

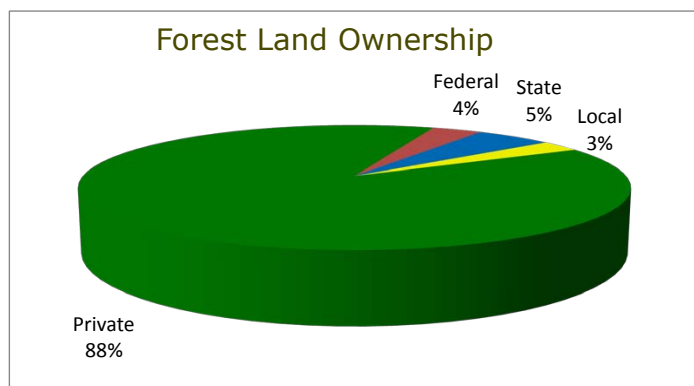
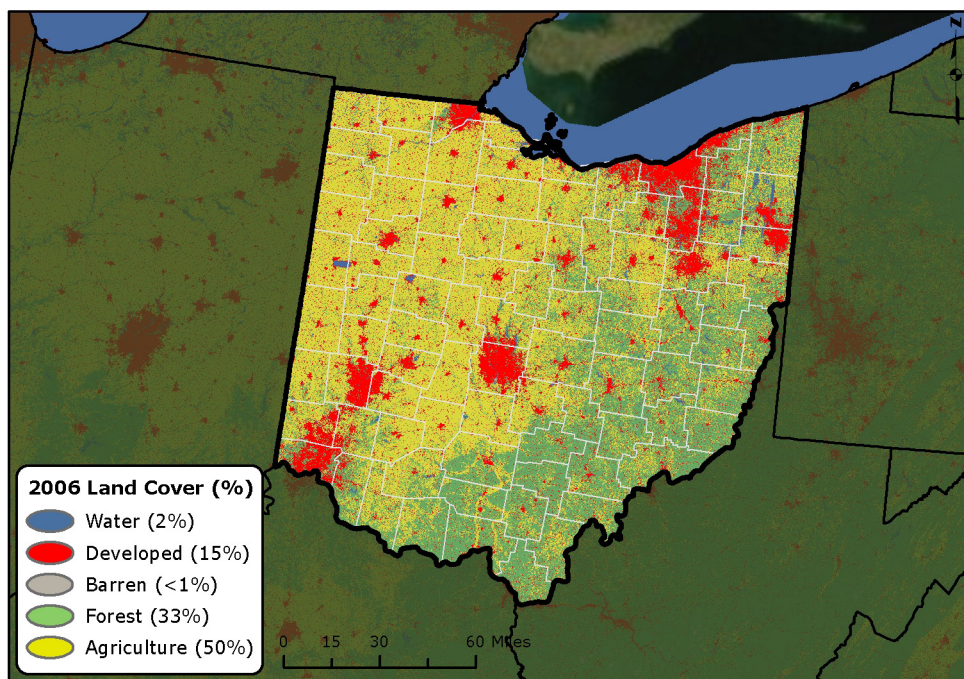
2011 Forest Health highlights

