

Vermont Forest Health

Insect and Disease Observations—September 2013

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

Beautiful Weather and Fantastic Foliage

Vermont trees are doing what they're famous for...and what a show! The stage was set with September drier than normal along the Green Mountains and in much of Rutland County and wetter than normal in parts of the Northeast Kingdom, northern Champlain Valley and southeastern VT. The rain generally fell during the first half of the month. The last 2 weeks had abundant sunshine...perfect for leaf peeping and any outside activities. Winds were light, keeping the leaves on the trees and temperatures were comfortable even though they were a little below normal.

Our annual phenological observations, which enable us to study such things as budbreak and leaf fall, show that colors started a little earlier than average. The stretch of weather in mid-September with cool nights and dry, sunny days brought on the red pigments. Up-



per elevation birches struggled with early leaf drop. At mid-elevations, ash tree leaves checked out early as well. Maples in the mountains were as good or better than ever, but they also are dropping a little earlier than average. The fast moving rain storm earlier this week with the high winds was a factor. For more on Vermont foliage, see <http://foliage-vermont.com/>

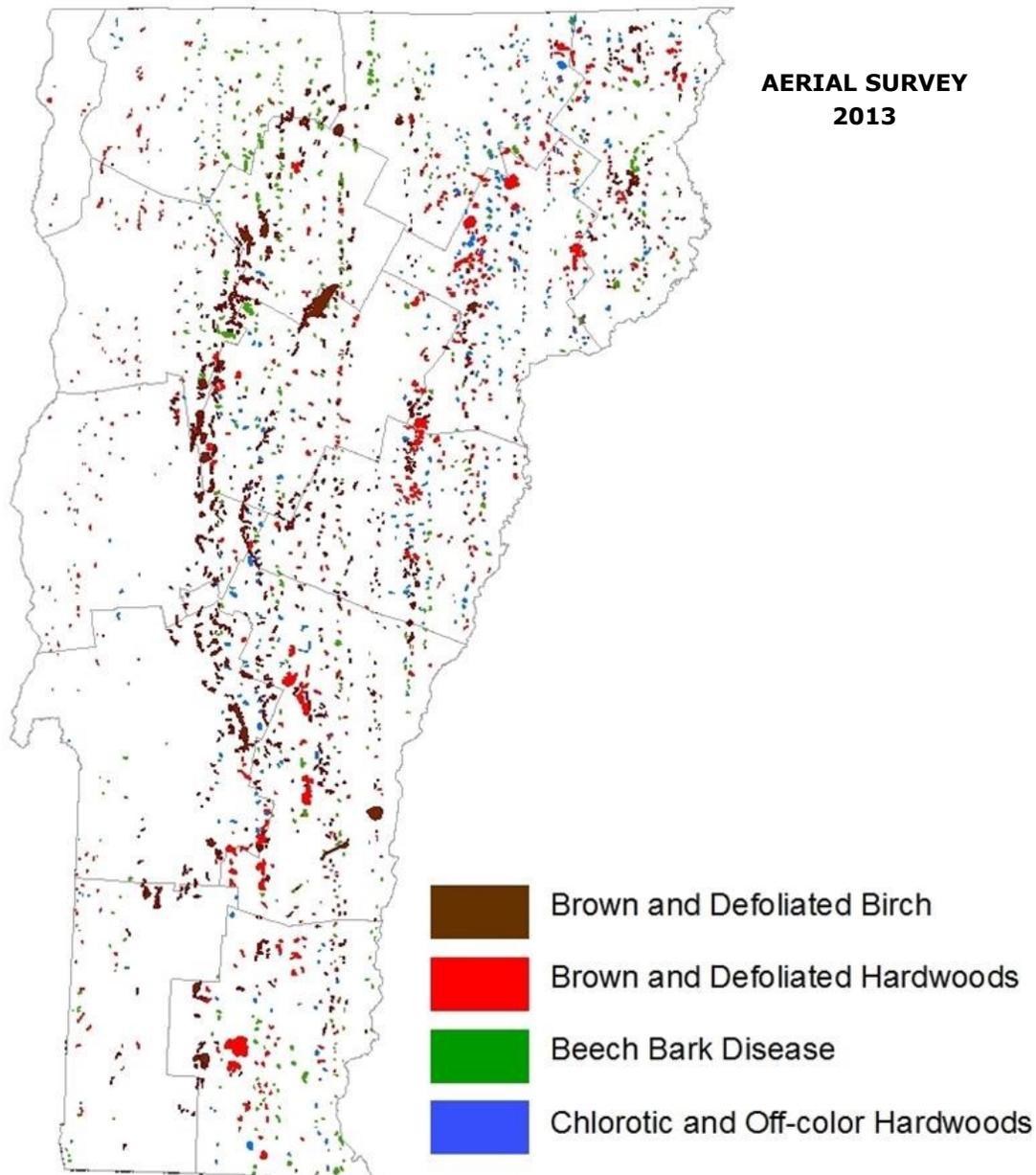
Picture perfect Vermont .
Photo: R. Kelley

