



STATE OF MAINE  
DEPARTMENT OF CONSERVATION  
MAINE FOREST SERVICE  
168 STATE HOUSE STATION  
AUGUSTA, MAINE  
04333-0168

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<http://www.maine.gov/doc/mfs/idmhome.htm>

## ***Forest & Shade Tree - Insect & Disease Conditions for Maine***

***May 16, 2011***

Most of the state to date has seen slightly, to moderately above-normal moisture conditions this spring, following a good snowpack over the winter. The exception has been areas in Hancock and Washington counties, where drier conditions have prevailed. The rains that are predicted through the next two weeks should help the Downeast areas. The moisture conditions over the next few weeks will be an important determinant of the severity of anthracnose diseases on hardwoods for this year, and for needle-cast diseases of conifers for next year. The cooler temperatures will likely slow the development of many species of insects. In addition, the wet weather is often conducive to higher mortality levels in tree (insect) defoliator populations.

### ***Wanted: Your Observations***

These *Conditions Reports* are compiled based on observations by our staff, by other staff of the Maine Forest Service, and input we receive from you. Your observations are important in helping us carry out our mission efficiently.

As a case in point: an Asplundh arborist was clearing under power lines this month and encountered a hemlock woolly adelgid infestation. Based on training he had received in April, he was aware that this could be a new location for this pest (and in fact it was). Equally important as the recognition, he also informed us of the situation so that we could begin to address the situation.

We have since learned that the infestation was recognized as hemlock woolly adelgid a number of years ago but not reported. The time between that first recognition and now represents lost opportunity to slow the spread of this serious pest in this area. We cannot recoup the years between the first detection and the recent phone call, but as we move forward our response is shaped by this new knowledge.

This is just one example of how critical your observations are to our work and to the health of the resource.

### ***Annual Summary Report***

Our long-time subscribers may be wondering what has become of the Annual Summary Report for 2010. Due to higher priority demands on time, it is still in draft form. A near-final draft has been posted to our Website and is linked from the index page of the *Summary Reports*:

<http://www.maine.gov/doc/mfs/AnnSummIndex.htm>.

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**We help you make informed decisions about Maine's forests**

### **Guide to Pest Management for May**

Remember that this is just a guide and that conditions will vary. Information on any entry preceded by an (\*) may be available on our website or can be requested by calling or writing to the Insect and Disease Laboratory, 168 State House Station, Augusta, Maine 04333-0168; Phone (207) 287-2431; Fax (207) 287-2432.

<b>Insect/Disease</b>	<b>Cultural Controls</b>	<b>Chemical Controls</b>
*Balsam Gall Midge		The tiny mosquito-like adults should emerge between now and early June. Christmas tree growers should monitor their plantations and apply Diazinon 50W or chlorpyrifos (Lorsban) if needed as the new needles emerge and flatten.
Balsam Shootboring Sawfly		Too late now for chemical control.
*Balsam Twig Aphid		Control with Diazinon 50W or chlorpyrifos (Lorsban) at budbreak. Already past in southern Maine; still time in east and north.
Balsam Woolly Adelgid	Rogue out and destroy infested stock from Christmas tree plantations and be sure that planting stock is from a clean source. In forested situations harvest ahead of mortality.	Esfenvalerate (Asana) or imidacloprid (Merit, Xytect).
*Birch Leaf Miner		Watch for black fly-like adults around the foliage from now through mid-June. Apply foliar treatment with carbaryl (Sevin) or acephate (Orthene) when small developing mines (seen as small translucent spots in the leaves) are evident.
*Browntail Moth	Avoid mowing or raking in infested areas to avoid stirring up the hazardous caterpillar hairs. Clip overwintering webs next winter.	Treatment against the caterpillar stage should be done now. A list of applicators willing to treat browntail moth is available on our website or by request. Check with the Board of Pesticide Control for the regulations for spraying near water.
*Gypsy Moth	Begin watching for larval activity. Tiny larvae frequently drift around on spring breezes. If found, be prepared to remove and destroy egg masses next fall.	Monitor populations now to determine whether or not control will be necessary. Treatment options include Bt, acephate (Orthene) and carbaryl (Sevin).

