



Georgia Forest Health Highlights 2009



Annosum Root Disease

Widespread damage in recently thinned pine plantations (Slash and Loblolly) was first detected in 2005, and the disease continues to cause ongoing damage with new sites reported in 2009. The primary region with the highest incidence and most severe mortality is a zone from Augusta to Columbus and south for about 75 miles (correlating to the sandhills and upper coastal plain regions). Ongoing outreach and many one-on-one field visits with professional land managers have resulted in most foresters being able to diagnose this condition.

Southern Pine Beetle

Minimal pine beetle activity has been detected by ground and aerial surveys in 2009—only 24 spots were recorded statewide, all on private or state lands. *Ips* and black turpentine bark beetles have caused many smaller spots in these drought stressed stands. GFC foresters have worked with numerous researchers seeking active SPB spots to offer site visits for their on-going work requiring active infestations. GFC foresters conducted the southern pine beetle prediction-trapping program—20 counties were trapped in 2009, and all projected low SPB levels. These predictions proved accurate with the low SPB numbers revealed during the aerial survey.

Hemlock Woolly Adelgid

The hemlock woolly adelgid (HWA) was first discovered in Georgia in 2003, and has spread at a rapid pace throughout the hemlock range. The counties with HWA include: Dawson, Fannin, Gilmer, Habersham, Lumpkin, Murray, Rabun, Stephens, Towns Union and White. The photo at right shows HWA ovisacs on a hemlock branch. The GFC continued to assist the UGA predator beetle rearing lab by supplying infested branch material. GFC survey employees were used to scout for suitable collection sites. Loads of infested branches were delivered as needed from December through early June. GFC also served as

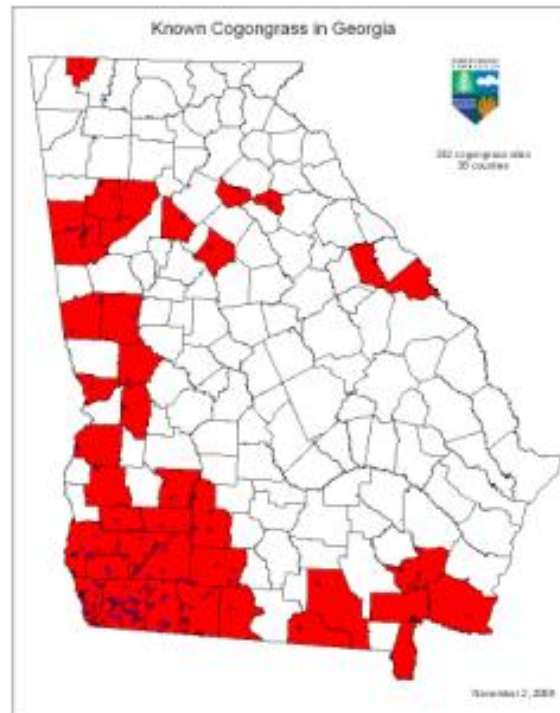


a site locator for the release of predator beetles raised by Georgia labs and the Clemson University lab. The Georgia Department of Natural Resources (State Parks Division) has conducted annual surveys and insecticide treatments of high value hemlocks on their lands. The fruits of this effort were great with 1053 trees (total DBH of 11,763 inches) treated in 2009. The GFC has been directly involved in the selection of predator beetle release sites and the actual releases on DNR lands. The GFC has assisted numerous cities, communities, homeowner associations and individuals regarding

HWA. Public awareness of the kioritz injectors available at GFC offices in Habersham, Union, Lumpkin, Gilmer and Fannin Counties has increased. An injector was also placed at the Rabun County Cooperative Extension Office. Most counties reported frequent usage of the tool with some counties having to use a waiting list. At least 8 presentations were made to the public on HWA. GFC public website posting were added and updated in an effort to relay current information. The GFC organized and offered a regional HWA workshop at North Georgia College in Dahlonega in February. Over 100 persons attended this session from 3 states, and based upon this interest, similar sessions will be planned and executed periodically to keep our key partners updated on this hot-button issue.

