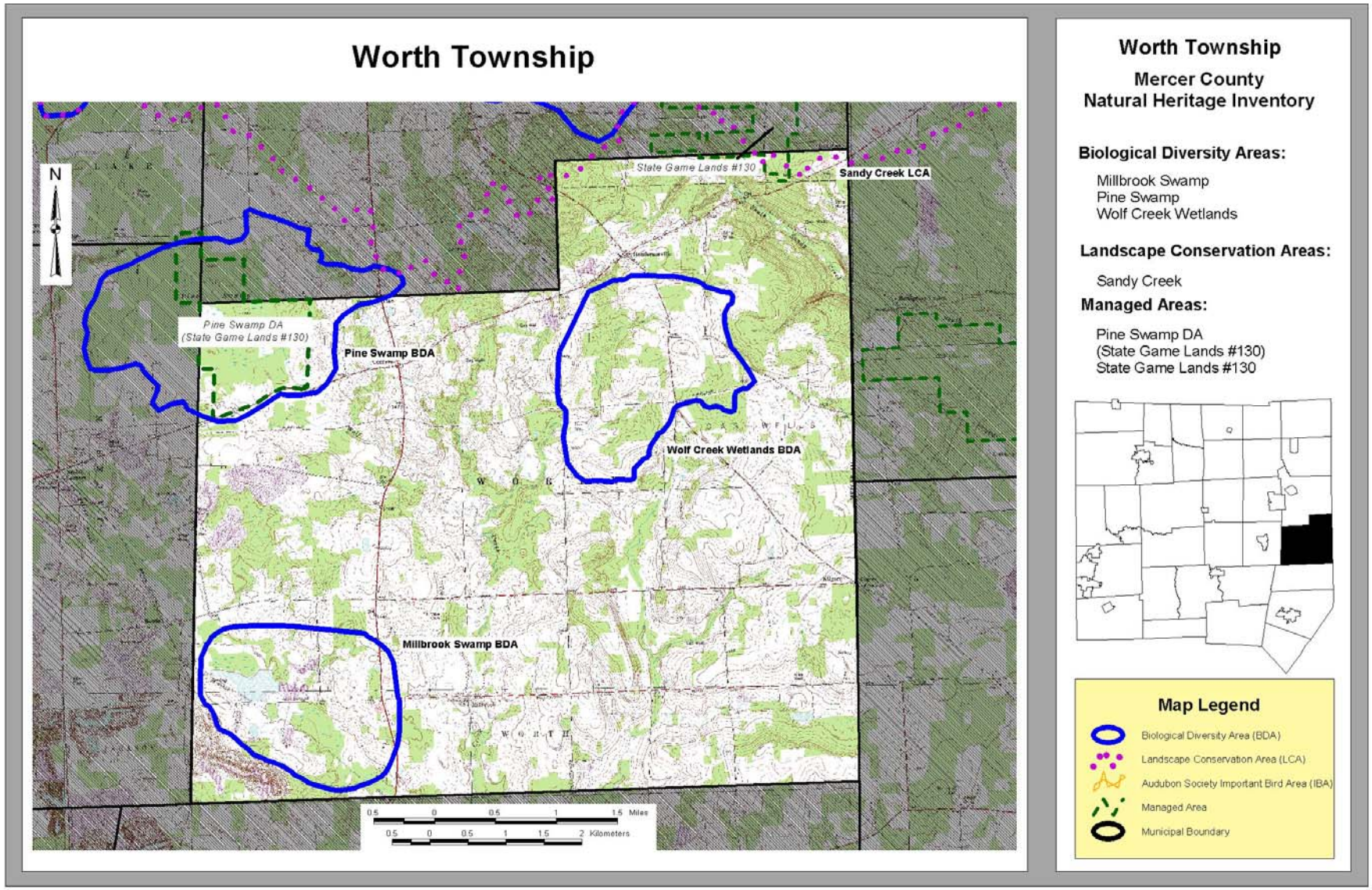
WORTH TOWNSHIP

	PNDI Rank		Legal Status	
	Global	State	Fed.	State
NATURAL HERITAGE AREAS:				
MILLBROOK SWAMP BDA	*High Significance*			
Special Animal 1	G4	S2B		PE
PINE SWAMP BDA	*Exceptional Significance*			
Broad-leaved Water Plantain (*Alisma triviale*)	G5	S1		PE
Short-awn Meadow Foxtail (*Alopecurus aequalis*)	G5	S3		N
Soft-leaf Sedge (*Carex disperma*)	G5	S3		PR
Bog Bluegrass (*Poa paludigena*)	G3	S3		PT
Autumn Willow (*Salix serissima*)	G4	S2		PT
SANDY CREEK LCA	*Exceptional Significance*			
WOLF CREEK WETLANDS BDA	*High Significance*			
Special Animal 1	G3G4T3T4		S1S2	PE

