

New Jersey - 2008



Forest Health Highlights

The Resource

New Jersey is the most densely populated State in the Nation. Yet forests cover 2.1 million acres (45 percent) of the State's 4.7 million acres. New Jersey has a diverse forest tree species composition. In northern counties, approximately 810,000 acres is comprised of the oak-hickory forest type. In part of central and most of southern New Jersey, pitch pine (*Pinus rigida*) is the dominant species with a component of mixed oak, shortleaf and loblolly pine, and Atlantic white-cedar. Today more than 5,000 acres of woodland is cut down per year for development. The remaining forest resources are vulnerable to attack by insects and disease. Through monitoring, aggressive action can be undertaken to minimize or eliminate the detrimental effects of forest health problems.

Forest Pest Issues

Gypsy Moth — During May 2008, an aerial suppression program was conducted on 2,835 acres within State parks and forests. Before starting treatment with B.t.k. (*Bacillus thuringiensis*), ground surveys were conducted to ascertain hatch rates and larval and leaf development. Based on a combination of even hatch and favorable weather conditions, excellent control was achieved in all 27 spray blocks. A statewide aerial defoliation survey indicated that gypsy moth activity increased from 324,000 acres in 2007 to 340,000 acres in 2008. Followup egg mass surveys indicate a need to treat approximately 10,000 acres within State parks and forests and 70,000 acres of privately owned residential forested areas. The Japanese fungus (*Entomophaga maimaiga*) has not been as active in the last 3 years as in the past due to drier weather conditions during the spring. As a result, statewide gypsy moth populations have been surging upward from 44,000 acres in 2005 to the 2007 level of 324,000 acres. The scoping meeting in January 2008 had the largest turnout in history with 71 people attending to comment on the proposed use of Dimilin. A waiver to permit the use of Dimilin was not granted by the New Jersey Department of Environmental Protection. B.t.k. continues to be the only insecticide permitted for gypsy moth control via aerial application on State lands.

Asian Longhorned Beetle (ALB) — The New Jersey Forest Service Community Forestry Program continues to administer the ALB Reforestation Project within the cities of Linden, Carteret, Rahway, and Woodbridge. Since the detection of the ALB in Middlesex and Union Counties, 616 infested trees and 20,904 high-risk trees have been removed. To date, a total of 6,567 trees have been planted in Carteret (1,982), Linden (2,369), Rahway (1,367), and Woodbridge (849). This fall, for the first time, the ALB Reforestation Project worked with the Cool Cities Initiative Project to continue planting trees within the four ALB-affected towns to help reduce energy costs through tree planting. The fall season ended on November 28 with the successful planting of a total of 870 trees in Carteret (190), Linden (383), Rahway (122), and Woodbridge (175). In 2008, 24,888 trees were surveyed and 12,370 trees were treated with a variety of chemicals for ALB control. The USDA Animal and Plant Health Inspection Service continues to administer the regulatory aspect of the ALB Program in New Jersey and Staten Island, NY. In New Jersey, a total of 21,520 trees were removed from Carteret (2,731), Linden (15,005), Rahway (2,334), and Woodbridge (1,450). Only one high-risk tree was removed in Linden this year. Host tree inspection and treatment will continue. On Saturday, February 23, the New Jersey ALB Program staff successfully completed the last Fifth Survey Cycle in the Hudson County ALB infestation. Survey results were negative for ALB signs of infestation. On April 7, 2008, ALB in Hudson County was declared to be eradicated.

Emerald Ash Borer (EAB) — As of December 18, 2008, no known occurrences of EAB have occurred in New Jersey's forested environments. This includes urban, suburban, and rural areas. Future monitoring (2009) for early detection rapid response will take place in the form of trapping. The New Jersey Forest Service will coordinate with the State Department of Agriculture to locate forest stands that have components of ash for trapping. Outreach efforts will be increased by providing additional resource information to consultant foresters and landowners enrolled in a variety of forest management programs, both State and private.

Hemlock Woolly Adelgid (HWA) — Hemlock woolly adelgid (HWA) (*Adelges tsugae*) populations throughout the 26,000 acres of eastern hemlock (*Tsuga canadensis*) in northern New Jersey have slightly increased. Based upon data collected at 10 permanent sites, the transparency of trees has increased while mortality has remained stable. It is encouraging that wherever the predatory beetle *Laricobius nigrinus* has been released (75,000) during the past 5 years, adults have been recovered and observed to be active during winter.

