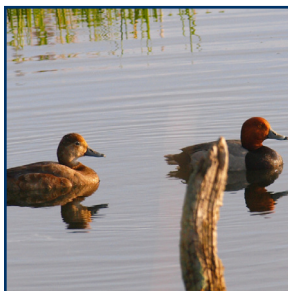
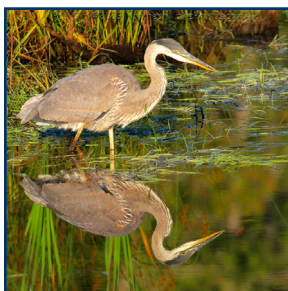
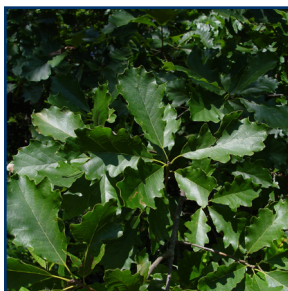


Big Meadow Bog



WHY IS THIS AREA SIGNIFICANT?

The Big Meadow Bog Focus Area is considered an area of significance in that it encompasses an extensive wetland complex including exemplary peatland communities, as well as bald eagle nests, Atlantic salmon habitat and waterfowl habitat.

OPPORTUNITIES FOR CONSERVATION

- » Encourage best management practices for forestry, vegetation clearing, and soil disturbance activities near significant features.
- » Maintain intact forested buffers along water bodies and wetlands to protect water quality and provide valuable riparian habitat for wildlife.
- » Maintain natural hydrologic regime by avoiding drainage or impoundment of the wetlands, streams or adjacent water bodies.
- » Monitor and remove invasive plant populations.
- » Encourage sustainable forest management practices on remaining privately owned forest lands.
- » Work with willing landowners to permanently protect undeveloped areas and significant features.

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

Rare Plants

Swamp White Oak

**Rare and Exemplary
Natural Communities**

Raised Level Bog Ecosystem

Significant Wildlife Habitats

Inland Wading Bird and Waterfowl Habitat
Deer Wintering Area



Swamp White Oak, Maine Natural Areas Program

FOCUS AREA OVERVIEW

The Big Meadow Bog Focus Area is bisected by the Sebasticook River. The portion north of the River is a raised level bog with one off-center dome, without surface patterns or pools. It appears to be a single basin with outlying transitional areas of swamps and streamside habitats. The wooded portion is the most raised section of the heath. Peatland communities include sheep laurel dwarf shrub bog, black spruce – larch bog woodland (including larch woodland fen), red maple woodland fen, and mountain holly – alder woodland fen. Numerous deer and game trails cross the bog. The runway of the Pittsfield airport extends into the focus area along the northern edge, but is located just outside of the raised level bog.

The area south of the river encompasses a large deer yard with a bald eagle nest and extensive wading bird and waterfowl habitat. The eagles probably are responsible for the migration out of the great blue herons and osprey which had been nesting in that area; however, a few years ago, the eagles moved southwest a short distance to the shores of the Sebasticook, and herons and osprey are now recolonizing their former nesting area. This area has not been surveyed for rare or exemplary natural communities, but is believed to include at least some hardwood floodplain forest and cedar fen woodlands. Just

over 9 km of Atlantic salmon spawning and rearing habitat has been mapped in the Sebasticook River.

RARE AND EXEMPLARY NATURAL COMMUNITIES

A Raised Level Bog Ecosystem consists of flat peatlands in basins with mostly closed drainage, receiving water from precipitation and runoff from the immediate surroundings. Most parts of level bogs are somewhat raised (though not domed), in which case vegetation is almost entirely ombrotrophic (dwarf shrub heath or forested bog). Other parts of the bog are not raised; in this case, vegetation is transitional (in nutrient status) between that of ombrotrophic bogs and minerotrophic fens. In all cases, *Sphagnum* dominates the ground surface and is the main peat constituent. The surface of the bog is flat and featureless. These bogs are often at least partly treed with black spruce and larch.

