Florida Forest Service

Forest Health Highlights 2022

Forests of Florida

Florida's forests are expansive and diverse and include subtropical systems, baldcypress wetlands, pine flatwoods, pine-oak scrubs, gum-cypress swamps, coastal mangroves, isolated hardwood hammocks, and more extensive upland hardwoods. The state's mild climate, tourism industry, and many ports of entry also make it particularly vulnerable to the introduction and spread of non-native invasive species. Challenges to forest health in the Sunshine State are therefore myriad and complex. What follows is only a small sample of notable examples of Florida's forest pest and disease-related activities and scenarios from 2022.

Forest Health Section

The FH Section offered at least 6 presentations and training seminars in FY 21/22, to approximately 223 attendees. FH Section staff attended the winter and summer meetings of the Southern Group of State Forester Forest Health Committee, as well as participating in other working group meetings to develop a preparedness plan in case of the arrival of a new exotic pest or disease that affects pines (the Pine Pandemic Preparedness Plan) and update the way that state forest health-related accomplishment metrics are reported to the USDA Forest Service. The FFS Forest Health Section staff also provided assistance in the form of identifications, diagnoses, and management recommendations regarding over 986 forest-health-related incidents statewide. Six new public outreach and education leaflets were developed regarding forest pests and diseases (Fig. 1).

Figure 1. Locations of incidents reported and assists performed by FFS Forest Health Section Staff, from October 1, 2021 to September 30, 2022.

Relámpago Blight

Reports and samples of a new tree disease began to be received by the Forest Pathology lab at the University of Florida in 2019, caused by an undescribed fungus that spreads as bright white mycelial threads on the outer bark surface, resulting in death of leaves and branches on a very wide range of host species (Fig. 2). This disease became known by the common name "relámpago blight," and by early 2022 it began to be reported in nurseries, urban landscapes, and forested areas in multiple counties. The FFS Forest Health Section assisted with ground surveys and sample collections, as well as training field staff and coauthoring a circular on the subject. The full potential impact of this new disease on trees in forests is still unknown. A publication that will formally describe the fungus and what is known of its biology is being prepared, and it will be the focus of upcoming studies and ongoing survey and monitoring work.

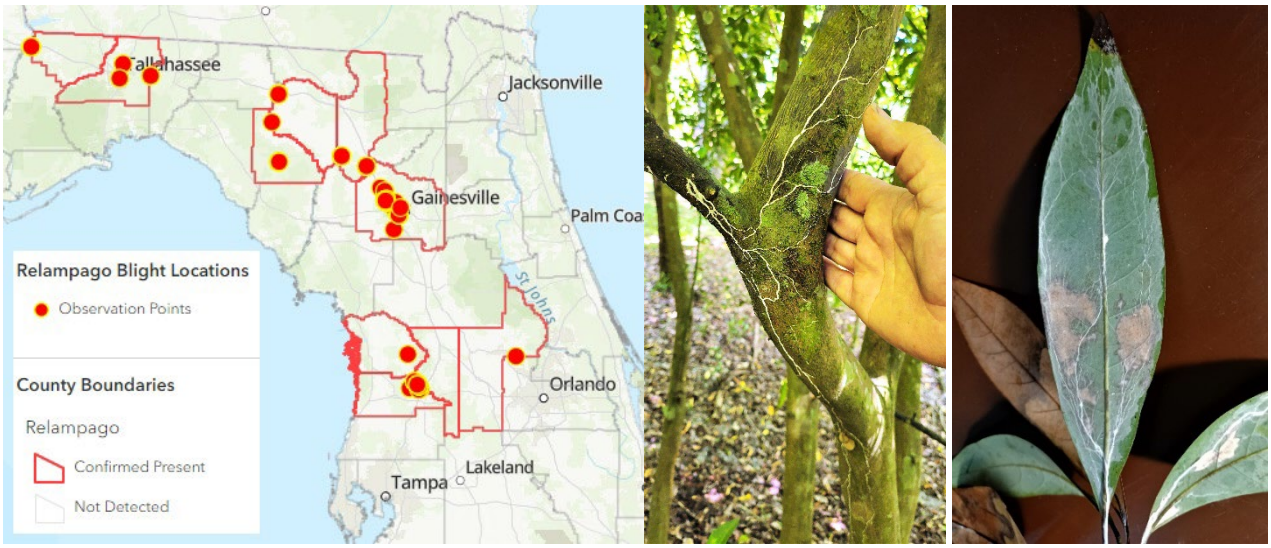

Figure 2. Left: Locations of confirmed infections of relámpago blight as of November 2022. Center: Citrus tree stem with white mycelial threads of the relámpago blight fungus. Right: Growth of the fungus on the underside of a redbay tree leaf.

