

## Potential impacts of emerald ash borer biocontrol on ash health and recovery in southern Michigan

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Infestations of emerald ash borer (EAB) are now known across much of eastern North America with eradication unsuccessful and future control or containment unlikely. Three hymenopteran species found parasitizing EAB in China were released in 2007 and 2008 in Lower Michigan, northern Ohio, and Illinois, and in 13 EAB-infested states by 2012. Assessing and monitoring changes in ash condition where these biocontrol agents are present is critical if we are to determine the long-term impact that parasitoids will have and the outcome for ash species in the U.S. Live tree, sapling, and seedling data were collected in summer 2012 at release and control plots in southeastern and central Michigan. Where parasitoid establishment is confirmed, seedlings were more abundant in the release plots; higher density of seedlings in the smallest size classes may indicate a more available seed source in the release plots. No consistent pattern between control and release plots emerged when assessing the proportion of trees and saplings showing visible indications of EAB infestation. Parasitism data were mixed, but diameter of the largest trees was larger in all release plots. Sapling size did not differ between release and control plots, and mean condition class between release and control plots was inconsistent for trees and saplings at the three sites. We have too few and inconsistent data to conclude that biocontrol is yet having a positive effect on ash health and regeneration, but at least some patterns warrant further sampling and investigation.

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