



Vermont Forest Health

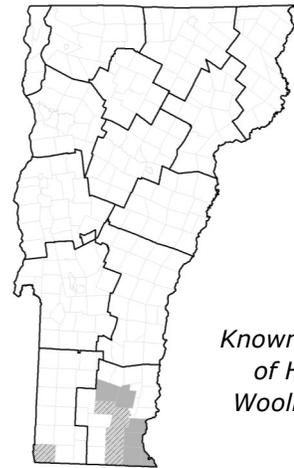
Insect and Disease Observations—July 2012

Department of Forests, Parks, & Recreation
July 31, 2012

vtforest.com

Exotic Insects

We had new sightings in July of two exotic insects, one instate and one out of state. The **hemlock woolly adelgid** has been detected in five new towns this year including, for the first time, a town in Bennington County. A volunteer Forest Pest First Detector found infested trees on municipal land in the town of Pownal, where the insect is thought to have spread naturally from nearby Massachusetts. Our monitoring studies indicate that the warm winter weather increased survival of the hemlock woolly adelgid. Updated hemlock woolly adelgid recommendations for landowner response can be found at <http://www.vtfpr.org/protection/idfrontpage.cfm>.



Known Locations of Hemlock Woolly Adelgid

 Hemlock woolly adelgid detected in 2012
 Town previously known to be infested

Five new towns and one new county (Bennington) have been added to the list of known locations of hemlock woolly adelgid in VT.



Cerceris fumipennis wasp peeking out of her nest during a training session for *Cerceris* surveyors. (Photo: M. Holland)

Emerald ash borer was found in several locations in New Haven County, CT during the week of July 16. The *Cerceris fumipennis* wasp, a "biosurveillance agent" that provisions its young with buprestid beetles, including the emerald ash borer, was responsible for the first find in CT. (See <http://www.ct.gov/dep/cwp/view.asp?A=2697&Q=464598>)

Cerceris surveys continue in Vermont and neighboring states. Through the work of a member of the First Detector program, *Cerceris* nest sites in Bennington County, VT, have now been identified. The wasp, with her superior ability to locate buprestid beetles and carry them back to her nest, has proven to be a helpful player in locating Emerald Ash Borer infestations early.

Thanks to the efforts of First Detectors and other volunteers, *Cerceris* nest sites throughout Vermont are being surveyed for emerald ash borer. (Photo: K. Forrer)



Diseases

Branch flagging is common and there has been an increase in mortality of individual white pines from **white pine blister rust**. Pruning diseased limbs of young pines can protect against trunk infections. For more information, see http://www.na.fs.fed.us/spfo/pubs/howtos/ht_wpblister/toc.htm.



Red flagging in the lower portion of the crown is one sign of infection by white pine blister rust. (Photo: Minnesota Dept. of Natural Resources)



White pine blister rust fruiting on branch. (Photo: Ron Kelley)

As part of a region-wide survey for **hemlock shoot blight**, USFS pathologists studied FIA plots with hemlock regeneration in a number of counties in Vermont. Seedlings from plots in Washington and Orange Counties had very little if any symptoms of shoot blight. In contrast, seedlings from plots in Rutland and Lamoille Counties had more severe symptoms of shoot blight, ~26-50% shoots affected and 25-50% of the crown defoliated. Samples were collected at each plot and sent to University of Wisconsin-Madison for PCR diagnoses. For more information about the blight, see http://na.fs.fed.us/pubs/palerts/tip_blight/tip_blight_lo_res.pdf.

Hemlock-blueberry rust, caused by *Pucciniastrum vaccinii* was observed in several locations.

Mature aecia of Pucciniastrum vaccinii are found on the lower surface of the infected hemlock needles.
(Photo: B. Boccio)



Brown foliage from weather, insects or disease is still visible on some hardwoods. (Photo: S. Wilmot)

Multi-Cause Maladies

Brown foliage on hardwoods, caused by a combination of frost, thrips, anthracnose, refoliation, hail and wind is still visible on some hardwoods.

A leaflet that discusses **damage to fir trees** in late winter/early spring 2012 can be found at http://www.vtfpr.org/protection/documents/VTForestHealthLeaflet_201206_2012Christmastreelosses.pdf

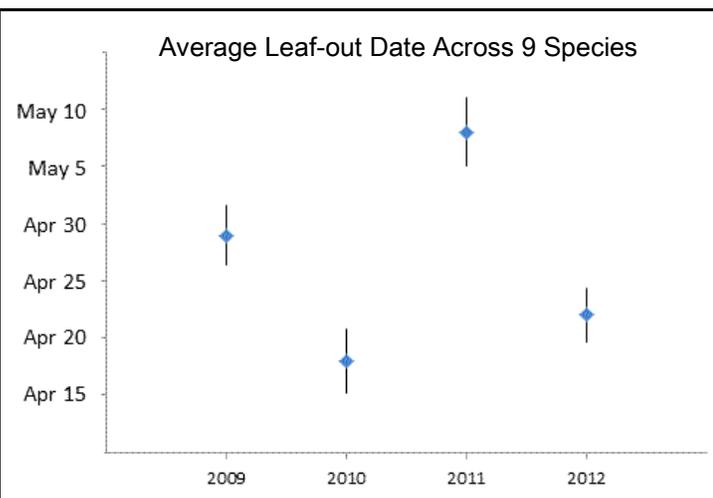
Weather

Severe storm damage occurred through this month starting with the storm on July 4, then on July 17 and again on July 23 and 26. These storms brought down trees and broke branches in standing trees. Hail damage also occurred.

