, LWD has been confirmed in several distant locations to the west including: one new county in Mississippi in the Pascagoula River drainage, four new counties in the Florida Panhandle, and one new county in Alabama where it is killing sassafras in the absence of redbay. The advance of LWD in Georgia has been documented through contacts with landowners, directed road surveys, and assessments of monitoring plots by Georgia Forestry Commission Forest Health personnel. The presence of LWD in previously uninfected counties has been confirmed by submitting wood samples from symptomatic trees to Steve Fraedrich, USDA Forest Service, Athens, GA, for laboratory culture and identification of the pathogen, *Raffaelea lauricola*. LWD was confirmed in nine new counties in 2012 and one new county through September 2013, five of which were from sassafras trees in areas where redbay is scarce or absent. As of October 2013, the disease front in Georgia extends about 150 miles to the northwest, 130 miles to the west, and 175 miles to the southwest from where it was originally discovered near Savannah and includes 40 counties, where approximately eight (8) million acres of forest have been subjected to the disease. The rate of spread has varied along the advancing disease front in Georgia from over 17 miles/year in the southern coastal plain, where redbay trees are well distributed, to about 9 miles/year to the west in the upper coastal plain where host plants are widely scattered. The rate of spread in Georgia appears to have slowed in areas with sparse host. In 2012 and 2013 much of the disease spread has occurred in sassafras trees, indicating that LWD can infect sassafras in the absence of redbay and may spread beyond previously predicted limits. An Environmental Monitoring project supported by the USDA Forest Service was initiated in 2009 by the Georgia Forestry Commission to document the spread of laurel wilt in Georgia and further our understanding of the disease process in both redbay and sassafras. Standardized permanent plots were established in redbay and sassafras habitats behind, at, and beyond the advancing disease front to document the LW disease progress, vegetation changes, and survival of host regeneration in southeast Georgia. Sixteen redbay and eight sassafras plots were established in the winter/spring of 2009 and each plot has been reassessed eight times through the summer of 2013. Redbay trees with symptoms of LWD die rapidly and are colonized by ambrosia beetles within several months. Nearly all redbay trees greater than one inch DBH are killed by LWD within 3 to 4 years after the first symptomatic trees are observed in a local area. Disease progression is most rapid in areas with high volumes of redbay, and it is slower in the presence of smaller, more

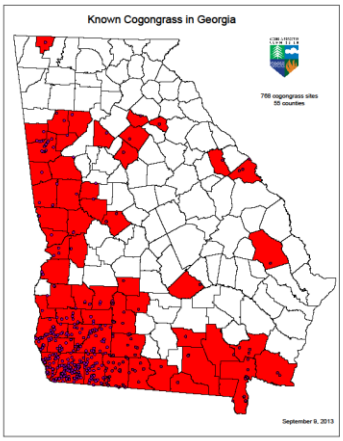
	scattered host trees. In most areas, redbay sprouts and regeneration are abundant after the disease runs its course; however the redbay ambrosia beetle and *R. lauricola* remain active at low levels many years after the initial epidemic has passed. Laurel wilt infects sassafras in a rather haphazard fashion, sometimes killing scattered individual trees; other times killing entire thickets, while other groups of sassafras trees in the area are left unaffected. The largest sassafras trees tend to be killed first and disease spread is sometimes rapid in dense thickets, apparently aided by movement of the fungus through interconnected lateral roots. Most trees in a stand are killed within 3 years of the initial infection; however some small trees usually remain alive after the disease has run its course, and two sassafras disease episodes appeared to stop spreading with many trees remaining alive. Ambrosia beetle attacks are most evident at the bases of sassafras trees killed by LWD. Redbay ambrosia beetles are capable of spreading laurel wilt disease in sassafras in the absence of redbay and substantial brood can be produced in larger sassafras trees. Progress reports have been produced detailing the GFC Laurel Wilt Evaluation Monitoring project. The first was completed in 2011, entitled "Evaluation of Laurel Wilt Disease in Georgia: Progression in Redbay and Sassafras – 2008-2010." A poster presentation, "Progression of Laurel Wilt in Georgia, 2009-2011" was prepared for the 2012 Forest Health Monitoring Working Group Meeting and is posted on the National Forest Health Monitoring website. Also, a document summarizing this project with the same title as the poster was published in the 2012 Forest Health Monitoring National Technical Report. The final assessments of the permanent plots established for this project were conducted during the summer of 2013 and a final report is being prepared. The Georgia Forestry Commission continues to work with the USDA Forest Service, and other partners to document the spread of this destructive nonnative invasive insect and disease. Long distance spread of LWD continues to occur, emphasizing a need for more effective education concentrating on limit movement of host materials harboring RAB. Additional information on LWD can be found at: http://gatrees.org/forest-management/forest-health/laurel-wilt-disease/index.cfm This Georgia Forestry Commission web page provides a summary of this disease, as well as links to a distribution map, progress reports, a poster presentation, and the USDA Forest Service Laurel Wilt website http://www.fs.fed.us/r8/foresthealth/laurelwilt/index.shtml