Aerial Survey Results

Our annual FPR statewide aerial surveys were completed in September. Brown birch, primarily due to the fungus disease Septoria, was mapped on over 100,000 acres. Although much of the browning and defoliation occurred at high-elevations where birch predominates, the damage was unusually common at lower elevations as well.

Browning and defoliated hardwoods were mapped on over 60,000 acres. Fungus diseases caused heavy defoliation of balsam poplar, ash, and hophornbeam in some areas. Saddled prominent feeding contributed to some of the defoliation, especially in northeastern Vermont. Anthracnose on oak, maple, and other species also contributed to the observed damage.

Levels of decline and mortality from beech bark disease remain stable, with 25,000 acres of damage mapped. Off-color hardwoods were mapped on 20,000 acres. Some of this was chlorosis attributed to wetter than normal soils. (Note that the mapped damage below is not to scale; polygon size is enhanced for visibility.)



Diseases

Regional investigations continue into the causes of **balsam shoot dieback** reported in our earlier 2013 updates. In Nova Scotia, the dieback was attributed to a species of *Diplodia*. Scientists at the Guelph Analytical Laboratories in Ontario suggested that the most likely culprit at that location was *Diplodia pinea*, a pathogen normally associated with pine, identified through spore morphology and general expression of the disease on the tip. A large supply of spores from pines, along with environmental stress, is usually associated with damage to conifers other than pines.

Unlike the fungus *Phomopsis*, that can also cause tip dieback in balsam fir and is common on drought-stressed and frost-injured trees, the brown tips observed with *Diplodia* do not begin close to the node.

The fungal fruiting structures on needles characteristic of *Delphinella*, another suspected cause of balsam shoot dieback, were not observed during this exploration. According to Dominique Choquette, Quebec pathologist, "the *Delphinella* infection cycle begins in the springtime, when suitable temperatures and moisture promote the release of *Delphinella*'s ascospores from previously infected needles. In Quebec, the symptoms appear in early June. Thereafter, the fruiting bodies of the fungus are formed at the end of the season.



New growth around last year's *Diplodia* tip disease. Photo: M. Wright

"Depending on the level of rainfall, the fungus [*Delphinella*] will affect only a few needles per shoot, but sometimes the annual growth completely. The spread of the disease is mainly from the balsam fir in the woods. The disease appears to spread by splashing rain. The affected areas are located on the edge of forest tree line."



Phomopsis dieback begins close to the node. Photo: M. Wright



Delphinella shoot blight. Photo: D. Choquette

Insects

Dogwood sawfly larvae can vary greatly in their appearance. In the early instars, they may be covered with a powdery white waxy coating. Mature larvae are yellow beneath with black spots or grayish cross-stripes, but there are many variations from all white to black striped.



Aphids drinking willow "juice."
Photo: B. Crenshaw

Aphids are among our more familiar insects, often recognizable because of the pair of tiny structures called cornicles that stick up on the posterior sides of the abdomen. Many plants play host to various species of aphids. The **giant willow aphid** is one of perhaps a dozen associated with willows. Have you been observing tiny bluish-white "fairy flights" recently? Take a close look and you are likely to find out that these are one of several species of **woolly aphids**.



Dogwood sawfly larvae often feed gregariously.
Photo: C. LaMarche



Cornicles may be reduced or absent in some of the woolly aphids.



