



Forest Health Watch

Reports of Forest Pest Activities in New England and New York



Northeastern Area State and Private Forestry

August 2007

Exotic pests, defoliators, and foliage diseases are causing the most significant forest health concerns.

Forest Insect Defoliators

Forest tent caterpillar defoliated hardwoods in a few areas of eastern Connecticut, a relatively new location for this pest, and also in the western hills. Rhode Island reported about 6,272 acres of defoliation throughout the northern and central parts of the State. Approximately 200 acres of mortality is evident in Providence County, with most of the area having 80 percent mortality of all oak species. In New Hampshire the insect has almost completely disappeared, with only 1000 acres of defoliation mapped in 2007. Larvae were present in Maine with little defoliation. Populations are much reduced in New York overall, although still significant in some locations. In Vermont, forest tent caterpillar populations were reduced in most places. Noticeable defoliation has been reported only from central and northwestern Windsor County. Defoliation is reduced in Massachusetts, however there is significant mortality in the southeastern portion of the State, a result of repeated years of damage from this insect and other forest defoliators.



Forest tent caterpillar defoliation (Photo by RI Division of Forest Environment)

Winter moth, a newly introduced exotic insect, was first found in Massachusetts in 2003 and in Rhode Island and southeastern Connecticut in 2005. In 2006 there was also defoliation in southern Maine. Mostly red oak and red maple are affected. Rhode Island reported about 233 acres of defoliation in the eastern part of the State near the Massachusetts border in 2006. In 2007 only spotty light defoliation on less than 50 acres occurred in the same area in Bristol County. Defoliation from the winter moth has also occurred again in Massachusetts this season. Total acreage is difficult to determine because gypsy moth and forest tent caterpillar commonly occurred in the same stands. The University of Massachusetts released a parasite, *Cyzenis albicans*, at 3 sites in the State in 2007; 2 sites where it was previously released and a new site in Falmouth.



Winter moth
(www.forestryimages.org)

Gypsy moth defoliation in Rhode Island occurred in Bristol, Kent, Newport, and Providence Counties, which includes most of the State. In Connecticut there were low populations in 2007 overall, due to significant larval mortality last year in mid-June. However, there were pockets of severe defoliation in the mid-State area near the Connecticut River. The defoliation in the southwestern part of the State included much of the area defoliated earlier in the year by forest tent caterpillar. Massachusetts reported no gypsy moth defoliation. There are still persistent populations in some areas of New York. Gypsy moth has been observed causing light defoliation in both oak and northern hardwood stands in scattered locations in Vermont. Populations remain low in Maine.



Gypsy moth (www.forestyimages.org)

Saddled prominent early instar larvae have been observed feeding in some northeastern Vermont locations, however, it is too early to determine the extent of damage this year. Saddled prominent has been observed in the southern Maine coastal town of Falmouth and there may be some activity in the western part of the State.



Saddled prominent (Photo by VT Department of Forests, Parks, and Recreation)

Orangestriped oakworm was reported in Connecticut in areas that were heavily defoliated in 2006, so the potential is there for an outbreak of this late-season defoliator again in 2007.

Pear thrips damage increased noticeably this year in Vermont, with light to moderate defoliation common in scattered locations throughout the State. Damage was severe enough to cause refoliation in the town of Rupert.



Pear thrips damaged leaves (Photo by VT Department of Forests, Parks, and Recreation)

Fall cankerworm continues to defoliate hardwoods in the Deerfield area of New Hampshire, with approximately 10,000 acres of oak damage mapped to date. Several small patches of defoliation have been seen in other regions of the state. There was also significant defoliation in southern Maine in York County, where the infestation is in its second year. In Massachusetts fall cankerworm defoliation is occurring on Cape Cod and west of the Quabbin Reservoir in the central part of the State.

Other Exotic Insects

Hemlock woolly adelgid continues to slowly spread northward. In the northeast, the adelgid can be found throughout Connecticut, Rhode Island, Massachusetts, and southeastern New York State, now moving into northern New England. Significantly, hemlock woolly adelgid has been detected on mature hemlocks in the towns of Brattleboro and Rockingham in Windham County in southern Vermont. This is the first known natural introduction of the insect into the State. Attempts are underway to eradicate the infestations. The adelgid remains present in all counties in Rhode Island and Connecticut. New Hampshire has added 9 towns in Hillsborough County to the adelgid quarantine and removed 10 towns in Rockingham County from their quarantine zone, since no adelgids were ever found in those areas. In Maine, the adelgid was first reported on nursery stock in 1999 and then detected on native hemlock in 2003. Six towns in southern Maine are now under quarantine including Eliot, Kittery, Ogunquit, South Berwick, Wells, and York. There was also a report of infested out-planted nursery stock mid-coast in southern Hancock County and eradication procedures were initiated. The adelgid is dramatically increasing in response to recent mild winters in all of the infested areas in southeastern New York. Also, two new infested locations were found upstate in Rochester in landscaped yards. The adelgid was originally introduced here on infested nursery stock. There are plans to treat these infested trees in late summer or early fall, in another attempt to eradicate the insect from this area.



