



Vermont Forest Health

Insect and Disease Observations—May 2013

Department of Forests, Parks & Recreation
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May Weather Summary: Fires, then Flooding

How does Spring 2013 stack up to the memorable high temperatures of last year? You may recall that March 2012 was the warmest March on record and featured 8 days of record-breaking high temperatures in Burlington.

May 2013 has been a record-breaker too. Burlington set the **record for wettest May** with 8.74"; the previous record of 8.67" was set in 2011 (the year Lake Champlain flooded and Memorial Day flooding occurred in Northeastern VT). The 2013 record was set at the end of the month. Prior to May 20 only 0.73" of rain fell in Burlington. 7.47" fell in 5 days from May 21-26. The final 0.54" fell on May 29.

On May 21, 2013 the **U.S. Drought Monitor** classified all of Vermont as abnormally dry with Windham and Windsor counties in a moderate drought. One week later on May 28, 2013, most of Vermont was considered slightly wetter than normal, while Windham and Windsor counties were reclassified as abnormally dry.



The prescribed burn at West Mountain WMA in Essex County, VT was one of three statewide intentional fires that involved a total of 41 acres.

Number of **wildland fires** reported to date totals 114, burning 261 acres with higher than normal average fire size. **Spring fire season** was still active through May 18th with 40 fires (70 acres) reported in May statewide. All size dead fuels were drier than normal through this time period and other fire danger indices were above normal as well. **Prescribed burns** at three sites were safely and successfully completed.

There was also **flash flooding** in eastern Chittenden County and western Lamoille County. Especially hard hit were Jericho, Underhill, Essex and Cambridge as a result of "training" thunderstorms. Matt Sutkowski, in the *Burlington Free Press* "**Weather Rapport**" blog wrote "Such storms form a line, which repeatedly go over the same area, like boxcars on a



This photo taken in Walden Heights, VT on May 26, 2013, is proof of memorable weather on Memorial Day.

moving freight train. Thunderstorms often arrange themselves in lines, but they usually move laterally, so any one place only gets an hour of rain. In the training storms, hours and hours of downpours hit one particular area.”

Memorial Day weekend brought **snow**. Below normal temperatures and plenty of moisture changed rain to snow in elevations above 1,700 feet in north-eastern VT on May 26 with a trace to 6” falling. In some areas, hardwood trees with a full crown of leaves were damaged by the weight of the snow.

Temperature records set in May 2013 included May 28 in Montpelier with a record low of 32°, and May 31 in Burlington and Montpelier with record highs of 91° and 87°, respectively.

Plant Development

By the end of May, 2013, the accumulation of **Growing Degree Days** (GDDs) in Essex Junction reached 372. Of course, there were lot more growing degrees (514) by the end of May in 2012, when sugar maple bud development was 30 days ahead of average (Underhill).

The **spring phenology** of sugar maples at Proctor Maple Research Lab in Underhill got off to a slow start this year, then developed rapidly. At this site, vegetative buds did not break the bud scales until May 3rd, with full leaf development by May 7th.

The growing season has been excellent so far, with very little insect damage seen. 2013 appears to be a **good flowering year** for many trees and shrubs, especially maples, ash, apples, cherries, oaks, locusts, lilacs and others. Red and silver maples in many locations appear brown from the **abundance of seed**.

Very **minimal frost damage** has been observed, though slight damage on oaks, butternuts, lilacs, and ornamental grapes was reported from exposed areas. Japanese knotweed was damaged by frost in many locations. Upper elevations escaped damage in the north.

Insects

In long-term monitoring plots in Underhill, **pear thrips** numbers peaked before the buds had opened, then fell off gradually. Little to no damage was observed on the leaves this spring. Even the understory looked pretty clean.



Heavy seed has generated a few calls from homeowners worried about the browning trees.

