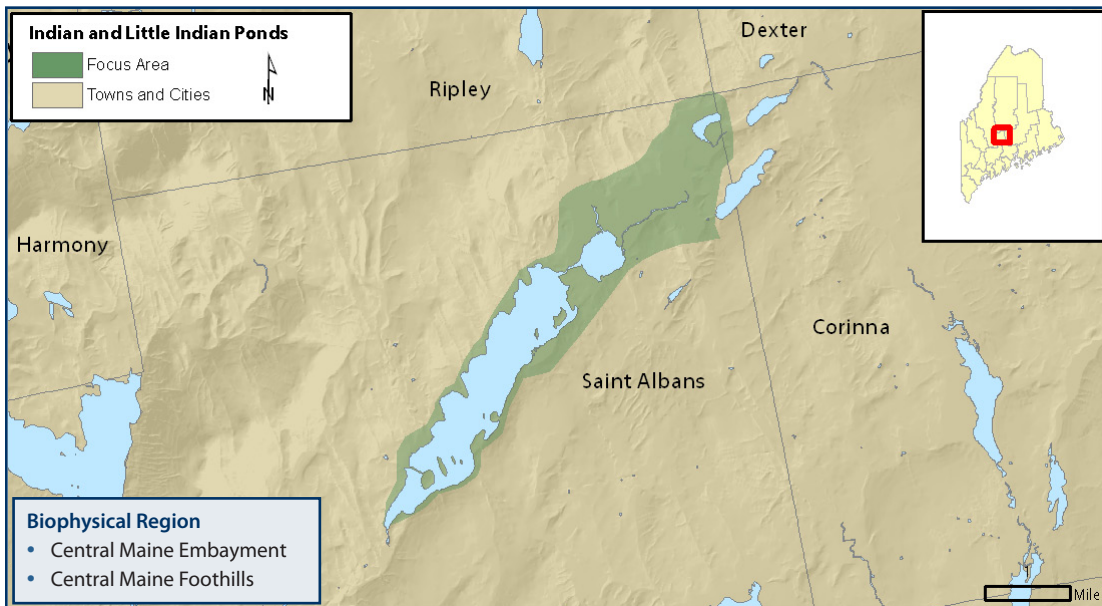
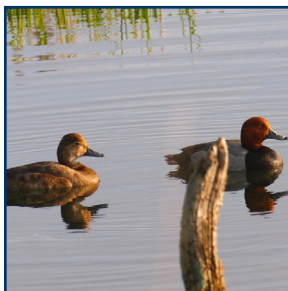
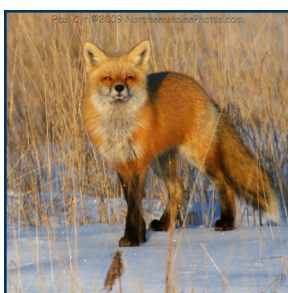


Indian and Little Indian Ponds



WHY IS THIS AREA SIGNIFICANT?

Indian and Little Indian Ponds and the surrounding uplands provide a diversity of habitats. A wetland community type documented in fewer than a dozen sites in Maine is present here as well as three rare plants, one rare animal and significant habitat for a variety of waterfowl and wading bird species and wintering deer.

OPPORTUNITIES FOR CONSERVATION

- » Encourage best management practices for forestry, vegetation clearing, and soil disturbance activities near significant features.
- » Maintain natural hydrology.
- » Encourage town planners to improve approaches to development that may impact focus area functions.
- » Maintain intact forested buffers along water bodies and wetlands to protect water quality and provide valuable riparian habitat for wildlife.
- » Work with willing landowners to secure permanent conservation status for unprotected significant features in the focus area.

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

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Rare Animals

Tidewater Mucket

Rare Plants

Sparse-flowered Sedge
Vasey's Pondweed
Water Stargrass

Rare and Exemplary Natural Communities

Circumneutral Fen

Significant Wildlife Habitats

Deer Wintering Area
Inland Waterfowl and Wading Bird Habitat

Public Access Opportunities

- Boat launch located off Rt 43



Tidewater Mucket, Ethan Nedea

FOCUS AREA OVERVIEW

The shores and waters of Indian Pond and Little Indian Pond provide a diversity of habitats for plants and animals, including rare circumneutral fen wetland communities, three rare plant species, and one rare animal species. The wetlands east of Little Indian Pond, with an outlying area along the south shore of Indian Pond, are not the typical lakeside wetlands in this part of Maine, but instead have unusual characteristics suggesting a more alkaline substrate. These circumneutral fens (wetlands that have developed on peat and retain contact with surface waters) include wooded portions with northern white cedar, and open portions with shrubs including the uncommon shrubby cinquefoil, an indicator for this type of wetland. Fewer than a dozen examples of this type of wetland are currently documented in the state, despite fairly extensive surveys; most are in eastern Aroostook County. Sparse-flowered sedge, a very rare plant in Maine, and water stargrass have been found in this fen as well.

