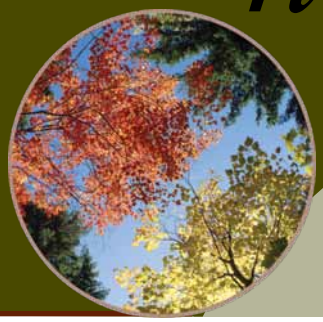
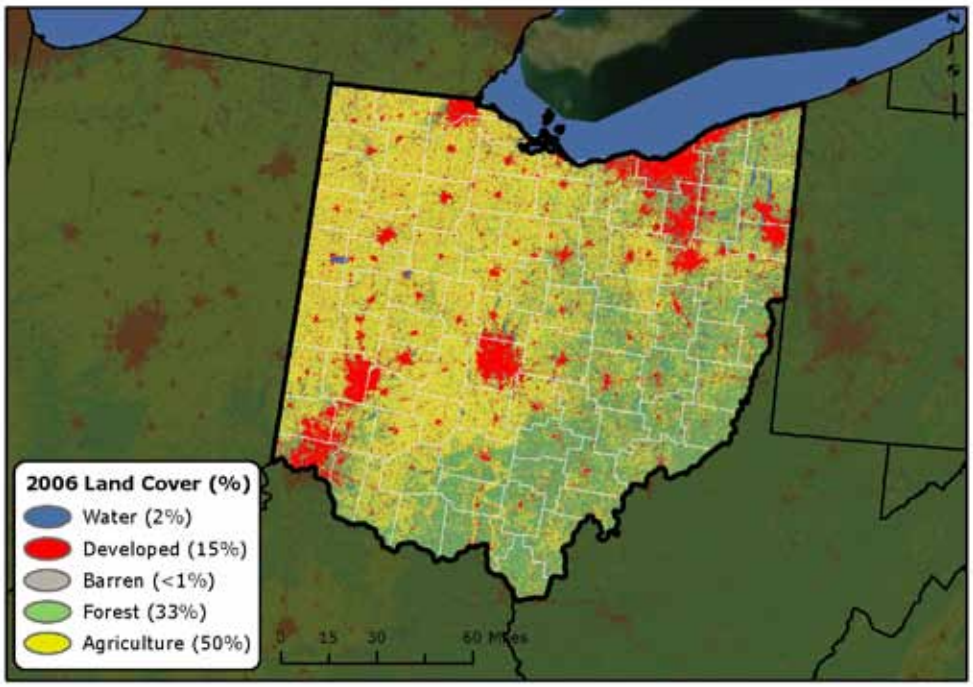
2012 Forest Health highlights

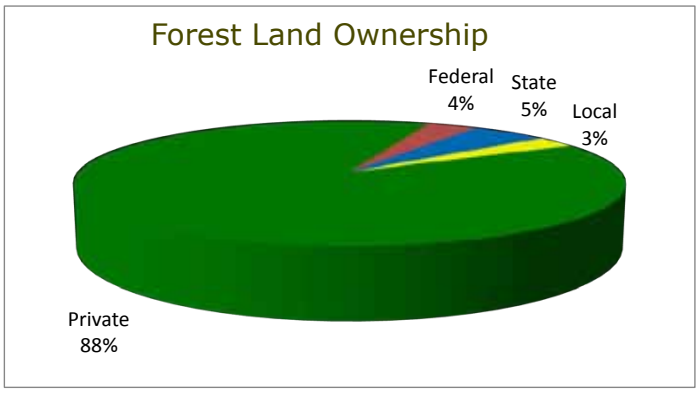
OHIO



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's forest industries contribute over $15 billion to the State's economy. The Ohio Division of Forestry manages 21 State Forests totaling approximately 200,000 acres.



