

## Trees of the Huron River Watershed in a Changing Climate

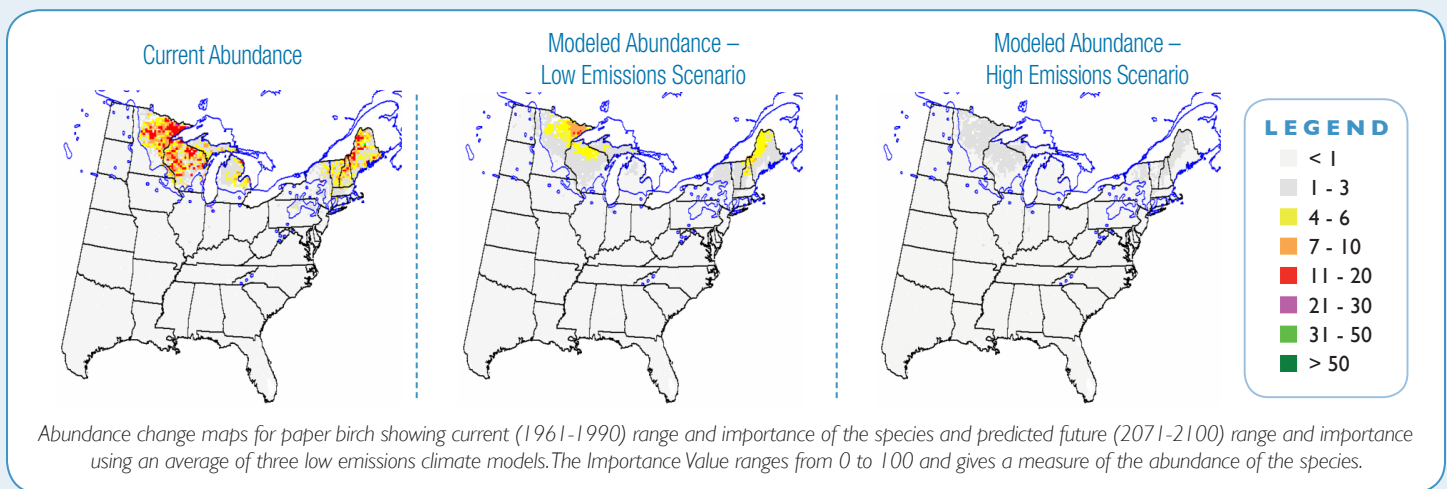
### Paper Birch *Betula papyrifera*

#### Description

Paper birch is a pioneer species that is fast-growing and short-lived. The species can occur on a wide variety of soil types. They are shade intolerant and are therefore found in areas recently disturbed by fires or logging. Paper birch is at its southernmost limit in southern Michigan. It prefers cold climates where average July temperatures are below 70° F.



#### Change Maps for Paper Birch<sup>1</sup>



#### Implications of Climate Change

As can be expected in a species that has a range limited by high temperatures, nearly all climate change models predict that paper birch will become extinct in the United States, with its general range adjusting several hundred miles northward in Canada. Paper birch is a common planted tree in the Huron River watershed. As temperatures increase, birch will be increasing less suitable for landscaping.

#### Natural Communities Associations<sup>2</sup>

Canopy associate in poor conifer swamp, rich conifer swamp.

#### Vulnerability of Natural Communities<sup>3</sup>

Forested wetlands with a dominant conifer component such as the poor and rich conifer swamp, are expected to realize significant range contractions as climate changes in Michigan. Already at the southern extent of these communities, the Huron will likely be unfavorable for supporting these communities including the paper birch component.

<sup>1</sup>Prasad, 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.

<sup>2</sup>Michigan Natural Features Inventory. [www.mnfi.anr.msu.edu/communities](http://www.mnfi.anr.msu.edu/communities)

<sup>3</sup>Lee, 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.