



STATE OF MAINE  
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY  
MAINE FOREST SERVICE  
Insect And Disease Laboratory  
168 State House Station-50 Hospital Street  
AUGUSTA, MAINE 04333-0168

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*Forest & Shade Tree – Insect & Disease Conditions for Maine  
May 8, 2013*

Welcome to the 2013 growing season! As always, we are looking forward to a very busy season, with continuing initiatives on invasive forest insects and diseases, including a massive survey effort for the emerald ash borer (recently detected in New Hampshire, but not yet known to occur in Maine). In addition, our usual plant clinic diagnostic assistance will be available, along with the regular Condition Reports. To help accomplish all this, we invite you to assist with our mission. We ask you to be vigilant and to report to us any observations on tree insects and diseases of concern to you. We appreciate your willingness, expertise and commitment to help keep our trees and forests healthy. We all look forward to working with you this season.

*Laboratory Hours*

Our business hours for 2013 will be 7:30 a.m. to 4:00 p.m. Monday through Friday, except for holidays. However, due to a very busy field schedule, we may not be able to staff the Insect and Disease Lab at all times. If you call our Lab and receive no answer, please call back another time or leave a message. Also, if you plan to visit the Lab, you may wish to call ahead just to make sure someone will be present to meet with you.

If you have questions on insect and disease pests of trees, you can now submit a clinic form directly on-line. We will also accept samples mailed in to our Lab in Augusta. Our street address and location remains the same (50 Hospital Street, Augusta), our mailing address is **168 State House Station, Augusta, ME 04333-0168**.

Reminder: If you have not renewed your paper subscription of the *Condition Reports*, and would like to receive future issues, please fill out and return the included subscription sheet.

*Quarantines*

Maine has five forestry-related state quarantines. Four of them impact the movement of forest products. A summary of the quarantines is available on our Website. If you have any questions regarding forestry-related quarantines or moving or receiving regulated material, please contact the Maine Forest Service, (207) 287-2431. Thank you for your continued cooperation in keeping these exotic forest pests and diseases contained.

*Pesticide Licensing*

Many entries in the *Conditions Reports* will make reference to management options that include the use of pesticides. Gary Fish from the Board of Pesticides Control (BPC) has provided the following summary of pesticides, and when a pesticide applicator's license is required.

The need for a pesticide applicator license is determined by the types of pesticides applied and the circumstances under which the pesticides are applied.

The term pesticide covers a wide range of products. By definition, a pesticide is any naturally or synthetically derived substance used to kill, control or repel undesired insects, weeds, fungi, bacteria, mammals, birds, rodents or other organisms. Products which are organic are also pesticides if they are used as described above. Consequently, these substances may include insecticides or bug sprays; herbicides, including weed killers like weed and feed and top killer products; fungicides or disease controls, rodenticides; deer repellents; defoliant; growth regulators; and disinfectants.

The BPC classifies all pesticides into three categories:

1. General use pesticides, products available to the general public but requiring a license for some application;
2. Restricted use pesticides, chemicals for use and application only by licensed individuals;
3. Limited use pesticides, products for use only by licensed applicators with a special BPC permit.

The purpose for using a pesticide determines the type of license required. In Maine, pesticide licenses fall under three major categories:

1. Agricultural basic applicators, for pesticide use in agriculture or the production of other commodities using only general use pesticides;
2. Private applicators, for restricted and limited use pesticide application in agriculture or the production of other commodities;
3. Commercial applicators, for any individual who uses any pesticides in public places (such as golf courses, campgrounds, apartment houses, hospitals and nursing homes) on a "for-hire" basis (for services such as lawn care or pet grooming) or as a government employee.

### *Insects*

**\*Browntail Moth** (*Euproctis chrysorrhoea*) – Browntail moth populations are still low in most areas. A couple of areas in Brunswick are still high though.

Browntail moth larvae feed on the emerging foliage of oak, apple, birch, cherry, hawthorn, rose and other hardwoods. They emerge from their overwintering webs starting the end of April, even before the buds have broken. They continue to feed on leaves and molt their hairy skins through June when they pupate leaving their last hairy skin behind. Besides defoliating trees and causing branch dieback and tree mortality, all those hairs make many people itch.

