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## Vermont Forest Health Update

### Insect and Disease Observations

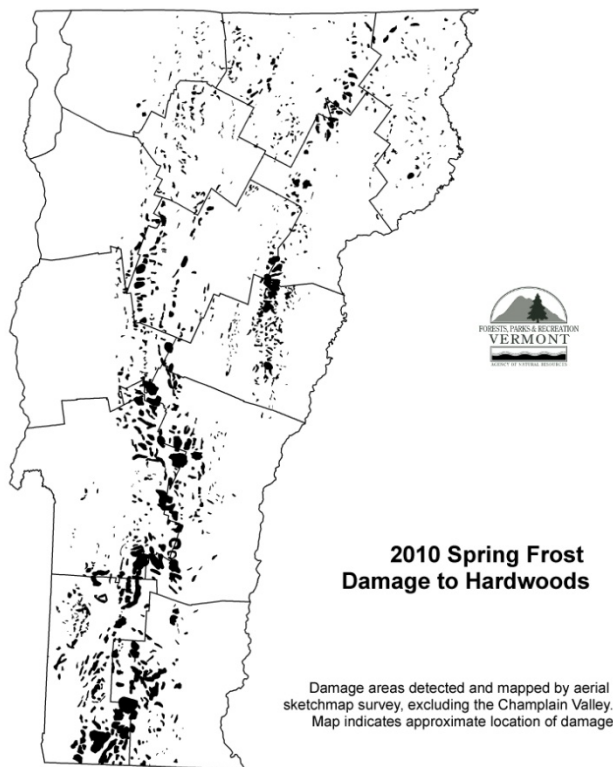
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*Reported by the Vermont Department of Forests, Parks and Recreation  
August 2010*

#### Weather-Related News

Although many trees have recovered from widespread **frost damage** in May, the foliage in many stands remains thinner than normal. Thin crowns are particularly noticeable on sugar and red maple, as well as beech and birch. In all, about 400,000 acres of damage were mapped during aerial surveys. We have conducted ground assessments in over 30 sites. Although frost was the primary cause of damage, evidence of **pear thrips injury** was present at many of these sites. Thrips

feeding resembles late frost damage; trees may have a thin crown, and leaves may appear small, mottled yellow, and distorted. Scars along the veins and leafstalks from thrips egg-laying help distinguish thrips feeding from frost injury. If you run your fingers along a scarred leafstalk, it will feel bumpy.



*Pear thrips damage. (photo: R. Kelley)*

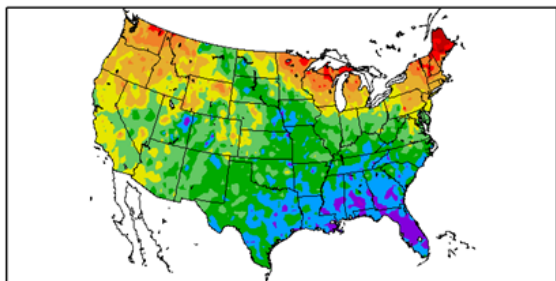
Although heavily damaged trees refoliated shortly after the freeze event, dry conditions prevented full expansion of the new growth. Trees with moderate damage may not have refoliated, and have hung onto damaged leaves all summer. When tree health was monitored following the pear thrips outbreak in 1988, it turned out that some of the worst impacts were to trees with “moderate” damage that did not fully refoliate.

FPR maintains automated weather stations at five sites in Vermont. **Fire danger** was moderate through most of the month of July due to below normal rainfall. Fire danger indices showed a drier than normal trend in ground fuels and large diameter dead fuels. Indices that show an increased potential for wildfires to occur were also above normal; however, very few fires were reported. Yellowing and premature color on hardwoods growing on ledgy ground were noted, presumably from drought. Southern parts of the state have been dry.