Insect/Disease	Cultural Controls	Chemical Controls
*Hemlock Looper		Watch for tiny looper larvae with black heads in early June. Survey methods are available and should be done in early June for this season. Treat in late June if necessary with Bt.
*Hemlock Woolly Adelgid	Please contact us.	Please contact us.
*Mountain Ash Sawfly	Remove and destroy infested leaves early as egg pouches or tiny larvae appear in late May.	Treat older larvae with acephate (Orthene) or carbaryl (Sevin).
*Pine Shoot Beetle	Please contact us	Please contact us.
<i>Rhizosphaera</i> Needlecast of Spruce		Chlorothalonil (Bravo, Daconil), or copper sulfate (Bordeaux mix or Kocide) when new needles are +/- 0.5 inch long and again 10 days to two weeks later.
<i>Sphaeropsis (Diplodia)</i> Tip Blight of 2 and 3 needle Pines		Chlorothalonil (Bravo), copper sulfate (Kocide), or Thiophanate methyl (T-Methyl, Topsin) shortly after budbreak and again 10 days to two weeks later.
*Viburnum Leaf Beetle	Prune off twigs with egg pockets on them before hatch (early- to mid-May).	Treat infested shrubs early (before the end of May) with acephate (Orthene), carbaryl (Sevin) or imidacloprid (Merit).
*Yellowheaded Spruce Sawfly	Small infestations may be controlled by hand picking larvae and dropping them into soapy water.	Watch for adults around foliage in late May and early June. Look for developing larvae in June and be prepared to treat with carbaryl (Sevin), imidacloprid (Merit), chlorpyrifos (Lorsban) or spinosad (Success).
Yellow Witches Broom of Balsam Fir	Prune brooms from Christmas trees; make pruning cuts below galls at the bases of brooms. Weed control may help with management. Alternate hosts include chickweed and mouse-ear chickweed.	None effective at this time.

**NOTES:** These recommendations are not a substitute for pesticide labeling. Read the label before applying any pesticide. Pesticide recommendations are contingent on continued EPA and Maine Board of Pesticides Control registration and are subject to change. Other effective registered fungicides are available and marketed under other product names. No endorsement or exclusion of similar products not mentioned by the Maine Forest Service is intended or implied. Ask your supplier for specifics, and always read the label of any product before applying on site.

Restricted-use pesticide may be purchased and used only by certified applicators. **Caution:** For your own protection and that of the environment, apply the pesticide only in strict accordance with label directions and precautions.

## **Insects**

**Ash Bark Beetles** (*Hylesinus* spp.) – Evidence of ash bark beetles (and the critters themselves) is beginning to be noticed in firewood piles across the state. You may see small piles of frass (fine sawdust-like material in this case), galleries (larval feeding tunnels) etched into your ash firewood or standing dead trees, and bark peppered with *round* exit holes just over a millimeter in diameter. Native ash bark beetles tend to develop in weakened and felled trees and are rarely a problem in healthy trees. We appreciate people paying attention to insect signs in their ash firewood, and would want to hear from you if you found ash with S-shaped galleries etched into the wood and bark and D-shaped exit holes. These are symptoms of emerald ash borer, a *serious* invasive forest pest.

**\*Balsam Twig Aphid** (*Mindarus abietinus*) – Balsam twig aphid is a perennial problem for some Christmas tree growers, not so much for others and rarely a problem in the forest. Christmas tree growers who had a problem last year should check to see if there are aphids on their trees now. Take a dark piece of paper or cloth, hold it under the outer branches and beat the branches to dislodge the aphids. Look for the tiny, yellow nymphs. Do this twice in 15 trees. If there are more than two aphids/tree and you had a problem last year, consider treatment.

**\*Balsam Woolly Adelgid** (*Adelges piceae*) - The population of this adelgid is still low in most of Maine. Balsam woolly adelgid can be found feeding at the base of foliage shoots and cone buds. They are tiny and black and look like little hand grenades with wisps of wool coming off them. I need a hand lens to see them but if you have good eyes you can spot them without one. As the season progresses they will produce more waxy wool to cover both themselves and their eggs. The adelgid feeding causes the branch nodes to swell forming 'gouts' that deform the tree and bud formation is reduced or does not occur at all. Balsam woolly adelgid can also be found on the trunks of fir. Trunk phase adelgids kill trees more rapidly than the gout phase. Christmas tree growers should rogue out any fir showing swelling at branch nodes.