Hurricane Ian

Hurricane Ian made landfall on the Florida coast on September 27, 2022 as a Category 4 storm. Much of the direct wind and storm surge damage to trees and forests was concentrated near the coast, where urban tree cover was devastated and over 70,000 acres of private and public forest land sustained severe to catastrophic damage, according to preliminary estimates (Fig. 3). However, it's likely that the long-term impacts will be substantially more widespread, due to extensive flooding that occurred across the Florida Peninsula during and after the storm. Those areas will be monitored for mortality associated with root disease and other secondary issues over the coming two to three years.

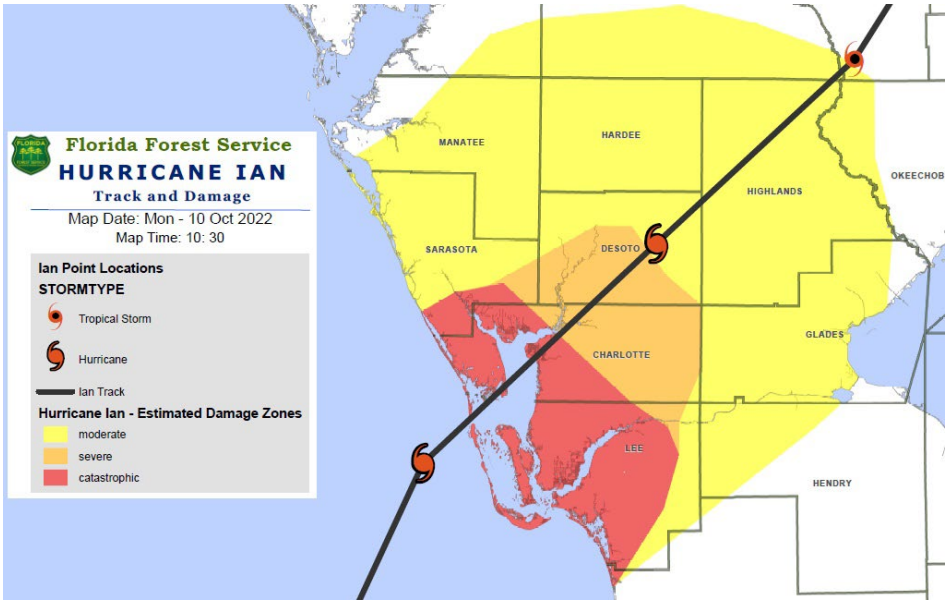

Figure 3. Track of Hurricane Ian, and estimated areas where catastrophic, severe, and moderate wind damage occurred.

Southern Pine Beetle Spring Pheromone Trapping Survey

The Southern Pine Beetle is one of the most destructive forest pests in the southern United States. Since 1995, the Florida Forest Service has participated in an annual statewide Southern Pine Beetle (*Dendroctonus frontalis*, or SPB) spring trapping survey. This survey monitors numbers of adult SPBs and their clerid predators captured in pheromone-baited flight traps during the SPB primary spring dispersal phase. The results are used as an early-season prediction of SPB population trends and activity levels, allowing forest managers to identify areas of potential SPB activity in advance of aerial detection flights. The survey also provides data for monitoring SPB population levels from year to year.

The annual SPB spring pheromone trapping survey was conducted over 6 weeks at 49 locations across 40 counties in North Florida, corresponding to the historical range of SPB in the state. Low numbers of SPB were collected across all of the locations surveyed. When these results were used with the regional SPB prediction model, a low risk of SPB activity was forecast for most of the state, with elevated risk predicted in Wakulla and Gadsden Counties (Fig. 4).