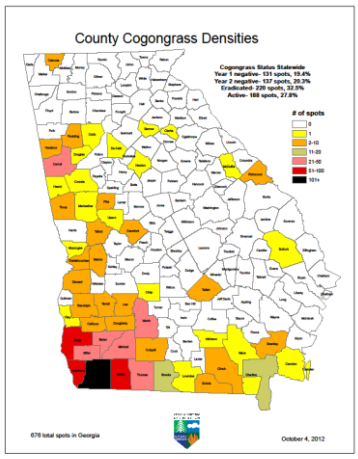
Gypsy moth	
Lymantria dispar	
Region 8	**Georgia** (No Gypsy Moth established in Georgia)
Host(s):	Hardwood

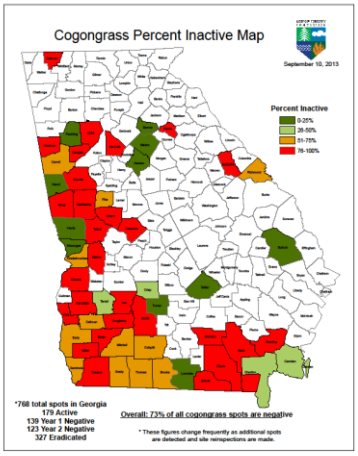
Survey Date:	May – August 2013
Survey Method:	Ground Survey
Damage Type(s):	None
Setting(s):	Rural Forest
Origin:	nonnative
Acres Affected:	No Infestation Detected in Georgia
Affected Area:	Urban and rural areas around two regional camp grounds
Narrative:	The following accomplishments summarize the work done by the Georgia Forestry Commission. A total of **1197 traps** were placed in four (4) counties across the state by GFC Rangers, Technicians, and Foresters. There were 728 traps deployed for Port Environment/Waterway surveys, 302 traps deployed for detection, and 167 delimiting traps set. All traps were negative for gypsy moth. Accomplishments: GFC personnel deployed traps across the state in Four (4) counties in 2013 with the following counties being trapped: Chatham, Glynn, Catoosa, and Murray counties. In 2013 gypsy moth traps were established for three distinct accomplishment goals: Port/Waterway Environment Survey, Detection Trapping, and Delimiting Surveys. A total of 839 traps were placed in Chatham County, 274 traps were established in Glynn County, 60 traps in Murray County and 24 traps in Catoosa County.  The Port of Savannah is the 4th largest port in the nation and Brunswick is the 6th largest automobile processing port in the nation. With this much overseas cargo, it was determined that these two ports justified Port Environment/Waterways surveys. In Chatham County 688 traps were established from the mouth of the Savannah River, through the waterfront of historic Savannah, and around the Port of Savannah to the Houlihan Bridge north of Savannah. No Positive traps were detected in this portion of the survey. The Port of Brunswick, in Glynn County, specializes in break bulk, agricultural bulk and roll on roll off cargo. There are approximately 1,700 acres on the facility and 40 traps were established around the port. Again, no positive traps were detected. The communities around the Port of Savannah and the City of Brunswick were surveyed using detection trapping in 2013. There were 122 traps established in the surrounding neighborhoods and communities adjoining the Port of Savannah and 180 traps were established in the City of Brunswick. No Positive traps were identified in this detection survey. In 2012, eight positive gypsy moth catches were made in Chatham, one in Glynn, one in Catoosa, and one in Murray counties. Delimiting trapping was performed around each of the 2012 positive sites and the following traps were established in each county: Chatham - 29 traps, Glynn - 54 traps,

	Catoosa - 24 traps, Murray - 60 traps. All delimiting trapping was negative. A grand total of **1197** traps were deployed in Georgia in 2013.

Japanese climbing fern	
Lygodium japonicum	
Region 8	**Georgia:** (Established across all of south Georgia's counties as far north as Augusta, Georgia in Richmond county)
Host(s):	Non Specific
Survey Date:	Year Round
Survey Method:	General Observation
Damage Type(s):	None
Setting(s):	Rural and Urban Forest
Origin:	nonnative
Acres Affected:	Undetermined
Affected Area:	Wide spread across south and central Georgia
Narrative:	Six years ago Japanese climbing fern was virtually unknown in Georgia. However, this plant is now perceived as a potential threat to the health of Georgia's forests, with initial estimates showing approximately 16,000 acres of Japanese climbing fern in Georgia. The new Forest Inventory and Analysis survey for 2013 indicates a **26% increase** in acreage infested with Japanese climbing fern; in two years there was an increase of 4,292 acres infested with climbing fern. Increased awareness of this plant has led to a dramatic increase in sightings and identification of this pest. To date Japanese climbing fern has been found as far north as Atlanta and Athens in Georgia. Recent field trials show good results in the first year control using 5% glyphosate plus one and a half ounces of metsulfuron (Escort® XP) (in one hundred gallons of solution) sprayed in late summer to early fall. First year evaluations show approximately 95% control and very little sprouting in the test area. Sites with dense, multiple layers of Japanese climbing fern often required two treatments of glyphosate in the same growing season to eliminate all layers of fern.

