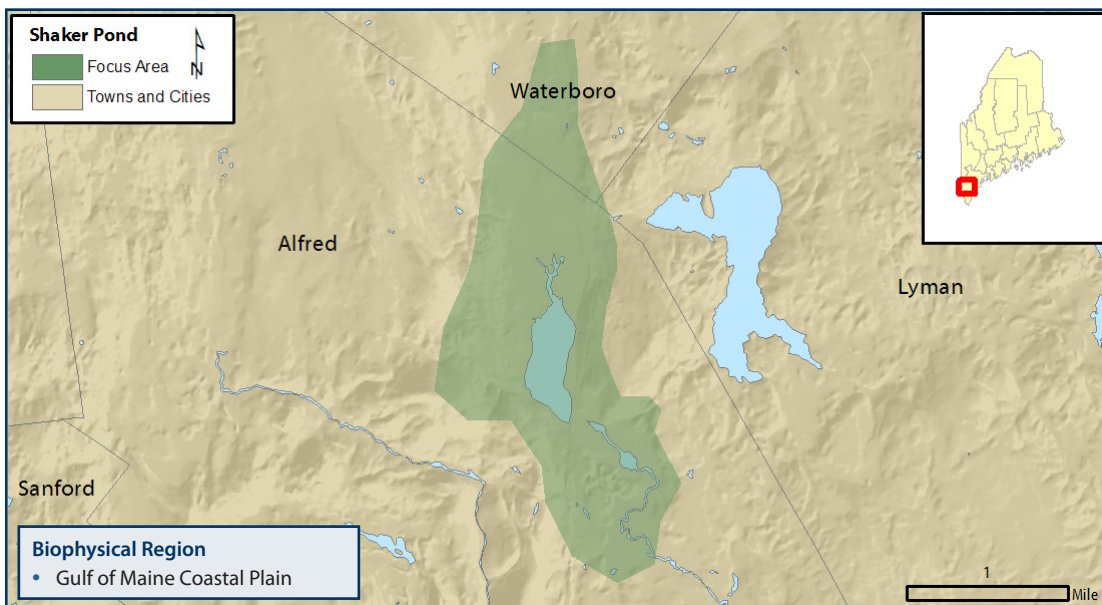
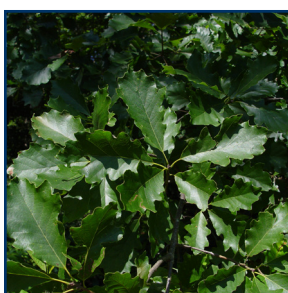


Shaker Pond



WHY IS THIS AREA SIGNIFICANT?

The extensive and varied wetlands of Shaker Pond, Shaker Brook, and the Littlefield River, along with adjacent lowland and upland forests provide a wide diversity of habitats, supporting six rare animals, two rare plant species, an example of an exemplary natural community, and two large Inland Waterfowl and Wading Bird Habitats.

Rare Animals

- Spotted Turtle
- Northern Black Racer
- Blanding's Turtle
- Least Bittern
- Eastern or Northern Ribbon Snake
- Ebony Boghaunter
- Ringed Boghaunter

Rare Plants

- Wild Indigo
- Swamp White Oak

Rare and Exemplary Natural Communities

- Sedge Meadow

Significant Wildlife Habitats

- Inland Wading Bird and Waterfowl Habitat
- Significant Vernal Pool

OPPORTUNITIES FOR CONSERVATION

- » Work with willing landowners to secure permanent conservation status for remaining unprotected significant features in the Focus Area.
- » Encourage town planners to improve approaches to development that may impact Focus Area functions.
- » Encourage landowners to maintain enhanced riparian buffers.
- » Maintain natural hydrology by avoiding drainage or impoundment of the wetlands, streams and water bodies.
- » Limit habitat fragmentation.

For more conservation opportunities, visit the Beginning with Habitat Online Toolbox: www.beginningwithhabitat.org/toolbox/about_toolbox.html.

Photo credits, top to bottom: Jonathan Mays, Maine Natural Areas Program, Jonathan Mays, Tom Murray, Jonathan Mays



Tussock Sedge Meadow, Maine Natural Areas Program

FOCUS AREA OVERVIEW

The Shaker Pond Focus Area is a several mile long stretch of north to south oriented, broad stream valley that includes a wide diversity of upland and wetland habitats. It is located in the upper reaches of the Mousam River watershed. Prominent features include Shaker Pond and the large marsh system on its north end as well as the Littlefield River and its associated marshes. North of Shaker Pond, Shaker Brook winds through a relatively flat area of lowland forest. On the moderate to steep sloping hills surrounding both the pond and Littlefield River, are extensive upland forests that vary in type depending on slope position, exposure, and land use history. Significant features known from the area include six rare animals, two rare plants, one exemplary natural community and two large areas of Inland Waterfowl and Wadingbird Habitat.