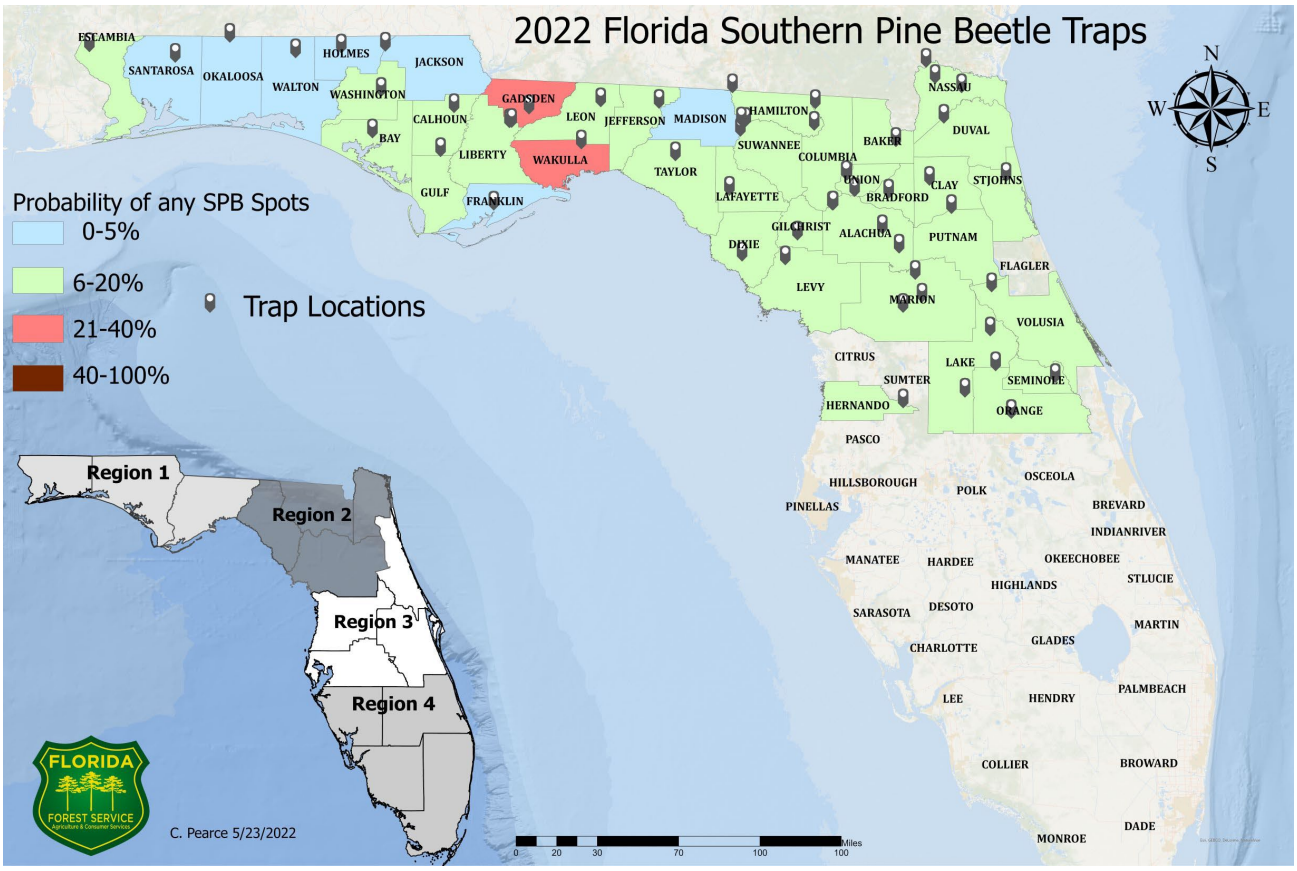

Figure 4. Locations of traps placed in the 2022 SPB Spring Pheromone Trapping Survey, and the resulting forecasted risk of SPB activity for each county where traps were established.

Southern Pine Beetle Surveillance and Activity

In close agreement with the trapping survey forecast, southern pine beetle activity was detected in the eastern Panhandle region starting in June 2022 (Fig. 5). The primary areas affected were in and near Tate's Hell State Forest and Apalachicola National Forest in Franklin and Wakulla Counties. Notably, this was the first time that SPB infestations had ever been recorded in Franklin County, and a substantial portion of the activity was in slash pine stands. A total of 54 confirmed SPB spots were recorded in subsequent aerial and ground surveys. Most of these spots were very small; in total, less than 56 acres of mortality were documented. FFS staff conducted suppression harvests where appropriate on State Forest lands, and notified landowners and managers of infestations on other public and private lands.