Pruning out webs and destroying them (drop them in soapy water) may eliminate the problem if all the webs are within reach. Clipping should be completed by the end of April and insecticide applications (if warranted) should be made during the month of May by a registered pesticide applicator. There are specific regulations for controlling browntail moth near coastal waters. Be sure to check on the current Board of Pesticide Control regulations before treatment.

**Deer Tick** (*Ixodes scapularis*) – Deer ticks may be active in warmer weather during any season and in late May, the tiny nymphs begin to become the dominant life stage. Years ago the MFS Insect and Disease Lab stopped accepting tick submissions for identification – that policy remains. In Maine, ticks suspected to be deer ticks can be sent to Maine Medical Center Institute Vector Borne Disease Lab. See their Website for more information: [www.mmcri.org/lyme/](http://www.mmcri.org/lyme/).

**Eastern Tent Caterpillar** (*Malacosoma americana*) – There appear to be more eastern tent caterpillar webs out this year than last. In Kennebec County webs are nearly baseball-sized. Look for the tents of this caterpillar at branch-junctions especially in cherries, crabapples and other fruit trees. These are not a serious forest pest, but can be a concern in ornamental and fruit trees. Webs can be twisted off the branches with a forked stick or can be clipped and deposited in a bucket of soapy water. Be careful to remove the caterpillars as well as the web. Do not burn the webs in the tree; that would cause more damage than the insect. Bt is an effective insecticide for the younger larvae.

**Emerald Ash Borer** (*Agrilus planipennis*) – The emerald ash borer (EAB) is a small invasive beetle from Asia that has destroyed millions of ash trees since being discovered in the US in 2002. To date, it has been found in 19 states, as well as in parts of Ontario and Quebec, Canada. EAB has NOT YET been found in Maine. However, a few weeks ago, it was found in Concord, NH, just over 30 miles from our border. Please keep your eyes open for signs of this very destructive insect. At this time of year, bark flecked off by woodpeckers hunting for EAB pupae is very obvious and is a good sign to look for.

*Purple Trap Survey:* The Maine Forest Service is again coordinating an extensive survey for EAB using purple sticky traps. The Division of Plant and Animal Health, the Penobscot Nation, and the US Department of Agriculture, Animal and Plant Health Inspection Service, Plant Protection and Quarantine (USDA APHIS), are also involved. We will be hanging over 860 traps throughout the state. This project is funded by USDA APHIS. The trap is hung in the canopy of ash trees. The color and scent of the trap are attractive to flying adult emerald ash borers which get stuck in the glue. The purple traps are non-toxic and pose no risk to humans, pets, or wildlife. However, the glue on the outside of the trap is extremely sticky and messy. Please do not handle them. If you see a purple trap on the ground in Maine, please call the MFS toll-free number: 1-800-367-0223 (for more information, see [www.maineforestservice.gov/purpletraps.htm](http://www.maineforestservice.gov/purpletraps.htm)). Although we appreciate offers to have traps hung on your property, all sites have been pre-selected by a federal model, and we cannot use any further sites.

*Girdled Trap Tree Network:* If you wish to be involved in monitoring for EAB and have a woodlot containing ash, you may be interested in our trap tree network. In late May/early June, volunteers girdle an ash tree they are willing to sacrifice. In the following January/February, they fell the tree and bring sections of the trunk to one of our “log-peeling parties” where we all work together, peeling off the bark and looking for signs of EAB. We are partnering with the University of Maine on this project, so if you are interested in being involved, please contact Molly Lizotte ([molly.lizotte@maine.edu](mailto:molly.lizotte@maine.edu)) for instructions.

**Gypsy moth** (*Lymantria dispar*) – Gypsy moth larvae have begun to hatch in southern Maine. Gypsy moth is now found in the southern two-thirds of the state. Egg mass surveys last fall remained fairly low, so we do not expect mappable defoliation this year. However, concentrations of egg-masses were noticed in some off-plot locations, defoliation may be noticeable from the ground in some locations. Continued dry weather this spring would hamper one of their important natural enemies – the fungal disease *Entomophaga maimaiga*.