Hemlock woolly adelgid (www.forestryimages.org)

Sirex woodwasp, *Sirex noctilio*, was first found in North America in five counties in upstate New York in 2005. This European wood-boring wasp is capable of causing mortality in many species of pine trees. By 2006, the cooperative State, U.S. Forest Service, and USDA Animal and Plant Health Inspection Service (APHIS) trapping surveys found woodwasps in a total of 25 counties in New York and two counties in Pennsylvania. In Canada, 21 counties in Ontario Province are also infested. *Sirex* woodwasp investigations are



Sirex woodwasp (Photo by New Zealand Forestry)

continuing in New York within the survey area. In Vermont, traps were placed next to girdled Scots pines in 5 locations in Chittenden and Addison Counties in Vermont. Experiments regarding detection trees have been conducted using several methods of herbicide girdling plus mechanical girdling. No *Sirex* adults have been detected in Vermont. Surveys have continued in Connecticut, also with negative results.

On July 6, 2007, the *Sirex* woodwasp was trapped for the first time in Michigan, north of Detroit, in Macomb County. APHIS is the lead agency for quarantine activities. The U.S. Forest Service, APHIS, and numerous State partners are working together to survey, manage, and regulate movement of this invasive species.

Asian longhorned beetle eradication efforts are continuing in New York and New Jersey. APHIS and its cooperators undertake eradication by imposing quarantines, conducting visual inspections around confirmed sites to determine the scope of infestations, removing infested and high-risk exposed trees, and chemically treating host trees as part of an area-wide integrated pest eradication strategy. The goal is to eliminate this destructive insect from New York City, Long Island, and northeastern New Jersey before it can establish itself elsewhere.



Asian Longhorned beetle (www.forestryimages.org)

The most recent significant new infestation was discovered in March 2007 on Prall's Island, located in the Arthur Kill, a river between Staten Island, New York and New Jersey. Infested trees, as well as other host trees, were recently cut and chipped in an attempt to eradicate the beetle from the area. APHIS treated approximately 98,000 trees susceptible to the Asian longhorned beetle with the insecticide imidacloprid in New York and New Jersey this spring. In the 132-square mile quarantine area in New York, trees were treated in Manhattan, Brooklyn, and Queens. In New Jersey's 25 mile quarantine area, treatments took place in Middlesex and Union counties.

On a more successful note, no beetles have been seen in Chicago since November 2003. Chicago's fight against the Asian longhorned beetle is not considered over until the city is declared free of the insect through the formal APHIS declaration of eradication, which is expected to occur by early 2008. In order for previously infested areas to be declared eradicated, they must be free of any signs of the beetle for four years, which for Chicago is in November 2007.

Emerald ash borer, known to occur in Michigan, Ohio, Illinois, Indiana, Maryland, and Ontario Canada, was recently discovered on private land in Pennsylvania, south of the Allegheny National Forest. The Pennsylvania Department of Agriculture has quarantined the counties of Butler, Allegheny, Beaver, and Lawrence. The Allegheny National Forest is working with Law Enforcement and Investigation, along with Forest Health Protection personnel, to institute a closure order restricting firewood movement. Similar closure orders have been established for the Chippewa and Superior National Forests in Minnesota. Emerald ash borer surveys are continuing in New York and New England, all



Emerald ash borer (www.forestryimages.org)

with negative results. To slow the spread of the borer a quarantine of all infested areas is in place, along with an extensive outreach program to alert campers to the potential damaging effects of transporting infested firewood. In New York, there have been many requests for information and site investigations, which suggests that the increased outreach efforts regarding this exotic pest are reaching the public.

Lecanium scale continues to cause damage in New York. The three year outbreak has led to some tree mortality and caused further decline in maple stands affected by defoliators as well. It is not known if the scale populations are likely to decline or stay at these unprecedented high levels. Lecanium scale populations appear to be significantly reduced in sugarbushes and northern hardwood stands, however some populations remain on ornamentals in north-central Vermont.



Lecanium scale (Photo by VT Department of Forests, Parks, and Recreation)

Other Forest Insects

Many calls and observations were taken in Rhode Island on an unknown twig borer on the tips of white pine believed to be *Pityophthorus* sp. Similar observations were reported in Maine, New Hampshire, and statewide in Massachusetts.

There are a number of small green caterpillars causing defoliation near Lyme, Connecticut, which may be a **cankerworm complex**. Attempts are underway to identify these insects.

In Maine, **arborvitae leaf miner** and foliar pathogens are affecting eastern red and northern white cedars. Northern white cedar in the State, as well as in Michigan, are being surveyed to determine their overall condition. Also in Maine, **birch leafminers** are causing damage in the northern portion of the State and **pitch pine needle rust** is occurring throughout the range.

