GEORGIA'S EMERGING FOREST THREATS

Healthy Forests Management Options

WHY DOES IT MATTER TO ME ?

It is important that private forest landowners prepare for the likelihood of increasing threats to their forestlands. Private forests make up the largest holdings of forestlands in the southeastern U.S. Collectively, these properties will be crucial to the overall health of our landscape. Management that takes the most current science into account will enable landowners to better protect their land and resources and to contribute positively to the conservation and productivity of Georgia's forestlands.

USDA Southeast Climate Hub
U.S. DEPARTMENT OF AGRICULTURE

The mission of the Southeast Climate Hub is to develop and deliver science-based, region-specific information and technologies, with USDA agencies and partners, to agricultural and natural resource managers that enable climate-informed decision-making, and to provide access to assistance to implement those decisions. This is in alignment with the USDA mission to provide leadership on food, agriculture, natural resources, rural development, nutrition, and related issues based on sound public policy, the best available science, and efficient management.

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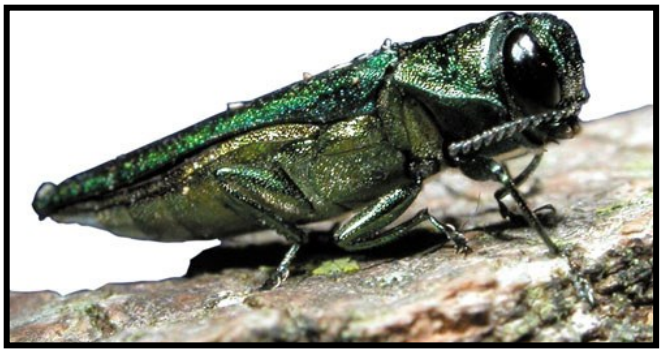
EMERGING THREATS TO YOUR FORESTS AND RESOURCES

Georgia has more than 24 million acres (65% of the state's total area) of productive forestland. More than half of all forests within Georgia are non-industrial privately owned. The state has a diverse mix of hardwood and softwood species such as loblolly/longleaf pine, white oak, red oak, beech, sweetgum, and tupelo. These forests have a major impact on the state's economy, bringing in over $36.5 billion annually. Ecosystem services provided by Georgia's forestlands are valued at $37 billion a year and sequester roughly two billion tons of carbon. However, the forests are threatened by many types of disturbances that impact their health and productivity. Various invasive plants, insects and diseases, and climate disturbances pose a serious threat to the productivity of Georgia's forests. For example, invasive plant species and foreign insects can be transported into Georgia through global trade hubs like the Port of Savannah. Adaptation options exist that may help landowners mitigate these damages while reducing the overall vulnerability of forest stands. This factsheet examines several emerging threats and provides information on types of control practices including controlled burning (*CB*), cutting infected areas (*C*), thinning (*T*), herbicides (*H*), fungicides (*F*), insecticides (*I*), reporting (*RP*), and monitoring (*M*). The treatment key is listed at the bottom of each threat.

Insects and Diseases

Emerald Ash Borer (*Agrilus planipennis*)

The emerald ash borer (EAB) is an exotic beetle native to Asia that targets ash trees (*Fraxinus sp.*) and is a concern throughout the southeastern U.S. When EAB larvae develop under the bark of ash stems, they are able to feed on the inner bark, disrupting the tree's water and nutrient flow, and eventually killing the tree. Many counties in Georgia already have EAB, and early detection is important for slowing EAB movement throughout the state.



Possible Control Practices: I, M

Southern Pine/Ips Beetle (*Dendroctonus frontalis; Ips spp.*)

The **s**outhern pine and Ips engraver beetles continue to be the most destructive pests in southern forests. Like other beetles, they make galleries under the tree bark to lay eggs, which leads to tree decline and eventually, death. The GFC conducts annual trapping and surveillance flights, and produces prediction and outbreak maps to detect and treat (through tree harvest) infected areas before they can spread.

Possible Control Practices: M, T, C. CB

EMERGING THREATS & HEALTHY FOREST MANAGEMENT

Hemlock Woolly Adelgid (*Adelges tsugae*)

Hemlock woolly adelgids feed directly off of the nutrient flows of hemlock trees. They are capable of causing widespread decline in Georgia's hemlock forests. The GFC has conducted a series of predatory beetle releases aimed at reducing populations of HWA across northern Georgia. The GFC continues to assist with predator beetle control and provides assistance for chemical control through education, outreach, and a soil injector/soil drench kit loan program.