**Hemlock Woolly Adelgid Biological Control** (*Sasajiscymnus tsugae*) – A total of 5,700 *Sasajiscymnus tsugae* (St) beetles were released at three state parks this April. All told since 2010, 4,500 beetles have been released at Ferry Beach State Park; 10,000 at Vaughan Woods State Park; and 10,500 at Wolfe’s Neck Woods State Park. Support for the releases came from individuals and organizations around the parks and a USDA Forest Service grant. A second set of releases totaling 10,000 beetles will be conducted at new sites in Cape Elizabeth and

Wiscasset this month. These latter releases are made possible through a cooperative agreement with USDA APHIS, PPQ.

**Six-Spotted Tiger beetle** (*Cincindela sexguttata*) – Six-spotted tiger beetle adults are on the prowl in southern Maine. Tiger beetles are long-legged, fast-moving ground beetles, often with striking coloration. As their name suggests, they are predatory. The six-spotted tiger beetle is brilliant green and would not be out of place in the Emerald City. This native beneficial insect is often mistaken for the invasive emerald ash borer. A side-by-side comparison can be found at: <http://www.maine.gov/doc/mfs/purpletraps.htm>

**Winter Moth** (*Operophtera brumata*) – Last year we reported on the invasive geometrid winter moth in Harpswell and Vinalhaven. This green inchworm defoliates a wide range of host trees, shrubs and understory plants. Favored hosts are oak, maple, birch, apple, cherry and blueberry.



Winter moth larvae on maple bud.

Winter moth larvae are small green inchworms that hatch in early spring and initially put out silk to ‘balloon’ on the wind dispersing to more hosts. They then feed first on the buds, webbing the new leaves together. As the leaves expand the feeding takes on the appearance of Swiss cheese and then the larvae consume all the foliage as the infestation progresses. Feeding is completed in early June when the larvae ‘silk down’ to the ground where they form cocoons and stay all summer and fall. The adults emerge from the ground in late November and December.

#### Old News:

In December a request was sent out asking if people were seeing moth flights to pinpoint where in Maine there might be impending winter moth infestations. (Our native moths stop flying at the end of November when the temperatures drop into the teens.) The response was both good and bad. Over 130 samples were sent in, plus that number again in phone calls and emails. People in Maine care about their trees.

Moths sent in were dissected for positive identification as the male winter moths (the females have no wings and are hard to find) are impossible to tell apart from the native Bruce spanworm moths. Virtually all the moths that could be identified – some were too damaged to use – were winter moth. Interestingly, the vast majority of moths can go through the postal cancelling machine and still be identified.

Cape Elizabeth is the new ‘hot spot’ for winter moth. Portland, Scarborough, South Portland and Peaks Island (that had some defoliation in 2012) are also high on the list in Cumberland County. York and Kennebunkport in York County had a number of positive samples. Winter moths were detected from Kittery to Rockland plus two towns on Mount Desert Island and a number of offshore islands – including Matinicus Island, 20 miles out to sea. There are now 33 towns in six counties where the invasive winter moth has been confirmed. Most of the towns with winter moth hug the coast with Lyman and Gorham being the most inland towns. Defoliation from the invasive winter moth was first found in Harpswell and Vinalhaven in 2012 with a report of a moth flight from Harpswell in 2011.

#### Current News:

This week Dr. Joseph Elkinton, University of Massachusetts Professor of Entomology, will be releasing parasitic flies, *Cyzenis albicans*, in conjunction with the Maine Forest Service. The two release sites are in Harpswell and Cape Elizabeth. A total of 800 flies will be released at each site.

The first question people always ask is, ‘Will the flies bother anything else (like people)?’ The answer is no. This species was released in Nova Scotia in the 1960’s, brought the winter moth population under control and there have been no adverse effects in the intervening 50 years. Flies were also released in British Columbia again with no impacts on other insects or people. The flies are very closely tied to the winter moth life cycle and need winter moth to survive. There will always be some winter moth around now that they have become established in Maine, but hopefully the flies will do their job and bring the winter moth population under control in a few years.

