

# New Jersey - 2003



## Forest Health Highlights

### The Forest Resource

About 42 percent of New Jersey's 4.2 million acres are forested, and 1.8 million acres of public forested lands are administered by the New Jersey Forest Service. Forest health issues involving exotic invasive pests such as the Asian longhorned beetle, gypsy moth, and hemlock woolly adelgid, along with native pest infestations of southern pine beetle and the continued threat of bacterial leaf scorch to red oaks, pose many challenges to the health and sustainability of New Jersey's forests and their critical role in the protection of the water supply for the people of New Jersey. Several initiatives were developed to improve urban forest health in New Jersey's urban centers.

### Exotic Pest Issues

**Gypsy Moth (GM)** — The statewide aerial survey of gypsy moth defoliation completed in mid-July 2003 found that the gypsy moth had defoliated 5,154 acres of forested lands in 58 municipalities. This is an 88 percent decrease from 41,750 acres of hardwood forests defoliated last year in New Jersey. The low GM population in the State can be attributed to a successful aerial suppression program along with increased activity of the fungal parasite *Entomophaga maimaiga*.

**Asian Longhorned Beetle (ALB)** — In October 2002, the New Jersey Department of Agriculture (NJDA) and USDA, APHIS PPQ confirmed the presence of ALB in Jersey City (Hudson County), New Jersey. During the fall and winter months, survey crews from the NJDA and USDA, APHIS PPQ examined all host trees within a ½-mile radius of the initial discovery to determine the extent of the infestation. The survey found 102 trees infested by ALB in Jersey City. A three-phase plan was developed for the removal of all infested and potential host trees from the area to eliminate this insect from New Jersey. In total, 460 trees were removed from

within a ¼-mile area around the epicenter of the infestation. Soil and tree injections of non-infested host trees within a ¼- to ½-mile zone from the core area occurred in the middle of March. A total of 1,060 non-infested host trees were treated using imidacloprid, a systemic pesticide, to safeguard against possible ALB infestation. Approximately 92 percent of the trees were treated using a soil injection method, while trunk injections were used to treat trees where there was not enough space around the root system. In October 2003, a second season of cooperative ALB surveys began in Jersey City. No new infestations have been found to date. The New Jersey Department of Environmental Protection Community Forestry Program (NJDEP) and the USDA Forest Service developed a reforestation plan for the eradication area. The NJDEP's Community Forestry Program staff is working with property owners to finalize the non-host tree-planting agreements. Monitoring of target species in a 25-mile radius from the first ALB discovery in Brooklyn is a continuing survey by all the cooperators.

**Hemlock Woolly Adelgid (HWA)** — There are approximately 26,000 acres of hemlock in NJ, all of which are infested to some degree by the hemlock woolly adelgid. This insect has destroyed some hemlock stands, while others have only low HWA infestations. In general, the overall health of native hemlock stands in New Jersey remains poor, except in the northwestern portions of the State where possibly better soil conditions may exist. The combination of the wet spring and cold winter reduced HWA populations; adelgid mortality was observed to be over 90 percent in some sites. As a result, a number of hemlock stands have shown substantial increases in new growth; possibly indicating improved stand health and vigor. Unfortunately, with all the new growth, the HWA is poised to increase its population in the coming year if cold winter temperatures do not again suppress populations. Since 1997, the NJDA has been rearing a predator of HWA, *Pseudoscymnus tsugae*, at the Philip Alampi Beneficial Insect Laboratory under a cooperative agreement with the USDA Forest Service. *Pseudoscymnus tsugae* adults continued to be released in New Jersey and are supplied to 10 cooperating states. During the fall of 2003, the Alampi Lab received two additional HWA predators, both *Scymnus* spp, to develop a mass rearing technique for these predators for their eventual release to protect New Jersey's remaining hemlocks from the HWA.

**Emerald Ash Borer (EAB)** — The NJDA entered into a cooperative survey agreement with the USDA Forest Service to determine if the emerald ash borer, *Agrilus planipennis*, was inadvertently introduced into the State. Ash trees are very

common in the northern counties of the State and encompass a reported 156,000 acres of the urban environment in the State. No EAB was discovered in urban and rural forests.

## Native Pest Issues

**Southern Pine Beetle (SPB)** — The Southern pine beetle, *Dendroctonus frontalis*, is one of the most destructive pests of pines in the Southern United States, Mexico, and Central America. This insect attacks and kills all species of pines, but prefers loblolly, shortleaf, Virginia, pond, and pitch pines. When populations of this beetle are low, they usually attack mature, weakened trees; however, when their numbers become epidemic, they quickly attack and kill healthy, vigorous trees. An SPB outbreak began late in 2001, expanded throughout New Jersey Pinelands of the Southern Region in 2002, and continued to kill New Jersey's pine stands in 2003. Aerial surveys to identify and map pines killed by SPB have established that the cumulative pine mortality from SPB infestation has increased in size over the last 2 years despite the cold winter the State experienced last year. Over the past 2 years, the NJ Department of Environmental Protection's Division of Parks and Forestry has implemented an SPB control program on State-owned lands and conducted detailed SPB population monitoring and assessment of this insect infestation in the Pinelands of Southern New Jersey. NJ Forest Service has significantly increased its monitoring capabilities to assess this threat, including aerial reconnaissance, infrared remote sensing, GIS deployment, and enhanced digital analysis.

## Special Pest Issues

**Bacterial Leaf Scorch (BLS)** — Bacterial leaf scorch is a wilt disease of trees in the red oak group caused by the bacterium *Xylella fastidiosa*. The

bacterium is transmitted to healthy trees by feeding leafhopper and spittlebug insects, and possibly other xylem-feeding insects, that move from diseased trees or perhaps any understory herbaceous plants, such as goldenrod, blackberries, and clover. This disease continues to be a serious health threat to urban shade trees in New Jersey. Upon completion of a statewide survey and report by the NJ Forest Service in cooperation with Rutgers University, it was determined to be a significant and spreading threat to northern red oak and pin oak populations. Leaf discoloration and dieback in the crowns of pin, scarlet, and northern red oaks were first evident over 10 years ago. Trees infected by BLS include northern red oak, pin oak, scarlet oak, elm, and sycamore. Trees growing in urban settings, such as along highways and around homes, are those most likely to exhibit symptoms. The degree of infection in natural forest settings is yet to be documented. Current research being conducted in cooperation with private industries and with Federal funds is focusing on finding cost-effective and reliable treatments.

## Urban and Community Forestry Tree Health Initiatives

**Urban Airshed Reforestation Project** — In partnership with the NJ Tree Foundation, this project developed an urban tree planting project in Camden. This project will establish approximately 1,500 shade trees in underserved neighborhoods throughout that city. To date, 1,000 shade trees have been planted and the final 500 will be planted this spring.

**Governor's Cool Cities Initiative** — An urban reforestation effort to mitigate the heat island effect and thereby reduce low-income family energy costs in selected neighborhoods began in five cities. This initiative was mandated by the Clean Energy Act through the auspices of the Board of Public Utilities by MOAs with the NJ Forest Service and the NJ Tree Foundation. Over 2,200 shade trees were planted in Trenton and Patterson by the end of 2003 and the effort will be expanded in 2004 to the cities of Newark and Elizabeth.

**No Net Loss Act** — This Act mandates monitoring and review of state-entity reforestation plan applications to assure the replacement of trees removed from State construction project areas totaling ½ acre or more. As result of project work completed this year, over 20,000 trees are being planted on public lands through the mitigation requirements established by this Act.

## For More Information



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