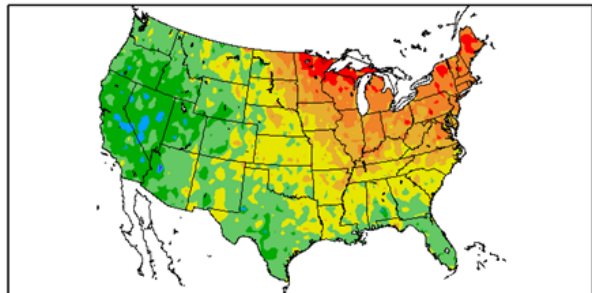
2010 Fire Season Rainfall Data from Remote Automated Weather Stations					
	Brighton (Nulhegan)	Elmore	Essex	Danby	Marlboro
Month					
March	3.9	3.96	3.32	4.99	7.06
April	3.38	3.72	4.11	2.82	1.26
May	2.05	2.62	1.7	2.75	3.07
June	4.66	6.05	5.87	5.08	4.11
July	2.52	3.4	3.33	5.32	3.57

Temperature data for January through July 2010 are presented below. (Data are from the National Weather Service.)

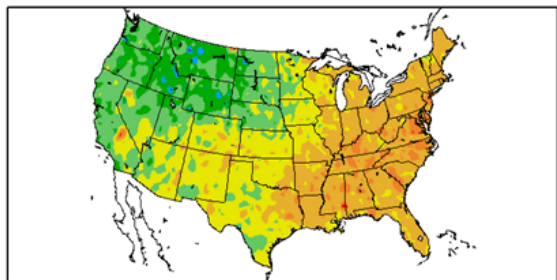
Departure from Normal Temperature (F)  
1/1/2010 – 3/31/2010



Departure from Normal Temperature (F)  
3/1/2010 – 5/31/2010



Departure from Normal Temperature (F)  
5/1/2010 – 7/31/2010



Departure from Normal Temperature  
for 3 time periods in 2010:

January to March

March to May

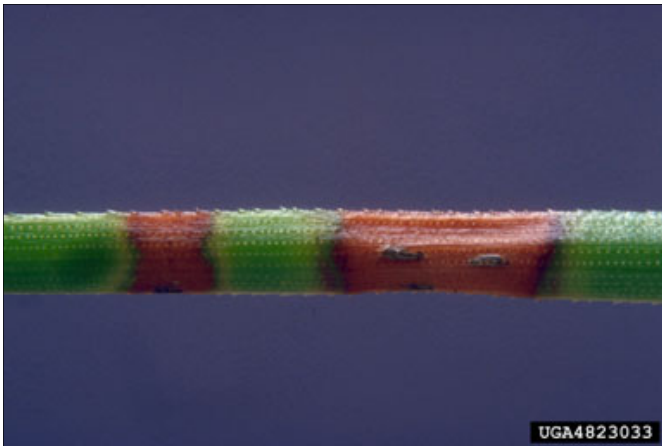
May to July

The Northeastern U.S. has been  
above normal for all of 2010 so far.

## Diseases

We are working with neighboring states to follow up on the browning of white pine trees that showed up in May. **Brown spot needle blight** and the **Canavirgella needlecast fungus** have both been found. By now, most of the symptomatic needles have fallen, and many white pine trees look thin. (For more on Canavirgella, see [http://ct.gov/caes/lib/caes/pdio/documents/canavirgella\\_needlecast\\_of\\_white\\_pine\\_04-10r.pdf](http://ct.gov/caes/lib/caes/pdio/documents/canavirgella_needlecast_of_white_pine_04-10r.pdf).)