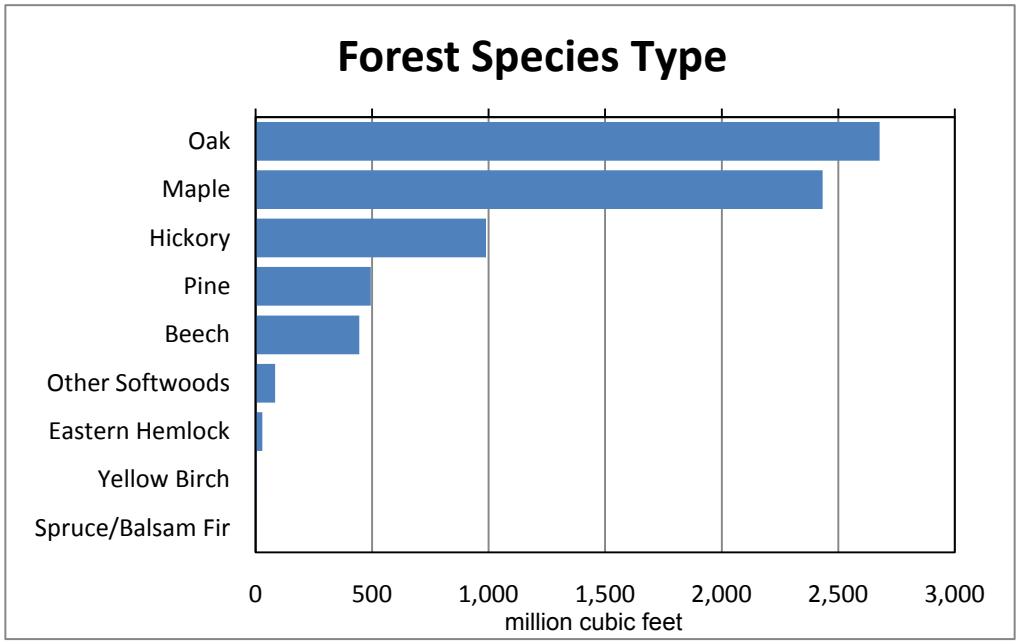


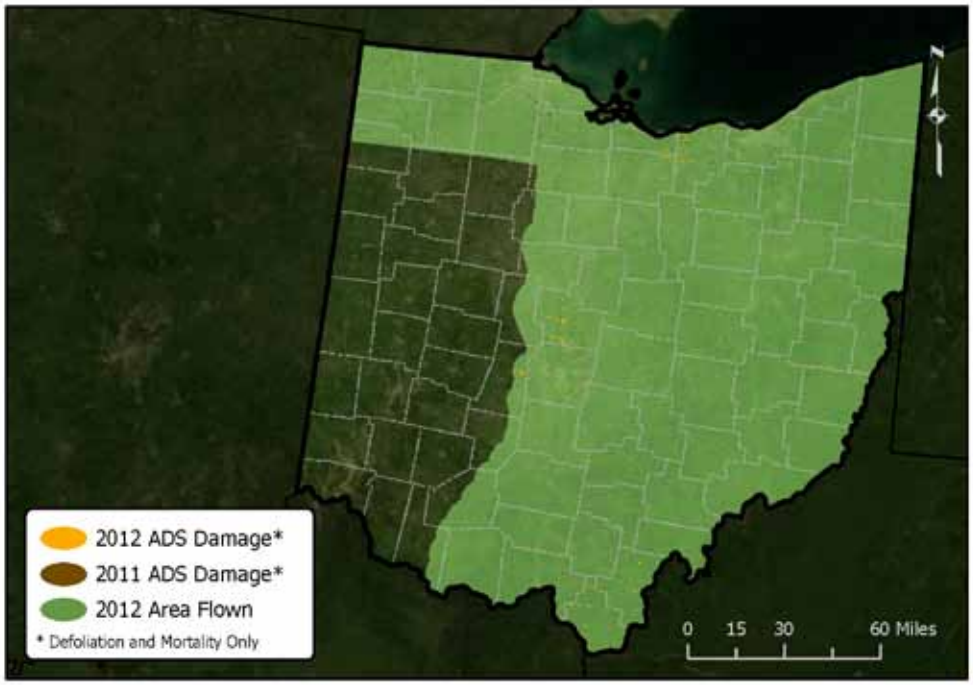
Forest Health Programs

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

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. This year's survey began on May 21 and concluded on June 7. Five- and 3-minute lines were flown in an east to west direction. The survey period for 2012 was moved up earlier in the spring due to an abnormally warm spring and early emergence of many forest pests. Each flight day, two observers were equipped with computers containing a GIS/GPS mapping system. The observers identified 271 different sites from the air that had discoloration, defoliation, or mortality. Ground-truthing of these polygons determined that the following pests caused this damage: tuliptree scale (2,551 acres), jumping oak gall (1,649 acres), oak decline (3,042 acres), general decline (1,441 acres), yellow-poplar weevil (1,235 acres), EAB (9,779 acres), ash yellows (967 acres), Dutch elm disease (1,452 acres), drought (1,027 acres), scarlet oak sawfly (205 acres), Zimmerman pine moth (394 acres), logging damage (430 acres), and others. Forest managers, service foresters, and urban foresters periodically asked for assistance and provided input related to forest health issues throughout the year.





This map delineates aerial detection survey (ADS) results for Ohio in 2012 and 2011.

