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http://maine.gov/dacf/mfs/forest_health/index.htm

Forest & Shade Tree - Insect & Disease Conditions for Maine May 20, 2016

National Emerald Ash Borer Awareness Week is always celebrated the week prior to Memorial Day weekend—the big kickoff to camping (and firewood travel) season across the nation. It is set at this time to remind people that moving firewood long distances is no longer an acceptable practice. In many cases, it is illegal. Even though people are often aware of the reasons behind not moving firewood, many believe that their firewood is safe, so not part of the problem (Snell *et al*., 2014*). Emerald ash borer is a great example, but only one of many, of why you should "buy it where you burn it." We know that in Michigan, about 75% of outlying infestations of emerald ash borer were started because of the movement of infested firewood. Others among the many in the ranks of forest pests that can move readily on firewood include oak wilt, brown spruce longhorned beetle, Asian longhorned beetle, winter moth and gypsy moth. During this National Emerald Ash Borer Awareness Week we ask that you join us in the effort to educate others about the reasons why **leaving your firewood at home is so important**. We invite you to visit our firewood page for more information: www.maine.gov/firewood.

* From: Campers and Invasive Forest Pests in Northern New England available at: http://www.maine.gov/dacf/php/documents/FPOEval/Camper%20Study%20Tech%20Report%20Final.pdf

Insects

Browntail Moth (*Euproctis chrysorrhoea*) Note two orange spots on rear end. (Photo: Maine Forest Service)

Browntail Moth (*Euproctis chrysorrhoea*) – Beware! Browntail moth caterpillars are feeding voraciously in coastal Maine and inland. The infestation is centered in the Bath/Brunswick (Sagadahoc/Cumberland Counties) but infested trees can be found from Kittery (York County) to Warren (Knox County) and inland to Turner (Androscoggin County) and Waterville (Kennebec County). The caterpillars are already stripping the trees of leaves in heavily infested areas and crawling across lawns, houses and cars to get to more food.

The hairs from this caterpillar can cause a rash or respiratory distress in sensitive individuals. The hairs

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break off from the skins shed by the caterpillars. The hairs then blow in the wind or are stirred up by mowing, weedwacking, raking etc. Use caution when working outdoors in infested areas.

Canadian Pine Scale (*Matsucoccus macrocicatrices*) – Samples of eastern white pine collected in T4 R11 WELS and T5 R11 WELS (Piscataquis County) for examination of pine leaf adelgid damage (see entry below) were found to also have what appear to be the overwintering cysts of Canadian pine scale. Scales were found most commonly at branch nodes, but were also found on internodes. One emerged adult was found on the samples. This insect is generally thought to be of little significance from a tree-health perspective; although work is currently being done to understand more about its role in white pine dieback in southern states (for a recent MS thesis on the topic see: https://getd.libs.uga.edu/pdfs/schulz_ashley_n_201508_ms.pdf).



Overwintering cyst (left) and emerged adult (right) believed to be species *Matsucoccus macrocicatrices* on eastern white pine. (Photo Maine Forest Service)


Eastern tent caterpillar webs are often found in cherry and apple trees. (Photo: Maine Forest Service)

Eastern Tent Caterpillar (*Malacosoma americana*) – The webs of eastern tent caterpillar are quite abundant this year, with many cherries and apples supporting numerous webs. These webs usually originate in branch junctions. They'll be full of the frass of well-fed caterpillars and often the caterpillars themselves. If the webs are an aesthetic problem, the best way to manage them is to wind them around a forked stick in the cool hours of the morning or evening, thereby ensnaring the occupants. You can relocate the webs to another host tree out of sight (they do feed generalist predators and other beneficial insects), soak them in a bucket of soapy water or dispose of them in a sealed plastic bag. Be cautious in browntail territory not to confuse the webs of the two species and also because you will sometimes find browntail moth caterpillars snuggled in with their cousins in the safe haven of the eastern tent webs.

Emerald Ash Borer (*Agrilus planipennis*) **–** All trap trees girdled in the spring of 2015 were negative for signs of emerald ash borer (EAB). We are starting to girdle trees again this year to continue monitoring for EAB. If you have an ash tree of any species over four inches diameter at 4.5 feet that you would be willing to sacrifice as a trap tree, please email Patti Roberts at patti.roberts@maine.gov with the subject line Trap Tree and we will help you create a trap tree. http://www.maine.gov/dacf/mfs/forest_health/invasive_threats/eab_trap_trees.htm


The native, beneficial six-spotted tiger beetle, *Cicindela sexguttata.* (Photo: Wikimedia commons)