It will be years before we see the results of the biocontrol effort as it takes time for the flies to become acclimated to a new location and build up their population to a high enough level that it will have a noticeable impact on the winter moth population. In the meantime people will see defoliation on hardwood trees and shrubs in May. With luck this will not have an adverse effect on the trees before the parasite population catches up to the winter moth population and brings them into balance in Maine.

#### Critical Information:

A concern is spreading the winter moth further. Larvae disperse to some extent by ballooning to nearby locations. But **humans are probably a far greater factor in moving this insect** than natural spread. **Winter moth cocoons are in the soil from late May until November.** Any landscape plants moved from infested areas can have winter moth in the soil. **Don’t move plants from areas infested with winter moth.** This includes tree saplings that are dug in the spring as they will have eggs and/or larvae on them.

Please report any hardwood defoliation this spring so that we can check out which insect is feeding on the trees. Winter moth particularly favor oak, but feed on a wide range of other hardwoods as well. The feeding makes leaves look like Swiss cheese.

For more information go to: [www.maine.gov/forestpests#wm](http://www.maine.gov/forestpests#wm).

### *Diseases and Injuries*

**Anthracnoses, Needle Diseases, and Weather:** The cooler spring season this year compared with that of 2012 has resulted in a near-normal phenology for most trees. Bud expansion and leaf development has been on schedule. In addition, the dry conditions which have prevailed for the past two weeks will likely result in less damage to needles and leaves from foliage pathogens than we have seen in past years. Anthracnose diseases of hardwoods are expected to be minimal this season. Damage from needle cast diseases of conifers should also be reduced for current-season needles if this drier weather continues. In particular, white pine needle damage, so widespread from 2007 through 2011, appears to have lessened in 2012. If the 2013 spring remains reasonably dry, tree crown foliage should continue to improve. Damage to older (one- and two-year-old) needles will still be dependent on the specific, local weather conditions during 2011 and 2012.

**Bud Damage to Balsam Fir:** A report was received of some considerable bud loss to balsam fir Christmas trees in earlier this spring. The symptoms suggest feeding on the buds by birds, the most likely culprit being the pine grosbeaks which are known to consume up to 40% of their diet as conifer buds during late winter and early spring. Other birds commonly known to feed on conifer buds include both the spruce grouse and the ruffed grouse.

**Red Bark:** Several reports of an unusual coloration of tree bark have been received. The condition is most often reported to occur on conifer bark, most notably hemlocks or white pines, but hardwood trees are sometime also affected. On affected trees, the bark takes on a rusty red or orange-like hue. The coloration is usually confined to one aspect (facing direction) of the tree bole. The condition is known to occur throughout the New England states, and has been referred to as “red bark.” The coloration is due to the development of one of a few species of filamentous green algae. The primary organism causing the red color is in the genus *Trentepohlia*.



“Red Bark” on sugar maple (left) and white pine (right)

The alga is free-living, and is neither a parasite nor a pathogen on trees, but simply using the bark surface as a suitable location for growth. The limitation of the alga to a strip of bark or side of the trunk is related to the moisture and sunlight conditions favorable its growth. The alga is a common component of several species of lichens. This red bark has been commonly noticed on beech, sugar maple, white pine, hemlock, and other tree species as well.



Staining in roots of sugar maple from sapstreak disease. Photo: US Forest Service.

**Sugar Maple Dieback:** Dieback and mortality of a few mature sugar maples were reported from a sugarbush in Auburn this spring. A specific cause of the declining trees could not be identified, but the condition is not unusual. Sugarbush trees are commonly subjected to multiple problems of mechanical injuries to roots and to soil compaction from service trails in addition to the stress of supporting taps for sap production. Roots of declining trees in sugar bushes throughout the state are often colonized by the sapstreak pathogen *Ceratocystis virescens*, a fungus. Sapstreak is a disease of the tree vascular system. The fungus

resides in soil, and tree infection is commonly initiated through injured roots. Careful sugarbush operation and maintenance practices which avoid or reduce root and lower bole injuries will minimize losses from dieback syndromes, but some minimal level of mortality is to be expected in any forest stand, simply due to normal biological stand dynamics.

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On-line: <http://www.maine.gov/doc/mfs/ConditionsReportsIndex.htm>

Maine Forest Service

Forest Health and Monitoring

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