BRANCHING OUT
IPM NEWSLETTER FOR TREES & SHRUBS

Update on Emerald Ash Borer and Hemlock Woolly Adelgid in New York

Mark Whitmore, Forest Entomologist, Department of Natural Resources, Cornell University

Emerald Ash Borer

The Emerald Ash Borer (EAB) is continuing its march through our forests at an ever increasing rate. 15% of the state was in EAB quarantine in 2015 and DEC surveys have increased that to about 30% this year (see Figure 1). The 2016 EAB Quarantine map just came out (Figure 2) and more details about the areas under quarantine and regulations can be found on the DEC website. The map was generated with detection data from DEC field personnel. Basically, the shaded areas on the map represent the periphery of an infested area or the "Infested Core Area" (ICA). The ICA is generated by connecting the dots between the outermost infested trees in an ICA and the red lines are drawn around the towns that are within the "Restricted Zone". The important thing to remember is that not all trees are infested within the ICA's. Indeed, the sites with large numbers of dead trees are localized within the ICA. This is important for those considering treating their ash. If your trees are within an ICA and the crown is asymptomatic you should consider treatment. The closer to symptomatic trees the greater the necessity for treatment, especially in areas where EAB populations have been established and are spreading rapidly. The smallest and most slowly expanding infestations are in Nichols, Montezuma, and Rome. The most rapidly expanding infestations are in the Rochester and Buffalo areas of the Western Region and in Ulster and Greene Counties of the Hudson Region.

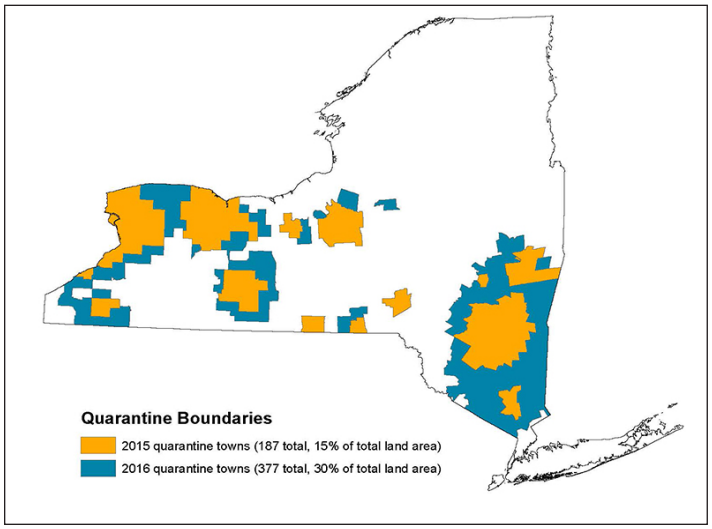


Figure 1. Comparison of emerald ash borer quarantine boundaries in 2015 vs. 2016. Courtesy of New York State Department of Environmental Conservation

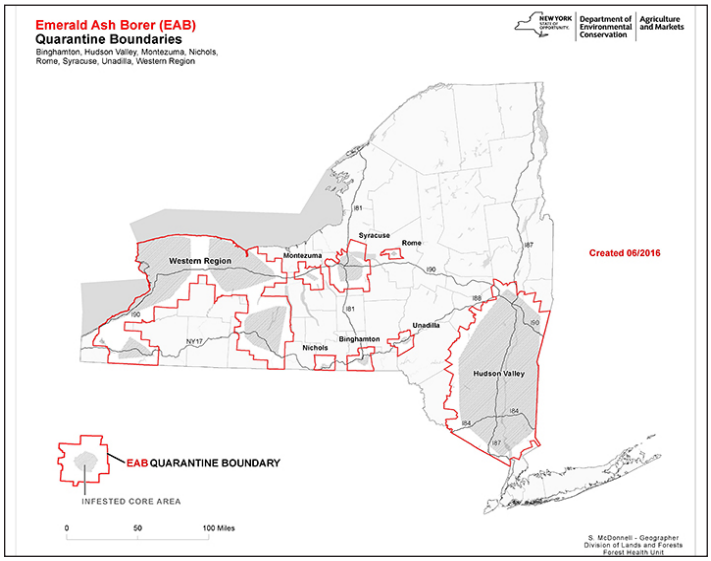
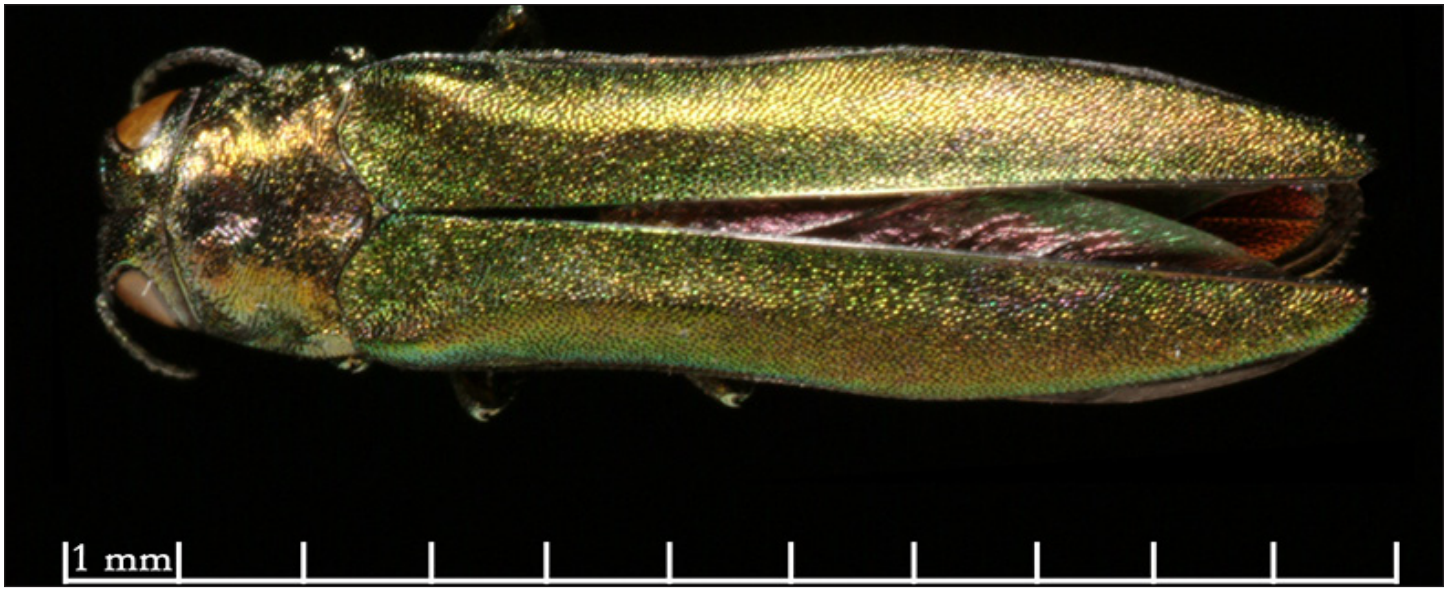