Gypsy moth caterpillars appeared right on schedule; egg hatch coincides with the appearance of shadbush flowers. Last year, noticeable defoliation was seen in Sheldon and Hartford, but few egg masses were observed.

Eastern tent caterpillar webs were reported on cherry and apple in Hyde Park, Morristown and elsewhere but indicated fewer numbers of tents than normally observed.

Spittlebugs are numerous in some locations, notably in parts of Bennington County where they were encountered consistently while surveying for hemlock woolly adelgid. These insects can compound the impact of hemlock woolly adelgid.



Spittlebug nymphs, shown here on pine, mature mid-summer and leave their foamy homes. Photo: Herbert A. 'Joe' Pase III on Bugwood.org.

Balsam gall midge populations are very heavy in a Wolcott balsam fir plantation. **Balsam shootborer sawfly** damage at the same site is much heavier than normal for an odd numbered calendar year so populations may be on the rise again.

We've received reports of **Bruce spanworm**, ranging from simple observations that larvae were present in Hyde Park and vicinity, to detecting more noticeable feeding in the Royalton area.

A handful of sightings of **forest tent caterpillar** were reported from Springfield but, given the low numbers found in pheromone trap surveys in 2012 (average of 3.5 moths per trap), no damage is expected.

White pine weevil in spruce has been the subject of a few shade tree calls. In infested trees, eggs laid in the terminal shoot have hatched and larvae are now tunneling downward beneath the bark, girdling the leader.



Upon emerging from eggs, hemlock looper larvae feed on new foliage, but they quickly move to older needles. Photo: CT Ag Expt. Station on Bugwood.org

Well-camouflaged **hemlock loopers** were observed in Whitingham and Wilmington, though no significant defoliation was noticed.

Diseases

Diplodia has been observed on Austrian pines. Look for brown, stunted new shoots with short, brown needles.

Pine needlecast diseases that cause yellow and brown discoloration of needles are very obvious again this year. At least two fungi are involved. Along with other states in northern New England, we are continuing to work with the US Forest Service to assess the impact of damage on tree growth and learn more about the causes and implications of these diseases.

Exotic Insects

A total of 88 **hemlock woolly adelgid** surveys were conducted in 22 towns during the 2012-2013 season. Rockingham and Grafton were added to the list of infested towns, which now totals 14 in two counties. We are grateful to volunteers who were involved in surveys in 9 towns and were responsible for the new discoveries in Rockingham and Grafton.

New Hampshire has conducted delimiting surveys for **emerald ash borer**. So far, the known infested area is about 6 miles long, in a band along the Merrimack River. Adult beetles begin to emerge around the time that black locust blooms (550 GDD), so all eyes are open.

Survey traps for **Asian longhorned beetle** will be deployed in Vermont this year, with every hope that the traps come up empty.

The **spotted wing drosophila**, an invasive threat to raspberries and blueberries, is making the news right now as scientists anticipate continued spread.

Viburnum leaf beetles are busy again. Actively-feeding larvae have been observed in some sites, and old damage and egg caps are also visible.

Miscellaneous

Are you interested in learning more about our vast bee fauna? Jessica Rykken has recently completed a series of **Bee Observer Cards** created to guide people in their observations of the remarkable diversity of bee body structures, nesting habits, and much more.



Bumblebees, like this tri-colored species, and non-native honeybees make up only a small part of our local bee fauna. Photo: Kent McFarland



This armadillo-like firefly larva was observed in Westford, VT on May 4, 2013. Photo: Staci Pomeroy

While most are familiar with the **firefly beetles** that are now exhibiting their fascinating light shows, fewer may recognize the immature stage, shown here, of members of the family Lampyridae. There are perhaps 30 or more species of fireflies in Vermont.

Large flights of **Canadian swallowtail butterflies** have been observed in several areas, including in the Nulhegan Basin and around Island Pond. You may also be seeing aggregations of butterflies of various species "puddling" on wet substrates, where they obtain, salts, amino acids and other nutrients.



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

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