**\*Browntail Moth** (*Euproctis chrysorrhoea*) - Browntail moth larvae have emerged from their overwintering webs and are feeding on new foliage in the Bath/Topsham/Brunswick area. Browntail webs have also been found inland from Augusta to Buckfield and Falmouth. Webs found in these inland locations are mostly lightly scattered across the landscape but can still cause a rash in sensitive individuals.

For those with browntail larvae this is the time to plan chemical treatment of areas that have webs. (It is too late now to accomplish browntail control through web clipping). Pesticide application should be completed as soon as possible, before the caterpillars develop toxic hairs in early June. We strongly recommend hiring a licensed applicator to control this pest. A list of companies that will treat for browntail moth is available on our Website (<http://www.maine.gov/doc/mfs/fhm/pages/BrowntailMoth.htm>) or by request. Homeowners generally should not attempt control of the browntail moth with pesticides to avoid both environmental and personal health concerns. Check with the Board of Pesticide Control before applying browntail moth controls near coastal waters.

**Deer Tick** (*Ixodes scapularis*) – From the Maine Center for Disease Control:

Lyme disease is the most common vector-borne disease in Maine and the second most common of the reportable infectious diseases in Maine. May is Lyme Disease Awareness Month in Maine so remember to do your tick checks.

Lyme disease is a bacterial infection that is carried by *Ixodes scapularis* (the deer tick). Cases have increased over the last five years in Maine, and occur in all 16 counties. Lyme disease is most common among school age children and middle age adults. As the weather continues to get warmer, more ticks will be out in the open, and most infections in Maine occur during the summer months.

The most common early symptom of Lyme disease is an expanding red rash that occurs at the site of the tick bite within 3-32 days after being bitten. Fever, joint and muscle pains may also occur. Lyme disease is treatable, and the majority of patients recover after receiving appropriate therapy.

Lyme disease is preventable. Maine CDC recommends following the “No Ticks 4 ME” approach which includes:

1. Wear protective clothing
2. Use insect repellent
3. Perform daily tick checks;
4. Use caution in tick habitats

Ticks must be attached for 24-48 hours before the bacteria can be transmitted, so prompt removal of ticks is extremely important. Anyone with a known tick bite, or who has been in a tick habitat should watch for symptoms for at least 30 days after the exposure. If symptoms develop, call your physician.

Additional information: Maine CDC has numerous educational materials available at <http://www.maine.gov/dhhs/boh/ddc/epi/vector-borne/lyme/index.shtml>

**Eastern Tent Caterpillar** (*Malacosoma americana*) – Webs of eastern tent caterpillars are now very noticeable in the southern half of the state. Look for silken tents at branch junctions primarily in cherries, apples and other fruit trees. If you have webs in important ornamental or fruit trees you can simply remove the webs containing the caterpillars and place them in water with a squirt of dishwashing detergent. You can also apply a Bt product to the tree. Either approach will kill the caterpillars, but do not burn them out, this process will result in more injury to the tree than the caterpillars could ever cause.

**\*Gypsy Moth** (*Lymantria dispar*) – Few gypsy moth egg masses were found anywhere in Maine when surveys were conducted last fall. When shad bush are blooming those gypsy moth egg masses are hatching. After hatching the tiny larvae spin out on silken threads and are picked up by breezes. Short distance dispersal occurs by way of this “ballooning”. Long distance dispersal often is the result of human activities—people move egg masses or other life stages on RV campers, firewood and other items that are stored outside. The northern third of the state is still not infested by gypsy moth; please check your outdoor items before moving them up to camp. There is a reason that we survey around camps first when we have high moth catches in a new area!

**Green or Brown Hemlock Needleminer** (*Coleotechnites apicitripunctella* or *C. macleodi*) – People are taking a close look at hemlocks as the hemlock woolly adelgid infestation spreads. As a result we are getting more reports of needleminers in the hemlock. These small caterpillars feed on the needles and loosely web them together with silk. They overwinter as larvae in the webbed needles, finish feeding in the spring and then pupate. Tiny black and white moths emerge in August, lay eggs, the larvae hatch and it all begins again. Although the needleminers are common, they rarely do significant damage to the trees.