We had an **official heat wave** recorded at a few locations from July 12 to July 14. The Keetch-Byram **Drought Index** (KBDI) showed higher than normal dryness of soil for three of our five weather monitoring stations for most of July. These included Marlboro, Essex and Elmore. (See table below.) There are indications that ferns and seedlings in the forest are being affected by drought. The Palmer drought index had Windham and Windsor counties in severe drought in July (http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/regional_monitoring/palmer.gif) and U.S. Drought Monitor indicated that a lot of Vermont was abnormally dry (<http://droughtmonitor.unl.edu/archive.html>).

Monthly rainfall totals observed at Vermont's fire weather stations in 2011 and 2012.

2011 and 2012 Rainfall Data										
	Brighton		Elmore		Essex		Danby		Marlboro	
	2011	2012	2011	2012	2011	2012	2011	2012	2011	2012
April	6.80	4.01	8.31	3.77	8.53	3.43	4.70	3.62	5.82	3.08
May	7.31	7.05	8.59	4.20	10.15	4.47	4.42	6.00	4.85	6.19
June	3.57	3.87	4.95	2.38	4.46	3.57	4.53	3.41	8.76	3.55
July	2.70	5.05	2.4	3.53	4.18	4.46	3.06	4.62	2.27	2.84
Total to date	20.38	19.98	24.25	13.88	27.32	15.93	16.71	17.65	21.7	15.66



The National Phenology Network recently posted results of **spring leaf-out data** on nine deciduous tree species in our area. The blue dots represent the average leaf-out date in a particular year. Leaf-out is defined as when a leaf is visible and has fully unfolded from its bud. Vertical lines running through the blue dots represent the variation in the average dates. Error bars in 2012 are slightly smaller than previous years; there was slightly less variation in leaf-out dates in 2012 than in previous years. The overlapping error bars in 2010 and 2012 indicate that there is no statistical difference in the onset dates in these two years. 2012 was, indeed, as early as 2010. For additional phenology information and data, visit <http://www.usanpn.org/>.

Insects

Feeding by mid-season defoliators, including the **saddled prominent** and **greenstriped mapleworm**, has been widely reported. These two caterpillars, along with occasional other species, often appear about the same time and are referred to as a "defoliator complex" that attacks a variety of hardwoods.



When numerous, saddled prominent larvae may be seen in large numbers at the base of defoliated trees. (Photo: R. Kelley)

Hickory tussock moth caterpillars, which feed on many woody species, have been numerous but are becoming less obvious as they begin to pupate.



Some people are very sensitive to hairs of hickory tussock caterpillars and develop rashes when exposed. (Photo: Ron Kelley)

Drooping dead branches caused by **oak twig pruner** have been common, with very noticeable damage in Bennington County. (See http://www.dec.ny.gov/docs/lands_forests_pdf/oakprune.pdf)



Oak twig pruner larvae bore into stems and prune twigs, terminals, and branches. (Photo: R. Kelley)

White pine weevil symptoms have been observed throughout the state, on Colorado blue and other spruces, as well as white pine. (See <http://www.forestpests.org/vermont/whitepineweevil.html>)

It's been an excellent year to be a **Japanese beetle, rose chafer, lily leaf beetle, potato beetle, cabbage butterfly, viburnum leaf beetle or deerfly**.



The deer fly Chrysops vittatus has been especially numerous and bothersome this summer. Note the yellow abdomen with four brownish stripes. (Photo: D. Reed)

Picnic Beetles (in the family Nitidulidae) were present in high numbers in a campground in the NE Kingdom. Newly-emerged adults become a nuisance when they congregate in picnic areas.



Picnic beetles can sometimes be lured away from picnic areas using traps baited with ripe fruit or stale beer. (Photo: K. Poirier)

Beekeepers are reporting a good early honey crop this year.



For more information, contact the Forest Biology Laboratory at 802-879-5687 or:

Windsor & Windham Counties.....
Bennington & Rutland Counties.....
Addison, Chittenden, Franklin & Grand Isle Counties.....
Lamoille, Orange & Washington Counties
Caledonia, Orleans & Essex Counties.....

Springfield (802) 885-8845
Rutland (802) 786-0060
Essex Junction (802) 879-6565
Barre (802) 476-0170
St. Johnsbury (802) 751-0110

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