Cogongrass	
Imperata cylindrica	
Region 8	**Georgia:** (Atkinson, Baker, Barrow, Brantley, Brooks, Bulloch, Calhoun, Camden, Carroll, Catoosa, Charlton, Chattahoochee, Clarke, Clay, Clinch, Cobb, Colquitt, Coweta, Crawford, Crisp, Decatur, DeKalb, Dougherty, Douglas, Early, Echols, Grady, Haralson, Heard, Lee, Lowndes, Marion, McDuffie, Meriwether, Miller, Mitchell, Muscogee, Newton, Paulding, Pike, Randolph, Richmond, Seminole, Stewart, Talbot, Telfair, Terrell, Thomas, Troup, Upson, Ware, Worth Counties)
Host(s):	All
Survey Date:	Year Round
Survey Method:	Ground Survey / General Observation
Damage Type(s):	Mortality
Setting(s):	Rural Forest
Origin:	Nonnative
Acres Affected:	195
Affected Area:	Region wide
Narrative: 	There have been 91 new cogongrass infestation sites reported and treated by the GFC during this fiscal year. Confirmed detections of cogongrass decreased in 2012 <u>for the first time since the GFC began its leadership role in cogongrass detection and eradication.</u> The 2013 detections continue to follow the downward trend set in 2012. The GFC continues to treat all new sites with herbicide, normally imazapyr and glyphosate, at no cost to landowners. This assistance is only possible through an ongoing grant provided by the USDA Forest Service. This nonnative invasive weed has now been found in **55** Georgia counties, involving **768** sites. Harris, Turner and Walton counties each had single cogongrass detections in 2013. In Georgia, **195 acres** of cogongrass have been treated with all known sites being sprayed at least once. Most of the infestations in Georgia are between **1/20 - 1/4** acre in size and are not visible from an aerial detection survey. Ground survey and field reconnaissance are the only reliable means of detection. During the post treatment inspection process, approximately **77%** of all known sites are being reported as negative for cogongrass. Three consecutive years of negative evaluation is required for a cogongrass site to be deemed as eradicated. There are 139 sites in Georgia that have shown one year of negative post inspection, 123 sites that have shown two years of negative post inspection and **<u>327 sites have been declared eradicated</u>**. The chart below displays the status trends over the past three years. During this fiscal year there were 171 herbicide treatments with 146 post treatment evaluations. This includes new detections treated along with spot treatments being made on prior year sites. Herbicide treatments have been effective with the majority of all sites now being controlled within two growing seasons based on the current herbicide mixture and rates. These mixes and rates are published in a paper produced by the forest health staff and the USDA Forest Service. These recommendations are posted on the Georgia Forestry Commission's public web site:





Cogongrass Eradication Strategies
http://gatrees.org/forest-management/forest-health/cogongrass/GFCCogongrassEradicationStrategiesrevMarch2010.pdf

In an effort to increase public awareness and education, an information newsletter is posted semi-annually on the GFC Homepage and is e-mailed to landowners and partners across the Southeast. This newsletter contains reminders for landowners to be vigilant for new infestations of cogongrass, gives pictures for identification purposes, and provides an update on the current status of cogongrass infestations in Georgia. This newsletter is published on the GFC Homepage:

Cogongrass in Georgia: Spring 2013Update
http://gatrees.org/forest-management/forest-health/cogongrass/CogongrassinGAUpdate-NL.pdf

A county density map depicts local infestations and more accurately shows the spread of cogongrass in Georgia. This map is published on the GFC Homepage:

County Density Map
http://gatrees.org/forest-management/forest-health/cogongrass/CogongrassCountyDensityinGA.pdf

An additional map was created in 2011 to show the ***Percentage of inactive cogongrass sites*** in each Georgia county.
http://gatrees.org/forest-management/forest-health/cogongrass/CogongrassPercentInactiveMap.pdf

The cogongrass banner stands created by the forest health staff have been utilized at numerous public events and workshops. In addition, a cogongrass poster created in 2011 was distributed and displayed in state and federal government offices as well as in local community stores.

