

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

### Blackgum *Nyssa sylvatica*

#### Description

Blackgum is a medium-sized, opportunistic species. It grows best on well-drained, light-textured soils like loams and clay loams but can tolerate a wide range of soil types. It is found in a minor component of a broad range of natural community types as a subcanopy species. The fruits of the blackgum are eaten by animals and regularly form cavities making it perfect habitat for den species. The species is commonly planted in urban settings.



Jeff McMillan



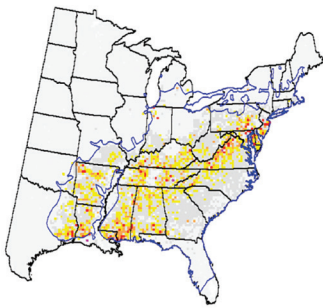
Keith Kanoti



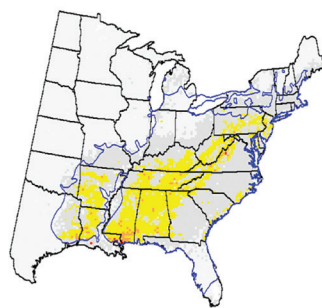
Jean-Pol Grandmont

#### Change Maps for Need<sup>1</sup>

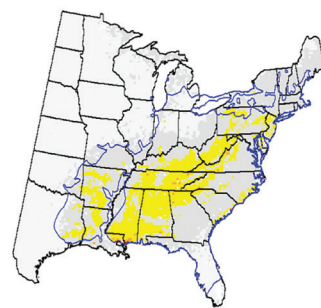
Current Abundance



Modeled Abundance –  
Low Emissions Scenario



Modeled Abundance –  
High Emissions Scenario



#### LEGEND



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

This species is at the northern extent of its range in lower Michigan. Blackgum is considered a highly adaptable tree because of its tolerance of a range of climatic conditions and disturbances. Deer herbivory and low dispersal rates may limit migration of the species to some degree. Overall, climate models predict blackgum will persist in southeast Michigan and may see slight increases in importance. It will continue to be a good choice for urban forest applications as it is tolerant of air pollution and salt.

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

Minor component of wet-mesic flatwoods, southern hardwood swamps, and inundated shrub swamps.

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

Each of the natural community associations for blackgum are highly vulnerable to climate change due to factors including limited historic extent and extreme fragmentation. Changes in hydrology could negatively impact these communities. However, if conditions are drier in the future, woody species such as blackgum may be more successful and able to colonize areas previously too wet.

<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.