Invasive Weeds & Cogongrass:

Although many invasive plants cause problems within Georgia, most of our efforts have focused on Cogongrass and Chinese Privet. Our “Cogongrass Task Force” continues their mission in Georgia to address the threat this plant has toward our environment. Training has been given to resource professionals throughout the state, and the educational campaign continues to help landowners identify the plant. Once landowners find suspect plants, they then notify the GFC to verify the identification, and if confirmed is treated by the GFC (at no charge to landowners). All known cogongrass infested sites are being treated by either the GFC, APHIS, or in a few cases the landowners. The GFC continues to treat the majority of sites with herbicide at no cost to landowners (through the assistance of an ongoing grant with the USDA Forest Service). This noxious weed has now been found in 37 Georgia Counties, involving over 327 sites (map above). All known sites have been sprayed at least once with approximately 30% of all known sites now being negative for cogongrass. The GFC spearheaded an effort to bring all concerned groups and agencies into this umbrella of detecting cogongrass. A total of 23 state, federal and private partners signed an agreement to establish the entire state of Georgia as a Cooperative Weed Management Area for cogongrass in May 2008. These partners were contacted last winter (February) to remind them of the flowering and seeding period that makes it recognizable and literature was mass printed and given to all partners who expressed interest. The combined effort of this group should have far reaching impacts to help educate the public about cogongrass as well as help locate all infested sites.



Privet

The forest health staff has continued a widespread effort to test various herbicides, timing and rates



to eradicate Chinese privet. This is the most widespread and harmful non-native invasive plant to Georgia's forests (FIA data indicates 377,000+ forested acres in Georgia have privet). A major test of aerially treating Chinese privet in a hardwood understory during the dormant season was executed in the winter of 2008-09. Results of this field trial was documented in the report *Aerial Glyphosate Application to Control Privet in Mature Hardwood Stands* showing the effectiveness of privet control as well as any collateral damage to the overstory hardwoods. This report can found on the web at:

<http://www.gatrees.org/ForestManagement/documents/AerialGlyphosateApplicationtoControlPrivet2009.pdf>. The results indicate that for the piedmont of Georgia, this is a viable option for land managers where overstory species are similar to the treatment areas. The GFC will attempt a similar trial in the coastal plain where species composition is different and results could vary accordingly. An invasive plant incentive program was developed through the American Recovery and Reinvestment Act (ARRA) to create new jobs and assist landowners with controlling cogongrass, Chinese privet, Chinese tallowtree, Japanese climbing fern, multiflora rose, and autumn olive. More information on this opportunity can be found at: <http://www.gatrees.org/Recovery/Index.cfm>.

Sudden Oak Death

The sudden oak death monitoring program continues and 10 sites were chosen in northeast Georgia to detect the presence of the pathogen to blame for west coast tree mortality (*Phytophthora ramorum*). Stream baiting sites targeted watersheds near the positive nursery sites in the metro Atlanta area with the belief that many of these plants were sold and planted locally and could be causing further *P. ramorum* infections in the landscape undetected. Multiple stream-baiting samples were positive in close proximity to a commercial nursery operation that was found to have positive plants (and soil) by surveys conducted by the Georgia Department of Agriculture. Ground surveys near the site did not reveal any infected native vegetation. Stream surveys continue near the site for the remainder of 2009 (and 2010).

Sirex Woodwasp

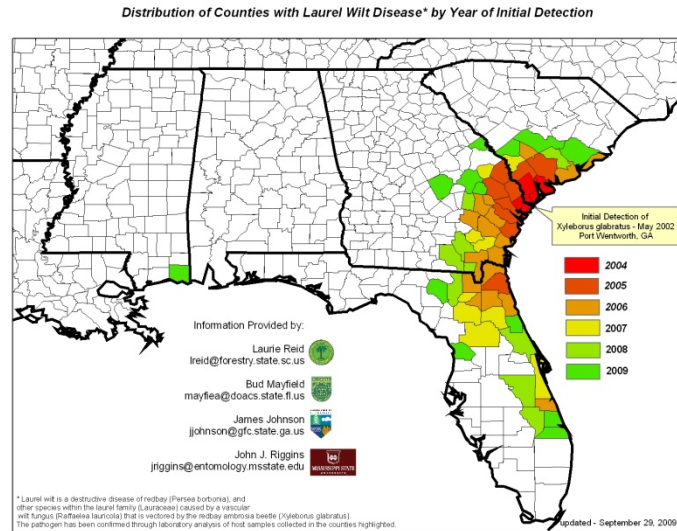
The sirex woodwasp poses a threat to all of Georgia's southern yellow pines. Insect traps (baited for Sirex) are deployed throughout the state in early fall (late October through mid November) to detect any *Sirex noctilio* that might be present. Native siricids are targeted to donate to UGA for their ongoing research to better understand our native woodwasp populations and how the non-native woodwasp may be impacted by our complex ecosystems in the southeast. These traps are checked every 2-3 days and any suspect siricids are screened for ID by the forest health staff. No *Sirex noctilio* have been caught in our traps. The GFC forest health staff continues to partner with researchers (UGA) in their quest for additional biology on the native woodwasps, and suppression techniques that could be used in the event this non-native insect invades Georgia. Huge losses of

