

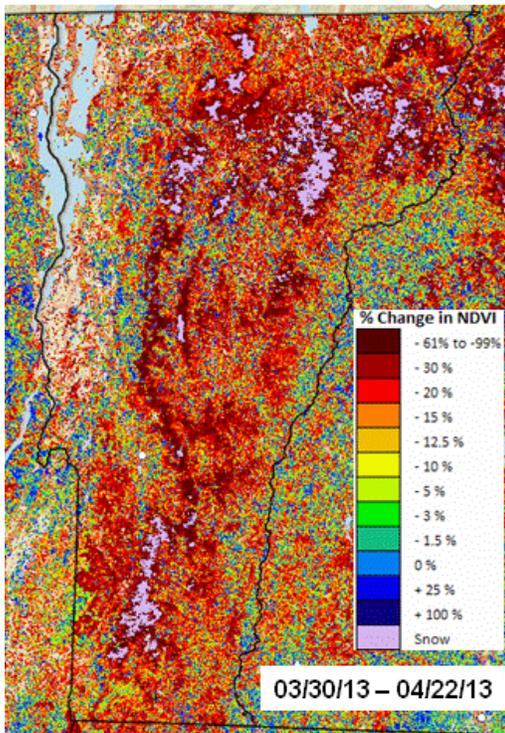
Vermont Forest Health

Insect and Disease Observations—April 2013

Department of Forests, Parks & Recreation
April 2013 vtforest.com

Greenness (NDVI) Compared to Normal

Early Spring Observations



Normalized Difference Vegetation Index (NDVI) maps are generated by the U.S. Forest Change Assessment Viewer available at <http://forwarn.forestthreats.org>.

While last year's record-setting March temperatures led to earlier than normal bud development, this spring **phenological development** has been a slower than average. [ForWarn's Forest Change Assessment Viewer](#) indicates that greenness in most of Vermont was behind normal, as of April 22nd.

White pines along highways are showing signs of **salt damage** that resulted from salt spray from passing traffic. Once spring rains rinse off accumulated salts, new shoots develop in May and June, and dead needles drop, the trees are likely to look reasonably healthy. Note that April is too early to observe symptoms of the [white pine needle-cast](#) diseases we've been seeing over the past several years.

Colletes inaequalis bee on willow.

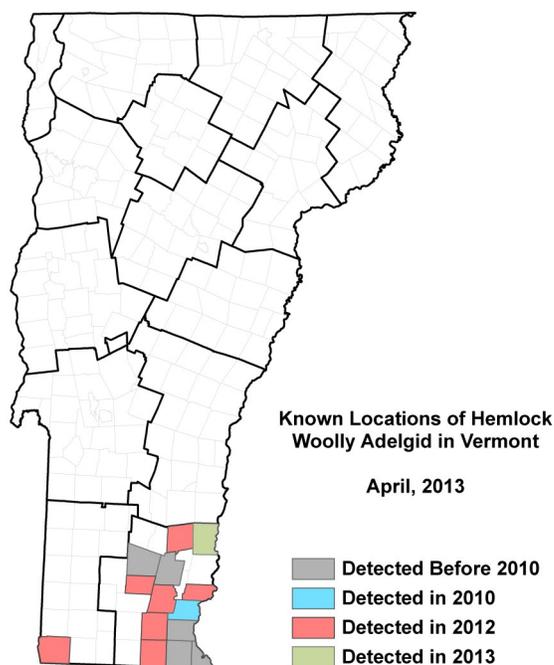
Photo: © John Ascher, 2006-2010 / www.discoverlife.org

Bees that emerge in early spring and collect pollen from maples and willows are out in many areas now. The most conspicuous of these is *Colletes inaequalis*, a common, solitary species that nests in aggregations in sandy or hard packed soils. These bees are not aggressive or worrisome. If you're willing to take a closer look, the key character to look for in *Colletes* is a forked or bilobed tongue; nearly all other bee families have pointy tongues. Numerous [Andrena species](#) are coming out now too. A good example is *A. erigeniae*, a specialist on Claytonia/spring beauty pollen and a common species in VT forests. Bumblebee and honeybee activity have also been noted.