Urban Forestry

Ohio is home to 11,536,504 people (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 237 Tree City USA communities. These communities represent over half of the 80 percent of Ohioans who live and/or work 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 has become established. Cities, villages, and townships here 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 (ALB)

On June 13, 2011, adult Asian longhorned beetles (*Anoplophora glabripennis* Motschulsky) were found in Tate Township in Clermont County and were sent in for verification. Following species verification, USDA APHIS and the Ohio Department of Agriculture (ODA) initiated a quarantine of Tate Township and neighboring East Fork State Park and Wildlife Area. In addition to APHIS personnel, the Ohio Department of Natural Resources (ODNR) assigned two foresters to the ALB program, and the ODA has hired multiple crews of full-time surveyors.

Surveys as of October 27, 2012, showed 8,938 infested trees in Tate Township. A smaller population of 42 infested trees was found in neighboring Monroe Township, and two infested trees have been found on one property in neighboring Batavia Township.

The Monroe and Batavia Township sites were the direct result of firewood movement out of the quarantine area prior to the discovery of ALB. The Monroe Township site was discovered within the first year of infestation.

Infested tree removals began on November 14, 2011. As of October 27, 2012, 8,795 infested trees had been removed, while 8,184 stumps had been ground and 504 stumps had been treated with herbicide to prevent resprouting and subsequent reinfestation by ALB. An Environmental Assessment (EA) was released in May 2012 to propose plans for addressing host trees within the infested area that are not found to be infested, but no response to this EA had been issued as of October 31, 2012. The ODNR is currently offering professional forestry assistance to all residents in the ALB quarantine zone to reestablish tree cover following removals. A replanting pilot project was initiated in October 2012; trees were made available to landowners who were impacted by landscape tree removals by the Ohio ALB program. The second phase of this tree replanting program will occur in the spring of 2013 for additional landowners.

Red maple infested by ALB and marked for removal in Tate Township, Ohio.

Early Detection Rapid Response Survey for Scolytidae Beetles

Ohio, in cooperation with the U.S. Forest Service, conducted an Early Detection Rapid Response (EDRR) survey from March 28, 2012, through June 29, 2012. This survey was conducted earlier than usual due to warmer than normal spring temperatures. Surveyors followed protocols from the U.S. Forest Service, and 12 sites throughout Ohio were baited with three Lindgren traps containing three different lures to attract a range of beetle species. These traps were located in Ashland, Mahoning, Fairfield, Hancock, Morgan, Washington, Franklin, and Montgomery Counties. A total of 46 beetle species were trapped in the State. Two of the EDRR project species or species groups were detected in the traps – *Tomicus piniperda* (Mahoning, Ashland, and Hancock Counties) and five different species of the *Xyleboris* genus (*X. affinis* (Fairfield, Washington Counties); *X. ferrugineus* (Mahoning County); *X. intrusus* (Ashland, Washington Counties); *X. obesus* (Morgan County); and *X. xylographus* (Washington County)). Many of the other species caught in the traps were native bark and ambrosia beetles, although several were other exotic beetles that are already established in Ohio and Eastern North America.

Lindgren funnel trap for the EDRR beetle survey, Fairfield County.

Southern Pine Beetle (SPB)

Southern pine beetle (*Dendroctonus frontalis* Zimmerman) is a serious forest pest in pine forests across the Eastern United States. Two traps were placed at Hocking State Forest to determine if this pest was present on the forest. No southern pine beetles were caught in these traps, although the main predator of SPB was found.

Walnut Twig Beetle/Thousand Cankers Disease (TCD)

Thousand cankers disease (*Geosmithia morbida*) threatens black walnuts across the country. This disease is spread by the walnut twig beetle (*Pityophthorus juglandis*), which is native to the Western United States. Surveys this year in Ohio for TCD focused on trapping for walnut twig beetles in 17 counties in central and southern Ohio. Traps were placed in both walnut plantations and in sawmills that process local or imported walnut logs. Preliminary trap processing has resulted in the confirmation of seven walnut twig beetles in Butler County in Ohio in 2012. No trees had been found to be infected with the fungus that causes TCD at the time of the submission of this report.

Forest Pest Issues

Emerald Ash Borer (EAB)

In 2010, the ODA imposed a statewide quarantine for the emerald ash borer (*Agrilus planipennis* Fairmaire). Today, 63 of 88 counties have known infestations, but EAB is suspected in many other areas of the State. New counties that were confirmed as having EAB in 2012 were Guernsey, Columbiana, Muskingum, Belmont, Crawford, Knox, and Madison. The ODNR Division of Forestry continues to help woodland owners manage their forests and use their ash resources, assist communities that are dealing with current and future EAB issues, and work to increase public awareness about the insect.