OHIO



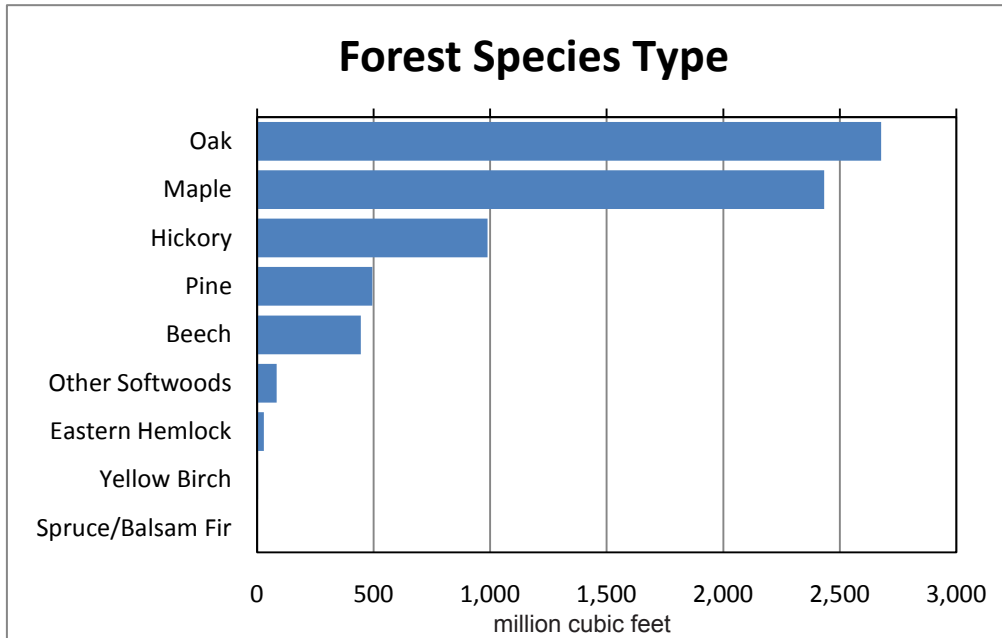
The Resource

Ohio encompasses 26,209,700 acres, and 30.2 percent of these acres are forested, not including the urban forest. Forests have increased dramatically since 1940, including an increase from 7.1 to 7.9 million acres since the late 1970s. Ohio's forests are 88 percent privately owned and 96 percent deciduous forest types. Ohio forest industries contribute over \$15 billion to Ohio's economy. The Ohio Division of Forestry manages 21 State Forests that cover approximately 200,000 acres.



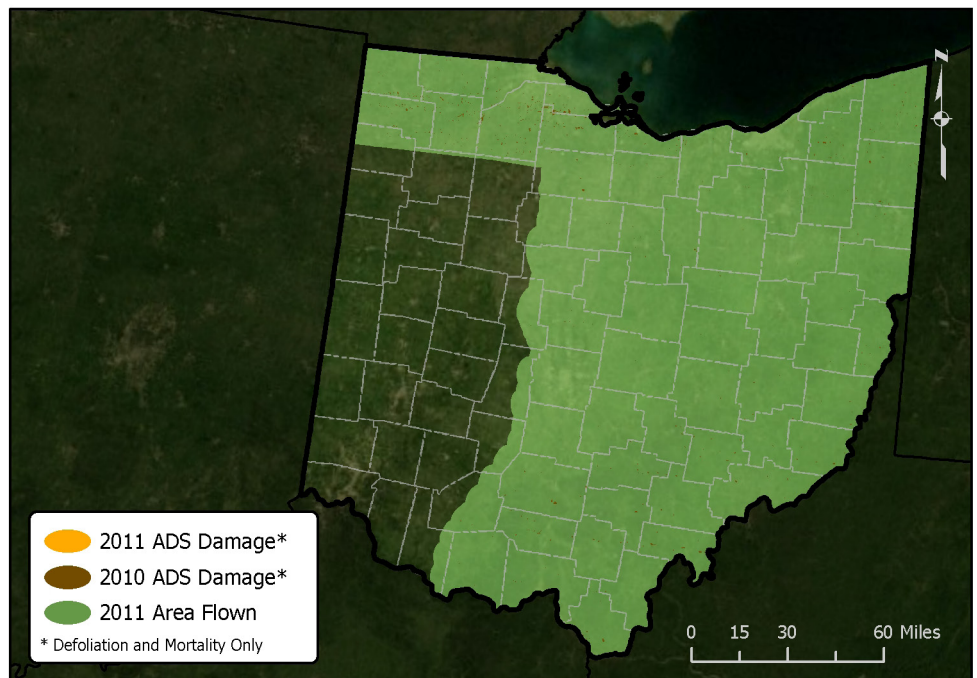
Forest Health Programs

State forestry agencies work in partnership with the U.S. Forest Service to monitor forest conditions and trends in their State and respond to pest outbreaks to protect the forest resource.



