

2002 Forest Health Highlights

Maine



January 2003

The Resource

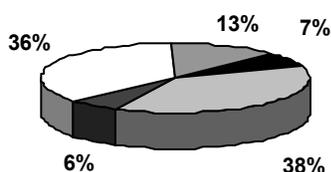
Maine's forests provide much of the raw materials to fuel its mills and serve as the backdrop for the recreation industry. These forest-based industries employ more than 12 percent of Maine's workforce and generate over 11 percent of the State's payroll. The overall annual contribution of the forest 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.

**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

The need for long-term **forest inventory and monitoring** results continues to dominate forest health issues in Maine. Annual collection of Forest Inventory and Analysis data using a standard national plot design and core measurements is underway. 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.

Most trees damaged by the **ice storm of 1998** now show significant recovery of affected crowns. Tree species that possess the ability to produce sprouts in damaged portions of their crowns displayed lush foliage in 2002 and many have now completely rebuilt their crowns. Species that recovered best from significant crown loss in 1998 include white ash, red oak, and sugar maple. Several other species, including red maple have recovered more slowly. Softwood species that lost significant portions of their crown and several hardwood species such as birch and American beech apparently lack the ability to rebuild their crowns significantly through sprouts and have shown little recovery. In many cases poplar with severe crown damage has died completely.

There are currently concerns over threats to the forests from recently introduced pests. The **hemlock woolly adelgid**, which is causing mortality of eastern hemlocks in the eastern United States, was inadvertently imported into Maine on a shipment of infested nursery stock in April 1999. Every spring, statewide detection efforts are launched against this pest using media releases and televised public service announcements. Since 1999 the adelgid has been found and eradicated in 120 planted hemlocks. All infested hemlocks have been linked to tree shipments from infested areas in other states and were treated and removed before the insect became established and spread to native stands. In 2002, the insect was detected in 21 trees on 10 landscape sites in the towns of Lubec, Bar Harbor, Camden, Rockland, Southport, Kittery Point, York, and York Harbor. Treated sites will continue to be monitored for 5 years.

The **European pine shoot beetle**, a pest of pine, was recently discovered in northern New Hampshire, Vermont, and Maine. The Maine Forest Service and USDA APHIS PPQ have been conducting annual spring trapping surveys to detect the beetle in Maine since 1999. Eight beetles have been trapped in Franklin and northern Oxford County since 2000, with five trapped in Franklin County in 2002. No signs or damage was seen in red pine plantations. The State established a quarantine in 2001 in the northern portion of Oxford County and is now in the process of revising the quarantine to include all of Franklin County.

Special Issues cont.

Another exotic pest, **browntail moth**, continues to infest islands in Casco Bay and the nearby mainland. The generally infested area extends from York to Hancock Counties. While the overall area is reduced from 2001 levels, the infestation intensified in 2002 in the Casco Bay region and has shown some expansion to inland sites. Aerial control projects treated 2,000 acres in the towns of Falmouth, Cumberland, Yarmouth, Freeport, and Brunswick to reduce incidence of the caterpillar, which has hairs that cause serious skin rashes.

Defoliation of hardwoods resulting from **European gypsy moth** feeding was recorded on 51,506 acres in 2002. The heaviest damage occurred in the Sanford area and east. The *Entomophaga maimaiga* fungus, a virus, and parasites all combined to curtail much of the gypsy moth population, keeping the damage far below expectations.

Drought conditions occurring since 1995 have been a major factor, in combination with various pests, affecting spruce, fir, larch, and beech. **Spruce** trees along the central and eastern coast and offshore islands continue to be impacted by spruce beetle and dwarf mistletoe, enhanced by several years of drought. Damage to **fir** increased in downeast Maine from the balsam woolly adelgid, causing deformed crowns and mortality, especially in drought affected areas. Pockets of **larch** decline and mortality are occurring, a result of larch beetle and defoliators attacking drought stressed trees. Losses of **beech** to beech bark disease are compounded by the effects of drought, late spring frost, oystershell scale, and various defoliators.

The quarantine for **European larch canker** is still in effect along eastern coastal areas. **Butternut canker**, first reported in Maine in 1993, has now been located throughout the State, except in Washington County. **Dutch elm disease** continues to be a chronic problem.

Again in 2002, there was no defoliation from the **eastern spruce budworm**, and the recent population resurgence of the **fall hemlock looper** collapsed.

In addition to annual pest surveys, ongoing monitoring efforts include evaluation of **Eastern white pine** stands in southwestern Maine. These stands have been exhibiting decline symptoms since the late 1990's. The decline has been associated with previous drought stress on trees where rooting depth was restricted. Studies now center on management techniques that may lessen the incidence of the decline.

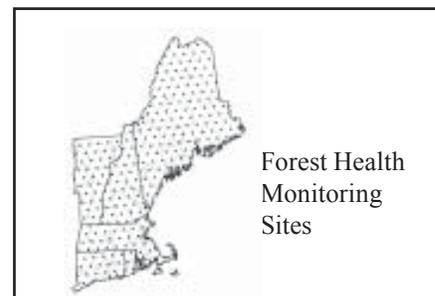
Regional Surveys

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. All of the New England States have been involved since the program was initiated in 1990.

Results indicate that there has been minimal change in crown condition in the last 13 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. Additional surveys indicate there are concerns for individual species such as ash, butternut, and hemlock due to various damage agents.

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