Pitch canker	
Fusarium circinatum	
Region 8	**Georgia** (Appling , Atkinson , Bacon , Baker , Baldwin , Banks , Barrow , Bartow , Ben Hill , Berrien , Bibb , Bleckley , Brantley , Brooks , Bryan , Bulloch , Burke , Butts , Calhoun , Camden , Candler , Carroll , Catoosa , Charlton , Chatham , Chattahoochee , Chattooga , Cherokee , Clarke , Clay , Clayton , Clinch , Cobb , Coffee , Colquitt , Columbia , Cook , Coweta , Crawford , Crisp , Dade , Dawson , Decatur , DeKalb , Dodge , Dooly , Dougherty , Douglas , Early , Echols , Effingham , Elbert , Emanuel , Evans , Fannin , Fayette , Floyd , Forsyth , Franklin , Fulton , Gilmer , Glascock ,

	Glynn , Gordon , Grady , Greene , Gwinnett , Habersham , Hall , Hancock , Haralson , Harris , Hart , Heard , Henry , Houston , Irwin , Jackson , Jasper , Jeff Davis , Jefferson , Jenkins , Johnson , Jones , Lamar , Lanier , Laurens , Lee , Liberty , Lincoln , Long , Lowndes , Lumpkin , Macon , Madison , Marion , McDuffie , McIntosh , Meriwether , Miller , Mitchell , Monroe , Montgomery , Morgan , Murray , Muscogee , Newton , Oconee , Oglethorpe , Paulding , Peach , Pickens , Pierce , Pike , Polk , Pulaski , Putnam , Quitman , Rabun , Randolph , Richmond , Rockdale , Schley , Screven , Seminole , Spalding , Stephens , Stewart , Sumter , Talbot , Taliaferro , Tattnall , Taylor , Telfair , Terrell , Thomas , Tift , Toombs , Towns , Treutlen , Troup , Turner , Twiggs , Union , Upson , Walker , Walton , Ware , Warren , Washington , Wayne , Webster , Wheeler , White , Whitfield , Wilcox , Wilkes , Wilkinson , Worth)
Host(s):	Southern Pines
Survey Date:	
Survey Method:	Aerial Observation / General Observation
Damage Type(s):	
Setting(s):	Rural Forest
Origin:	Native
Acres Affected:	
Affected Area:	Southern pine plantations,
Narrative:	Georgia continues resistance screening of slash pine seedlings for pitch canker in cooperation with the USFS Asheville Field Office and several families are resistant to the disease. Pitch Canker resistant seedlings are now offered for sale through the Georgia Forest Commission nursery.

Fall webworm	
Hyphantira cunea	
Region 8	**Georgia** (South Georgia)
Host(s):	Hardwoods
Survey Date:	Fall
Survey Method:	General Observation
Damage Type(s):	Defoliation
Setting(s):	Rural Forest
Origin:	Native

Acres Affected:	Undetermined
Affected Area:	Southern East Georgia
Narrative:	Fall web worm is normally a minor nuisance that is not well tracked in the state. Due to extremely high rainfall levels in 2013 there was a distinct increase in the number of reports of this pest on hickory and pecan trees across the state. The Georgia Forestry Commission no longer conducts individual landowner "Shade tree" cases and the majority of these reports were from homeowners with individual infestation. This has not been of great concern in the state and we have not seen greater than normal outbreaks. We do not expect any long term effects from this pest.

Eastern tent caterpillar	
Malacosoma americanum	
Region 8	**Georgia** (South Georgia)
Host(s):	Hardwoods
Survey Date:	Fall
Survey Method:	General Observation
Damage Type(s):	Defoliation
Setting(s):	Rural Forest
Origin:	Native
Acres Affected:	Undetermined
Affected Area:	Southern East Georgia
Narrative:	In 2013 there were very few cases reported statewide. This is a minor nuisance that is not well tracked in the state. Normally this is a pest of Black cherry trees and very few cases are ever reported and The Georgia Forestry Commission. The Georgia Forestry Commission no longer conducts individual landowner "Shade tree" cases and the majority of these reports were from homeowners with individual infestation. This has not been of great concern in the state. We do not expect any long term effects from this pest.

Appendix A:

Walnut Twig Borer Survey, Georgia 2013				
Trapping Period	**Date**	**Scolytinae Taxon**		**Site Type**
4th Georgia samples				
~~Location Code~~	~~Date~~	~~Scolytinae Taxon~~		
YOUNGHARRI	10/8/2013	no scolytinae		Plantation
TOCCOARIV1	10/9/2013	no scolytinae		River Bottom
ALACULSYV2	10/7/2013	no scolytinae		River Bottom
ESTELLECAM	10/7/2013	*Phloeotribus* sp.		River Bottom
DEVILSDENRD	10/9/2013	no scolytinae		Plantation
RGNSALLENB	10/8/2013	no scolytinae		Plantation
MOCCASINSP	10/8/2013	no scolytinae		River Bottom
DANENPORT1	10/9/2013	no scolytinae		River Bottom