Sudden Oak Death (SOD) — Sudden oak death (SOD) is a disease caused by the pathogen *Phytophthora ramorum* that was first reported in central coastal California in 1995. Once infected, certain oak tree species can die within a few months to a few years. California nurseries that had contaminated stock or the potential for contamination were quarantined to prevent materials from being sent to other parts of the country. How-

ever, prior to the quarantine, plant material, particularly *Camellia* (*Camellia* spp.), was shipped to New Jersey garden centers and nurseries and other States in 2003. Because SOD host plant material was entering New Jersey, the New Jersey Forest Service has applied for and received a Federal grant each year from 2004-2008 to survey the woodland perimeters of nurseries (2004-2006) and their watersheds (2007-2008) that received material from the quarantine area. Three streams were surveyed (central and southern New Jersey) and each had two traps consisting of a mesh screen with four pouches to hold leaves of host species (rhododendron) for possible inoculation by *P. ramorum*. The trap season commenced in June and ended early July. All samples submitted tested negative for *P. ramorum*.

Southern Pine Beetle (SPB) — The SPB continues to be active in southern New Jersey forests. The counties of Cape May, Cumberland, and Atlantic have active populations at various levels. Infestations are occurring on both public and private lands. The New Jersey Forest Service performs extensive trapping, ground, and aerial surveys. Three funnel traps are deployed in each of six southern counties. SPB was low in some areas and increasing in others. Trap data indicated that southern New Jersey would have a relatively static population. The aerial survey covers the entire New Jersey Pinelands region and outlying areas, totaling approximately 1.3 million acres. This survey is performed using Digital-Aerial Sketchmapping (D-ASM) in September through October of each year. A reconnaissance flight is performed in July to detect early infestations. It was determined that there are approximately 3,827 acres infested by the SPB. This represents an overall increase of 2,933 acres from 2007 and the highest level of infestation since monitoring for this insect was initiated (2002).

Bacterial Leaf Scorch (BLS) — Bacterial leaf scorch is a disease caused by the xylem-limited bacterium *Xylella fastidiosa*. In New Jersey, BLS causes leaf scorch and decline primarily in red, black, pin, and scarlet oaks planted as landscape or street trees. The disease was first identified in Camden, Gloucester, and Burlington Counties more than 15 years ago and has since increased and/or is being detected in many other counties. Residential neighborhoods, parks, and woodlots around the State have witnessed a decline and

loss of mixed oak species. Currently, there are few cost-effective methods for managing this disease. Antibiotics introduced into symptomatic trees are not curative and are only effective for a short time. Although there is no cure for BLS, the New Jersey Forest Service is currently conducting a project to evaluate the effect of a sanitation cut that removes many infected trees on the health and condition of residual trees over time. The residual (BLS) trees will be monitored to record if the cultural activity has a long-term effect on extending the trees' life and the stand's rotation. Depending on results, this silvicultural prescription may be incorporated into the development of forest management plans as a control option for this disease.

Sirex Woodwasp — The New Jersey Forest Service conducted its second annual statewide trap survey from June through October to determine if the *Sirex* woodwasp was in New Jersey's forested environment. Traps were checked and insects that were collected every 2 weeks were forwarded to the U.S. Forest Service for identification. Trap trees, consisting of a double girdle, were created in red, scotch, pitch, and white pine from northern to southern New Jersey to attract any *Sirex* present. Trap trees created for the 2007 survey were also observed and/or dissected in spring 2008 to determine if *Sirex* activity was present. To date, no *Sirex* woodwasps have been identified in any of the samples or through dissection. The New Jersey Forest Service is proposing another survey for 2009.

Gouty Oak Gall — Southern New Jersey had a dramatic increase of gouty oak gall appearing on forested and landscape trees in 2006. Since then, D-ASM indicates that over 17,200 acres were defoliated. Various oak species (*Quercus* spp.) such as scarlet, pin, black, southern red, scrub, and post have slight to complete defoliation caused by the gall wasp. Areas typically infested are located in the Pinelands region and in outlying boundaries. In 2008, ground surveys continued to indicate varying rates of decline and mortality. These areas overlap with previous gypsy moth defoliations and orangestriped oakworm events, thereby causing increased stress to trees. Infested areas will continue to be monitored for decline, mortality, and integrated salvage and forest restoration prescriptions.

Atlantic White-cedar (AWC) — In recent years, scattered AWC stands have been in decline and have mortality. Trapping revealed that the cedar bark beetle had infested stands and caused pockets of mortality. In some cases the beetle was attracted to the stand due to an event that stressed the trees such as lightning strikes, flooding, and high winds, among other causes. Some stands had no apparent stressors that would influence cedar bark beetle attack. It was also determined that *Armillariella* root rot was a causal agent for mortality in some of the same stands. Atlantic white-cedar is a globally threatened species and is very important to New Jersey's forested environment because of its value for carbon sequestration, water filtration and storage, wildlife habitat, and our cultural heritage. Additional investigations will continue in 2009 to determine other causal agents and if any suppression efforts are necessary or practical.

For More Information



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