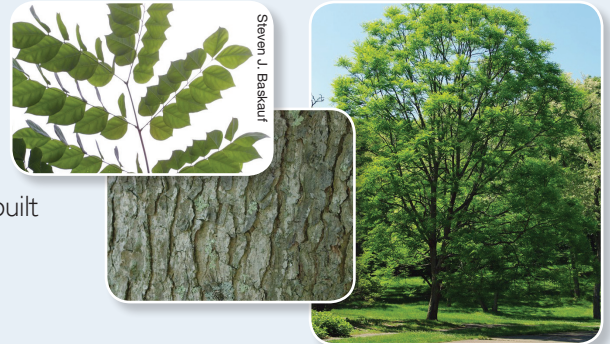


Trees of the Huron River Watershed in a Changing Climate

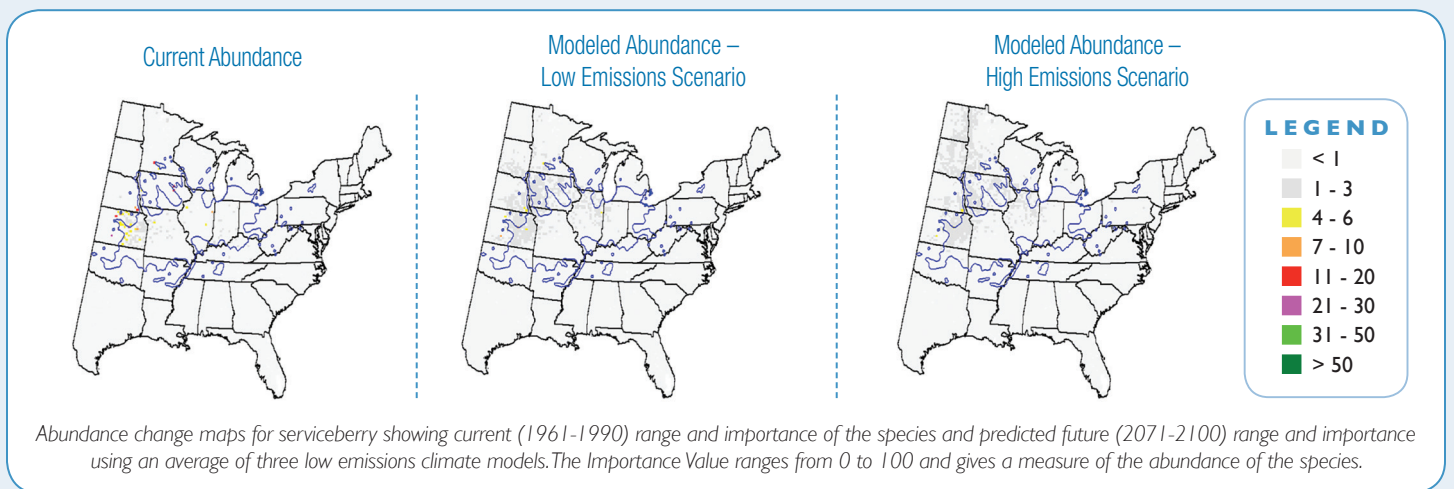
Kentucky Coffeetree *Gymnocladus dioica*

Description

The Kentucky Coffeetree's northernmost range is southern Michigan and it occurs here rarely in the wild. This canopy species prefers moist, nutrient-rich, well-drained soils in full sun. Throughout its range, Kentucky Coffeetree occurs at low densities. Tolerant of a wide range of conditions including drought and urban stresses, the tree is commonly planted in the built environment. Additionally, it is important commercially and ornamentally.



Change Maps for Kentucky Coffeetree¹



Implications of Climate Change

Climate change models predict little change in the importance of this species in southeast Michigan. However, as a tree with high tolerance for more extreme conditions and warmer temperatures, the species may become more important for urban applications and possibly restoration of natural areas. It is also pest and disease resistant and can improve soils converting nitrogen to forms easily utilized by plants.

Natural Communities Associations²

Canopy associate in floodplain forests.

Vulnerability of Natural Communities³

Floodplain forests are restricted to river channels and as a consequence have limited migration potential. These forests may experience more frequent or larger flood events and it is unknown whether this will positively or negatively affect the ecosystem. If drier, warmer summers occur, groundwater tables and baseflows will be altered and could potentially cause moisture dependent systems like the floodplain forest to dwindle. Given its tolerances, Kentucky Coffeetree may become a more significant component of the floodplain forest canopy as the climate changes.

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.nrmsu.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.