Red Maple – Black-gum Palustrine Forest

System: Palustrine
Subsystem: Forest
PA Ecological Group(s): Basin Wetland

Global Rank: G4
State Rank: S3S4

General Description

The canopy is dominated by red maple (*Acer rubrum*) and/or blackgum (*Nyssa sylvatic*a). Other trees, including yellow birch (*Betula alleghaniensis*), eastern white pine (*Pinus strobus*), Eastern hemlock (*Tsuga canadensis*), swamp white oak (*Quercus bicolor*), pin oak (*Quercus palustris*), or black willow (*Salix nigra*), may also occur. The shrub layer is variable and may include highbush blueberry (*Vaccinium corymbosum*), winterberry (*Ilex verticillata*), alder (*Alnus* spp.), and dogwoods (*Cornus* spp.). Herbs include skunk-cabbage (*Symplocarpus foetidus*), violets (*Viola* spp.), cinnamon fern (*Osmunda cinnamomea*), sedges (*Carex* spp.), and sensitive fern (*Onoclea sensibilis*).

Rank Justification

Uncommon but not rare; some cause for long-term concern due to declines or other factors.

Identification

- Typically occurs on saturated or seasonally wet acidic soils in seepage areas, basins, hillsides, streamheads, and floodplain edges
- Typically a shallow to deep peat layer on top of mineral soil
- Canopy will be dominated by red maple (*Acer rubrum*) and blackgum (*Nyssa sylvatica*)
- Hummock and hollow microtopography

Characteristic Species

Trees

- Red maple (*Acer rubrum*)
- Blackgum (*Nyssa sylvatica*)
- Yellow birch (*Betula alleghaniensis*)
- Eastern white pine (*Pinus strobus*)
- Eastern hemlock (*Tsuga canadensis*)

- Swamp white oak (*Quercus bicolor*)
- Pin oak (*Quercus palustris*)
- Black willow (*Salix nigra*)

Shrubs

- Highbush blueberry (*Vaccinium corymbosum*)
- Winterberry (*Ilex verticillata*)
- Dogwoods (*Cornus* spp.)
- Alders (*Alnus* spp.)

Herbs

- Skunk cabbage (*Symplocarpus foetidus*)
- Violets (*Viola* spp.)
- Cinnamon fern (*Osmunda cinnamomea*)
- Sedges (*Carex* spp.)
- Sensitive fern (*Onoclea sensibilis*)

Bryophytes

- *Sphagnum* spp.

International Vegetation Classification Associations:

Red Maple - Blackgum Basin Swamp (CEGL006014)

NatureServe Ecological Systems:

North-Central Appalachian Acidic Swamp (CES202.604)

Origin of Concept

Fike, J. 1999. Terrestrial and palustrine plant communities of Pennsylvania. Pennsylvania Natural Diversity Inventory. Harrisburg, PA. 86 pp., Leppo, B., Zimmerman, E., Ray, S., Podniesinski, G., and Furedi, M. 2009. Pennsylvania Statewide Seasonal Pool Ecosystem Classification: Description, mapping, and classification of seasonal pools, their associated plant and animal communities, and the surrounding landscape. Pennsylvania Natural Heritage Program, Western Pennsylvania Conservancy, Pittsburgh, PA.

Pennsylvania Community Code

UG : Red Maple – Black Gum Palustrine Forest

Similar Ecological Communities

This type differs from Red Maple – Black Ash Palustrine Forest in that the Red Maple – Blackgum Palustrine Forest lacks the presence of caliciphilic species such as black ash (*Fraxinus nigra*) and is typically co-dominated by blackgum (*Nyssa sylvatica*). Red Maple – Blackgum Palustrine Forest is more acidic while the Red Maple – Black Ash Palustrine Forest is typically more circumneutral.

Red Maple – Blackgum Palustrine Forest may contain pin oak (*Quercus palustris*) and swamp white oak (*Quercus bicolor*) which dominate the Oak - Mixed Hardwood Palustrine Forest but the Red Maple – Blackgum Palustrine Forest is clearly dominated by red maple (*Acer rubrum*) and blackgum (*Nyssa sylvatica*).