**\*Hemlock Woolly Adelgid** (*Adelges tsugae*) – Hemlock woolly adelgid eggs are abundant right now. Crawlers were not out in Freeport when checked on May 13<sup>th</sup>, but will be within the next couple of weeks through the beginning of August. Be extremely careful moving from work in hemlocks in coastal Maine to work in hemlocks further inland. Steps to reduce risk of spreading hemlock woolly adelgid include: if possible, plan harvest for low risk period between August and February; if not, move cut material as little as possible (a quarantine is in place in extreme southern Maine); and power wash equipment before moving between infested and uninfested areas.

This year we received support for biological control releases from USDA APHIS, PPQ and Maine Outdoor Heritage Fund. As a result of the support a total of 17,000 *Sasajiscymnus tsugae* beetles will be released this spring—12,000 have already been received. *Sasajiscymnus tsugae* is an important predator of hemlock woolly adelgid in Japan and is known to establish well in Maine. Beetles received so far were released in Vaughan Woods and Wolfe Neck Woods State Parks and on land in York and Harpswell that is protected from

development. Protection from development is a desired criterion for release sites because the beetles are not compatible with the broad-spectrum insecticide use which is prevalent in settled areas. Forest management activities are compatible with the beetles.

Aside from finding protected property, another goal for many releases is to situate them on the leading edge of adelgid populations. It is very hard to know where that leading edge is—your reports are extremely important in helping us determine the best sites for biological control for this pest. We do conduct some releases within the more generally infested area with the hope of setting up nurseries for harvest of Maine-raised beetles. The first such harvest of just under 50 Maine-raised beetles occurred last fall.

When it became clear that the needs exceeded the funding available to acquire beetles for release, talks were initiated with groups local to the parks to investigate opportunities for funding. Timing of beetle biology precluded use of any new funds for this spring's releases, but a dedicated fund has been established for future biological control releases.

**Large aspen tortrix** (*Choristoneura conflictana*) – This pest of aspen has spent the winter as second instar larvae in protected locations under silken hibernacula. In early spring the larvae migrate up the trees, and begin feeding in the buds before they flush. More than 1000 acres of aspen in the Island Falls area were affected by this insect last season. Be on the lookout for defoliation developing this spring, and let us know if you find it.

**Pear Thrips** (*Taeniothrips inconsequens*) - Pear thrips populations are low again with little damage observed so far this year.

**\*Satin Moth** (*Leucoma salicis*) – Last season satin moth was reported on ornamental poplars from Fort Fairfield to Lewiston and adult catches were up in light trap samples from New Sweden and Allagash. The caterpillars begin to feed with the onset of warmer weather. Keep an eye out for this insect as the leaves develop. If needed, apply controls on ornamentals while the larvae are still small. Also keep an eye out for defoliation in aspen-dominated forests in northern Maine.

**Solitary Bees and Wasps** - Solitary bees and wasps are starting to emerge. Unlike social bees and wasps which may be aggressive and sting readily, solitary hymenoptera are generally non-aggressive (they don't have nest-mates to protect), and rarely sting. Some cannot sting at all, and with others, you have to seriously harass them before they will sting. Generally high numbers are present only for a week or two as they emerge from their overwintering nests. Then they disperse. If you have gardening or other work to do in the immediate area of the nests, we suggested working for a few days in the morning or evening when the bees are not active. Once informed of their gentle nature, most people are happy to have these wild pollinators in their yard.

**Winter Moth** (*Operophtera brumata*) – Last fall an adult female winter moth was collected in southern Maine by a member of the Maine Entomological Society. Winter Moth is a serious forest pest and has been causing thousands of acres of defoliation in Massachusetts and Rhode Island over the past several years. This is the first confirmed female of the species to be found in Maine. The caterpillars would already be feeding in southern Maine. They begin feeding before leaves expand. Keep your eyes open for this insect, especially in southern Maine. Caterpillars resemble typical loopers or inchworms, and will feed on a broad range of hosts including oaks, maples, basswood, elm, apples, cherries and blueberries.

**\*Yellowheaded Spruce Sawfly** (*Pikonema alaskensis*) - Adults will soon be active around young spruce trees. They are particularly attracted to open grown white spruce under 12 feet tall. The eggs hatch in June and most people do not notice the yellow (orange)-headed, striped, green larvae until substantial amounts of foliage have already been eaten off the tree. If you have spruce that have bare lateral branches especially near the top of the tree, check for larval feeding in June.