This time of year the native six-spotted tiger beetle adult has made its first appearance across the state. These blocky, long-legged, metallic green beetles are often mistaken for EAB. Adult EAB have not emerged yet in this region. EAB adults emerge at 550 GDD or when the black locust bloom. The Northeast Regional Climate Center includes Concord, NH on their webpage Growing Degree Day Accumulations to support the tracking of emerald ash borer emergence. http://www.nrcc.cornell.edu/industry/eab/http://www.nrcc.cornell.edu/industry/eab/


Forest Tent Caterpillar on maple leaf (*Malacosoma disstria*) (Photo: Maine Forest Service)

Forest Tent Caterpillar (*Malacosoma disstria*) **–** Although a close relative of the eastern tent caterpillar the forest tent caterpillar does not make tents. It feeds on the buds and leaves of oak, poplar, maple, birch and other

hardwoods in the spring. The number of moths in light traps were up from the usual level from South Berwick (York County) and Hope (Knox County) to Crystal (Aroostook County) and Topsfield (Washington County). Maine has not had an outbreak of forest tent in decades so this is one to watch. Caterpillars feed on the leaves and then mass together on the trunks of trees when they mature and are starting to look for places to pupate.

Ground-Nesting Bees – Beginning in very early spring, solitary ground-dwelling bees emerge and become active. When they first emerge they are usually very active, with much flying around, mating, exploration and nest-building. As people increase their yard-work activities, they begin to notice the bees. All the activity by bees can look frightening. However solitary bees (one nest for each female, although you may have many nests in one area) are generally non-aggressive and must be severely harassed before they sting. The males often look aggressive while they fly around searching for a mate, but they can't sting at all. This heightened activity persists for only a week or two, and then the bees are almost unnoticeable. Ground nesting bees are valuable pollinators.

Gypsy Moth (*Lymantria dispar*) – Eggs are hatched or hatching for this pest in southern Maine. Gypsy moth egg hatch was noted in Old Town (Penobscot County) on May 12th, egg hatch will progress north with the warming season. After hatching the larvae crawl towards the tops of host plants. Many will put out a line of silk and be carried on air currents to new locations. Gypsy moth is a pest to watch for in Maine—its populations occasionally outbreak and significant defoliation can occur. The last gypsy moth epidemic in Maine ended in 2002, with more than 51,000 acres defoliated that year. This pest first arrived in Maine around the turn of the last century, and it has not yet become established in the far northern Maine. A map of the area currently known to have reproducing populations of Gypsy Moth can be found here: http://www.maine.gov/dacf/mfs/forest_health/downloads/gypsy_moth_quarantine_areas.pdf

Hemlock Woolly Adelgid (*Adelges tsugae*) – Hemlock woolly adelgid (HWA) eggs were abundant in Camden (Knox County) last week. Crawlers will have already emerged in warmer areas of the state. Eggs and/or crawlers are more or less continuously present until late-July or early August. These life-stages can be spread on items other than the host trees (clothing, equipment, pets, etc.).

HWA is a quarantined pest. All products may move freely within the quarantined area. Roundwood products such as logs and pulp may be moved freely within Maine, but must be free from branches. Material with branches, such as chips, moved outside the quarantine area must go to facilities with agreements to receive the material. Quarantine regulations are slightly different in neighboring New Hampshire and Vermont.

Pine Leaf Adelgid (*Adelges pinifoliae*) – Pine leaf adelgid damage visible during aerial survey was mapped on over 262, 000 acres in Piscataquis County last year. Less severe damage extended beyond the area mapped. 2015 shoot growth was scant and significantly reduced compared to 2014 growth on samples collected in the Telos area this week. 2014 growth seemed to be most heavily colonized by the nymphs, which would indicate we should expect cone-like galls on current-year spruce growth (red and black) this year. This is counter to what is in the literature, which reports galls in odd numbered years, so will be interesting to monitor. Maine Forest Service Forest Inventory crews will help monitor the progression of this pest in the North Maine Woods this year during the course of their regular work in the area. Others working in the affected area are encouraged to send reports of damage either to spruce or pine. Bear in mind, samples may be needed to identify the causal agent.

Abnormally swollen shoots on spruce caused by pine leaf adelgid would be visible as the buds expand. When the galls mature they resemble pine cones. Unlike some other adelgid galls on spruce, these are not persistent on the branches, and most drop within the year they are formed. (Photo: W. Cranshaw, CSU, bugwood.org)

Winter Moth (*Operophtera brumata*) – Winter moth are feeding on leaves of oaks, apple, birch, blueberries, and other trees and shrubs. They are still tiny but expect to see increased defoliation over the next two weeks. The little green inch worms will then string down on silk to spin cocoons in the soil below the trees. There they will stay until December when the moths emerge to mate and lay eggs. DO NOT MOVE soil, perennials, saplings etc. from under or near winter moth infested trees. You will be moving winter moth with the soil/plant material. The cocoons look like dirt. Nurseries that sell perennials often keep the potted plants under trees to shade them from the sun. These pots need to be protected from infestation by winter moth larvae dropping into them over the next 2-3 weeks. Winter moth is currently found along the coast from Kittery (York County) to Mount Desert Island (Hancock County).