Aerial Surveys

Of the acreage flown in Ohio's aerial detection survey in 2011, 35,817 acres were damaged. Nearly 80 percent of this damage (28,473 acres) was caused by the emerald ash borer. Flooding contributed to 2,294 acres of damage, and the locust leafminer accounted for 707 acres of damage. Other leading causes of damage include wildfire (636 acres), competition (539 acres), Dutch elm disease (435 acres), harvesting (414 acres), stem rust (352 acres), and humans (224 acres).



This map delineates aerial detection survey (ADS) results for Ohio in 2011 and 2010.

Urban Forestry

There are 11,536,504 people in Ohio (2010 U.S. Census). Ohio's 938 incorporated places (cities and villages) occupy 11 percent of the land area and represent a substantial urban forest resource. Ohio leads the Nation with 244 Tree City USA communities. These communities represent over half of the 80 percent of Ohioans living and/or working in urban areas, and a significant commitment to their quality of life. Throughout most of the State, these Tree City USA communities planted more trees than they removed, while maintaining more trees than they planted. This was true everywhere except northwest Ohio, where the emerald ash borer had become established. Here cities, villages, and townships are faced with the reality of removing dead and dying ash trees. To proactively address the economic and environmental burden presented by this pest, all Ohio communities are being encouraged to develop emerald ash borer management plans. To date, at least 90 of these plans have been completed in Ohio.

Special Issues

Asian Longhorned Beetle

Anoplophora glabripennis. On June 13, 2011, adult Asian longhorned beetles (ALB) were found in Tate Township in Clermont County, Ohio, and sent in for verification. Following species verification, USDA APHIS and the Ohio Department of Agriculture (ODA) quarantined Tate Township and the neighboring East Fork State Park and Wildlife Area. APHIS brought in an Incident Command Structure to help organize an Ohio ALB Program, modeled after other programs throughout the country. Since then, APHIS has switched from this incident command to a more general program structure, with rotating temporary crews to complete surveys and serve as program staff. The Ohio Department of Natural Resources (ODNR) has assigned three foresters to the program, and ODA has hired multiple crews of full-time surveyors. According to

surveys made as of October 16, 2011, 4,895 infested trees have been documented in Tate Township, and a smaller population of 27 infested trees was found in neighboring Monroe Township. The Monroe Township site was the direct result of moving firewood out of the quarantine area and was discovered within the first year of infestation. Infested tree removals are to begin on November 14, 2011, with an Environmental Assessment to be released soon after to address possible full-host tree removals within ¼ mile of all known infested trees. The ODNR is currently offering professional forestry assistance to all residents in the ALB quarantine zone for re-establishing tree cover following removals.



Female adult ALB.

Bacterial Leaf Scorch (BLS)

Xylella fastidiosa. In 2011, the ODNR Division of Forestry continued to survey for BLS in counties and townships that surrounded sites that had positive finds in 2010. In all, 44 samples were taken and submitted to the Ohio State University lab. Five samples were deemed positive and owners of the trees were notified. We worked cooperatively with Alan Iskra from the USDA Forest Service (Morgantown, WV Office) on this project.

Sudden Oak Death Stream Survey

Two stream sites were chosen due to their proximity to plant nurseries that ship stock in and out of the West Coast. Baits were deployed in the streams downstream from the

nurseries according to the surveying protocol. The spring deployment revealed no presence of the pathogen that causes this problem. The fall sampling period is currently underway as of this writing.

