

Trees of the Huron River Watershed in a Changing Climate

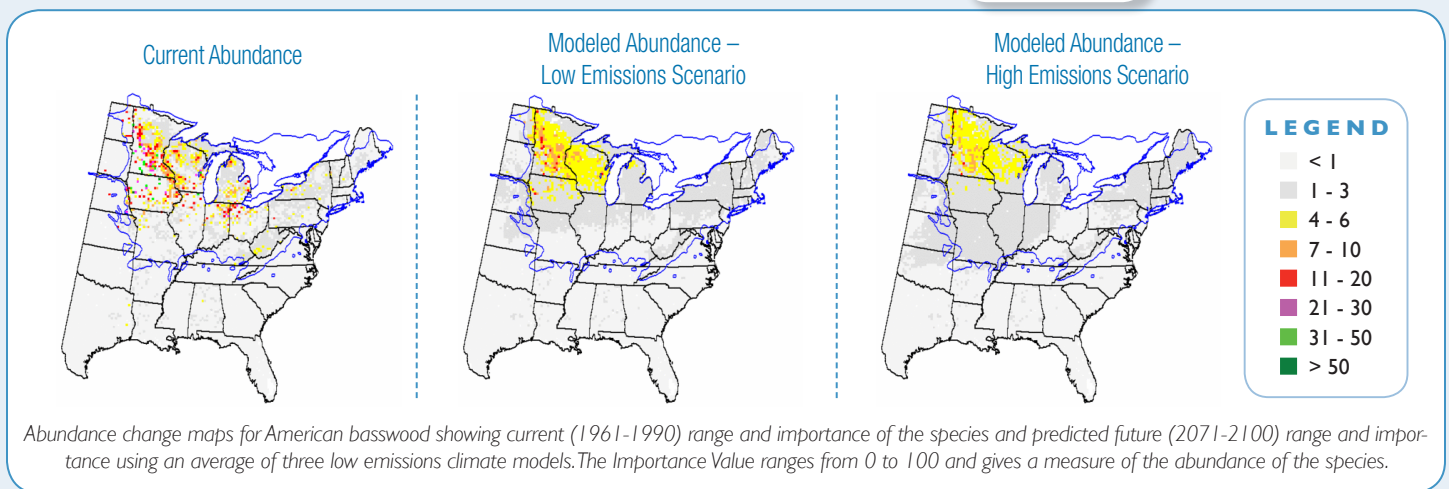
American Basswood *Tilia americana*

Description

American basswood, the northernmost *Tilia* species, is a large, slow-growing tree of eastern and central hardwood forests. Basswood prefers deep, moist soils and is often found in floodplains and bottomlands. Climatic conditions associated with the species range are generally continental-cold winters, warm summers, and a humid moisture regime. Basswood thrives in areas averaging 65° to 80° F in July and receiving 10 to 15 inches of precipitation during the growing season.



Change Maps for American Basswood¹



Implications of Climate Change

Climate model predictions show a decline in importance for this species in this region. A gradual rise in average temperature will have a more deleterious effect on basswood survival than will changing rainfall levels, as basswood appears to be more adaptable to moisture variances than temperature increases. Basswood may colonize wetlands as summers become more dry.

Natural Communities Associations²

Canopy dominant in wet-mesic flatwoods. Canopy associ-

ate in mesic and dry-mesic southern forests. Often present in floodplain forest, hardwood conifer swamps and southern hardwood swamps.

Vulnerability of Natural Communities³

Wet to mesic natural communities are more vulnerable to climate change especially for those species that require moist soils such as basswood. Dry to dry-mesic communities are less vulnerable to climate change but may be negatively impacted by increased invasive species and more extreme events which will impact species differently depending on that species' requirements.

¹Prasad, A. M., L. R. Iverson., 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.