Possible Control Practice: I, M

Laurel Wilt Disease (*Harringtonia lauricola*)

Laurel Wilt Disease (LWD) is a disease transmitted by the Asian redbay ambrosia beetle (RAB) that results in serious damage and mortality to redbay trees and other laurel species. Since its introduction in 2002, LWD has become a widespread issue throughout Georgia and is now spreading in sassafras. Monitoring remains crucial to limit the movement of the disease and the GFC provides training on restricting the movement of RAB-containing materials.

Possible Control Practices: C, F, I, M

Invasive Plants

Cogongrass (*Imperata cylindrica*)

This Japanese perennial grass is found mainly in southwest Georgia. The GFC considers cogongrass a top priority issue and has created a task force aimed at eradicating these sites. Through continuous treatment and monitoring, the GFC has successfully eradicated more than 1,000 infested sites and continues to treat all active sites. The GFC offers training and other educational opportunities to teach landowners how to identify areas of cogongrass.

Possible Control Practice: RP, H, M

Chinese privet (*Ligustrum sinense*) Chinese privet is a highly invasive tree/shrub that displaces native vegetation across much of the southeastern U.S. Chinese privet is difficult to eradicate once established due to its high seeding rate and fast growth. The GFC has listed Chinese privet as the number one invasive plant in Georgia's forests and has created a cost share program to provide assistance for controlling this species.

Possible Control Practice: H, M

EMERGING THREATS & HEALTHY FOREST MANAGEMENT

Chinese tallowtree (*Triadica sebifera*) Chinese tallowtree is an aggressive invader within the Southeast due to its extremely high reproduction rate. It can easily displace native species to become the dominant species, especially within Georgia's coastal marshes and bottomland forests. Chinese tallowtree is a major issue in Georgia and has infested more than 24,000 acres (61% increase compared to recent years). This species is also included in GFC's cost share assistance program.

Possible Control Practice: C, H, CB, M

Callery/Bradford Pear (*Pyrus calleryana*) The Callery/Bradford pear is commonly planted as an ornamental but quickly forms thick patches within forests, outcompeting native vegetation within years. This species is quickly becoming a major forest invasive in many different Georgia environments. This species is also included in GFC's cost share assistance program.

Possible Control Practice: C, H, CB, M

Storms

Hurricanes, tornadoes, and ice storms can create severe and costly damage to forested areas. Since 2010, over three million acres of forestland have been damaged by storms in Georgia. With the frequency of severe storm events increasing, land managers may expect an increase in annual forest damage in the coming years. Adaptation options include using resistant tree species, altering thinning and harvesting practices, and post-disturbance monitoring.

Drought and Wildfire

Drought is a major climate stressor that impacts forest productivity while also increasing their susceptibility to opportunistic attacks from insects and pathogens. Projected increases in drought severity and intensity could threaten water availability and quality, cause shifts in tree species composition across Georgia, and lead to more frequent wildfires. Currently, about 46,000 acres of Georgia's forests are burned by wildfires annually. However, this number may grow in response to drought and extreme heat events, resulting in more losses to Georgia forests. Adaptation options include using drought and fire-tolerant species, streamside planting, prescribed burning, and salvage logging after disturbance events.

Summary: Invasive plants, insects, and diseases can reduce forestland productivity and may be extremely difficult to eradicate once severe infestation has occurred. Options for reducing these risks include prescribed burns to reduce downed woody debris, thinning to improve stand resiliency and overall health, limiting the movement of woody debris or firewood that may contain pest insects, and proper herbicide/pesticide application. Before starting any of these treatments, contact your local GFC forester for a thorough forest stand inspection. Some adaptation options may not be appropriate for your specific circumstances. However, foresters can help guide you to the practice best suited for your land. GFC foresters can aid in the mitigation and control of these and other threats, while also gathering data for state-wide monitoring.

FOR MORE INFORMATION ON MANAGEMENT OPTIONS FOR YOUR WOODLANDS:

Contact your local county forester or the Georgia Forestry Commission Office at
https://gatrees.org/

The mission of the Georgia Forestry Commission is to provide leadership, service and education to protect and conserve Georgia's forest resources. GFC works to promote, protect, and conserve healthy, sustainable forests.