



Forest Health Watch

July 2005—Reports of Forest Pest Activities in New England and New York

Exotic invasive pests continue to expand their reach and threaten the Northeast's forests and urban landscapes.

Insect defoliators are very active this year and significant damage has occurred in many areas.

New Invaders!!

Sirex woodwasp was captured in Fulton, NY, in September 2004 in an exotic insect monitoring trap. In 2002 it had been found in Bloomington, IN, and detected at numerous ports of entry. The sirex woodwasp is an exotic invasive woodborer that attacks and kills pine trees, including several native North American pines, as well as exotic pine species planted in the United States (e.g., Scotch pine). It is native to Europe, Asia, and northern Africa and poses a serious threat to North American forests. The introductions are associated with solid wood packing material; future introductions into the United States are possible. The sirex woodwasp lays eggs and injects a fungus into a host tree. When the larvae hatch, they create tunnels throughout the infested sapwood. Adults are capable of dispersing large distances, from 25 to 100 miles.



In response to this introduction in New York, commercial businesses that may have received materials shipped in solid wood packing material from outside the United States were visited in April. No sirex woodwasps were found. The USDA Forest Service conducted an aerial survey of 36 square miles surrounding Fulton, NY, and located areas containing stressed or dead trees. Ground surveys were conducted in the mapped areas to determine the presence of sirex woodwasp. Dozens of the woodwasps emerged from logs that were obtained from the Oswego area. A large-scale trapping effort in and around Fulton and Oswego is being conducted from June to October 2005. To date the insect has been trapped 20 miles from where it was first found. The trapping area will be expanded in an effort to determine the extent of the infestation.



Xyleborus, an ambrosia bark beetle, was detected at two sites in Massachusetts as a result of the current Early Detection Rapid Response trapping efforts. Specimens of the unknown Xyleborus were taken from a funnel trap in April 2005 in Southboro, located in Worcester County, and also in the Stow/Sudbury area in Middlesex County. It was a species that had never been encountered before during surveys in the United States. The insect was identified by entomologists at Cornell University as *Xyleborus seriatus*, which is common in Japan. They indicate that this species has also been recorded in China, Korea, Taiwan, and Russia. This bark beetle has many hardwood hosts, but also attacks several conifers (*Pinus*, *Thuja*, *Tsuga*, *Cryptomeria*, *Chamaecyparis*, and *Larix*). The extent and potential impact from this insect in the United States is currently unknown.

Sudden oak death (*Phytophthora ramorum* blight) continues to cause concern nationwide. *P. ramorum* was first seen in Mill Valley, CA, on tanoak in 1995. The pathogen is now known to exist in natural stands in 14 northern California counties and in Curry County, Oregon. Those counties are under a Federal quarantine to prevent the movement of regulated and restricted articles. In addition, under a new Federal order, California, Oregon, and Washington nursery owners who ship *P. ramorum* host and associated host plants interstate must have their nursery stock inspected, sampled, and tested by State officials before those



plants can be transported across state lines. Among the plants susceptible to this pathogen are rhododendron, camellias, and 66 other plant species. Nurseries in those States that ship nonhost plants interstate must undergo a visual inspection to ensure those plants are not exhibiting *P. ramorum* symptoms before interstate shipment. This is the third year of the national sudden oak death surveys, which includes all of the New England States and New York. USDA APHIS is leading the nursery surveys. In 2003 and 2004, infected plants were found at nursery sites in 21 States in the West, South, and Mid-Atlantic. The only discovery of plant material infected with *P. ramorum* in New England was in Connecticut in fall 2004 on nursery stock that originated from the west coast. The USDA Forest Service national survey is targeting nursery perimeters and general forested areas. To date all of these forestry surveys have been negative, indicating that the pathogen is not found in the natural environment in the eastern United States.

Emerald ash borer surveys are being conducted again this year to determine if this exotic pest is located in the Northeast. This is an aggressive insect that feeds on the inner bark of trees, rapidly killing them. State, private, and Federal lands, including tribal areas, are being inspected. So far no evidence of emerald ash borer has been found in New England or New York. Attempts are underway in southeastern Michigan to contain the insect within the larger areas in which it has been found and has killed millions of trees, and to eliminate it from outlying infestations. There is a concerted effort to inform the public of the hazards of moving firewood and nursery stock from within the infested areas to outlying campsites and other locations.



Established Exotic Pests



Winter moth defoliation has expanded since it was discovered in Massachusetts in 2003, which was the first report of the insect in the United States. Earlier this year, over 30,000 acres of hardwoods were defoliated in eastern coastal Massachusetts around the towns of Gloucester and Rockport north of Boston, as well as areas along the south shore near Plymouth and on Cape Cod. In addition, the winter moth was also found in urban and suburban areas of Rhode Island: in Barrington, Bristol, Warren, and over to Westerly. Severe defoliation of up to 50 percent was observed in some areas. Since some of the affected areas are near the western border of the State, it is suspected that there may also be damage from this insect in eastern Connecticut. Interest is focusing on the successful release of a specific parasite (*Cyzenis albicans*, a small fly), if it can be reared in sufficient numbers. Massachusetts released this parasite in Wampatuck State Park in May. According to a recent article in the *Boston Globe*, “The parasitic fly, a natural enemy of the winter moth, was expected to destroy more than 200,000 of the winter moths out there.”

