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Forest & Shade Tree - Insect & Disease Conditions for Maine September 12, 2014

The 2014 field season will be coming to a close soon, with the most serious threats from both native and introduced pests currently held at bay or under close monitoring. With a few notable exceptions detailed below, the forest resource overall is quite healthy as winter approaches. The spring and summer months have been cool, with ample moisture well-distributed throughout the season over most regions of the state.

This is the final issue of our *Conditions Report* for the 2014 season. We appreciate your continued vigilance in keeping our forest resources productive and healthy. The fall season is on-track to be a spectacular one, so enjoy and have a safe and comfortable winter.

Insects

Ash Spider Mites (*Tetranychus homorus*) –For only the second time in the 22 years I have been at the MFS Insect & Disease Laboratory a call came in about ash spider mites. In 2010 the report was from Strong, Franklin County and this year it was from Bath, Sagadahoc County. The spider mites web over the ash trees so that it looks like the tree is wrapped in cellophane. The leaves are not covered but silk tubes ran from one branch to another with red frass or insects under some of the webbing. The mites feed on the leaves during the summer apparently doing little damage and then move to the trunk to overwinter. This webbing is not a common sight anywhere although the mites are reported to live throughout the United States. Cooler summers and rain may keep the phenomenon from occurring most years.



Figure 1. Asian longhorned beetle larva.
Photo: Joe Boggs, bugwood.org.

Asian Longhorned Beetle (*Anoplophora glabripennis*) – Asian longhorned beetle has **not** been detected in Maine. This is a good time of year to be on the lookout for damage. Frass accumulation should still be visible, and adult beetles would be out until a killing frost. Also, as you put wood up for winter, be on the lookout for the large larvae (see photo) and tunneling within the heart of your maple, birch and other hardwood firewood (but not oak or ash). You can see photos of the damage at:

<http://www.maine.gov/dacf/php/caps/ALB/ALBdamagepics.shtml>.

Lab and forest inventory staff has conducted limited visual surveys for Asian Longhorned Beetle damage in Westbrook (Cumberland County) and Bath (Sagadahoc County). This work is funded in part by Cooperative Agricultural Pest Survey through USDA APHIS. Surveys are planned for four additional communities.

Elongate Hemlock Scale (*Fiorinia externa*) – Elongate hemlock scale was reported at three new sites by a landscape professional in southern Maine this summer, in the towns of Ogunquit, Kennebunkport and Wells (York County). In some cases it is obvious the infestations originated from infested planted trees. In others, it is not clear whether the infestation is part of an expansion of the distribution of this insect through natural spread. To date, we have only confirmed forest infestations of elongate hemlock scale in Kittery. However, this is a very cryptic insect. In Ogunquit the insect was seen on balsam fir, hemlock, concolor fir and blue spruce. This is the first time the pest has been noted on species other than *Abies* and *Tsuga* in Maine, although in the literature it is reported on a wide range of conifer hosts. In order to see elongate hemlock scale, one must look at the *undersides* of the needles of the host trees (or all sides in the case of spruce!).

Emerald Ash Borer (*Agilus planipennis*) – **No** emerald ash borers (EAB) have been found in Maine to date. We continue to monitor for this invasive insect using purple traps, girdled trees, *Cerceris* wasps and outreach efforts to the public. Traps are currently being taken down and checked.

You can help monitor for EAB by keeping an eye out for excessive woodpecker feeding on ash this fall and winter. Beginning in late fall, woodpeckers will seek out the fat pre-pupae of the EAB beneath the bark of infested trees. The immature insects are either in the bark or the outer sapwood of the tree. Excavation by woodpeckers creates bright-spots in the otherwise drab outer bark of targeted trees. It is most obvious from November through leaf-out. This feeding damage has brought human attention to several recent detections of EAB such as those in Concord and Louden NH, and the one in North Andover, MA.



Figure 2. Bright spots on the bark of this ash are a result of woodpeckers removing the outer bark in search of immature emerald ash borer. Photo: Charlene Donahue - MFS

Fall Webworm (*Hyphantria cunea*) – The webs made by fall webworm larvae are apparent now throughout Maine in relatively low numbers except way downeast where reports from the Calais area indicate high numbers of them. Also light trap catches from that area were far higher than normal. Fall webworms are commonly found on ash, apple, cherry and birch, but you can find them on other hardwoods as well. Since the larvae feed so late in the season, they do little damage to the health of the tree and primarily are an aesthetic problem.