## **Diseases and Injuries**

**Anthracnose Diseases of Hardwoods** - So far, near-normal moisture conditions this spring (slightly below normal in the Downeast Region, and slightly above in most other areas) would indicate that anthracnose diseases of hardwoods may be less prevalent this year. However, the high rainfall predicted over the next two weeks will likely increase infection levels for this year. These high moisture conditions will be occurring during the critical time for leaf expansion and fungal infection. Cooler temperatures this spring have moved the fungicide application window to a bit later in the season. Those planning to use fungicides to help reduce anthracnose diseases of ashes, maples, sycamore, and other hardwoods should still have time apply a first application within the next week.

***Rhizosphaera* Needlecast of Spruce (*Rhizosphaera kalkhoffii*)** - White spruces and Colorado blue spruces have been heavily damaged over the past several years from excessive needle loss caused by *Rhizosphaera* needlecast disease. The needle loss can be unsightly, and reduces the effectiveness of affected trees for screening in landscape plantings. Protecting the current-year (2011) needles will be important for trees to thrive and to begin to recover the photosynthetic production they require for long-term health. Fungicides (chlorothalonil [Daconil], copper hydroxide [Kocide 2000], or mancozeb [Protect T/O]) should be applied when new needles are about 0.5 inches long (around late May this year for mid-Maine locations), and again ten days to two weeks later, for full protection. Trees that have been severely damaged by the needlecast may require several successive years of fungicide protection before dense, healthy crowns with a normal complement of needles can be obtained.

***Sphaeropsis (Diplodia) Tip Blight of Two- and Three-Needle Pines (*Sphaeropsis sapinea*)*** - Now is the time to apply the first treatment of fungicides to control tip blight of red, Scots, and Austrian pines. Timing of fungicide application will be the same as that of spruce needlecast; the first application should be made shortly after the buds break, and again 10 days to two weeks later. Appropriate fungicides include copper hydroxide (Kocide LF), and chlorothalonil (Spectro 90 WDG).

**White Pine Blister Rust (*Cronartium ribicola*)** - White pine blister rust continues to damage pines statewide, and may be especially severe in young (sapling to pole-sized) stands in areas where control of the primary host (currant or gooseberries [*Ribes* spp.]) has never been practiced. This is the best time of the year to find and eradicate *Ribes* spp. by physical removal or herbicide treatment. If you are unsure of techniques, or need assistance in *Ribes* identification, please contact the Entomology Lab for further information.

**White Pine Needlecasts (*Canavirgella banfieldii* and *Mycosphaerella dearnessii*)** - Be aware that the needle cast diseases of white pine, so widespread and severe last year, may begin to show up again by early June. These diseases are characterized by browning and loss of one-year old needles (currently, those produced in 2010). Newly emerging needles will appear undamaged. A survey is currently being conducted in cooperation with the USDA Forest Service, to more accurately delineate the range of these two diseases across northern New England, and to clarify the relative importance of each to the white pine resource.

## Calendar

**June 4, 2011**, (Saturday) – Williamsburg. 9:00 to Noon. *Demonstration Forest Volunteer Day*, American Hiking Society's National Trails Day<sup>®</sup> is held the first Saturday of every June, and is America's largest celebration of trails and the outdoors. Join us at the Demonstration Forest in Williamsburg to participate in an educational workshop including information on identifying invasive forest insects and trail work projects. Please preregister with the Piscataquis Soil and Water Conservation District, [info@piscataquiswcd.org](mailto:info@piscataquiswcd.org) or (207) 564-2321 ext 3.

**July 9, 2011** (Saturday) - Unity. Save the date: the Maine Forest Service Forest Health and Monitoring and Forest Policy and Management Divisions are partnering with Unity College to present a workshop on hemlock woolly adelgid and hemlock management planning. The workshop is planned for 8:30 through 12:30, and will meet at Unity College, with a field session nearby. Look for registration information and more details in our next bulletin or contact MFS District Forester Morten Moesswilde: [morten.moesswilde@maine.gov](mailto:morten.moesswilde@maine.gov), or (207) 441-2895.

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Maine Forest Service  
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