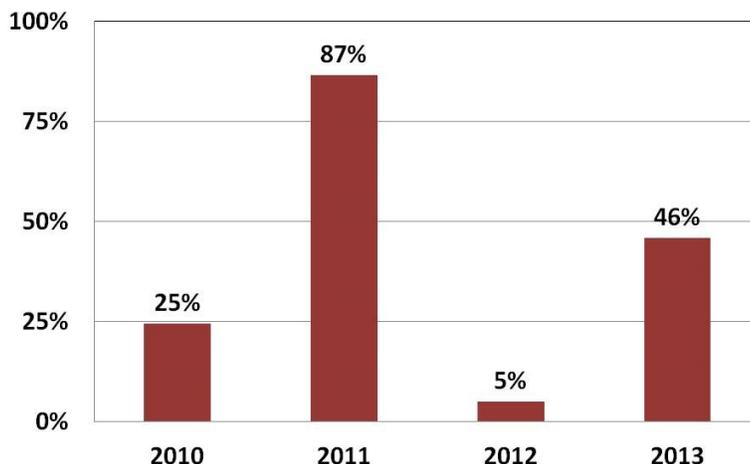


Exotic Insects

Hemlock Woolly Adelgid infestations are now known to occur in 13 towns in Vermont: Brattleboro, Dummerston, Grafton, Guilford, Halifax, Jamaica, Marlboro, Newfane, Pownal, Putney, Townshend, Vernon, and Wardsboro. Winter mortality of hemlock woolly adelgids in five sites in Windham County averaged 46%, compared to 5% in 2011-2012.



Winter Mortality of Hemlock Woolly Adelgid in Windham County



On March 27, 2013, the **Emerald Ash Borer** (EAB) was found on ash trees in New Hampshire, near Interstate 93 in Concord. Some of our Vermont FPR staff have been in NH to assist with delineation surveys. As of this writing, Kyle Lombard, Forest Health Program Coordinator for the New Hampshire Division of Forests and Lands, reports that infested trees have been found in a several mile stretch along the Merrimack River, something he expected because that's where all the ash is located. See: <http://www.nhpr.org/post/invasive-beetle-survey-finds-infestation-along-merrimack-river>.

New Hampshire issued an emergency quarantine for Merrimack County in order to limit the human-assisted spread of the beetle by regulating the movement of all hardwood firewood, ash nursery stock, ash logs and other ash forest products originating in the county. A public comment period on the quarantine ends May 8, 2013. Visit the [NH Bugs](http://www.nhbugs.com) website for updates.

While this non-native forest pest has not been seen in Vermont, outlying, isolated EAB infestations are now known to occur on all sides of the state. Please keep on helping us address EAB by sharing information about planning ahead, slowing the spread, how to look for EAB, and how to get involved.

STOP THE SPREAD: DONT MOVE FIREWOOD

Tree killing insects and diseases can travel hundreds of miles on firewood and nursery stock. Transportation of firewood is the leading cause of new infestations of invasive insects and diseases.

Buy it where you'll burn it and purchase local nursery stock.

VERMONT DEPARTMENT OF FORESTS, PARKS & RECREATION
AGENCY OF AGRICULTURE, FOOD & MARKETS

APHIS UNIVERSITY OF VERMONT EXTENSION NPDN UAS

Resources for forest landowners and managers have been updated, including [ash management guidelines](#) and [EAB recommendations for landowners](#).

When EAB builds up in a community, the impact on its budget and tree resource can be substantial. Over the next year we will be working with communities to develop preparedness plans. A [Community Preparedness Toolbox](#) with information to support plan development is available.

We welcome new volunteers to join the [Forest Pest First Detector Program](#). Nearly 100 volunteers, including many natural resource professionals, are already helping with education and outreach, volunteer recruitment, pest screening and preparing communities for a pest infestation. Trainings for new volunteers are scheduled for 5/18 and 6/8.

