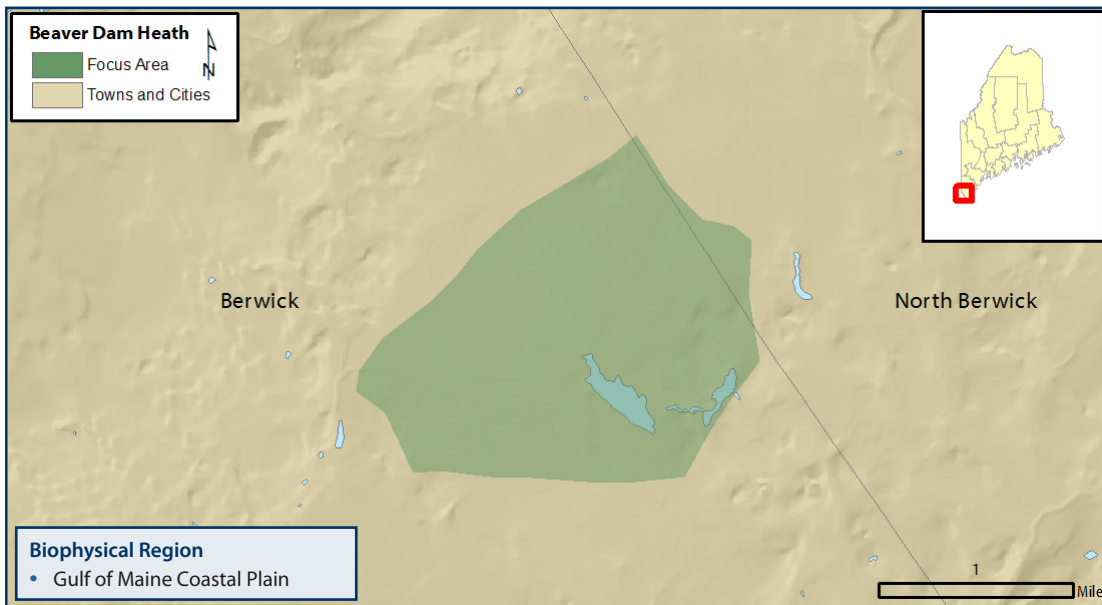
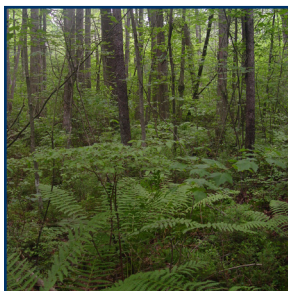


Beaver Dam Heath



WHY IS THIS AREA SIGNIFICANT?

Beaver Dam Heath is a 1,500 acre mosaic of wetlands and uplands that supports two rare turtle species, three rare plant species, a rare natural community, Wading Bird and Waterfowl Habitat and a Deer Wintering Area as well as vernal pools. Atlantic white cedar is dominant in several areas forming one of the states largest examples of an Atlantic white cedar swamp.

OPPORTUNITIES FOR CONSERVATION

- » Encourage landowners to maintain enhanced riparian buffers.
- » Encourage best management practices for forestry and vegetation clearing around wetlands and vernal pools.
- » Maintain natural hydrology by avoiding drainage or impoundment of the wetlands, streams or adjacent water bodies.
- » Work with willing landowners to permanently protect undeveloped areas and significant features.
- » Encourage town planners to improve approaches to development that may impact Focus Area functions.

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

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Rare Animals

Spotted Turtle
Blanding's Turtle

Rare Plants

Atlantic White-cedar
Smooth Winterberry Holly
Button Sedge

Rare and Exemplary Natural Communities

Atlantic White Cedar Swamp

Significant Wildlife Habitats

Inland Wading Bird and Waterfowl Habitat
Deer Wintering Area
Significant Vernal Pool



Atlantic White Cedar Swamp, Maine Natural Areas Program

FOCUS AREA OVERVIEW

The Beaver Dam Heath Focus Area is a 1,500 plus acre wetland mosaic interspersed with upland forests. The upland forests are generally dominated by white pine and red oak and have a history of logging. Gently sloping seepage swamps occur in transition areas between the uplands and the larger wetlands. Wetlands are dominated by Atlantic white cedar and combinations of red maple, gray birch, spiraea, leatherleaf, and winterberry with abundant ferns and sedges. Vegetation cover types vary due to the many subtle differences in hydrology, substrate, and disturbance. The core of the largest wetland is dominated by black spruce.

RARE AND EXEMPLARY NATURAL COMMUNITIES

Atlantic white cedar is dominant in several areas of the focus area forming one of the states largest examples of an Atlantic white cedar swamp natural community. **Atlantic white cedar swamp** is characterized by a mostly closed-canopy of Atlantic white cedar that is mixed with black spruce or red maple. Openings within the swamp typically have mixtures of high-bush blueberry, mountain holly, and winterberry, with patches of ferns and sedges. Dense mosses cover the hummock-and-hollow ground surface. Often the Atlantic white cedar forms a dense canopy that allows little light penetration and limits understory growth. Since Atlantic white cedar seedlings are

relatively intolerant of shade, some form of disturbance (e.g., fire, wind throw, or timber harvesting) may be required to regenerate Atlantic white cedar.

