Climate Resilient Communities 📀

Trees of the Huron River Watershed in a Changing Climate

American Hophornbeam Ostrya virginiana

Description

This short-lived, understory tree can grow easily in shade conditions. It has a slow to medium growth rate which produces and extremely hard wood. The American hophornbeam can be found throughout all of Michigan with some areas of higher density in central Michigan. Throughout this range it can grow on a variety of soils but it tends to prefer dry-mesic and mesic sites. The buds and catkins are important winter food for birds and mammals. It also has some commercial importance.

Change Maps for American Hophornbeam



Modeled Abundance -

High Emissions Scenario

Huron River Watershed Council



Modeled Abundance -

Low Emissions Scenario

Abundance change maps for serviceberry showing current (1961-1990) range and importance of the species and predicted future (2071-2100) range and importance using an average of three low emissions climate models. The Importance Value ranges from 0 to 100 and gives a measure of the abundance of the species.

Implications of Climate Change

Current Abundance

Climate change models predict a slight decrease in the importance of this species in southeast Michigan but the species will persist even under high emission scenarios. The American hophornbeam's tolerance of a wide range of soil, moisture and temperature conditions will help the species thrive in a changing climate. Increased fire frequency or flooding may negatively impact this tree at some sites. This species is considered highly adaptable.

Natural Communities Associations²

Subcanopy species in wet-mesic flatwoods, dry-mesic and mesic southern forests.

Vulnerability of Natural Communities³

Under drier, warmer conditions wet-mesic flatwoods will be negatively impacted by the change in local hydrology. The community also has limited ability to disperse. Dry to mesic southern forests systems are expected to have low vulnerability to climate change and their range will likely expand northward due to longer growing seasons and warmer temperatures.

¹Prasad, A. M., L. R. Verson, S. Matthews, M. Peters. 2007-ongoing: A Climate Change Atlas for 134 Forest Tree Species of the Eastern United States [database]. http://www.nrs.fs.fed.us/atlas/tree, Northern Research.

²Michigan Natural Features Inventory, www.mnfi.anr.msu.edu/communities

³Lee, Y., M. A. Kost, J. G. Cohen, and E. H. Schools. 2012. Climate Change Vulnerability Assessment and Adaptation Strategies for Natural Communities in Michigan, Focusing on the Coastal Zone. Michigan Natural Features Inventory Report No. 2012-18, Lansing, MI.