Look UP for EAB, particularly for woodpecker activity on live trees. EAB adults could be found between late May and early September (when purple traps are out). Check out [EAB look-alikes](#). If you see insects or trees of concern, please [report a sighting](#).



What can YOU do?

- Learn more to protect our trees
- Find these invaders
- Get involved - Spread the word, survey for pests, don't move firewood, become a Forest Pest First Detector
- Visit [VTInvasives.org](#)

become a **FOREST PEST**
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Short Notes

At the Forest Health Information Meeting (Function at the Junction) that was held on March 26 in White River Junction, there were several questions raised that deserve follow-up.



Spotted wing drosophila, *Drosophila suzukii*. Photo: G. Arakelian

What is the situation with [Spotted Wing Drosophila](#) in Vermont? This fly is a pest of fruits and berries. Vern Grubinger, UVM Extension specialist, says it was first spotted in southern Vermont and other parts of New England in fall 2011. By late summer of 2012, it was widespread in the state, though Orleans and Essex Counties seem to be spared so far. Overwintering success has not been determined.

What might cause **discoloration in a cross section of ash**? One of the factors associated with discoloration in ash is cracking. Ash is particularly susceptible to cracks, apparently due to unusually large rays and susceptibility to drought. Even trees with no external cracks may have discoloration initiated by a long-ago event. Ash yellows increases the likelihood of cracking on ash, since it reduces cold tolerance. This

disease is known to occur in western and southeastern Vermont, and may be present elsewhere. [Trees with dead sprouts](#), and perhaps of sprout origin, may also be more likely to be stained. A [Review of Black Heart of Ash](#), regarding *Fraxinus excelsior*, asks more questions than it answers, but concludes that black heart is clearly not fungal in origin, and indicates that one of the factors increasing incidence may be oxygen exposure.

What causes lots of **pitching at the bottom of spruce trees**? Pitching is a non-specific response to an insult, and indicates a tree with some "fight" left. On red spruce in Vermont, one common cause of pitch at the root collar is Armillaria root rot, which can spread from the roots of declining trees or from stumps in partially cut stands. More details are in the [Management Guide for Deer Wintering Areas in Vermont](#). Other root diseases can cause similar symptoms, like the [Tomentosus Root Disease](#) pictured on white spruce. Pitch mass borer (*Synanthedon pini*), spruce beetle (*Dendroctonus rufipennis*), and root collar weevil (*Hylobius* spp.) are also possibilities.



White spruce infected with Tomentosus root disease. The fruiting structure of the fungus is growing from the root on the right.



HWA predator, *Laricobius nigrinus*. Photo: Ashley Lamb, Bugwood.org

Are there results from the **HWA predator release program**? Adult *Laricobius nigrinus* beetles have been recovered from both sites in Vermont where they were introduced in 2009. Nationwide, over 175,000 of these beetles have been released, with establishment recorded in 13 states. In the southeast, they are credited with spreading naturally and saving hemlocks. Consulting entomologist Dick McDonald's take on the situation is posted on [youtube](#).

What are the effects of **earthworms on forest habitats**? Interesting literature abounds, but there's a quick summary for the beginner at "[Worm Watchers](#)". You can also read more and see a slide show by UVM's Josef Gorres, who presented information at last year's Forest Health Information Meeting at [invasive earthworms in Vermont](#).

What have been the results for **restoration of chestnuts**? The American Chestnut Foundation has begun planting nuts for testing in a "real-world" setting. They need to be proven over the next decade on a variety of sites. According to the [TACF website](#), 500 were planted in three southeastern National Forests in 2008, and appear to be thriving.



Exposed seed of American chestnut.

The **2012 Forest Insect and Disease Conditions in Vermont report** is now available at <http://www.vtfpr.org/protection/documents/2012conditionsFINAL.pdf>.



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

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