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Density dependent survival of white ash (*Fraxinus americana*) at the Allegheny National Forest

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An in-situ genetic conservation project being conducted by the USDA Forest Service in the Allegheny National Forest (ANF) has provided an opportunity for investigation of the disturbance severity caused by the emerald ash borer. We are monitoring the health of ash trees in 27 treatment plots with 20 white ash (*Fraxinus americana*) trees treated with emamectin benzoate in each plot, as well as in a number of untreated control plots. Ash density in each plot varies, resulting in a range of 9.7%-86.9% of ash trees in the treatment plots injected with insecticide. The type of data being collected includes, but is not limited to ash canopy condition, diameter at breast height, and presence/absence of epicormic sprouts. Data from 2010, 2015, and 2017 show the rapid spread of ash mortality across the forest over time, with plots at the southern part of the forest showing the greatest declines in ash health. This data will be used to gain a better understanding of the disturbance severity caused by the emerald ash borer in the ANF. The data will also be used to examine, density dependent survival of ash trees and the associational protection provided by treated ash trees to untreated ash trees. These results will provide insights into regional conservation efforts of tree species in decline from invasive forest pests such as the emerald ash borer.

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