The open waters provide habitat for two other rare species. A few individuals of the tidewater mucket, a rare mussel, were seen near the Indian Pond boat launch in 1997. Vasey's Pondweed, a rare aquatic plant, has been known from this lake since 1940, and was confirmed as recently as 1990. This is one

of only five locations known in the state for this plant. Both species may occur in the northeastern half of the lake as well as in the more heavily developed southwestern portion where they were collected.

RARE AND EXEMPLARY NATURAL COMMUNITIES

The **circumneutral fen** peatland vegetation type is dominated by sedges or grades into dwarf shrubs. Dwarf shrub and graminoid cover each range from 10-75% and are inversely proportional to each other. Sparse cedar or larch may dot the fen. Shrubs may be patchy. Dominant sedges include deer-hair sedge and slender sedge; white beak-rush is locally common. Alpine cotton-grass, with its white wispy fruiting heads, is often obvious but not abundant. Shrubby cinquefoil and bog rosemary are characteristic. Northern bog aster and marsh muhly are good indicators, as are livid sedge, yellow sedge, sparse-flowered sedge, and northern bog sedge. The bryoid layer is extensive, with *Campyllum* fen moss indicative.

This rare community type has been subject to few threats to date. Some examples occur on public lands and private conservation lands. Impoundment or draining would have negative impacts on hydrology and consequently on vegeta-

tion. Maintaining appropriate wetland buffers is important in minimizing the effects of adjacent land use. Degradation from recreational use has not been an issue in most places, but if disturbance, such as foot traffic, is a necessity, traversing during frozen conditions or using boardwalks can reduce impacts.

This community is sometimes inhabited by the rare Clayton's copper butterfly, which uses shrubby cinquefoil as its sole larval host plant and primary adult nectar plant. This butterfly is found at only 14 sites worldwide, nine in Maine and five in New Brunswick. All known occurrences are in circumneutral fens with shrubby cinquefoil stands large enough to support a persistent population of the butterfly. Thaxter's pinion moth uses sweetgale and larch as larval host plants and may be found in this community as well.

CHARACTERISTIC SPECIES

Tidewater mucket (*Leptodea ochracea*) is a freshwater mussel listed as Threatened in Maine. The tidewater mucket is known from only a handful of river drainages in the state including the Merrymeeting Bay, St. George, lower Kennebec and lower Androscoggin river drainages. Freshwater mussels like the tidewater mucket require clean water and certain flow and substrate conditions. They also have a unique life cycle that depends on specific fish species as larval hosts. Maine plays an important role in the conservation of freshwater mussels. With some of the most unspoiled aquatic ecosystems in eastern North America, Maine has some of the most significant remaining populations of several nationally rare freshwater mussel species. Maintaining water quality and undisturbed aquatic habitats is essential to maintaining these species.

Sparse-flowered sedge (*Carex tenuiflora*) is found in bogs and mossy woods or pond margins, usually with a higher pH. This sedge is most often found in openings, not under dense cedar, and it is likely that canopy openings could favor this species. Complete removal of the canopy over a large area, however, could produce drastic habitat changes that would be detrimental to the plant. It is recommended that the hydrologic integrity of the circumneutral fen habitat is maintained.

Vasey's Pondweed (*Potamogeton vaseyi*) is an aquatic, perennial herb with reduced, inconspicuous flowers, which in many species, are elevated above the surface of the water. *Potamogeton vaseyi* has dimorphic leaves: very narrow (0.2-1 mm wide), flaccid, submersed leaves and wider, thicker floating leaves. This species, like the common *P. spirillus*, has small floating leaves, only 0.6-1.5 cm long for *P. vaseyi*. Small spikes (3-8 cm tall) and stipules that are distinct from the leaf blade will serve to separate *P. vaseyi* from other species of pondweeds in Maine.