Damage to red pine from **pine gall weevil** has increased in Vermont to the extent that it is associated with red pine dieback and mortality in many scattered locations. Other stressors are often evident as well, including past drought, Diplodia shoot blight, brown spot needle blight, and salt damage. **Pine leaf adelgid** is thought to be the cause of noticeable shoot dieback on white pines in southern Vermont.



Pine gall weevil (Photo by VT Department of Forests, Parks, and Recreation)

Tree Diseases

Ramorum blight (Sudden oak death) caused by *Phytophthora ramorum* continues to cause concern nationwide. *P. ramorum* was first seen in Mill Valley, CA, on tanoak in 1995. California, Oregon, and Washington nurseries are under a Federal quarantine to prevent the movement of regulated and restricted articles to uninfected areas across the country. Nursery owners in those States who ship *P. ramorum* host and associated host plants interstate must have their nursery stock inspected, sampled, and tested before plants can be transported across State lines. Among the plants susceptible to this pathogen are rhododendron, camellias, and about 50 other plant species on the APHIS host list. There are over 50 more plants on the associated list that have been found infected with *P. ramorum*.



Ramorum blight on oak in California
(www.forestryimages.org)

In 2006, almost 5,000 nurseries were surveyed in 46 states as part of the APHIS Plant Protection Quarantine effort, with 395 confirmed positive samples collected. By July 2007 nursery plant surveys identified 13 positive nursery finds in the western United States and 3 in the east. The U.S. Forest Service cooperative nursery and general forest surveys occurred in 29 states in 2006.

This year the Forest Service is sponsoring a watercourse stream baiting survey nationwide. This new program replaces the nursery perimeter and general forest detection survey carried out since 2003. In the spring of 2007 water finds of *P. ramorum* were reported from Mississippi and Washington State, in streams adjacent or downstream from current and previously positive nursery sites. In the northeast, New York, Massachusetts, Connecticut, and Maine, previously identified as at-risk areas, are participating in the stream baiting survey. Although nearly all of the samples from these States have revealed *Phytophthora* infection, none of the samples were *P. ramorum* species.

Foliage Diseases

Brown spot needle blight was very heavy on white pine throughout Vermont again this year, thanks to a carry-over of inoculum from last year and plenty of moisture this season. Scots pines and red pines were also affected.



Brown spot needle blight (Photo by VT Department of Forests, Parks, and Recreation) 6

Fir-fern rust increased this year and is heavy in many balsam fir Christmas tree plantations in Vermont. Also, **needle drop** of green hemlock needles, although light in severity, has been widely reported in southern Vermont.

Other leaf diseases are also widespread and common in Vermont, including *Septoria* on sugar maple and paper birch, *Tubakia* and **oak leaf blister** on oak, **large tar spot** on Norway maple, **Venturia leaf blight** on poplar, along with **Rhizosphaera needlecast** on white and blue spruce, and balsam fir.

Lirula needlecast, *Lirula nervata*, a disease that was only occasionally seen in the past, has become much heavier and more noticeable this year in north-central Vermont on native balsam fir and fir Christmas trees. Lirula and Rhizosphaera are also evident in Maine.

This year there are numerous reports from Maine, New Hampshire, and Vermont of **balsam fir twig dieback**, referred to as 'balsam fir red flag', due to the red necrotic foliage. This is attributed to a minor canker-causing fungus, *Fusicoccum*, and mechanical insect feeding from adult sawyer beetles.

In Connecticut there is extensive **powdery mildew** on Dogwood, causing defoliation in many locations.

Hemlock vaccinium rust has been evident on eastern hemlocks in New Hampshire this summer, which many people have mistaken for hemlock woolly adelgid because of the white aecia on the back sides of the hemlock needles.

White pine needlecast, *Canavirgella banfieldii*, first recognized and named in Pennsylvania in 1996, has caused widespread needle loss in young and older white pine in western, central, and southern Maine. The pathogen affects only the current year's needles. The needle loss this year is from last year's infection. Overall minimal damage is expected.



Fir-fern rust (Photo by VT Department of Forests, Parks, and Recreation)



Lirula needlecast (Photo by VT Department of Forests, Parks, and Recreation)

Weather Damage

A major **wind event** in New Hampshire in May blew over 10,000 acres of aspen, maple, pine, spruce, fir and other softwoods. There was a significant amount of stem breakage of the softwoods. Many of the remaining trees are alive, still attached to their roots and currently free of insect and disease attack.

Wind damage from an April 16 storm caused scattered blowdown in southern Vermont and the Northeast Kingdom. Extensive damage to urban trees occurred in the city of Rutland. Wind or some other climatic event during leaf expansion is thought to be the cause of scattered **foliage browning** of sugar maple and other hardwoods in western Vermont. Affected trees are refoliating.



Blowdown in New Hampshire

For further information contact mweeks@fs.fed.us

Or

Your State Forester's office.