Gypsy moth defoliation has definitely increased in southern New England. In Connecticut, the hardest hit area is within the I-95, I-91, and Route 9 triangle, along with areas in Lyme and along the coast from Groton to the Rhode Island border. Some trees were over 90 percent defoliated. Local sites in Rhode Island also have high gypsy moth populations, especially along the ridgetops and where oak is growing on shallow soils. There is a “snowstorm” of male moths flying in these areas. Information workshops are planned for communities where defoliation is expected next year. There was also an increase in gypsy moth defoliation in eastern Massachusetts, in combination with another hardwood defoliator, the forest tent caterpillar.



In New Hampshire, gypsy moth defoliation is down this year to around 5,000 acres in the Lakes region. Several of the islands on Lake Winnepesaukee received complete defoliation of oaks, beech, birch, and maples. Damage has been extensive in some areas of New York in association with other defoliators. Populations are generally low in Maine, with many larvae infected with the *Entomophaga* fungus following the wet spring weather.

Hemlock woolly adelgid, which feeds on the twigs of eastern hemlock throughout the eastern United States, continues to spread northward. Vermont, New Hampshire, and Maine have been able to locate many of the infected nursery plants that were unknowingly shipped in 2004 from a nursery inside the infested area that was previously certified as uninfested. As for natural spread, new infested stands have been identified in southern York County, ME, in coastal towns north of the initial Gerrish Island infestation. Efforts are still underway to attempt to eradicate infested trees, including destruction of trees this spring that originated in Oregon, a State that is infested. New Hampshire also continues to attempt to eradicate the adelgid when it is found in natural stands in any new locations in the southern portion of the State. There are no new reports of the adelgid in New York. Rhode Island has seen very low populations of the adelgid this year, possibly due to environmental conditions this past winter. On the other hand, the populations in Massachusetts appear to be building back up after several years of low populations due to winter mortality of the adelgid.



Pine shoot beetle, which has been found in many States that border the Great Lakes, now encompasses almost the entire State of New York. Quarantines are still in effect in New York, along with portions of northern Vermont, New Hampshire, and Maine, where the beetle has been trapped over the last few years.

Browntail moth impacts are reduced this year in south coastal Maine, as were the number of overwintering webs in the affected area. This is good news to residents within the infested area, as they have not been exposed as readily to the hairs on the larvae, which cause a severe rash. The cold, wet weather this spring set up conditions for transmitting a fungal disease throughout the browntail population, resulting in minimal defoliation and a collapse of the population around Casco Bay.

Pear thrips defoliation is more noticeable than expected this year in Vermont due to the cool, prolonged spring. Mostly light to moderate defoliation has occurred, but some scattered heavy damage is visible from the air.

Other Insect Defoliators



Forest tent caterpillar defoliation continues to be heavier this year on various hardwoods. New Hampshire has mapped over 100,000 acres of defoliation in the western half of the State. The host type is a mix of northern hardwoods and oak. Defoliation has been extensive in New York, ranging from mild to severe, but trees have begun refoliating in some areas. In Rhode Island, the defoliation has occurred mostly in the central portion of the State, where forest tent is in combination with other defoliators. Massachusetts also reported more widespread damage in Berkshire County and southeastern Massachusetts. Forest tent caterpillar is

increasing in Vermont, with heavy defoliation further north than last year, specifically south of Route 2

and I-89 in central Vermont. Areas on the Green Mountain National Forest were also significantly damaged. Many of the forest tent caterpillars in Maine exhibited infection from fungal and viral diseases that may reduce the populations next year.

Maple defoliators were active in New York. The State received multiple reports of **maple leaf-cutter** and **saddled prominent** on sugar maple in low to moderate numbers. In Vermont, saddled prominent larvae have been seen more frequently than in the past. In addition, **Lecanium scale** (European fruit lecanium) is extremely abundant and widespread on many hardwood hosts, especially sugar maple. Extensive branch dieback is associated with the scale in some locations.

Additional Damage Agents

Leaf diseases: Anthracnose was a significant damage casual agent in New Hampshire earlier this spring. Along with frost, anthracnose caused damage to maple and oak throughout the southern portion of the State. **Septoria leafspot** is unusually heavy this year in northern Vermont. The disease was heavy enough in some locations to make sugar maple leaves appear off color.

Needle diseases: Diplodia shoot blight on fir, pine, and spruce Christmas trees and also on white pine regeneration was more common than usual in scattered locations in northern Vermont. In addition, **fir-fern rust** was heavier than usual on balsam fir Christmas trees.

Birch and conifer mortality is increasingly noticeable statewide in New Hampshire. It seems the birch in the previously affected ice storm damaged areas are dying, while the fir is being damaged by balsam woolly adelgid and the lingering effects of past droughts. In Vermont, spruce-fir mortality is evident, related to drought and/or balsam woolly adelgid. Larch decline, related to drought plus eastern larch beetle, continues to occur, especially in northeastern Vermont.