Water stargrass (*Zosterella dubia*) is a perennial aquatic plant that usually grows in shallow water with its stem submersed. The leaves are grass-like and up to 15 cm long. The flowers are pale yellow, and the fruits are black. It can be recognized

Ecological Services of the Focus Area

- Supports regional biodiversity by providing habitat for rare plants, animals, and natural communities.
- Provides habitat for wading bird, waterfowl and wintering deer.
- Protects water quality.

Economic Contributions of the Focus Area

- Provides wildlife habitat for a number of game species that are seasonally important to Maine's rural economy.
- Serves as a valuable recreational resource for local residents.
- Recharges groundwater.

vegetatively by its alternate, narrow, parallel-sided leaves with many fine veins. The leaves lack a more prominent central vein. In Maine, this species may occur along shallow shorelines or in open water. To conserve, maintain water quality in the lakes and ponds in which it occurs.

More than 650 acres of significant **Inland Waterfowl and Wading Bird Habitat** have been documented in the focus area, primarily intersecting with the circumneutral fen communities. These areas provide undisturbed nesting habitat and undisturbed, uncontaminated feeding areas and are essential for maintaining viable waterfowl and wading bird populations. A large **Deer Wintering Area** has also been identified in wetlands and uplands to the northeast of Little Indian Pond. Deer congregate in wintering areas which provide reduced snow depths, ample food and protection from wind.

Both Indian Pond and Little Indian Pond offer significant **fishery resources** with stocked brook and brown trout, largemouth bass, smallmouth bass, chain pickerel and white perch as the principal fisheries. Black crappie, an invasive fish species, have also been documented in Indian Pond.

CONSERVATION CONSIDERATIONS

- » The integrity of wetlands and the processes and life forms they support including rare plants and animals are dependent on the maintenance of the current hydrology and water quality 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 crossing structures such as culverts can impede movement of fish and aquatic invertebrates effectively fragmenting local aquatic ecosystems and ultimately leading to local extirpation of some species. Future management activity should avoid additional impacts to the site's hydrology.
- » Conservation easements and/or fee acquisition would be appropriate land protection vehicles here.
- » Timber harvest should be avoided in the wooded portion of the circumneutral fen. For lands where timber harvest or development continues, buffers should be maintained around all wetlands and pondshores. While different species can have different buffering requirements, wider buffers provide better protection for riparian and wetland-dependent species. The state minimum shoreland zoning standards specify a minimum 75' buffer in which very little harvest or clearing is allowed, with less stringent restrictions within 250' of the wetland border. Better protection will be afforded to the wetlands and ponds if as little alteration as possible occurs within 250' of the wetland/upland border. Any timber harvesting within and adjacent to wetlands or adjacent to ponds should be implemented with strict adherence to Shoreland Zoning guidelines and Maine Forest Service Best Management Practices.
- » Freshwater mussels are sensitive to contaminants and changes in water quality and benthic habitat. Maintenance and/or improvement of habitat integrity via protection of riparian buffers is important. Any activities that may potentially degrade water quality or negatively alter habitat type (including substrate, flow rate, water levels) should be avoided. A minimum of 250-foot contiguous, forested buffer is recommended on waterways that provide habitat for rare, threatened, and endangered mussel species. Likewise, because larval freshwater mussels require a specific fish host, activities that may result in changes to the fish community or prevent access by fish should be avoided. When designing projects near known rare mussel habitat consult with an MDIFW biologist to assist with planning, and refer to the Maine Forest Service's Forestry Best Management Practices handbook or the Maine Department of Environmental Protection's Maine Erosion and Sediment Control Recommendations.
- » 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 of appropriate techniques for removal. For more information on invasive plants visit: <http://www.maine.gov/doc/nrimc/mnap/features/invasives.htm>.

RARE SPECIES AND EXEMPLARY NATURAL COMMUNITIES OF THE FOCUS AREA

	Common Name	Scientific Name	State Status*	State Rarity Rank	Global Rarity Rank
Animals	Tidewater Mucket	<i>Leptodea ochracea</i>	T	S2	G3G4
Plants	Sparse-flowered Sedge	<i>Carex tenuiflora</i>	SC	S3	G5
	Vasey's Pondweed	<i>Potamogeton vaseyi</i>	SC	S2	G4
	Water Stargrass	<i>Zosterella dubia</i>	SC	S3	G5
Natural Communities	Circumneutral Fen	Shrubby cinquefoil - sedge circumneutral fen		S2	G2G3

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).
- 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.