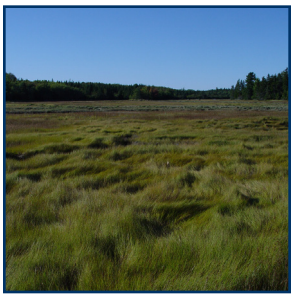
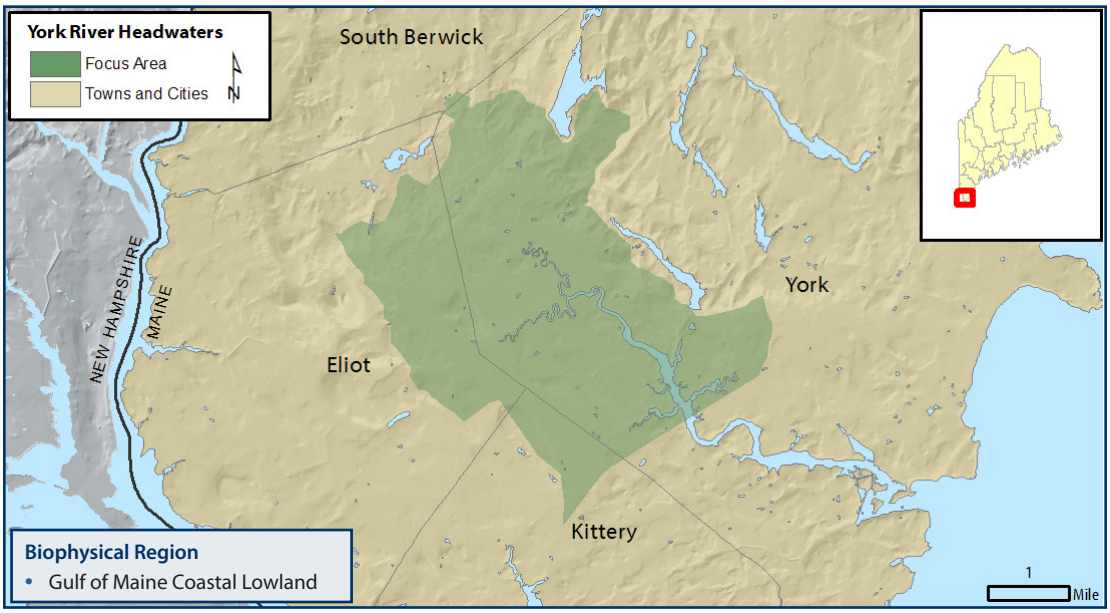
Beginning with HABITAT

Focus Areas of Statewide Ecological Significance

York River Headwaters





WHY IS THIS AREA SIGNIFICANT?

This focus area encompasses the 1000 acres of uplands and wetlands that comprise the headwaters of the York River. It is notable for the Tidal Marsh Estuary Ecosystem that includes the intertidal bays and one of the largest unprotected spartina saltmarshes, a rare community type, in the state. The extensive York River Estuary is one of the Gulf of Maine's least disturbed marsh-estuarine ecosystems and may be the most ecologically diverse coastal drainage for its size in the Gulf of Maine. Rare plants and animals and extensive areas of high value habitat are found throughout the focus area as well.

OPPORTUNITIES FOR CONSERVATION

- » Work with willing landowners to permanently protect remaining undeveloped areas.
- » Encourage town planners to improve approaches to development that may impact focus area functions.
- » Maintain enhanced riparian buffers.
- » Monitor and remove invasive plant populations.
- » Identify and restore tidal restrictions and undersized culverts.
- » Educate recreational users about the ecological and economic benefits provided by 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
New England Cottontail
Spotted Turtle
Blanding's Turtle
Ringed Boghaunter
Saltmarsh Sharp-tailed Sparrow

Rare Plants
Broad Beech Fern
Featherfoil
Mudwort
Pale Green Orchis
Saltmarsh False-foxglove
Sassafras
Spongy Arrow-head
Water Pimpernel

Rare and Exemplary Natural Communities
Oak - Northern Hardwoods Forest
Salt-hay Saltmarsh
Tidal Marsh Estuary Ecosystem
White Oak - Red Oak Forest

Significant Wildlife Habitats
Inland Wading Bird and Waterfowl
Tidal Wading Bird and Waterfowl
Significant Vernal Pool

York River Headwaters, York Land Trust

FOCUS AREA OVERVIEW

The York River Headwaters Focus Area consists of approximately 1000 acres of uplands and wetlands that comprise the headwaters of the York River. The focus area is located west of Interstate 95 and extends west to York Pond and north to Bell Marsh Reservoir and Boulter Pond. This focus area includes most of the major tributaries of the York River such as Cider Hill Creek, Smelt Brook, and Rogers Brook.