Hemlock Woolly Adelgid (*Adelges tsugae*) – Hemlock woolly adelgid was recognized by a tourist and confirmed by local arborists in Camden (Knox County) last month. To date it has been confirmed on two properties and three trees in an area north of the downtown. Additional surveys are planned to determine if it is more widespread. If you'll be spending time in hemlocks within about 100 miles of the coast this fall and winter, take some time to look for adelgid. Bear in mind that you do have to look for it if you want to catch it early—by the time it is visible through a casual walk through the woods it is well established.

Oak Twig Pruner (*Anelaphus parallelus*) – Damage was obvious from this pest in many parts of the state this year—we had calls from Bridgton and Peaks Island (Cumberland County); Farmington (Franklin County); Damariscotta (Lincoln County); Abbot (Piscataquis County) and Buxton (York County). This species takes two years to mature—so chances are if you saw a lot of evidence on your woodlot last year, you didn't see much this year. In their second season of feeding the larvae make pruning cuts beneath the bark. They cut around the branch except for the thin bark so that the branches break with the wind and fall to the ground. Sometimes the

branches are noted when they are dangling in the crown—a spray of reddened, withered leaves. Others, people notice the fallen twigs and note the fine workmanship of the cut (and sometimes even note the frass or the larva itself). The larvae pupate within the twig in the fall. Many winters they are insulated by a warm blanket of snow. Adults emerge the following spring. Interestingly as we looked back over the Lab records of the last 20 years all but one of the oak twig pruner reports were in even numbered years.

Saddled prominent/green striped mapleworm/variable oakleaf caterpillar complex (*Heterocampa guttivitta*, *Dryocampa rubicunda*, *Lochmaeus manteo* and others) – The saddled prominent complex of hardwood defoliators are native species of caterpillars that tend to occur together. The white-blotched heterocampa (*Heterocampa umbrata*) seems to be a common part of the mix again this year. These are late-season defoliators and as such do little damage to the trees. The trees are already beginning to shut down by August and have enough resources to withstand defoliation this time of year. Readers and other clientele have noted noticeable but minor defoliation, caterpillars and frass (especially on decks!) in western and southern Maine this year. There were a couple reports of caterpillars ‘raining down from the trees’ but little associated defoliation. Aerial surveys did not pick up any noticeable areas of defoliation.

Spruce Budworm (*Choristoneura fumiferana*) – The spruce budworm outbreak in Quebec continues to expand and Maine has ramped up monitoring efforts in the State. Field staff have been on the lookout for signs of spruce budworm feeding, light traps catches are checked for budworm and aerial surveys monitor remote regions. But the largest increase in monitoring has come in pheromone trap use. Eighteen landowners/managers across the northern half of the state plus Maine Forest Service personnel and Public Land managers have set traps in almost all of the 400 northern townships. Pheromone traps have a lure based on the female spruce budworm moth scent that draws the male moths to the trap. It is a very sensitive method of trapping insects and the MFS has been doing it since the early 1990’s in 60-85 locations. The trap catches are just starting to come in and look as was expected: catches are on the rise but not exponentially so. Where there were traps in the past they are averaging twice what was caught last year. New traps are providing a baseline for future years. We will continue to closely monitor this native pest of spruce/ fir forests.

White Pine Cone Borer (*Eucosma tocollionana*) – White pine cone borer was noted by a reader in northwestern Waldo County. Brown cones were seen in the crowns and on the ground under affected pines. Affected cones were also collected in Casco, Cumberland County. The larvae of this pest (caterpillars) hollow out the cone while feeding on seeds and scales. In late summer, holes are visible along the length of infested cones. Cones affected by this pest can reach full-length, so the damage may not be immediately obvious. This is a native pest of pine; its feeding will reduce seed production. It is generally a minor pest, but look closely at the quality of the pine cones if you are planning a regeneration cut based on the size of the cone crop.

Diseases and Injuries

General Hardwood Conditions – As the summer draws to a close, it seems apparent that there is considerable variation in forest conditions around the state. Hardwood species, particularly the oaks, have rebounded well from the heavy anthracnose and frost damage experienced in 2013. Hardwood foliage and overall crown health appear to be quite good, and should provide a great fall foliage season.