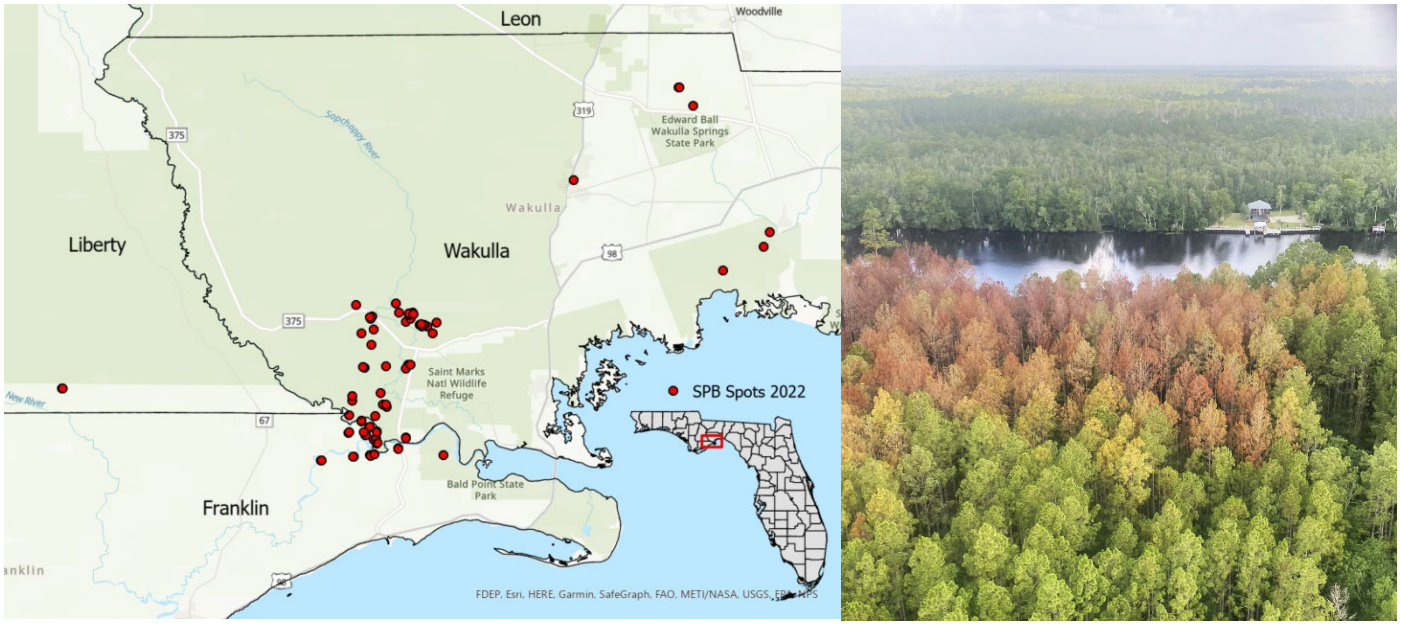

Figure 5. Left: Locations of southern pine beetle (*Dendroctonus frontalis*, or SPB) infestations that were detected in 2022. Right: Aerial view of an active SPB spot in Franklin County, along the Ochlocknee River in June 2022.

The routine annual SPB aerial survey was also conducted in the rest of North Florida, from May through September 2022. FFS pilots and field staff conducted 30 flights, logging 9,554 miles over 66 hours, and covering an estimated 19,356,653 acres (Fig. 6). Field staff also investigated any suspicious areas of pine mortality with ground checks. However, no additional areas of SPB activity were detected.