Red pine is not susceptible to Canavirgella, but is susceptible to the brown spot needle blight. (See [http://www.na.fs.fed.us/spfo/pubs/fidls/br\\_spot\\_pines/brown-spot.htm](http://www.na.fs.fed.us/spfo/pubs/fidls/br_spot_pines/brown-spot.htm).) Symptoms from this disease can show up on current year foliage in July, and can worsen through late summer. In addition to widespread needle blight, red pines are also showing symptoms from recent spikes in **pine gall weevil** (look for round swellings on the twigs, and see photo below) and **Diplodia shoot blight** (causing death of scattered shoots). Where red pine mortality is occurring, look for evidence of **poor drainage** (red pine hates wet feet), **Annosus root rot** (look for shelf fungi growing out of the base of the tree...even below the surface of fallen needles), or **turpentine beetles** (look for gobs of pitch around pencil-sized holes in the lower trunk). For more on Annosus root rot, see <http://www.fs.fed.us/r6/nr/fid/fidls/fidl-76.pdf>.



*Brown spot needle blight symptoms: needle lesions with linear black fruiting structures developing in the necrotic areas (photo: Edward L. Barnard)*

**Giant tar spot** reports are coming in from the Burlington area and other locations around the state. Though longterm damage is not a concern, the appearance of these spots bothers some. See <http://www.branchoutburlington.org/pests/tarspot.htm>



*Left: Tar spot on Norway maple. (photo: U Guelph Res. Rep: [http://www.uoguelph.ca/~thsiang/pubs/pdf/08tarspot\\_hortrev.pdf](http://www.uoguelph.ca/~thsiang/pubs/pdf/08tarspot_hortrev.pdf))*

*Right: Pine gall weevil larvae initiate the formation of spindle-shaped growths. (photo: Ron Kelley)*



## Insects

There were many new **gypsy moth** egg masses spotted during surveys for Asian longhorned beetle and emerald ash borer in St Albans on August 13. Most of the egg masses were on maple trees, and all were street trees. It may be a low level population, or building, since the egg masses were of good size.



*Gypsy moth female near freshly-laid eggs. (photo: S. Wilmot)*

**Elm leaf defoliation**, probably caused by the elm leaf beetle or the elm flea beetle, was observed in Underhill. (No insects were present when damage was observed.)



*Feeding on elm leaf. (photo: S. Wilmot)*

**Birch leafminer** damage is very obvious now. Damage tends to be more serious on open-growing ornamental birches than on trees in forest stands. There are at least a half dozen species of leafminer associated with birch. Each forms a unique mine. This, along with the presence or absence of frass in the mine and differing seasonal development, can be used to separate the species.

<http://www.forestpests.org/vermont/birchleafminer.html>



*Birch leafminer causes leaves to look scorched or blighted. (photo: E.B. Walker)*

**Lacebugs** on basswood, elm and other hardwoods have been reported in several locations. The delicate, highly-ornamented members of the lacebug family feed on a variety of ornamental trees and shrubs, usually on the undersides of leaves.

<http://ohioline.osu.edu/hyg-fact/2000/2150.html>



*Piercing-sucking damage to basswood leaves by lace bugs. (photo: S. Wilmot)*

**Balsam woolly adelgid** infestations continue to be observed, most recently in the mountains of Windham County. (See <http://www.na.fs.fed.us/pubs/fidls/bwa.pdf>)

**Pear thrips** emerged early and in greater numbers than in recent history in some locations. Thrips injury was evident in some sites that were examined for frost damage. (See above under Weather-Related News). For more information, see <http://www.forestpests.org/vermont/pearthrips.html>.

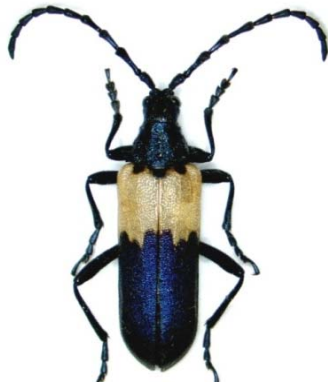
Damage caused by **white pine weevil** is obvious and widespread. Tops of infested trees may be stunted, drooping or dead by mid-summer, and dead terminals sometimes take on the appearance of a shepherd's crook. See [http://www.na.fs.fed.us/spfo/pubs/fidls/wp\\_weevil/weevil.htm](http://www.na.fs.fed.us/spfo/pubs/fidls/wp_weevil/weevil.htm).



