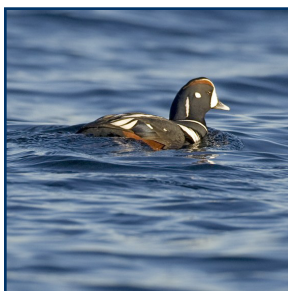


Schoodic Peninsula



WHY IS THIS AREA SIGNIFICANT?

The Schoodic Peninsula Focus Area includes one of the most outstanding assemblages of jack pine woodlands in Maine. It also hosts several rare plants and provides important habitat for bald eagles, harlequin ducks, wading birds and waterfowl and shorebirds. Approximately half of this focus area is protected as part of Acadia National Park.

OPPORTUNITIES FOR CONSERVATION

- » Educate recreational users about the ecological and economic benefits provided by the focus area.
- » Encourage best management practices for forestry, vegetation clearing, and soil disturbance activities near significant features.
- » Protect sensitive natural features through careful management planning on conserved lands.
- » Work with willing landowners to secure permanent conservation status for unprotected significant features.
- » Work with willing landowners of large parcels to consider prescriptive burning (managed fire) as a tool for maintaining and enhancing jack pine habitats.

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

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Rare Animals

- Bald Eagle
- Harlequin Duck

Rare Plants

- Blinks
- Fragrant Cliff Wood-fern
- Marsh Felwort
- Pickering's Reed Bent-grass
- Screwstem

Rare and Exemplary Natural Communities

- Downeast Maritime Shrubland
- Jack Pine Woodland
- Jack Pine Woodland
- Open Headland

Significant Wildlife Habitats

- Inland Wading Bird and Waterfowl Habitat
- Tidal Wading Bird and Waterfowl Habitat
- Shorebird Area

Public Access Opportunities

- » Acadia National Park, NPS



Jack Pine Woodland, MNAP

FOCUS AREA OVERVIEW

The Schoodic Peninsula Focus Area encompasses most of the land south of Rte 186 and a smaller area north of Rte. 186, including a sizable freshwater wetland north of Birch Harbor Pond. One of the most outstanding ecological features of the Schoodic Peninsula is the jack pine woodland natural community that occurs here. This community type is an open to semi-open woodland dominated by jack pine (*Pinus banksiana*) found on dry, acidic sites that are shallow to bedrock. Jack pine woodlands are considered rare in Maine, with only a handful of stands known statewide. To date two of these woodlands have been documented in this focus area (at Schoodic Point and on the east slopes of Schoodic Head), together encompassing approximately 150 acres. However, recent aerial photo analysis (and in some cases subsequent field checking) has revealed that the jack pine community type is more widespread on the peninsula and found both inside and outside of the boundaries of Acadia National Park.

Little Moose Island is another area of particular ecological significance as it hosts several rare plants and one rare natural community type. Populations of blinks (*Montia fontana*) and marsh felwort (*Lomatogonium rotatum*) are found on Little Moose Island. An extensive and diverse example of a

Downeast Maritime Shrubland community is also found here, with in-shore areas dominated by bayberry (*Myrica pensylvanica*) and black crowberry (*Empetrum nigrum*). This natural community is intermixed with open headlands that consist primarily of bare rock with pockets of rosy stonecrop (*Sedum rosea*), beachhead iris (*Iris setosa*), and red fescue (*Festuca rubra*). Eelgrass beds are also found around Little Moose and Big Moose Islands.

Several important wildlife habitats mapped by the Maine Department of Inland Fisheries and Wildlife (MDIFW) fall within the Schoodic Peninsula Focus Area. A sizable Inland Waterfowl and Wading Bird Habitat straddles Rte 186 and includes Birch Harbor Pond. Bald eagles nest on Rolling Island. Tidal Waterfowl and Wading Bird Habitat and Shorebird Feeding and Roosting Areas are present along portions of the shoreline. Horseshoe crab habitat is mapped at West Pond and some of the small harbors within the focus area and harlequin ducks winter around Moose Island.