CHARACTERISTIC SPECIES

Beaver Dam Heath Focus Area is known to support two rare animal species and three rare plant species; the state Endangered Blanding's turtle, state Threatened spotted turtle, and the Special Concern species Atlantic white cedar, smooth winterberry holly, and button sedge. The focus area is important habitat for these species because of its large size and few fragmenting features. The rare animals found here are only known to occur in the rapidly developing southern part of the state and are particularly vulnerable to fragmentation of their habitat. Large contiguous natural areas necessary to ensure the survival of these animals are becoming increasingly rare. To date biological survey work in the focus area has been limited. More survey work will likely result in the discovery of additional significant natural features.

Of particular note, the wetlands and uplands in this focus area support **spotted turtles** (*Clemmys guttata*) and **Blanding's turtles** (*Emys blandingii*). Spotted and Blanding's turtles are most frequently associated with complexes of small, acidic

wetlands and **vernal pools** in large, intact forested landscapes. They also use small streams, shrub swamps, forested swamps, wet meadows, and emergent marshes. Although these turtles spend most of their time in the water, they readily travel over land between wetlands during the spring and summer months. Upland habitats are also critical for basking, aestivating (a period of late summer inactivity), and nesting. Spotted and Blanding's turtles are generally found only in the southern most part of the state where increasing development contributes to loss of habitat, habitat fragmentation, and an on-going loss of individuals to road kill.

Spotted and Blanding's turtles have evolved relatively long adult life spans to offset the long time it takes to reach reproductive maturity (15 yrs or more) and to offset high levels of nest mortality. Because of this unusual life history, spotted and Blanding's turtle populations occur at low densities, and thus populations are highly vulnerable to any human sources of adult mortality. Road mortality and collecting for pets, for example, can be extremely deleterious, as the attrition of just a few individuals every year can lead to the long-term decline and extinction of a local population. The secondary effects of human development – increased predators (e.g., dogs, cats, raccoon, skunks), water, light and noise pollution, filling of small wetlands, and blocking upland travel corridors (roads, rail beds, yards) – also impact populations. Spotted and Blanding's turtles are strictly protected from take (collecting, possession, or killing) by the Maine Endangered Species Act.

In addition to rare plants and animals, two important **Wading Bird and Waterfowl Habitats** have been mapped around the heath. These areas provide undisturbed nesting habitat and undisturbed, uncontaminated feeding areas and are essential for maintaining viable waterfowl and wading bird populations. A **Deer Wintering Area** has also been identified in the upland area to the south of the heath. Deer congregate in wintering areas which provide reduced snow depths, ample food and protection from wind. Inland Wading Bird and Waterfowl



Blanding's Turtle, Jonathan Mays

Ecological Services of the Focus Area

- Contributes to regional biodiversity by providing habitat to rare species
- Stores floodwaters
- Retains sediments and nutrients
- Provides wildlife habitat

Economic Contributions of the Focus Area

- Produces forest products
- Provides local residents and visitors with recreational opportunities such as hunting and wildlife watching

Habitats, Deer Wintering Areas and Significant Vernal Pools are Significant Wildlife Habitats identified under the Natural Resources Protection Act.

CONSERVATION CONSIDERATIONS

- » Natural communities still occurring on the uplands adjacent to the heath and swamps should be conserved as part of the greater wetland ecosystem. Long term preservation of the full compliment of plants and animals found in a high value natural area such as Beaver Dam Heath will be best achieved by retaining as much of the surrounding natural landscape as possible.
- » 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 that can degrade the high quality natural systems that occur here. Improperly sized crossing structures such as culverts can also 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.
- » No activities should be permitted that could lead to the loss or degradation of turtle wetlands including filling, dredging, sedimentation, or changing of hydrology unless the activity is approved by MDIFW.
- » A minimum 250-foot forested buffer zone should be maintained around target wetlands with known rare turtle locations. All wetlands, regardless of size, within 1/4 mile of mapped spotted turtle locations should be considered potential habitat for this wide ranging species, and protected

from direct impacts, and buffered by forested upland.

- » Impervious surfaces such as yards, buildings, parking lots, and roads should be minimized in the upland landscape within 1/4 mile of turtle wetlands. Natural forest habitat should predominate the landscape. Intensive developments that concentrate human populations and road traffic within 1/4 mile of turtle wetlands should be avoided including subdivisions and service centers;
- » Less pervasive is degradation from incidental uses related to the increasing residential development in the area. Riparian buffers can also 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 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.
- » Low-intensity cutting (single tree or small group selection, firewood harvest) is likely compatible with sensitive features as long as operators avoid wetlands. Winter harvests are recommended to minimize impacts to rare plants, animals, and wetland systems. 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 they supply.
- » Conservation planning for upland features should include setting some areas aside from timber harvesting to allow for the development of some unmanaged forest ecosystems.
- » This area includes Significant Wildlife Habitat. Land managers should follow best management practices with respect to construction and forestry activities in and around 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.
- » 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>.
- » 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.

RARE SPECIES AND EXEMPLARY NATURAL COMMUNITIES OF THE FOCUS AREA

	Common Name	Scientific Name	State Status*	State Rarity Rank	Global Rarity Rank
Animals	Spotted Turtle	<i>Clemmys guttata</i>	T	S3	G5
	Blanding's Turtle	<i>Emys blandingii</i>	E	S2	G4
Plants	Atlantic White-cedar	<i>Chamaecyparis thyoides</i>	SC	S2	G4
	Smooth Winterberry Holly	<i>Ilex laevigata</i>	SC	S3	G5
	Button Sedge	<i>Carex bullata</i>	SC	S2	G5
Natural Communities	Atlantic White Cedar Swamp	Atlantic white cedar swamp		S2	G3G5

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.