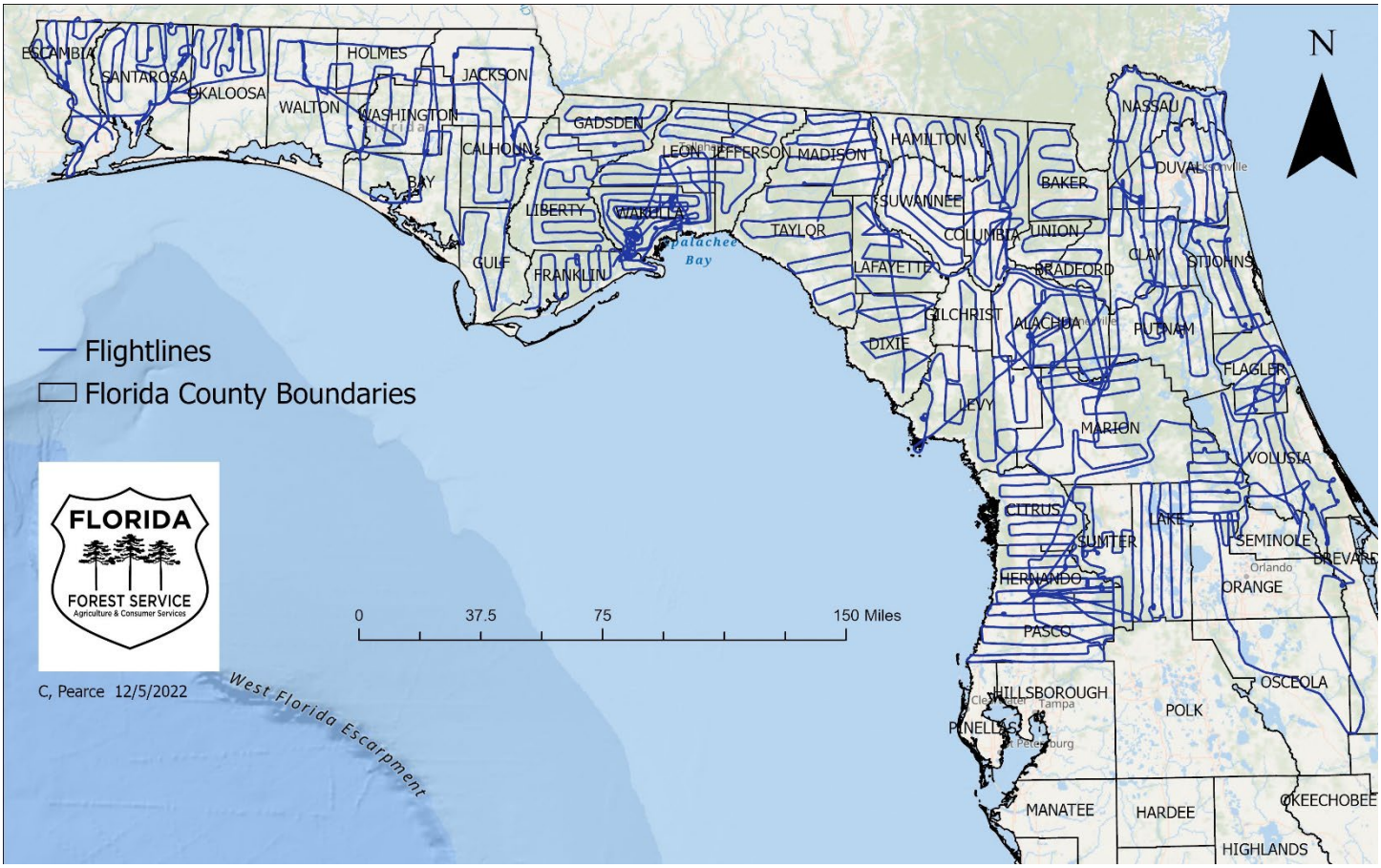

Figure 6. Flight paths covered by the SPB Aerial Survey program in Florida as of November 2022.

For Further Information, Please Contact:

FFS Forest Health Section Staff:
Jeffrey Eickwort (Entomologist and Supervisor); (352) 395 4689; Jeffrey.Eickwort@FDACS.gov
Christopher Pearce (Biologist and Survey Coordinator); (352) 395-4690; Christopher.Pearce@FDACS.gov
Rose Bency (Staff Assistant); (352) 395-4691; Rose.Bency@FDACS.gov
Allen Percifield (SPB Forester); (352) 395-4652; George.Percifield@FDACS.gov

Florida Department of Agriculture and Consumer Services
Florida Forest Service, Forest Health Section
1911 SW 34th St.
Gainesville, FL 32608
Florida Forest Service Forest Health Website

USDA Forest Service
Forest Health Protection, Southern Region (R8)
1720 Peachtree Road, NW
Atlanta, GA 30309
404-347-4095
USDA Forest Service, Region 8 Forest Health Website