If you see Swiss cheese-like defoliation (or worse) in other parts of Maine, please contact us. We are looking for Bruce spanworm infestations in particular but would be interested in other significant areas of defoliation as well.

Diseases and Injuries

Dothistroma Needle Blight (*Dothistroma septosporum*) – David Lambert with Cooperative Extension identified *Dothistroma* needle blight on Austrian Pine from samples collected in Turner (Androscoggin County). Moisture control alone or in combination with fungicide applications to current-year foliage can help manage this disease in ornamental settings. More information is available on-line at: http://www.extension.umn.edu/garden/yard-garden/trees-shrubs/dothistroma-needle-blight/.

Young white pine regeneration heavily infected with brown spot needle disease, Bethel, Maine on June 14, 2011. MFS Photo.

White Pine Needle Diseases – One-year-old needles of white pines infected with any one of the several needle diseases prevalent during the past several years will begin to appear yellowish-brown to tan and start to be shed from affected trees within the next two weeks or so. The great majority of infections are caused by the brown spot fungus, *Lecanosticta acicola* (= *Mycosphaerella dearnessii*), but several other fungal pathogens may also be present. Needle shedding is expected to be heaviest throughout the month of June, and should be largely completed by the first week in July. Affected trees will appear thin in the crowns, as the current-season needles will not yet be fully expanded.

In white pine stands that have a known history of several consecutive years of needle loss, manage carefully, and avoid thinning or other disturbance-related activities that could further weaken trees. Current-season needles of ornamental white pines may be protected from infection with a foliar fungicide application of copper or chlorothalonil. Applications should be made shortly after budbreak and again two weeks later, to protect the fully-elongated needles.

Damaged balsam fir tips, Old Town, ME (Photo: L. Beauregard).

White pine needle disease infection levels appear to be highly regulated by wet weather; long periods of damp weather and high rainfall increase the probability of infection. Although much of the growing season in 2015 was drier than in recent past, the month of June was wetter than normal. 2015 infection levels may remain similar to what has been seen in recent years or slightly abated.

Winter Drying Injury – Damage attributed to winter drying injury was reported in Old Town (Penobscot County). The landowner reported scattered balsam fir with reddened 2015 growth. Weather conditions were consistent with those reported to

predispose trees to this type of damage, specifically winter thaws cause tissues to lose hardiness and become vulnerable to injury from subsequent freezing temperatures.

Calendar of Division and Related Events

Spruce Budworm Forum. Wednesday, **May 25th,** Mallett Hall, **Lee ME,** 5-7pm. Join Lee Academy Teacher Susan Linscott and her students for a forum on spruce budworm. Speakers will include Allison Kanoti, Forest Entomologist and Terri Coolong, District Forester, both from Maine Forest Service and Wildlife Biologist Barry Burgason from Huber Resources Corporation.

Conditions Report No. 2, 2016
On-line: http://maine.gov/dacf/mfs/publications/condition_reports.html
DEPARTMENT OF AGRICULTURE CONSERVATION & FORESTRY
Maine Forest Service - Forest Health and Monitoring

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HAIRY CATERPILLAR COMPARISON CHART

Browntail Moth
Look for
Overall brown color;
White tufts along sides margins;
Red-orange dots on tail-end

DANGER!! Do Not Touch!!!

Eastern Tent
Look for
White stripe down center of back
Blue spots like the "eye" in peacock feather along each side of stripe

Forest Tent
Look for
White or off-white footprint-shaped marks down the center of the back
Blue body coloration in later instars

Gypsy Moth
Look for
Prominent knobs with hairs on each side of head capsule.
Five pairs of blue- and six pairs of red- spots along back (4th instar and later).

Information about browntail moth in Maine:
http://www.maine.gov/dacf/mfs/forest_health/invasive_threats/browntail_moth_info.htm
Images of eastern tent caterpillar on Bugguide.net: http://bugguide.net/node/view/558/bgimage
Images of forest tent caterpillar on Bugguide.net: http://bugguide.net/node/view/560/bgimage
Identify early instar gypsy moth caterpillars: https://www.na.fs.fed.us/spfo/pubs/pest_al/instars/instars.html