CHARACTERISTIC SPECIES

Bald eagles (*Haliaeetus leucocephalus*) were nearly extirpated because of widespread use of environmental contaminants that caused eggshell thinning and impaired reproductive success. With bans on the use of these contaminants and habitat

protection measures, bald eagles have made a tremendous recovery. In 2009 they were removed from the state Endangered Species list. They remain listed as Special Concern. Bald eagles and their nest sites are protected by the US Fish and Wildlife Service under the Bald and Golden Eagle Protection Act. The Big Meadow Bog Focus Area is considered “moderate” priority for eagles statewide; eagles have been documented here since 1992.

Spawning and rearing habitat for the State and Federally Endangered **Atlantic salmon** (*Salmo salar*) are present in the Sebasticook River. Atlantic salmon require cool, clean and free flowing waters.

The larger wetlands and open water areas in the focus area provide important **Inland Waterfowl and Wading Bird Habitat**. 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 the southern portion of the focus area. Deer congregate in wintering areas which provide reduced snow depths, ample food and protection from wind.

Swamp White Oak (*Quercus bicolor*) a rare plant species found in the Big Meadow Bog Focus Area, is a member of the white oak subgenus, a diverse group of species that have leaves with rounded lobes (as opposed to bristle-tipped lobes in the red oak group) and acorns that mature in one year. Swamp white oak can be distinguished from other white oak species in Maine by the following combination of characters: ovate leaves, widest above the middle, with 6-10 pairs of low but fairly even lobes (like rounded teeth); hairless buds; and acorns on stalks that are more than 3 cm long. Swamp white oak is a tree of hardwood floodplain forests, basin swamps, or vernal pools. It grows with ash (*Fraxinus spp.*), silver maple or red maple (*Acer saccharinum* and *A. rubrum*, respectively), and occasionally with *Q. macrocarpa*. Populations are small and could be eliminated by logging.

CONSERVATION CONSIDERATIONS

- » The most important conservation strategy is maintaining or improving the water quality within the watershed. Conservation easements, fee ownership, and tree growth and open space treatments would be additional conservation vehicles.
- » The inaccessibility of the large wooded wetland south of the river presumably increases its value to wildlife; there is little use. However, the wetland both north and south of the river could be vulnerable to degradation from recreational uses. The Pittsfield airport is affecting the northern edge of Big Meadow Bog because of tree-trimming required for safety, but these unavoidable effects can be localized. However, it could open an avenue for ORV access into the bog. ORV use of the peatland when the ground is not frozen could seriously degrade portions of the bog; this has been a problem

Ecological Services of the Focus Area

- Retains floodwaters, sediments and nutrients
- Provides high quality habitat for waterfowl, wading birds, deer, and other wildlife.

Economic Contributions of the Focus Area

- Recharges groundwater
- Provides a scenic viewshed
- Supports local recreational opportunities



Raised Level Bog Ecosystem, Maine Natural Areas Program

in some other bogs in southern Maine. Buffers and monitoring can play a major role in protection here.

- » An adequate buffer should be retained between developed lots or timber harvest areas and the wetlands. The state minimum shoreland zoning standards restrict harvest and clearing within 250' of wetland borders. Because different species can have different buffering requirements, better protection will be afforded to the collective wetland plants and animals with larger buffers. Any timber harvesting within and adjacent to the wetland should be implemented with strict adherence to state or local Shoreland Zoning guidelines and Maine Forest Service Best Management Practices.
- » This area includes Significant Wildlife Habitat. Land managers should follow best management practices with respect to forestry activities 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.

- » 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>.
- » 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.

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 |
| | | | | | |
| Plants | Swamp White Oak | <i>Quercus bicolor</i> | T | S1 | G5 |
| | | | | | |
| Natural Communities | Raised Level Bog Ecosystem | Raised level bog ecosystem | | 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).
- 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.