both loblolly and slash pine have occurred on other continents due to this insect, and it remains as a high concern pest that hasn't yet arrived in Georgia (or the southeastern U.S.).

Laurel Wilt Disease

Laurel wilt disease (LWD), caused by the fungus *Raffaelea lauricola*, is a disease of plants in the Lauraceae family in the United States, vectored by an introduced Asian ambrosia beetle (Redbay Ambrosia Beetle), *Xyleborus glabratus*.

This disease has spread rapidly through the abundant redbay, and sassafras in the maritime and coastal plain forests northward in South Carolina, south well into Florida and most recently in southeast Mississippi, killing most of the large redbay trees in its path. Across Georgia approximately seven million acres of forests has been infested with this disease. Other plants in the laurel family known to be susceptible to varying degrees include: camphor tree (*Cinnamomum camphora*), avocado (*Persea americana*), pondspice (*Litsea aestivalis*), and pondberry (*Lindera melissifolia*).

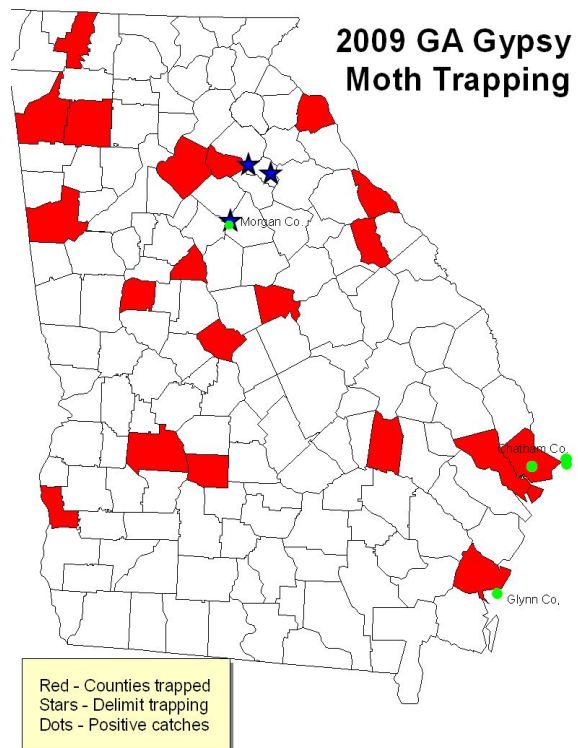


Laurel wilt disease continues moving rapidly across Southeast Georgia. The apparent LWD front and outlying disease centers in GA at the end of September 2009 have progressed approximately ninety miles inland from the original point of origin at Port Wentworth, Georgia in May of 2002 (see map above). Four new counties (Candler, Emanuel, Laurens, and Richmond) were confirmed as new positive redbay infestations in 2009 and to date there are **26** counties confirmed with Laurel Wilt Disease. Two new isolated disease centers, one located near Dublin and the other south of Augusta, are both far (ca. 45-50 miles) beyond the more contiguous area of known disease distribution. The disease confirmation from the site south of Augusta is in sassafras trees with no known redbay in the immediate vicinity. Laurel Wilt Disease has been detected in numerous scattered clumps of sassafras in the Bulloch and Screven counties, which is particularly important as it appears that the disease may be transitioning from redbay to sassafras and may be capable of continuing to spread north and westward in sassafras, perhaps at a slower rate. To date, Laurel Wilt Disease has been documented (on sassafras) in **12** counties in Georgia in 2009 (Liberty, McIntosh, Effingham, Screven, Bulloch, Evans, Chatham, Bryan, Jenkins, Toombs, Laurens, and Richmond Counties). Research has still provided no large-scale, cost-effective protection from LWD, but research conducted by Dr. Bud Mayfield (2008) shows that propiconazole (fungicide) injected in advance of inoculation with the laurel wilt pathogen, can inhibit the spread of this pathogen in xylem tissue and prevent laurel wilt. In October 2009, field trials were conducted on Jekyll and St. Simons Islands to find new delivery methods for application of propiconazole. To remove the need for a tree injection systems; the use of a bark penetrating adjuvant was combined with propiconazole and applied directly to the lower ten feet of redbay trees. The purpose of the study is to determine if propiconazole can be applied directly to the tree, absorbed through the bark, and provide protection from LWD for an extended period of time with an easier (and cheaper) method. Two trial areas were chosen and forty-two trees were treated using a basal stem application of Penetra-Bark and propiconazole. These areas will be evaluated for a period of three years. Additional field trials should be established in the spring of 2010. The

