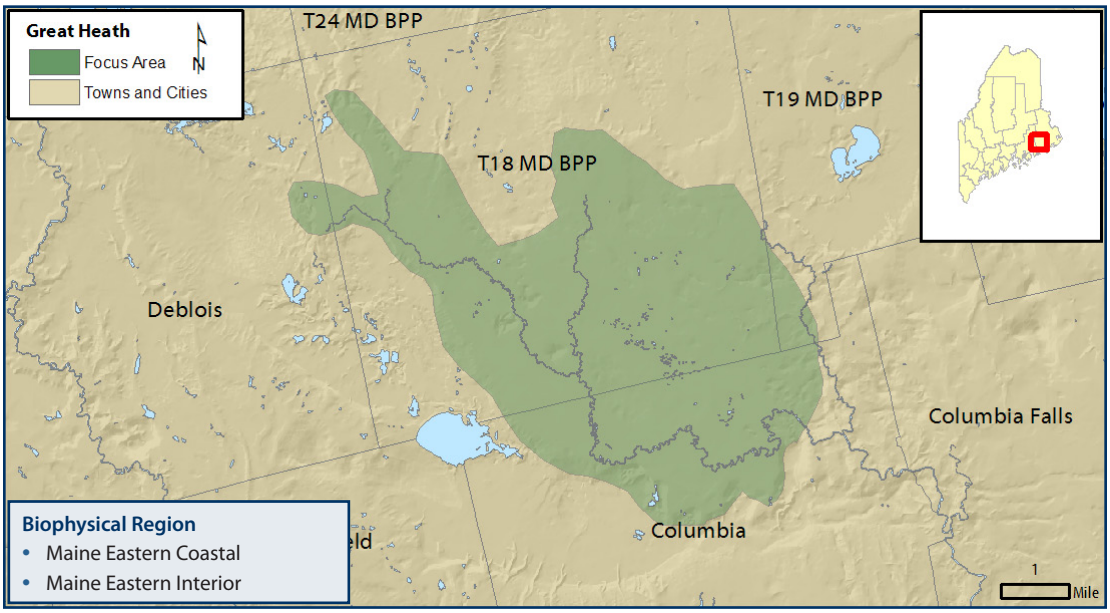
Beginning with HABITAT

Focus Areas of Statewide Ecological Significance

Great Heath



WHY IS THIS AREA SIGNIFICANT?

At over 7,000 acres, the Great Heath is the largest peatland in the Downeast region and it is one of the largest multiple-unit peatlands in all of Maine. It extends on both sides of the Pleasant River as it meanders through the confluence of the Taylor and Ingersoll Branches in Columbia and T18 MD BPP.

OPPORTUNITIES FOR CONSERVATION

» Educate recreational users about the ecological and economic benefits provided by the focus area.
» Maintain natural hydrologic regime by avoiding drainage or impoundment of the wetlands, streams or adjacent water bodies.
» Monitor and remove invasive plant populations.
» Protect sensitive natural features through careful management planning on conserved lands.
» Maintain intact forested buffers along water bodies and wetlands to protect water quality and provide valuable riparian habitat for wildlife.

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

Rare Animals
Upland Sandpiper
Atlantic Salmon

Rare Plants
Bog Bedstraw
Canada Mountain-ricegrass
Jacobs Ladder

Rare and Exemplary Natural Communities
Domed Bog
Dwarf Shrub Bog
Leatherleaf Bog
Maritime Huckleberry Bog
Northern White Cedar Swamp
Sedge - Heath Fen
Tall Grass Meadow

Significant Wildlife Habitats
Inland Wading Bird and Waterfowl Habitat

Public Access Opportunities
» Great Heath, MBPL

Photo credits, top to bottom: ME Dept. of inland Fisheries and Wildlife, ME Natural Areas Program (Bottom 4 photos)