NATURAL COMMUNITIES

An exemplary example of **Tussock sedge meadow** occurs in the marsh north of Shaker Pond. This community type is typically dominated by hummocks of tussock sedge, interspersed with bluejoint grass, other grasses and sedges and thinly scattered shrubs. Meadowsweet is a characteristic shrub. Other wetland herbs vary among sites, and include royal fern, cinnamon fern, sensitive fern, St. Johnswort, flat-topped goldenrod,

or wool-grasses. Tussock sedge meadows occurs on saturated soils, with standing water through much of growing season. Soils may be entirely organic, or organic over mineral soil.

CHARACTERISTIC SPECIES

Swamp white oak is a state Threatened tree species of hardwood floodplain forests, basin swamps, or vernal pools, and grows with ash, silver maple or red maple, and occasionally with bur oak. This species is at the north edge of its range in southern Maine, populations generally consist of few individuals and have been declining. This species is vulnerable to human activity.

The **black racer snake** (state Endangered) has been documented in upland portions of the Focus Area. Black racers are the largest snake in Maine and may attain lengths of 6 feet. Maine is the northern extent of their range in the East. Although they were common as far north as Cobboosecontee Lake in the 1930's, they are now rare and their range is limited to York, Cumberland and southern Oxford counties. The black racer occurs in a variety of moist and dry habitats, including deciduous and coniferous forests; fields; woodlands interspersed with fields; and swamps or marshes. In southern

Maine, open grasslands, power line rights of ways, orchards, old buildings, rocky ridges and the edges between forests and fields seem to be preferred habitats. Nesting sites include mammal burrows, rotting logs and stumps, and sawdust piles, and winter hibernation sites include mammal burrows, caves, rock crevices, gravel banks, and rotting logs and stumps. At the northern edge of their range, cold temperatures may contribute to hatchability of eggs and overwinter survival of adults. This species' numbers and range have declined drastically as agricultural land has reverted to forestland or has been developed. Habitat fragmentation results in increasingly small patches that can no longer support viable populations. Protection of large blocks of unfragmented, early successional habitat is probably the most important means of conserving this species in the state. Increased road density may result in increased mortality as well and black racers have been killed by people and pets when they appear in yards. As a state-listed species, they are strictly protected from killing or collection as pets.

Least bitterns have been recorded in the large marsh to the north of Shaker Pond. Least Bitterns are a somewhat reclusive marsh bird that inhabits freshwater and occasionally brackish marshes in the northeast. Wetlands with abundant emergent vegetation, especially cat-tail, appear to be preferred in Maine. This species is only known from about two dozen sites statewide with most occurrences in southern, central, and eastern Maine. Least Bitterns are not known to occur in northern Maine wetlands. Despite an apparent abundance of suitable habitat in southern and central Maine, occurrences are infrequent, and the determinants of occupancy are poorly understood. Thorough interspersion of vegetation and open water seems to be important at occupied sites. Least Bitterns are listed as Endangered in the Maine.

The globally rare **ringed boghaunter** has been recorded in the wetlands along the Littlefield River. This species is one of the rarest dragonflies in North America. The ringed boghaunter is among the earliest flying dragonflies in the state, with adult emergence occurring in early May. It uses small wetlands including acidic pocket swamps and vernal pools dominated by Sphagnum moss and surrounded by forest. Adult dragonflies typically frequent upland forested areas up to several hundred feet from their natal wetland to bask and forage before returning to breed. The ringed boghaunter is currently listed as state Threatened because of its limited range and small number of populations, and because of its affinity for smaller wetlands that do not receive adequate protection under the state's wetland protection rules.

The large wetland to the north of Shaker Pond and portions of the Littlefield River have been mapped as **Inland Wadingbird and Waterfowl Habitat**. These areas provide undisturbed nesting habitat and undisturbed, uncontaminated feeding areas and are essential for maintaining viable waterfowl and wading bird populations.

Ecological Services of the Focus Area

- Provides high quality habitat for waterfowl, wading birds, and other wildlife
- Protects water quality in local ponds and streams and in the Littlefield River
- Supports regional biodiversity by providing habitat for rare plants, animals, and communities

Economic Contributions of the Focus Area

- Attracts visitors to the area for hiking, hunting, and fishing
- Contributes to recreational value of the Littlefield and Mousam Rivers by protecting water quality, fisheries, and wildlife habitat.

CONSERVATION CONSIDERATIONS

- » The integrity of wetlands and the processes and life forms they support are dependent on the maintenance of the current hydrology of the site. Intensive timber harvesting, vegetation clearing, soil disturbance, new roads, and development on buffering uplands can result in greater runoff, sedimentation, and other non-point sources of pollution. Improperly sized and installed crossing structures such as culverts can also block fish and invertebrate passage through stream channels often resulting in aquatic habitat fragmentation. Future management activity should avoid additional impacts to the site's hydrology.
- » Less pervasive is degradation from incidental uses related to the increasing residential development in the area. Buffers can play a major role in protection here. Care needs to be taken that ORV's stay on existing trails and remain out of all wetlands when the ground is not frozen. Existing roads and trails should be reviewed with particular recreation and access needs in mind, and trails closed if they run counter to protection needs. Fragmenting features should be minimized where possible.
- » With expected changes in climate over the next century, plant and wildlife species will shift their ranges. Maintaining landscape connections between undeveloped habitats will provide an important safety net for biodiversity as species adjust their ranges to future climate conditions.
- » Effective conservation of black racers will require maintaining populations in large blocks (>500 acres) of rural, agricultural lands. Habitat protection is likely the most important