additional field trials will be established at the leading edge and in advance of the infection area using proven fungicides and application techniques. The Georgia Forestry Commission has and will maintain a working relationship with the US Forest Service, Georgia Southern University, the University of Georgia, and our many other partners to document the spread, study the biology, and possibly find a cost-effective suppression method to this nonnative invasive insect. More info on LWD can be found at: <http://www.gatrees.org/ForestManagement/LaurelWilt.cfm> . This includes our comprehensive two-year report for our evaluation monitoring grant for our survey and field work.

Gypsy Moth Trapping

GFC personnel deployed traps across the state in 20+ counties in 2009. A total of 4500 traps were placed in the counties shaded in red (see Figure) plus GFC forest health personnel placed an additional 50 traps around high risk areas in their work areas. Seven positive catches were made. Chatham County had five positive traps (7 moths), Glynn County had one positive trap (3 moths) and delimit trapping in Morgan County had one positive trap (3 moths). The Chatham and Glynn County catches were submitted for DNA testing due to their close proximity to ports of entry. Test results indicated that the moths were North American. Delimiting surveys were done in Morgan, Clarke and Jackson Counties. A total of 73 traps were placed. As mentioned above a positive catch was made in Morgan County. No positive catches were made in Clarke or Jackson Counties. This was the second year for Clarke and Jackson with no positive catches. Delimit trapping will continue in Morgan County and will begin in Chatham and Glynn Counties in 2010.



Exotic Wood Borer / Bark Beetle Survey

The GFC surveyed 78 warehouse locations that import cargo using solid wood packing material (SWPM) from foreign countries. Each location is checked monthly (May through September) bringing the number of inspections to around 500 for the season. Insects found within these sites are identified and appropriate action is taken by USDA if warranted. Exotic bark beetle traps were deployed and maintained at five of these locations to determine if any bark beetles may have been introduced. No previously undetected species were discovered with this trapping and warehouse survey in 2009.

Emerald Ash Borer

The emerald ash borer (EAB) has devastated ash trees in the northeast and could have the same impact in Georgia. EAB was introduced in Detroit, MI in 2002 and has since spread as far south as Kentucky. EAB traps (138) were deployed throughout the state from April through September to detect any borers that might be present in Georgia. The traps are checked once a month for any suspect EAB. No suspects were caught in Georgia through our trapping efforts.

Light Brown Apple Moth

The light brown apple moth (LBAM) was confirmed in California in March 2007. It has a host range of 120+ plants and trees, and many of its preferred host trees are native to Georgia. The GFC is cooperating with the state-wide LBAM survey being conducted by the Georgia Department of Agriculture, by placing traps in pine stands near locations that could bring in cargo from California. Twenty-nine traps were set up throughout the state, trapping from April-September in efforts to detect any LBAM that might be present in Georgia. The traps were checked every two weeks and no suspect insects were found in the traps this year.

Forest Health Assistance in Georgia

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