*Terminal killed by white pine weevil. (photo: R. Kelley)*

### Lots of Longhorns

A number of showy, distinctive and attractive **longhorned beetles** have been active lately, including the brown and broad-necked prionids, northeastern and white-spotted sawyers, locust borer, elderberry borer, poplar borer, the commonly-encountered red milkweed beetle and others. Larvae of most longhorned beetles bore into and feed on plant tissues, mainly in decaying wood, but some species attack living plants.



*Larvae of the elderberry borer feed in the roots of elderberry. (photo: PA DCNR-Forestry Archive)*



*Above: Locust borer larvae feed in the heartwood of black and yellow locust. Adults are often observed on goldenrod flowers. (photo: K. Arvin)*



*Left: Keep your eyes open for the sugar maple borer, most likely to be seen in the adult stage instage in August and September. (photo: R. Kelley)*



Left: The poplar borer feeds in live and dying poplars and willows. Note the larvae, pupae and adult in this picture. (photo: J. Solomon)

## Exotic Insect Update

As of this writing, all potential **Asian longhorned beetle**-host trees within ¼ mile of the original find near the Brookline/Boston line have been inspected, and no additional infestations have been detected. The trees that were removed appear to have been infested for just a few years, and the source of the infestation remains unknown. On the good news side, no infested trees have been found in New Jersey since 2006, and only one was found in New York this year.

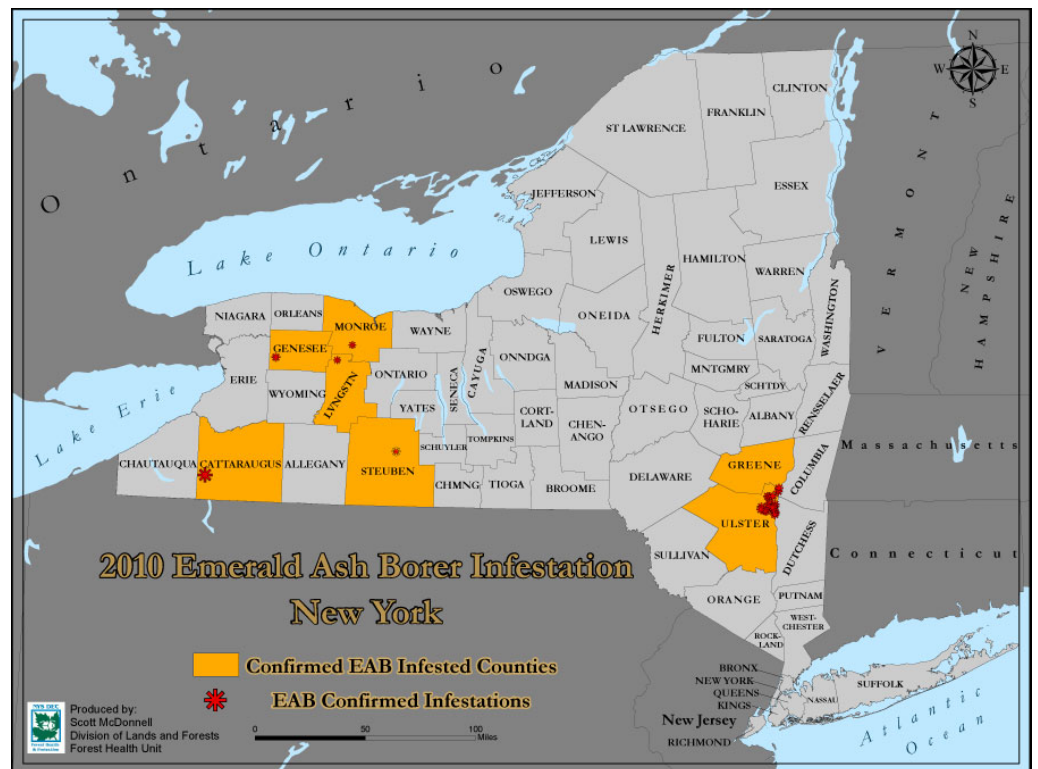
August is Asian longhorned beetle awareness month and has involved intensive surveys for this pest as well as the emerald ash borer in St. Albans and Rutland, outreach to second-homeowners, and surveys for both beetles in campgrounds.