Figure 2. Map of emerald ash borer quarantine boundaries from NY State DEC



Emerald ash borer adult. © Kent Loeffler

Treatment BMP's for EAB have been well established with Emamectin benzoate the most commonly used insecticide and now two formulations are available: Tree-äge from Arbor Jet and ArborMectin from Rainbow Treecare. Trials we have been conducting with Tree-äge on older, forest grown trees under high pest pressure demonstrate its efficacy even when the crowns have begun to show some decline. We are also conducting a trial at the Mt. Top Arboretum to save a five acre ash woodlot by treating ⅓ of the trees every year, thereby spreading out the cost of treatment. Now in the third year of the trial trees are dying adjacent to the trial area but not within.

The closer to symptomatic trees the greater the necessity for treatment.

It's sad to think that soon all our ash forests will be infested, but there are things we can do to keep the ash species alive and hopefully bring them back onto the landscape. The first is to continue the release of parasitoids for biocontrol so that they spread and become an important population regulator in the future. Secondly, we need to preserve the genome by either collecting seed or by preserving magnificent individuals with insecticide treatment. And thirdly, watch for survivors of the infestation that may be resistant. Given time and effort I think we can keep these important native trees alive for future generations.

Hemlock Woolly Adelgid

Despite heavy mortality (95% or more) during the cold winters of 2013/14 and 2014/15, Hemlock Woolly Adelgid (HWA) populations bounced back in spring of 2015, even in the coldest parts of the state. This mortality is likely the reason we have not seen the range of HWA expanding in the state as rapidly as we did in previous, and milder winters. Currently, HWA is still concentrated in the southern Catskills and Hudson Valley where mortality is mounting, particularly in the Rondout and Neversink drainages. Distribution is spotty in the northern Catskills but it is has been detected as far north as Troy and Schenectady. The good news is that it has not yet been found in the Adirondacks. HWA is now common around the Finger Lakes, Binghamton, and Elmira and further west there are isolated spots in Letchworth State Park, Allegany State Park, and Fredonia.

Treatment with a basal bark spray tank mix of Safari and imidacloprid (2ee) has proven to have a rapid impact on HWA, multi-year efficacy, and is efficient to apply. This treatment technique is gaining wider use and we are continuing to monitor efficacy. Early summer is the best time to rapidly evaluate treatment efficacy because it is easy to see the emerging bright green spring shoots. HWA infestation first kills the developing buds so heavily impacted trees will have few bright green shoots and recovering trees will have many fresh shoots.

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Long term management rests with the successful implementation of biological control, and hopefully we will get there before HWA becomes a widespread problem, especially in the Adirondacks. A predatory beetle from the Pacific Northwest (PNW), *Laricobius nigrinus*, that is showing promise further south has been released at 17 locations in NY but establishment is difficult to evaluate and more time will be needed for populations to increase. We recently began working with another common predator from the PNW, a Silverfly, which we released at three locations last year. The problem with the predators is getting quantities to release. They are expensive to rear in a lab and wild collections in the PNW are unreliable. We need to get a system in place where we are generating predators locally. We are currently looking for hemlock hedges with HWA where we can release predators and easily recollect them for distribution elsewhere. If you know of a hedge, would like to get involved in efforts to save the hemlocks, or need more info visit our website at: http://nyshemlockinitiative.info/

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Hemlock woolly adelgids © D. D. O'Brien