© KP McFarland

The familiar woolly bear caterpillars are on the move. Photo: K. McFarland

Woolly bear caterpillars are roaming now and it's not unusual to see specimens almost daily during their apparently leisurely trips across roads, streets and sidewalks. Their propensity to wander about the time of first frosts is mysterious. They will eat practically anything, so would stay safer by staying put, but they risk damage and death when they cross byways. Folklore weather legend has it that the narrower the central orange band, the harsher the upcoming winter will be. However, the color pattern is somewhat age-dependent, and is more likely determined by past weather conditions and food availability, rather than the upcoming winter.



Spruce coneworm will feed on needles, male flowers, cones and buds. Photo: D. Miller

Pitch dripping from spruce cones is often the result of feeding by the **spruce coneworm**. Frass and/or webbing are often noticeable as well.

Exotic Insects

The **Sirex woodwasp**, *Sirex noctilio*, a pest species from Eurasia, was trapped by the VT Agency of Agriculture, Food, and Markets in Franklin County, VT this summer. Individual specimens of this insect have turned up in Vermont traps only two times previously: in Lamoille Co. in 2007 and Chittenden County in 2010. All pine species are believed to be at risk, particularly stressed Scotch and red pine. We have yet to find this insect infesting trees in Vermont.



Sirex woodwasp female (left) and male (right).
Photo: V. Kalsmer, www.forestryimages.org

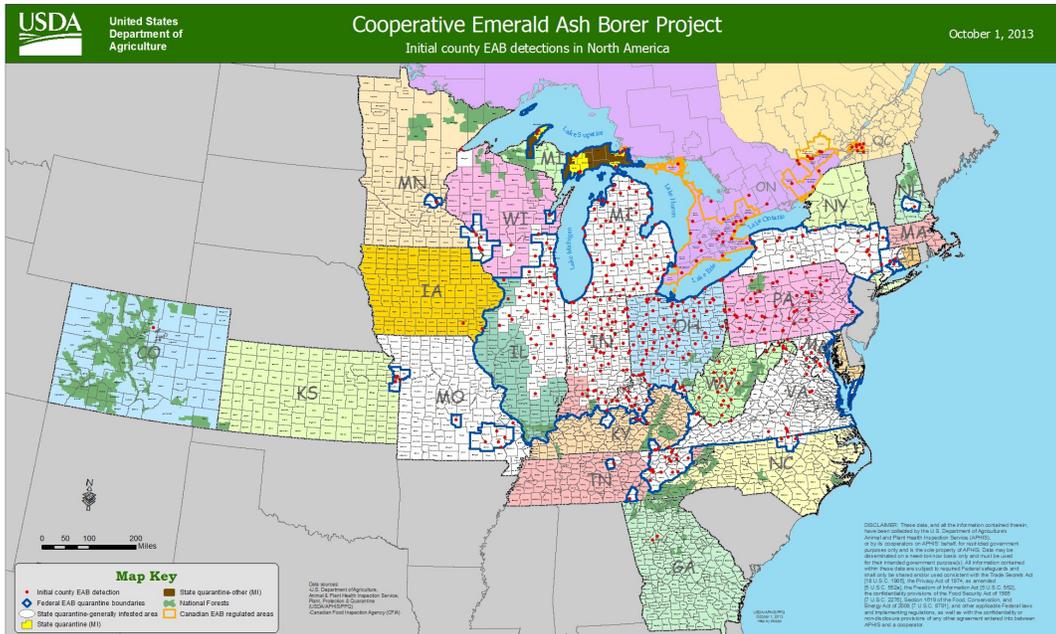
No **Asian longhorned beetles (ALB)** were collected in the 18 panel traps deployed and checked bi-weekly in Vermont this year. However, ALB was found in a new location on Long Island, which is east of the previously known infested area. In addition, **ALB was found in Mississauga, Ontario**, just west of Toronto where ALB was recently declared eradicated.



Photograph by Michael Bohne
Female Asian longhorned beetle. Photo: M. Bohne

In Vermont, almost all of the **emerald ash borer (EAB)** purple traps have been taken down and found negative for the presence of EAB. Other regions haven't been so lucky.

In Pennsylvania, 15 new counties were added as positive for EAB. Pennsylvania lacks an internal quarantine, so infected material can move freely in that state. **EAB was detected in Colorado** this summer, marking the westernmost detection to date.



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

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