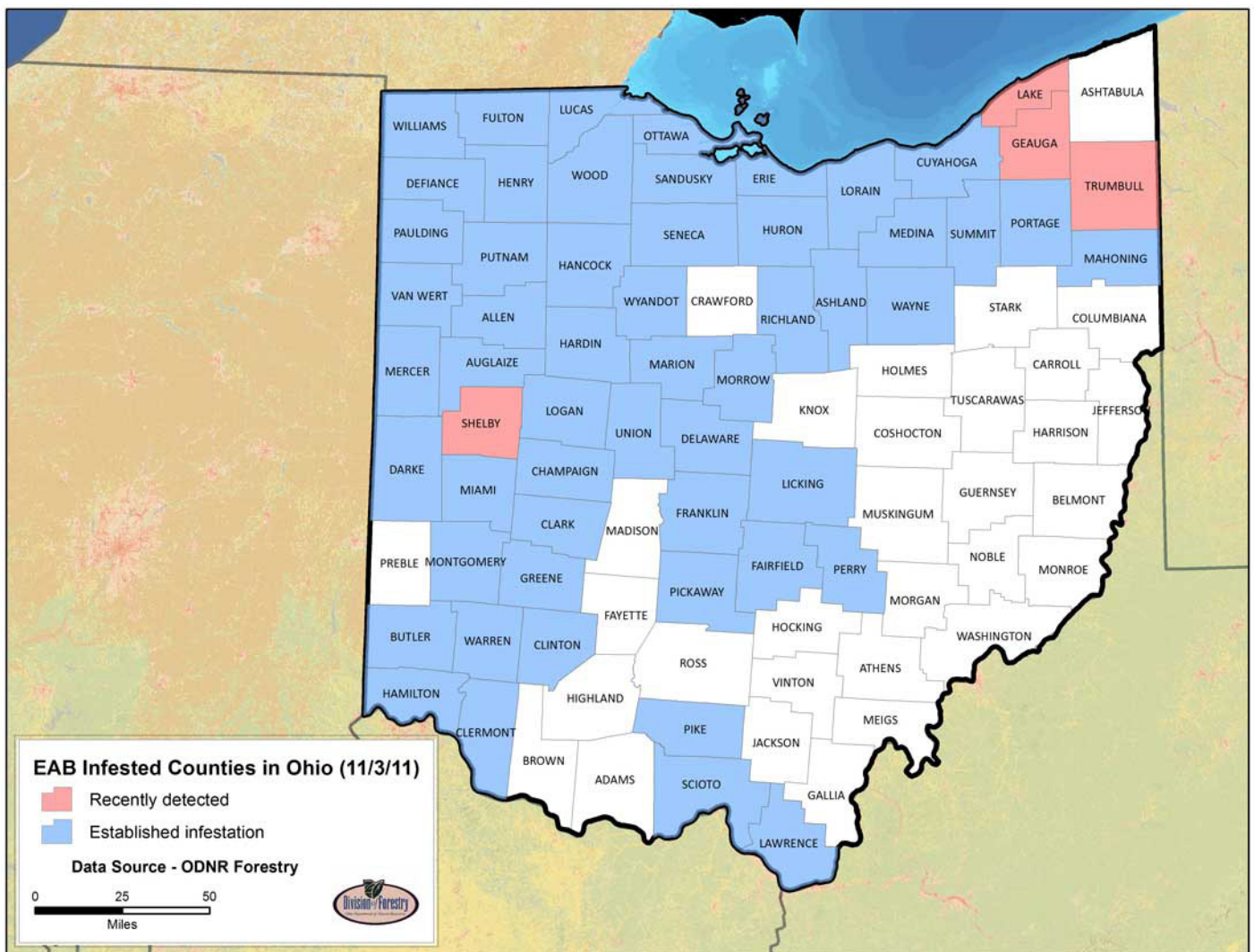
Forest Pest Issues Emerald Ash Borer (EAB)

Agrilus planipennis. In 2010, the Ohio Department of Agriculture imposed a statewide quarantine. Today, 56 of 88 counties have known infestations, but EAB is suspected in many other areas of the State. The ODNR Division of Forestry continues to help woodland owners manage their forests and use their ash resources, help communities that are dealing with current and future EAB

issues, and work to increase public awareness about the insect. The western Lake Erie Basin EAB Initiative is providing meaningful insight. An Ohio EAB Task Force has continued to help address these rapidly changing issues. Communities and property owners across the State are now burdened with standing dead ash trees.



Emerald ash borer.



EAB-infested counties in Ohio as of November 3, 2011.

Gypsy Moth

The European gypsy moth, *Lymantria dispar* (L.), increased in abundance in 2011. The total number of moths caught in traps rose from 20,000 in 2010 to 50,000 in 2011. The Ohio Department of Agriculture believes the increase may be due to warm weather conditions this year, which allowed small pockets of the pest to replicate themselves into large infestations. The State is continuing its eradication efforts.