Fike Crosswalk

Red Maple – Black-gum Palustrine Forest

Conservation Value

This community serves as a buffer for sediment and pollution runoff from adjacent developed lands by slowing the flow of surficial water causing sediment to settle within this wetland.

Threats

Red Maple – Blackgum Palustrine Forests are threatened by habitat alteration, deposition (sedimentation, agricultural runoff), and alterations to the hydrological regime (lowering of water tables). Clearing and development of adjacent land can lead to an accumulation of agricultural run-off and pollution, sedimentation, and insolation/thermal pollution. This community is susceptible to invasive plant species such as common reed (*Phragmites australis* ssp. *australis*) and mulitflora rose (*Rosa multiflora*).

Management

A natural buffer around the wetland should be maintained in order to minimize nutrient runoff, pollution, and sedimentation. The potential for soil erosion based on soil texture, condition of the adjacent vegetation (mature forests vs. clearcuts), and the topography of the surrounding area (i.e., degree of slope) should be considered when establishing buffers. The buffer size should be increased if soils are erodible, adjacent vegetation has been logged, and the topography is steep as such factors could contribute to increased sedimentation and nutrient pollution. Direct impacts and habitat alteration should be avoided (e.g., roads, trails, filling of wetlands) and low impact alternatives (e.g., elevated footpaths, boardwalks, bridges) should be utilized in situations where accessing the wetland can not be avoided. Care should also be taken to control and prevent the spread of invasive species within the wetland. Alterations to groundwater sources should be minimized.

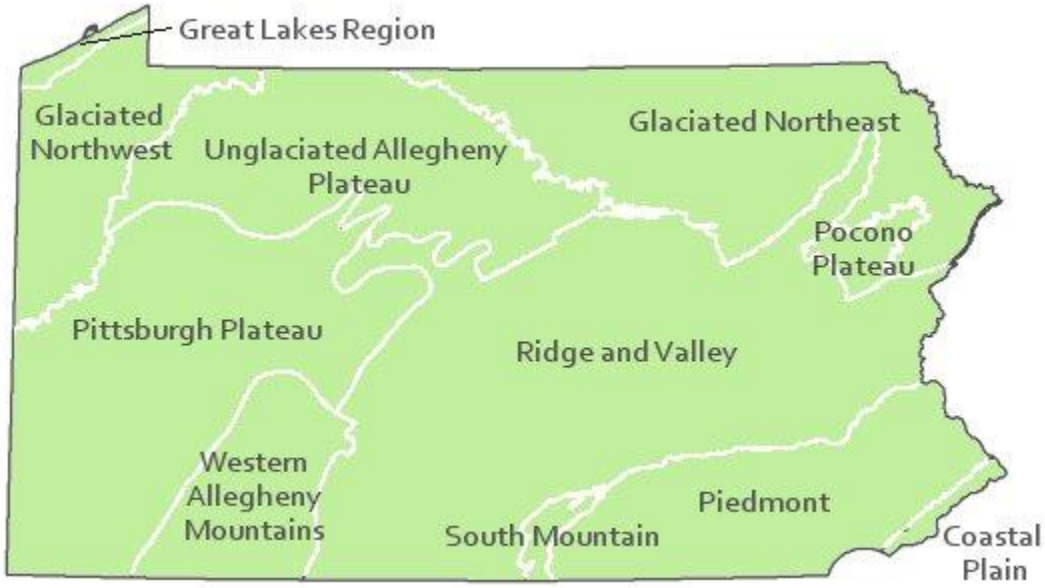
Research Needs

Variations may occur at ecoregional levels. There is a need to collect plot data to characterize variations and guide further classification of this community.

Trends

Wetland protection has most likely stabilized the decline of these communities. The relative trend for this community is likely stable or may be declining slightly due to hydrological alterations.

Range Map



Pennsylvania Range

Statewide

Global Distribution

Connecticut, Massachusetts, Maryland, Maine, New Hampshire, New Jersey, New York, Pennsylvania, and Vermont

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