Public Access Opportunities

- Mt. Agamenticus Preserve, TNC
- Highland Farm, York River Land Trust
- McIntire Highlands Preserve, York River Land Trust

RARE AND EXEMPLARY NATURAL COMMUNITIES

The York River flows through and contributes to a significant **Tidal Marsh Estuary Ecosystem**. This 485-acre ecosystem encompasses intertidal bays and marsh areas along either side of the York River and Smelt Brook. Within the higher salinity areas of the ecosystem at the confluence of Smelt Brook and the York River, there is a large **Spartina Saltmarsh** dominated by saltmeadow cordgrass (*Spartina patens*). Where there are good buffers to the community, it is in good condition, although some areas in its immediate vicinity are utilized for residential and agricultural purposes. Most large saltmarshes in the state are protected by public or private entities, however at approximately 440 acres in size, the Upper York River Saltmarsh is one of the largest unprotected saltmarshes in the state.

Beyond the immediate tidal wetlands and waterways of the York River Estuary, the focus area includes some large areas of mostly undeveloped lands that extend westward and northward and abut the Mount Agamenticus Focus Area. The matrix forest type here is a **Central Hardwoods-Oak Forest Ecosystem**. This ecosystem is typified by so called "central hardwoods" such as oaks and hickories, which are much more common south of Maine but have a restricted distribution in this state.

Within the Central Hardwoods Oak Forest, southeast of Belle Marsh Reservoir, there is a relatively undeveloped forested

area that is characterized by low ridges and rocky knobs with numerous perched wetlands bisected by a series of weak drainages. The area supports a mix of upland forest types including oak-pine, oak-hickory, hemlock-pine, and northern hardwoods. The upland forests generally have a history of timber harvest though large areas have returned to mature condition and even have an occasional old growth tree. Small scrub-shrub, red maple swamp, and vernal pool wetlands are scattered over the site. Within this area there is an excellent example of a **Red Oak – Northern Hardwoods – White Pine Forest** and at least three rare plant species.

CHARACTERISTIC SPECIES

The York River Estuary extends about 8.5 miles inland from the coast to the head of tide. The entire estuary is mapped as **tidal wading bird and waterfowl habitat** and serves as an important roosting and feeding area. The extensive York River Estuary is one of the Gulf of Maine's least disturbed marsh-estuarine ecosystems and may be the most ecologically diverse coastal drainage for its size in the Gulf of Maine.

Diadromous fish, species that use both marine and freshwater habitats during their life cycle, such as alewives and striped bass are found within the estuary. The estuary's saltmarshes provide excellent spawning habitat, and twenty-eight species of estuarine and freshwater fish have been documented in the York River, including rainbow smelt, alewives, eel, bluefish, winter flounder, striped bass, and Atlantic herring.

The York River marshes also provide breeding habitat for a number of migratory birds, including the rare **saltmarsh sharp-tailed sparrow** (*Ammodramus caudacutus*). The saltmarsh sharp-tailed sparrow is a secretive species with very narrow habitat requirements found only in coastal saltmarshes of the eastern United States. They breed from southern Maine to the Delmarva Peninsula and winter in coastal areas from Massachusetts to Florida. Widespread loss, degradation, and fragmentation of coastal saltmarshes along the eastern seaboard are the biggest threats to this species. Habitat preservation and restoration are the most important factors for conserving the saltmarsh sharp-tailed sparrow.

In the western section of the focus area, there are numerous small wetlands embedded in relatively undisturbed forests. These wetland-upland complexes provide excellent habitat for rare animal species such as the threatened **spotted turtle** (*Clemmys guttata*) and **ringed boghaunter dragonfly** (*Williamsonia lintneri*). The ringed boghaunter, one of the rarest dragonflies in North America, was first found in Maine in 1995 at a complex of fens and vernal pools north of York Pond. The dragonflies breed in at least five wetlands in this complex -- all fens or vernal pools within ¼ mile of each other. Populations were assessed in 1997 by counting exuvia (the cast skins of the aquatic nymph) and were estimated to be 70 to 80 individuals. Populations of this species are likely limited by the amount of habitat available. Although natal wetlands are relatively intact here, residential development and road construction has accelerated in the area and may threaten the population. This species is currently listed as state threatened in Maine because of its limited range and number of populations and close association with smaller wetlands that do not receive adequate protection under the state's wetland protection rules.

Ecological Services of the Focus Area

- Nutrient export to marine food webs.
- Major habitat for myriad waterfowl and wading birds species.
- Cleans water running off land prior to discharge into ocean.
- Supports regional biodiversity by providing habitat for rare plants, animals, and communities.

Economic Contributions of the Focus Area

- Attracts tourism for wildlife observation, paddling, hunting, and angling.
- Acts as protective buffer for storm surge.
- Provides scenic vistas that raise property values.
- Valuable open space for local residents.