RARE AND EXEMPLARY NATURAL COMMUNITIES

Jack Pine Woodland: Jack Pine Woodland communities are open canopy woodlands (<60% closure) in which the domi-

nant tree is always jack pine. Red spruce, black spruce, or white pine are common associates. The canopy trees are generally stunted and have poor growth form. Below the canopy, smaller jack pines are common, with scattered shrubs. The extensive herb layer is mostly heath shrubs that may form a thick tangle in canopy openings. At some maritime sites, black crowberry or mountain cranberry reflect the coastal influence. Herbs are very sparse. The bryoid layer varies from extensive to quite sparse, and is dominated by reindeer lichens. These are open canopy woodlands (<60% closure) in which the dominant tree is always jack pine. Red spruce, black spruce, or white pine are common associates. The canopy trees are generally stunted and have poor growth form. Below the canopy, smaller jack pines are common, with scattered shrubs. The extensive herb layer is mostly heath shrubs that may form a thick tangle in canopy openings. At some maritime sites, black crowberry or mountain cranberry reflect the coastal influence. Herbs are very sparse. The bryoid layer varies from extensive to quite sparse, and is dominated by reindeer lichens.

CHARACTERISTIC RARE SPECIES

Bald eagles nest along sea coasts, inland lakes and major rivers. **Bald eagles** (*Haliaeetus leucocephalus*) once abundant in Maine, were nearly extirpated throughout their range because of widespread use of environmental contaminants. With the ban of these contaminants and extensive habitat protection measures, bald eagles have now made a tremendous recovery and were removed from the Endangered Species List in 2009. Bald eagles are currently listed as Special Concern

Harlequin ducks (*Histrionicus histrionicus*) winter in the coastal surf around Little Moose Island. Harlequin ducks are small diving sea ducks. They are found in the northern hemisphere and winter on both the Atlantic and Pacific Oceans. About 1000 birds winter in Maine, mostly in small flocks on rough coastal waters and exposed rocky shores. They forage by diving into foaming surf to glean marine invertebrates.

Horseshoe crabs (*Limulus polyphemus*) occur in protected sandy beach areas, nearshore shallow waters, intertidal flats, and deep bay waters from the Gulf of Maine to the Gulf of Mexico. Spawning occurs in late spring on protected sandy beaches at high tides of the new and full moon. Males arrive first and await the females who will lay up to 80,000 eggs in a spawning season, less than 10 of which will reach adulthood. Horseshoe crabs feed primarily on clams and worms, and in turn are fed upon by shorebirds (including the State Endangered least tern and the State Endangered and Federally Threatened piping plover), crabs, gastropods, many fish species, and sea turtles. Shoreline development and subsequent habitat degradation is a potential threat to Maine populations. Maine's small populations have generally been overlooked for commercial and pharmaceutical uses. If they were harvested for commercial purposes these small populations would likely be depleted. In 2003, taking and possession of horseshoe crabs became prohibited in Maine.

Ecological Services of the Focus Area

- Major migratory stopover, feeding, breeding and roosting area for myriad bird species.
- Nursery for juvenile fish and shellfish.
- Supports rare natural community types.
- Provides high quality habitat and supports biodiversity for rare plants, waterfowl, wading birds, horseshoe crabs, deer, and other wildlife.

Economic Contributions of the Focus Area

- Valuable recreational resource for local residents and visitors from around the world.
- Attracts tourism for wildlife observation, paddling, hiking, hunting, and angling.
- Provides scenic vistas that contribute to Maine's natural character, including views from Acadia National Park.



Open Headland, MNAP

Eelgrass (*Zostera marina*) forms extensive underwater meadows in shallow bays and coves, tidal creeks, and estuaries in the focus area. It is a flowering plant that reproduces by seed and by vegetative growth. Eelgrass beds are among the most productive plant communities in the world. They serve as a nursery, habitat, and feeding area for many fish, waterfowl, wading birds, invertebrates, and other wildlife, including commercially valuable fish and shellfish. Eelgrass reduces water

pollution by absorbing nutrients, and it dampens wave energy and slows currents, which helps stabilize sediments and buffer shorelines. Because of its important ecological functions, loss of eelgrass beds can result in reduced fish and wildlife populations, degraded water quality, and increased shoreline erosion.