**Emerald ash borer** continues to show up in new locations. In New York, the insect has now been detected in seven counties, most recently Greene, Monroe and Livingston, and previously in Ulster,

Genesee, Steuben and Cattaraugus. (See <http://www.dec.ny.gov/animals/42674.html>.)

Some detections occurred in campgrounds, reinforcing the importance of the *Don't Move Firewood* message. If you'd like to help spread the word, details are available through the website [www.firewood.vt.gov](http://www.firewood.vt.gov). The rules for State Parks (firewood must be from within 50 miles) and Green Mountain National Forest campgrounds (firewood must be from Vermont) are the same as last year, and State Parks staff continue to collect well-travelled firewood that cannot be burned within 24 hours.

If there's a positive side, at least some of these finds were from purple traps, which increases our confidence in their utility. In Vermont, the Agency of Agriculture, Food, and Markets has been



overseeing the deployment of 480 purple traps. They're not in subtle locations... and that's on purpose, since they turn out to be a good outreach tool.

We also continue to try looking for emerald ash borer by examining colonies of the *Cerceris* wasp which preys on related wood borers. Nine states are participating in this early detection activity. *Cerceris* is an intriguing insect which colonizes ballfields and other sunny, compacted sites. For more information, visit the website [www.cerceris.info](http://www.cerceris.info) or contact Trish Hanson (information below).

**Hemlock woolly adelgid** was recently detected in Dummerston, bringing the count of known infested towns in Vermont to six. Seventy-four sites have been surveyed for the insect this year, including a minimum of five sites in each of the 12 towns adjoining infested towns. Trained volunteers continue to play an important role in detection surveys.

According to Jim Esden from FPR's Springfield office, hemlock woolly adelgid populations seem healthy. He recently reported seeing a lot of settled nymphs along with some mobile crawlers. The adelgids should begin aestivating soon.

### Invasive Plants



Besides the usual rogues' gallery of worrisome invasive plants, a small patch (with seed pods) of **black swallow-wort** (*Vincetoxicum nigrum*) was reported from a sugarbush in Pomfret. For more information and photos, see <http://www.nps.gov/plants/alien/fact/pdf/cylo1.pdf>.

*Black swallow-wort flowers have 5 hairy petals, with length equal to width. (photo: J. Novak)*

### Miscellaneous

Patsy Tassler Kelso, from the Vermont Health Department, provided this link to **tick control** work done through the Northeastern IPM Center, which supports research on ways to control ticks to protect human health while reducing the use of pesticides.

[http://northeastipm.org/NewsAndReports/2010summer/Summer2010\\_index.html](http://northeastipm.org/NewsAndReports/2010summer/Summer2010_index.html)

According to Jon Turmel, the **bedbug** issue is alive and thriving. He continues to receive several inquiries from concerned victims each week. See <http://www.hsph.harvard.edu/bedbugs/>.

Are you seeing large numbers of **dragonflies**? Find out more here: <http://www.dailywing.net/2010/08/05/dragonfly-swarms/>

**For more information, contact the Forest Biology Laboratory at 802-241-3606 or:**

Windsor & Windham Counties.....	Springfield (802) 885-8845
Bennington & Rutland Counties.....	Rutland (802) 786-3851
Addison, Chittenden & Grand Isle Counties.....	Essex Junction (802) 879-6565
Lamoille, Orange & Washington Counties .....	Barre (802) 476-0170
Caledonia, Orleans & Essex Counties.....	St. Johnsbury (802) 751-0110