Gypsy Moth

The abundance of the European gypsy moth (*Lymantria dispar* L.) decreased in 2012. A total of 18,378 male moths were caught in traps in 60 counties. The ODA is continuing its treatment efforts within the Slow the Spread transition zone; it treated 71,986 acres in 2012 with Btk, NPV, and/or Disrupt II mating disruption. No new counties were added to the quarantine area for the State.

White Oak Decline

Mortality and decline of white oaks (*Quercus alba*) continue to occur in southern Ohio. Several insect pests began defoliating white oak trees in 2002. Severe defoliation, coupled with drought conditions in 1999 and 2002, caused significant tree mortality, especially in some Ross County white oak stands. Counties with new mortality due to oak decline in 2012 included Athens, Coshocton, Gallia, Hocking, Jackson, Lawrence, Meigs, Pike, Ross, Vinton, and Washington. The half-wing geometer (*Phigalia* spp.), the common oak moth (*Phoberia autumalis*), and tent caterpillars joined forces to cause the initial defoliation damage. A jumping oak gall outbreak in 2010 and again this year 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 work together as a group of secondary pests to kill already weakened trees.

Hemlock Woolly Adelgid (HWA)

In January 2012, the hemlock woolly adelgid (*Adelges tsugae* Annand) was discovered in Shade River State Forest (Meigs County) in a natural stand of eastern hemlocks. A total of eight trees that were detected during annual surveys had the adelgid. Due to the location and small size of these trees, all eight were removed and burned in an attempt to eradicate the population. Concentrated surveys are planned for the 2012-13 winter to survey remaining hemlocks in both Shade River State Forest and adjacent Forked Run State Park for more infested trees. Shade River is located along the Ohio River and borders Wood County, West Virginia, where HWA has been established since 2008. Due to the remote location of these infested trees, it is believed that this population has spread naturally into Ohio from West Virginia and is not the result of human movement. Following this detection of HWA in Meigs County, reports of suspicious hemlocks in the towns of Belpre and Marietta in Washington County were received. Surveys of these towns showed that HWA is established in their landscapes. It is unknown at this time how far inland from the Ohio River this pest is distributed, but surveys are planned for the winter of 2012-13 to determine the extent of the HWA infestation. Of the 1,025 hemlock trees surveyed in these two towns in May 2012, 404 were determined to be infested. Both Meigs and Washington Counties are quarantined by the ODA to prevent the movement of hemlock materials out of the infested areas.

Hemlock woolly adelgid on a landscape tree in Belpre, OH.

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, while other areas remain largely uninvaded. An aerial survey to locate infestations of the invasive tree-of-heaven (*Ailanthus altissima*) is planned

for the winter of 2012-13 within and around the Athens and Ironton Districts of the Wayne National Forest. The Division of Forestry promotes invasive plant control through the service forestry program and through workshops, presentations, and other outreach events.

Notable Occurrences

Scarlet Oak Sawfly

For the second year in a row, northeast Ohio recorded an outbreak of the scarlet oak sawfly (*Caliroa quercuscoccineae*). Landowners began reporting pin oak discoloration and defoliation in late June to service foresters. This outbreak was recorded across Carroll, Geauga, Trumbull, Harrison, and Mahoning Counties. This pest was also reported in a large area of southwestern Ohio by OSU Extension. Personnel recorded 205 acres of damage caused by the scarlet oak sawfly during the annual aerial survey, but the total damaged area was much larger later into the summer following this insect's flight period.

Oak Wilt

Oak wilt was reported on several private properties in Mahoning County outside of Youngstown, OH.

Tuliptree Scale

Across most of southern, central, and northeastern Ohio, yellow-poplar had high populations of tuliptree scale (*Toumeyella liriodendri*). This outbreak resulted in the production of large amounts of honeydew and black sooty mold, which caused concern for many landowners in the affected area. Over 2,500 acres in the State had severe damage from the scale.

Jumping Oak Gall

Jumping oak gall was also present in high numbers across the range of white oak in Ohio this year. Discoloration was noted in the annual aerial survey, but only a representative sample (1,649 acres) was recorded due to the large area of affected forest lands.

Weather

In June 2012, Ohio experienced a large-scale derecho wind event that caused significant damage across much of the State. Many woodlands and urban forests sustained heavy damage—broken tops, limb loss, and entirely uprooted trees. Abnormally hot and dry conditions were also an issue this summer, contributing to the decline and mortality of many pines across the State.

References

Land Cover Map:
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