Tidal Waterfowl and Wading Bird Habitats have been mapped in both East and West Pond. These areas provide undisturbed nesting habitat and undisturbed, uncontaminated feeding areas and are essential for maintaining viable waterfowl and wading bird populations. West Pond and the tip of Schoodic Point are mapped **Shorebird Areas**. Shorebird Areas are important feeding and resting stop over sites for shore-



Feeding Shorebirds, Steve Walker

birds on their long migrations.

CONSERVATION CONSIDERATIONS

- » All areas mapped as exemplary natural communities and nearly all known populations of rare plants are contained within existing conservation lands, but the focus area also includes large areas or private lands which have yet to be surveyed for these features. These include a large tract north of the Park property that was heavily harvested within the last few decades; this parcel may support additional jack pine woodlands.
- » The natural disturbance regimes that maintain jack pine woodlands (i.e. fire and/or windthrow) may require managed burns or managed harvesting to promote jack pine regeneration.
- » In July 2002 the U.S. Navy de-commissioned its base on Schoodic Peninsula, and the land was transferred to the National Park Service. The Park Service is in the process of determining a long term plan for these lands and facilities, which may include research and education facilities and associated housing.
- » Eelgrass is sensitive to losses due to disease, storms, pollution, nutrient enrichment, dredging, shellfishing, ice damage, propeller damage, sediments, runoff, jet skis, and inboard and outboard motors. Because of its important ecological functions, loss of eelgrass beds can result in reduced fish and wildlife populations, degraded water quality, and increased shoreline erosion.
- » Shoreline development and subsequent habitat degradation are potential threats to Maine small populations of Horseshoe Crab. Though generally been overlooked as a resource, Horseshoe Crabs in Maine are very vulnerable to depletion from any harvesting activities. In 2003, taking and possession of Horseshoe Crabs became prohibited in Maine.
- » Eagles are extremely sensitive to disturbance during their nesting season. Any activities near their nests or within their nesting territory during this period may cause nest failure or may even cause adults to abandon the nest. In general it is recommended that a 330-foot radius be left undisturbed buffer around an eagle nest during any kind of land-clearing or timber harvest activity. Habitat protection within ¼ mile radius of a nesting site is another significant measure that can help support nesting eagles. Consult with a MDIFW biologist prior to planning any activity that may disturb the forest around an eagle nest.
- » This area includes Significant Wildlife Habitat for waterfowl and wading birds and shorebirds. Both land managers and private landowners should follow best management practices in and around wetlands, shoreland areas, and Significant Habitat. Maintaining wide forested buffers will provide valuable riparian habitat for many wildlife species. Consult with a MDIFW biologist prior to planning any activity that may disturb the forest around a Significant Wildlife Habitat.
- » Improperly sized culverts and other stream crossing structures can impede movement of fish and aquatic invertebrates effectively fragmenting local aquatic ecosystems and ultimately leading to local extirpation of some species. Future management should maintain or restore the sites natural hydrology
- » 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	Bald Eagle	<i>Haliaeetus leucocephalus</i>	SC	S4B,S4N	G5
	Harlequin Duck	<i>Histrionicus histrionicus</i>	T	S2S3N	G4
Plants	Blinks	<i>Montia fontana</i>	SC	S2	G5
	Fragrant Cliff Wood-fern	<i>Dryopteris fragrans</i>	SC	S3	G5
	Marsh Felwort	<i>Lomatogonium rotatum</i>	T	S1	G5
	Pickering's Reed Bent-grass	<i>Calamagrostis pickeringii</i>	T	S1	G4
	Screwstem	<i>Bartonia paniculata</i>	T	S1	G5
Natural Communities	Downeast Maritime Shrubland	<i>Crowberry - bayberry headland</i>		S3	GNR
	Jack Pine Woodland	<i>Jack pine woodland</i>		S3	G3G5
	Open Headland	<i>Seaside goldenrod - goosetongue open headland</i>		S4	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) 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.