MANAGED LANDS: Pine Swamp DA (State Game Lands #130)
State Game Lands #130


Worth Township
N
State Game Lands #130
Sandy Creek LCA
Pine Swamp DA
(State Game Lands #130)
Pine Swamp BDA
Wolf Creek Wetlands BDA
Millbrook Swamp BDA
0.5 0 0.5 1 1.5 Miles
0.5 0 0.5 1 1.5 2 Kilometers
Worth Township
Mercer County
Natural Heritage Inventory
Biological Diversity Areas:
Millbrook Swamp
Pine Swamp
Wolf Creek Wetlands
Landscape Conservation Areas:
Sandy Creek
Managed Areas:
Pine Swamp DA
(State Game Lands #130)
State Game Lands #130
Map Legend
Biological Diversity Area (BDA)
Landscape Conservation Area (LCA)
Audubon Society Important Bird Area (IBA)
Managed Area
Municipal Boundary

WORTH TOWNSHIP

Worth Township is located in the eastern part of Mercer County. This township is the location of the highest point in Mercer County. There are four Natural Heritage Areas and two managed lands – **Pine Swamp DA** and **State Game Lands #130** located in Worth Township.

Millbrook Swamp BDA

Millbrook Swamp BDA marks the headwaters of an unnamed tributary to Wolf Creek. The wetland is a mosaic of Alder - Ninebark Wetland and Hemlock Palustrine Forest and is the nesting site of a Pennsylvania animal species of special concern (**Special Animal 1**). The Alder - Ninebark Wetland is dominated by speckled alder (*Alnus incana* ssp. *rugosa*) with associates of winterberry (*Ilex verticillata*), swamp rose (*Rosa palustris*), alder-leaf buckthorn (*Rhamnus alnifolia*) and catberry (*Nemopanthus mucronatus*). Herbs in the swamp include round-leaf goldenrod (*Solidago patula*), skunk cabbage (*Symplocarpus foetidus*), reed canary grass (*Phalaris arundinacea*), three-way sedge (*Dulichium arundinaceum*) and crested log fern (*Dryopteris cristata*).

The Hemlock Palustrine Forest includes hemlock (*Tsuga canadensis*), yellow birch (*Betula allegheniensis*) and black ash (*Fraxinus nigra*) as canopy dominants. Herbaceous species in this community are clustered on hummocks associated with tree roots within wetland depressions. Common herb species are cinnamon fern (*Osmunda cinnamomea*), intermediate log fern (*Dryopteris intermedia*), Canada mayflower (*Maianthemum canadense*), gold thread (*Coptis trifolia*) and wood sorrel (*Oxalis montana*).

Threats and Stresses

The animal of concern living here is sensitive to human visitation during the nesting season in spring and early summer. The current level of human activity is apparently compatible with it needs but additional activity, noise and light could negatively impact the animals.

Recommendations

Visitation should be discouraged during the nesting season. Any additional development in the area should be evaluated in light of their potential impact on the species of special concern.

Pine Swamp BDA

Pine Swamp is part of State Game Lands #130 and marks the beginning of Wolf Creek and Fox Run. Three community types were recognized within the Pine Swamp complex including raised bog, swamp forest and marsh (Bryant et al 1982). Now much of Pine Swamp supports a swamp forest dominated by Northern Hardwood Forest. Pine Swamp is

also the only location of a "raised bog" in Pennsylvania. The bog covers about 60 acres. This area was once a shallow lake that formed in a depression of the glacial till plain. Through time organic matter collected in the lake producing a mass of peat. The center then dried and contracted producing a raised center.