Ringed Boghaunter, Jonathan Mays

In addition, several rare plant species have been documented in the Focus Area. The spartina saltmarsh fosters a population of the rare **saltmarsh false-foxglove** (*Agalinis maritima*), and the rare **spongy arrow-head** *(Sagittaria calycina*) has been found in two tidal creeks. Another rare plant, **water pimpernel** (*Samolus valerandi*) has also been found along one of the tidal creeks. The natural communities of the Central Hardwoods-Oak Forest Ecosystem host **broad beech fern** *(Phegopteris hexagonoptera*), **spicebush** (*Lindera benzoin*), and

sassafrass (*Sassafras albidum*), the latter two of which reach their northern range limit in Maine.

CONSERVATION CONSIDERATIONS

» Natural communities still occurring on the uplands adjacent to the marsh should be conserved as part of the greater ecosystem of the marsh. Long-term preservation of the biodiversity of this high value natural area will be best achieved by retaining as much of the surrounding natural landscape as possible.

» Excessive and unplanned poorly planned shoreline development can have adverse impacts on estuarine habitat through increased nutrient loads, siltation, and loss of a habitat buffer.

» Seawalls and other shoreline stabilization techniques (e.g. riprap) can disrupt sediment inputs from natural erosion processes resulting in alterations to the sediment structure. This can adversely affect species composition and the productivity of mudflats.

» Physical barriers such as dams, culverts, and bridges can change tidal flows, alter salinity, modify drainage, prevent sediment movement, and impede animal movements. Water crossing structure repair, maintenance and installation projects should follow guidelines for aquatic species passage in order to avoid further fragmentation of aquatic and riparian habitats and unintended tidal restriction.

» Barriers to diadromous fish passage threaten productive fisheries and in turn may have impacts on other species like bald eagles that feed on them. Dam removal or the installation of man-made fishways can help to alleviate this threat.

» Disturbances to soils and natural vegetation in or adjacent to the marsh can create opportunities for colonization by invasive plant species. Local groups with an interest in the marsh should be made aware of the potential threat of invasive plants and keep an eye out for them before they become well established.

» Widespread loss, degradation, and fragmentation of coastal saltmarshes along the eastern seaboard are the biggest threats to the saltmarsh sharp-tailed sparrow. Habitat preservation and restoration are the most important factors for conserving this species.

» Water quality changes such as changes in salinity, temperature, turbidity, or physical properties of the water can negatively affect habitat for species.

» Point and non-point sources of pollution can change faunal communities in tidal communities. Oil spills can destroy or significantly disrupt functioning systems.

» Direct alteration of habitat through filling, dredging, dragging, or other major human disturbances can alter floral and faunal communities and disrupt complex food webs.

» No activities should be permitted that could lead to the loss or degradation of wetlands, regardless of size, 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 rare animal locations should be considered potential habitat, protected from direct impacts, and buffered by forested upland.

» For areas with known rare turtle populations 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 turtles, amphibian prey, 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 and the amphibian food source.

» Towns should strive to maintain important habitat areas identified by MDIFW in low density, rural settings by identifying these areas in comprehensive plans and zoning and permitting accordingly.

» Current projections suggest sea level will rise at least 2 feet in the next century due to changing climate and warming temperatures. As sea levels rise, coastal habitats will begin to migrate inland. In areas where this inland migration is blocked by development these habitats will be lost. Conservation of low-lying, undeveloped uplands where coastal marshes, beaches, and other intertidal natural communities can migrate inland with sea level rise should be promoted.

RARE SPECIES AND EXEMPLARY NATURAL COMMUNITIES OF THE FOCUS AREA

	Common Name	Scientific Name	State Status*	State Rarity Rank	Global Rarity Rank
Animals	New England Cottontail	*Sylvilagus transitionalis*	E	S2	G3
	Blanding's Turtle	*Emys blandingii*	E	S2	G4
	Spotted Turtle	*Clemmys guttata*	T	S3	G5
	Ringed Boghaunter	*Williamsonia lintneri*	T	S1	G3
	Saltmarsh Sharp-tailed Sparrow	*Ammodramus caudacutus*	SC	S3B	G4
Plants	Broad Beech Fern	*Phegopteris hexagonoptera*	SC	S2	G5
	Featherfoil	*Hottonia inflata*	T	S1	G4
	Mudwort	*Limosella australis*	SC	S3	G4G5
	Pale Green Orchis	*Platanthera flava var. herbiola*	SC	S2	G4T4Q
	Saltmarsh False-foxglove	*Agalinis maritima*	SC	S3	G5
	Sassafras	*Sassafras albidum*	SC	S2	G5
	Spongy Arrow-head	*Sagittaria calycina var. spongiosa*	SC	S3	G5T4
	Water Pimpernel	*Samolus valerandi ssp. parviflorus*	SC	S3	G5T5
Natural Communities	Oak - Northern Hardwoods Forest	Red oak - northern hardwoods - white pine forest		S4	GNR
	Salt-hay Saltmarsh	Spartina saltmarsh		S3	G5
	Tidal Marsh Estuary Ecosystem	Tidal marsh estuary ecosystem		S3	GNR
	White Oak - Red Oak Forest	White oak - red oak forest		S3	GNR

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.