Beech Bark Disease (BBD)

The beech scale, *Cryptococcus fagisuga*, was first discovered in Ohio in 1985 at the Holden Arboretum in Lake and Geauga Counties. Since that time, the area has been periodically inspected for BBD, and the arboretum set up a monitoring program for its beech trees. In December 2003, the fungal component of this disease was found on American beech trees at the arboretum. This was the first confirmed case of BBD in Ohio. While the BBD fungus was not found at any new sites, beech scale is still easily found in several northeastern Ohio counties, including Portage, Cuyahoga, Trumbull, Lake, and Geauga. Another survey of the surrounding sites will be conducted in the fall of 2011.

White Oak Decline

Mortality and decline of white oaks (*Quercus alba*) continue to occur in 20 counties. Several insect pests began defoliating white oak trees in 2002. Severe defoliation, coupled with drought conditions in 1999 and 2002, caused significant tree mortality starting in 2002, especially in some Ross County white oak stands. Other affected counties included Pike, Lawrence, Scioto, Vinton, and Athens. The half-wing geometer (*Phigalia* spp.), the common oak moth (*Phoberia autumnalis*), and tent caterpillars joined forces to cause the initial defoliation damage. A jumping oak gall outbreak in 2010 further compounded the complex. Gypsy moth may now be a factor in weakening the trees further. Two-lined chestnut borer, armillaria root rot, hypoxylon

canker, and Phytophthora root rot worked together as a group of secondary pests to kill already weakened trees. Foresters and pathologists made several field trips to private properties to try to ascertain an answer to this syndrome.



White oak decline.

Hemlock Woolly Adelgid (HWA)

In 2010, HWA was found on landscape trees in Cuyahoga and Franklin County. The Cuyahoga tree is being treated and the Franklin county tree was destroyed. Both trees were from nursery stock. Nursery inspectors examined nurseries in all but two counties: Auglaize and Hardin. In late fall/early winter of 2011, monitoring will continue with surveys in 13 counties to determine the presence or absence of HWA and other pests in naturally occurring hemlock stands.

Non-native Invasive Plants

Aggressive invasive plants are a threat to forests throughout the State of Ohio. Some forests are already declining due to severe infestations of invasive plants, and some areas remain largely uninvaded. An aerial survey to locate infestations of the invasive tree-of-heaven (*Ailanthus altissima*) was conducted during the winter of 2010-2011 within and around the Marietta District of the Wayne

National Forest. The ODNR Division of Forestry promotes invasive plant control through the service forestry program and through workshops, presentations, and other outreach events. The Division is pursuing funding to do a statewide survey for invasive plants.

Notable Occurrences

Scarlet Oak Sawfly

In 2011, Ohio saw its second recorded outbreak of scarlet oak sawfly (*Caliroa quercuscoccineae*) in northeast Ohio. Landowners began reporting pin oak discoloration and defoliation to service foresters in early July. Forest health foresters determined the presence of the sawfly on a subsequent field trip. This outbreak occurred across Stark, Carroll, Jefferson, and Columbiana Counties. Its exact size is unknown, but it was smaller than the large outbreak of 1997. This new occurrence affected approximately 20,000 to 50,000 acres but may be considerably larger.



Pike State Forest.