- means of conserving the species in the state. Other recovery techniques may include construction of hibernation and nesting habitat near suitable habitat.
- » Eliminate human persecution of black racers. Education about black racers and their protected status may reduce mortality and promote gathering information on new populations.
 - » Use of heavy machinery for construction, landscaping, plowing, or forestry should be conducted during the winter when vulnerable animals are in protective locations. Avoid road improvement projects (e.g. paving) that may lead to increased traffic volume and speed within ¼ mile of known rare animal wetlands.
 - » No activities should be permitted that could lead to the loss or degradation of wetlands including filling, dredging, sedimentation, changing hydrology unless the activity is reviewed by MDIFW.
 - » A minimum 250-foot forested buffer zone should be maintained around target wetlands with known rare animal locations. All wetlands, regardless of size, within ¼ mile of mapped known rare animal locations should be considered potential habitat, protected from direct impacts, and buffered by forested upland.
 - » Impervious surfaces, yards, buildings and roads should comprise no more than 20% of the landscape within 1/4 mile of rare animal wetlands. Natural forest habitat should predominate the landscape. Intensive developments that concentrate human populations within ¼ mile of turtle wetlands should be avoided including subdivisions and service centers.
 - » Towns should strive to maintain important habitat areas identified by MDIFW in a low density, rural settings by identifying important habitat areas in comprehensive plans and zoning accordingly.
 - » Low-intensity cutting (single tree or small group selection, firewood harvest) is likely compatible as long as operators avoid wetlands. Winter harvests are recommended to minimize impacts to rare animals, and wetland condition. Close adherence to Best Management Practices for forestry activities near vernal pools (available from Maine Audubon Society at 207-781-6180 ext. 222 or bwilson@maineaudubon.org) will generally ensure the protection of wetland habitats.
 - » Conservation planning for upland features should include
- setting some areas aside from timber harvests to allow for the development of some unmanaged forests.
- » Invasive plants and aquatic organisms have become an increasing problem in Maine and a threat to the state's natural communities. Disturbances to soils and natural vegetation and introductions of non-native species to terrestrial and aquatic habitats can create opportunities for colonization. Landowners and local conservation groups should be made aware of the potential threat of invasive species, of methods to limit establishment, and/or of appropriate techniques for removal. For more information on invasive plants visit: <http://www.maine.gov/doc/nrimc/mnap/features/invasives.htm>.
 - » This area includes Significant Wildlife Habitat. Land managers should follow best management practices in and around wetlands, shoreland areas, and Significant Wildlife Habitat. Vegetation removal, soil disturbance and construction activities may require a permit under the Natural Resources Protection Act. Contact MDIFW for more information.



Swamp White Oak, Maine Natural Areas Program

RARE SPECIES AND EXEMPLARY NATURAL COMMUNITIES OF THE FOCUS AREA

	Common Name	Scientific Name	State Status*	State Rarity Rank	Global Rarity Rank
Animals	Northern Black Racer	<i>Coluber constrictor constrictor</i>	E	S2	G5T5
	Least Bittern	<i>Ixobrychus exilis</i>	E	S2B	G5
	Spotted Turtle	<i>Clemmys guttata</i>	T	S3	G5
	Blanding's Turtle	<i>Emys blandingii</i>	E	S2	G4
	Ribbon Snake	<i>Thamnophis sauritus</i>	SC	S3	G4
	Ringed Boghaunter Dragonfly	<i>Williamsonia lintneri</i>	T	S1	G3
Plants	Swamp White Oak	<i>Quercus bicolor</i>	T	S1	G5
	Wild Indigo	<i>Baptisia tinctoria</i>	E	S1	G5
Natural Communities	Sedge Meadow	Tussock Sedge Meadow		S3	

State Status*

- E** Endangered: Rare and in danger of being lost from the state in the foreseeable future, or federally listed as Endangered.
- T** Threatened: Rare and, with further decline, could become endangered; or federally listed as Threatened.
- SC** Special Concern: Rare in Maine, based on available information, but not sufficiently rare to be Threatened or Endangered.

*State status rankings are not assigned to natural communities.

State Rarity Rank

- S1** Critically imperiled in Maine because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extirpation.
- S2** Imperiled in Maine because of rarity (6–20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.
- S3** Rare in Maine (on the order of 20–100 occurrences).
- S4** Apparently secure in Maine.
- S5** Demonstrably secure in Maine.

Global Rarity Rank

- G1** Critically imperiled globally because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extirpation.
- G2** Globally imperiled because of rarity (6–20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.
- G3** Globally rare (on the order of 20–100 occurrences).
- G4** Apparently secure globally.
- G5** Demonstrably secure globally.