General Conifer Conditions – The conifer resource, however, continues to suffer from some more serious and chronic disease occurrences. The hard pines (native red pine and several exotic species such as Austrian, Scotch and Mugo pines) continue to show substantial damage from the shoot blight diseases *Diplodia pinea* and *Sirococcus conigenus*. New and significant mortality from *S. conigenus* was detected this year in red pine plantations in Chase Stream Township. White pine needle loss due to the white pine needle disease complex of several needle pathogens was again heavy this year, especially in the western and southwestern regions of the state. The current white pine needle disease outbreak has now been documented in many Maine stands for at least eight consecutive years. Some stands have been severely affected, and are apparently subject to additional secondary stress agents, including insects such as the red turpentine beetle (*Dendroctonus valens*) and pathogens (see the discussion of *Caliciopsis* canker, below). Northern regions had a considerably drier summer

than other regions of the state. However, higher-than-average monthly moisture conditions occurred throughout the season in most regions of the state, particularly throughout the range of white pine. Therefore, we expect again to see another year of heavy needle loss of white pines in 2015.

***Caliciopsis pinea* Survey** – *Caliciopsis pinea* has been previously thought to be a secondary pathogen of white pine primarily in overstocked stands, and in young, pole-sized stands on intermediate or poor sites. The disease is typically identified by pitch bleeding and streaking in the intermodal regions of the stem. Fresh pitching appears as white streaks. As the canker ages, the pitch usually darkens and sometimes gives affected stems a blackened or sooty appearance. The cankers are usually fairly superficial, and may be calloused over within a year or two if tree growth conditions improve. The resulting cankers can result in grade losses to wood products.



Figure 3. *Caliciopsis* canker on white pine. Maine Forest Service photo.



Figure 5. Fruiting structures of the pathogen *Caliciopsis pinea*, on white pine bark. Photo courtesy of J. Weimer, NH DRED.

While the disease has been known to occasionally occur in Maine stands, *Caliciopsis* canker has been recognized as causing some significant stand damage in New Hampshire over the past several years. Concern that the disease may be increasing

in occurrence and intensity has led to a cooperative survey project with the USDA Forest Service, Maine Forest Service, and New Hampshire Dept. Resources and Economic Development, Division of Forests and Lands. A survey for the occurrence and level of damage resulting from *Caliciopsis* canker in regional white pine stands was initiated this summer, and will continue for the next two years. To date in Maine, twenty randomly selected stands have been surveyed, with *Caliciopsis pinea* identified on white pine regeneration from 16 stands surveyed. *Caliciopsis* symptoms in overstory trees were also identified in 16 stands, but not always from those

with infected white pine regeneration. Relationships between tree stress resulting from the white pine needle disease complex, and the incidence and severity of *Caliciopsis* canker have not been established, but may become apparent as studies continue.

New Christmas Tree Pest Manual: A third, revised edition of the USDA Forest Service *Christmas Tree Pest Manual* has been published. This manual has proven extremely useful in the past, and is designed to help identify and control damaging pests of Christmas trees in the Northeastern and North Central regions of the United States. The third edition includes several new pest problems, and has a greater emphasis on pests of firs than past editions have covered. To receive a printed copy, contact Doreen Deutsch at ddeutsch@fs.fed.us or call 651-649-5244. The publication is also available at:

<http://www.na.fs.fed.us/pubs/2014/Christmas%20Tree%20Pest%20Manual%203rd%20Edition.pdf>

Tar Leaf Spot (*Rhytisma acerinum*) - The Lab has received several samples of tar leaf spot again this year. Tar leaf spot is a relatively benign, but very conspicuous affliction of maples this time of year. The leaf disease is most severe on Norway maples, but occasionally other maple species are affected. This year, the leaf spot is considerably less severe than it has been in recent past years. For more information on tar leaf spot, see:

http://www.maine.gov/dacf/mfs/forest_health/diseases/tar_leaf_spot_on_norway_maple.htm

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On-line: http://maine.gov/dacf/mfs/publications/condition_reports.html

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Maine Forest Service - Forest Health and Monitoring

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