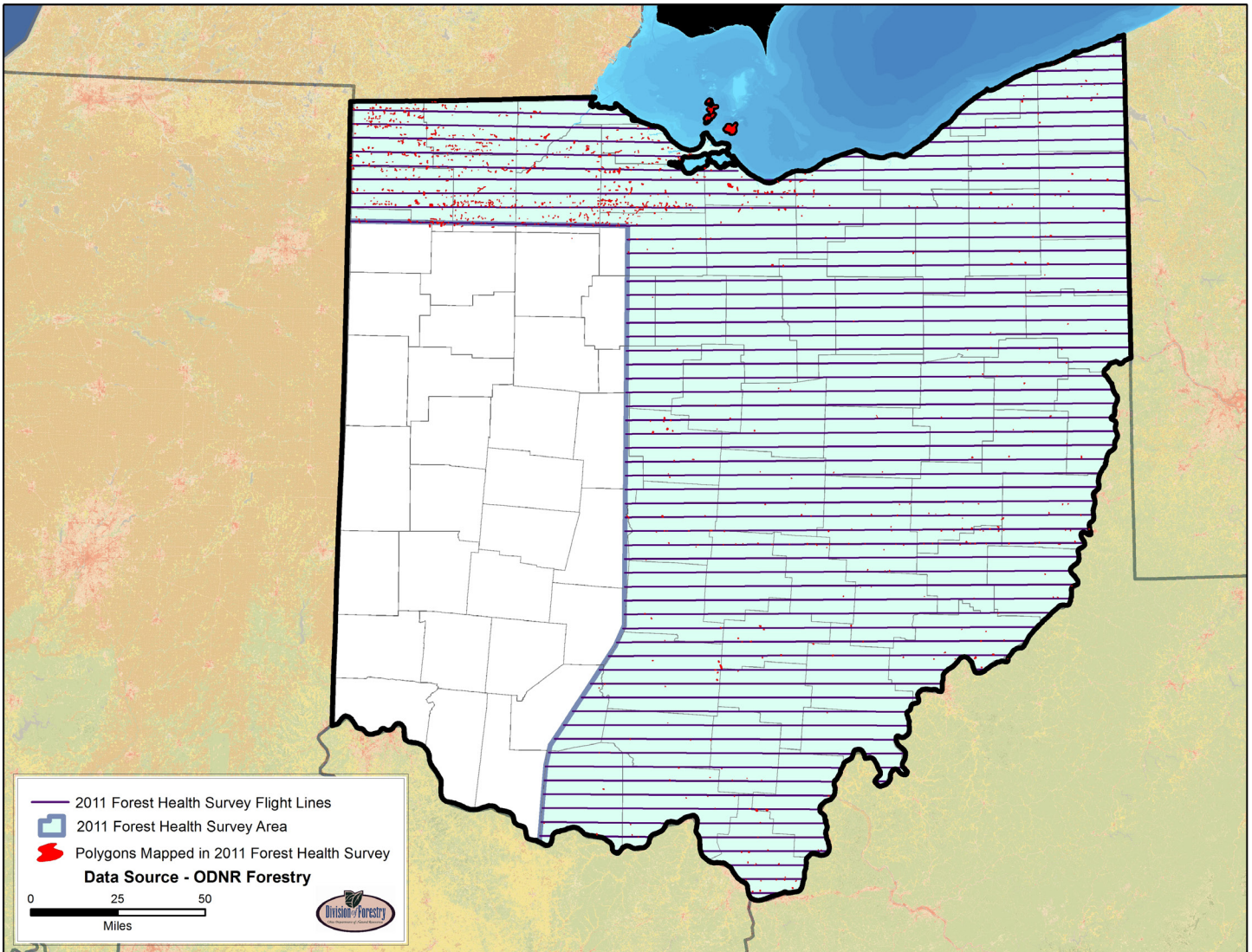
Forest Health Monitoring

Each year, the Ohio Division of Forestry and the Ohio Department of Agriculture cooperatively conduct an aerial survey over the majority of the State to survey Ohio's forest health. Five- and three-minute lines were flown from east to west. This year's survey began on June 14 and concluded on June 30. For each flight, two observers were equipped with a computer containing a GIS/GPS mapping system. Nine hundred and two sites were identified from the air that had discoloration, defoliation, or mortality. Ground truthing efforts were made at about 30 percent of these sites. Sites that were determined from the air as having EAB, fire, or water damage were not included in potential ground truthing sites.

Forester managers, service foresters, and urban foresters periodically asked for assistance and provided input related to forest health issues throughout the year.



Tar Hollow.



Ohio 2011 Forest Health Survey.

References

Land Cover Map:

U.S. Geological Survey. 2011. 2006 National land cover dataset. Sioux Falls, SD.

Forest Land Ownership, Forest Species Type:

U.S. Department of Agriculture, Forest Service. 2009. Forest resources of the United States, 2007. Gen. Tech. Rep. WO-78. Washington, DC. 336 p.



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