

2004 Forest Health Highlights

Maine



January 2005

The Resource

Maine's forests provide much of the raw materials to fuel its mills and serve as the backdrop for the recreation industry. These forest-based industries employ more than 12 percent of Maine's workforce and generate over 11 percent of the State's payroll. The overall annual contribution of the forest resource to Maine's economy exceeds \$8.5 billion. The forests of the State also provide watershed, environmental, wildlife, and recreational benefits. Forested parks and individual shade trees provide similar amenities in urban and suburban settings.

Special Issues

Annual collection of Forest Inventory and Analysis data, for long-term **forest inventory and monitoring**, using a standard national plot design and core measurements has been underway for 6 years in Maine. The survey integrates the traditional forest inventory with the Forest Health Monitoring Program to assess forest condition, including trees, soils, lichens, and ozone bioindicator plants. Additional data is collected to address local issues ranging from specific pest impacts to quality of wildlife habitat. Several forest health concerns center on nonnative pests.

Hemlock woolly adelgid, an introduced insect, was found for the first time in native hemlocks in Maine a year ago on Gerrish Island in Kittery Point, where a low intensity population was confirmed to be established. Delimiting surveys conducted during 2004 have detected scattered light spot infestations over an area of 3,500 acres in hemlock stands in Kittery, Kittery Point, and York, and on two abutting trees in a stand in the town of Wells. Detection surveys were performed in every town in York county to determine the presence of the insect. No new adelgid infestations were found on hemlock nursery stock in Maine in 2004.

The Maine Forest Service implemented an integrated slow-the-spread management program to reduce the impact of currently established adelgid populations and reduce the rate of natural and artificial spread. A total of 7,500 predatory beetles were released on Gerrish Island during the late spring and early summer to establish this predator in a forested part of the island. In October, the Maine Forest Service treated none sites in Kittery Point, York, and Wells with Talstar plus horticultural oil. In early 2005, the State hemlock woolly adelgid quarantine will be expanded to include the towns of Kittery, York, and Wells in York County.

Common pine shoot beetle is a nonnative bark beetle that has been collected in Oxford and Franklin Counties during trapping surveys conducted between 2000 and 2003 by the Maine Forest Service. Maine has both a State and Federal quarantine. Oxford and Franklin Counties are designated regulated counties. During 2004, trapping by the Maine Forest Service was conducted at nine mill yards and bark processing plants operating under compliance in the unregulated zone. The USDA APHIS PPQ trapped at seven sites with red pine in Somerset and Penobscot Counties. No pine shoot beetle adults were trapped in Maine in 2004.

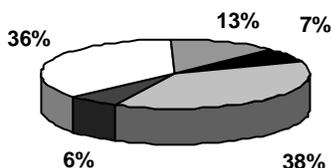
Balsam woolly adelgid, introduced in the early 1900's, continued to be at very low levels in 2004, apparently as a result of winter mortality. While mortality from recent years is striking, the consistent rainfall of 2004, coupled with low population levels of the adelgid, allowed a number of the light to moderately damaged trees to recover. Mortality of heavily damaged fir continues to occur, but it becomes less obvious as old stands are salvaged or fall to the ground.

**90 % of the State is forested
(17,689,000 acres)**

Out of the forested area:

- **95.7% timberland**
- **4.3% noncommercial or reserved forest land**

Major Forest Types:



- white/red pine/hemlock (7%)
- northern hardwoods (38%)
- other (6%)
- spruce/fir (36%)
- ash/birch (13%)

Special Issues cont.

The Casco Bay region northeast to the Penobscot river continued to show moderate to high levels of the **browntail moth**, another introduced insect. Low winter temperatures slowed expansion to inland areas, but coastal lands remain heavily infested. Webs collected to assess winter mortality showed that webs located 5 miles or more from the coastline exhibited 88 percent larval mortality while webs adjacent to the ocean had little if any winter losses. The 2005 infestation is expected to be similar in acreage to 2004, but will not be as intense in many coastal communities.

No **gypsy moth** defoliation was recorded in 2004. *Entomophaga maimaiga*, virus, and parasites continued to keep the gypsy moth population at low levels throughout southern Maine. The 2004 fall egg mass survey indicates that the population will remain at low levels in most locations in 2005.

Populations of the **birch skeletonizer** returned to endemic levels, in contrast to the widespread defoliation that occurred in 2003. Damage to forest stands was evident in various parts of the State from feeding by the **arborvitae leaf miner**, **locust leafminer**, and **forest tent caterpillar**.

Again in 2004 there was no defoliation detected from the **eastern spruce budworm**, and the population remains very low. The condition of many of Maine's central and eastern **coastal spruce stands** has been declining due to the spruce beetle, eastern dwarf mistletoe, wind, limited stand management, and shallow, rocky soils. Pockets of dead and dying larch infested with the **eastern larch beetle** continue to be a common sight.

The quarantine for **European larch canker**, found in Maine in 1981, is still in effect along eastern coastal areas, with no evidence of spread in 2004. **Butternut canker**, first reported in Maine in 1993, has now been located throughout the State, except in Washington County. Losses attributable to **beech bark disease** are extensive, but assessment of the damage is complicated by the effects of drought, oystershell scale, late spring frosts, and various hardwood defoliators. Symptoms of **Dutch elm disease** continue to be conspicuous throughout Maine.

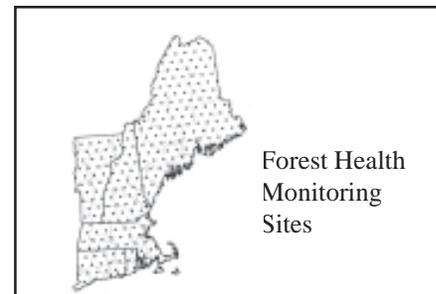
Most trees damaged by the **Ice Storm of 1998** now show significant recovery of affected crowns. Impact assessment work of the 1998 ice storm is largely complete. Final results, calculated in percentage of crown recovery and crown restored, show that (1) there was only minor impact from the ice storm on softwood species; (2) even in the most heavily damaged areas trees on average now have 40 to 75 percent of the crowns they had prior to the ice storm; and, (3) crown recovery was due predominantly to sprouting.

Regional Surveys

Forest Health Monitoring Program

Interest in regional forest condition prompted the implementation of the National Forest Health Monitoring Program. The program's objective is to assess trends in tree condition and forest stressors. Forest health data is now collected annually as part of the Forest Inventory and Analysis Program. Additional surveys are also conducted for specific forest pests.

Plot results indicate that there has been minimal change in crown condition in the last 15 years, with 95 percent of trees greater than 5 inches diameter having normal crown fullness, about 85 percent with little or no crown dieback, and 70 percent showing no measurable signs of damage. The most



common damage was decay indicators, which were more evident on hardwoods than softwoods. This is particularly evident in the northern and eastern regions of the State, where 25 percent of the hardwood basal area is affected, especially beech. Additional surveys indicate there are concerns for individual species such as ash, butternut, and hemlock due to various damage agents.

For More Information

Maine Forest Service
State House Station
Station #22
Augusta, ME 04333
(207) 287-4981



Forest Health Protection
USDA Forest Service
P.O. Box 640
Durham, NH 03824
(603) 868-7709