The Northern Hardwood Forest was selectively logged in the early 1970's and is now maturing. Dominant species in the canopy include red maple (*Acer rubrum*), black cherry (*Prunus serotina*), American beech (*Fagus grandifolia*), tuliptree (*Liriodendron tulipifera*), hemlock (*Tsuga canadensis*) white oak (*Quercus alba*) and red oak (*Quercus rubra*). Understory species include witch-hazel (*Hamamelis virginiana*), arrowwood (*Viburnum dentatum*) and occasionally flowering dogwood (*Cornus florida*). The herbaceous layer is sparse. Common species are intermediate log fern (*Dryopteris intermedia*), starflower (*Trientalis borealis*), cinnamon fern (*Osmunda cinnamomea*), New York fern (*Thelypteris novaboracensis*), wintergreen (*Gaultheria procumbens*) and indian cucumber root (*Medeola virginica*).

The raised bog is a shrub swamp dominated by chokeberry (*Aronia melanocarpa*), nannyberry (*Viburnum lentago*), highbush blueberry (*Vaccinium corymbosum*) and gray birch (*Betula populifolia*). Herbaceous species include primarily wintergreen (*Gaultheria procumbens*) with smaller amounts of Virginia chain fern (*Woodwardia virginica*), cottongrass (*Eriophorum* spp.) and marsh St. John's Wort (*Triadenum virginicum*). It is also the location of three plant species of special concern, **short awn meadow foxtail** (***Alopecurus aequalis***)**, broad-leaved water plantain** (***Alisma triviale***)**, soft-leaf sedge** (***Carex disperma***) and **bog bluegrass** (***Poa paludigena***)**.**

A swamp and small section of cattail marsh surround the raised bog portion of the wetland. A shrub swamp of willow (*Salix* spp.) and spiraea (*Spiraea* spp.) and pure stands of alder (*Alnus* spp.) provides habitat for **autumn willow** (***Salix serissima***)**.** Herbaceous species found within the shrub swamp include cinnamon fern (*Osmunda cinnamomea*), royal fern (*Osmunda regalis*) and gold thread (*Coptis trifolia*).

Threats and Stresses

Mining of adjacent properties has been a threat to the ecosystem in the past and continues to be a problem. Currently there is a proposal to apply treated sewage in a field next to the swamp. Depending on the volume and frequency of application and the properties of soils, such application could alter the nutrient balance in the swamp. Pine Swamp is currently impacted by invasive species such as common reed grass (*Phragmites australis*) and multiflora rose (*Rosa multiflora*).

Recommendations

Numerous habitats and species associated with species locations within the BDA demand different kinds and levels of management. The non-forested sections of the site may require occasional disturbance to avert succession whereas currently forested areas may best be allowed to mature. A management agreement established between Western Pennsylvania Conservancy and the Game Commission may serve as a touchstone for

developing more detailed and responsive management approaches. In all areas, close communication between Western Pennsylvania Conservancy and the Pennsylvania Game Commission would help to advance overall conservation efforts within Pine Swamp.

Invasive species are a big issue in many parts of the BDA. Monitoring and management geared toward checking spread and dominance of invasive exotic species stands as a high priority effort.

Pine Swamp DA

This DA was once owned by Western Pennsylvania Conservancy but was conferred to the Pennsylvania Game Commission. The agreement with the game commission stipulates that the property will be managed for its ecological habitat and hence the DA designation. Threats and Stresses, and Recommendations are as above.

Sandy Creek LCA

Sandy Creek LCA is discussed in New Vernon Township.

Wolf Creek Wetlands BDA

Wolf Creek Wetlands BDA is the location of a Pennsylvania animal species of special concern (**Special Animal 1**). Located at the head of a tributary to Wolf Creek, this site contains numerous seepages and foraging habitat for this special animal.

Threats and Stresses

The animals living in this BDA require perennial wetlands and associated uplands, preferring open fields that provide good foraging habitat. Activities that stand to alter the wetlands or their hydrology could impact the ability of this area to support these animals. Likewise, disturbance to adjacent uplands, particularly during the summer months could have an adverse effect on this animal. Maintenance of current fields and the uplands immediately surrounding the wetlands could also impact the animals living in this area.

Recommendations

Engaging the landowner in the management of this area as primary habitat for the special animal can greatly aid the protection of this species. Additional surveys for the animals to better understand their habits and uses of the habitat/wetland would help in furthering their survival. The use of fertilizers, herbicides and pesticides will compromise the ability of the site to maintain a viable population of this species. Information on this site is limited and more studies are needed to establish both the community context and the site boundaries.