Great Heath, Rich Bard

FOCUS AREA OVERVIEW

Huge and diverse, this multiple-unit peatland is noteworthy for its variety of peatland types. Morphologically, the peatland is composed of seven coalesced areas, each consisting of two or more raised units. Some of these raised units are visibly domed and exhibit concentric patterns. There are also scattered secondary pools

The high morphological and hydrologic diversity of Great Heath results in a wide variety of natural communities. Dominant vegetation types mapped by Davis and Anderson (1982) are, in descending order, 26% dwarf shrub bog, 24% crowberry-lichen bog, 11% sweetgale mixed shrub fen, 7% plateau bog sedge lawn, 6% acidic fen low sedge lawn, 6% black spruce bog woodland, 2% red maple woodland swamp 2% bog moss lawn, 1% leatherleaf bog lawn, 2% open water, and 1% upland.

As these proportions indicate, the large raised portion is intermediate between coastal plateau bogs and inland domed bogs. Plants characteristic of coastal peatlands include lichen lawns, deer-hair sedge (*Trichophorum cespitosum*) communities, abundant black crowberry (*Empetrum nigrum*) and dwarf huckleberry (*Gaylussacia dumosa var. bigeloviana*), as well as scattered dragon's mouth orchid (*Arethusa bulbosa*) and baked appleberry (*Rubus chamaemorus*). Great Heath is the only location known in Maine for the globally rare Jacob's ladder (*Polemonium vanbruntiae*).

The geologic features surrounding the peatland complex are also outstanding. The west side of the peatland is bordered by an esker. The Pineo Ridge, a terminal moraine of late-glacial origin, borders the south side of the peatland and grades into a glaciomarine delta. These glacial features likely played a role in the peatland's formation.

RARE AND EXEMPLARY NATURAL COMMUNITIES

Domed Bog Ecosystem is a type of raised bog. These are large inland peatlands, usually more than 500 meters in diameter, with convex surfaces that rise several meters above the surrounding terrain and that display concentric patterning. At least in the center, peat accumulation is sufficient to maintain a perched water table. Consequently, most water available for plant growth comes from precipitation and is nutrient poor. Most domed bogs show a vegetation zonation reflecting the nutrient gradient, where more nutrient demanding (minerotrophic) vegetation occurs around the perimeter of the peatland, and low-nutrient vegetation occupies the raised

portion of the bog. The peatland surface is characterized by hummocks and hollows. Patterned domed bogs have small, usually crescent-shaped pools near the highest point. Unpatterned domed bogs lack pools.

Natural communities associated with the Domed Bog Ecosystem and this focus area include **Northern White Cedar Woodland Fens**, **Leatherleaf Boggy Fens**, **Huckleberry-Crowberry Bogs**, **Sedge-Leatherleaf Fen Lawns**, and **Sheep Laurel Dwarf Shrub Bogs**.

Bluejoint Meadow natural communities also occur in the focus area. These dense swards of tall grassy vegetation are dominated by bluejoint, with smaller amounts of shrubs (alder, meadowsweet, willow) mixed in. Depending on the disturbance history, the shrubs may be low and not easily visible among the grasses, or taller, in which case the vegetation appears as mixed shrub-graminoid.

CHARACTERISTIC SPECIES

The majority of open peatlands and flowages included in the Great Heath Focus Area are mapped as moderate and high value **Inland Waterfowl and Wading Bird Habitat**, especially those areas influenced by the Pleasant River, Taylor Brook, and Dog Pit Brook. These areas provide undisturbed nesting habitat and undisturbed, uncontaminated feeding areas and are essential for maintaining viable waterfowl and wading bird populations. High value **brook trout** fisheries are present in the Pleasant River, Taylor Brook, Bill Smith Brook, and Door Brook.

The Pleasant River is also documented **Atlantic salmon** habitat. Atlantic salmon, a Federally Endangered species, depend on cool, clear, free flowing rivers and streams. They are an anadromous species, spending much of their life cycle in the ocean but returning to the streams to spawn.

The extensive blueberry barrens located along the edge of the focus area host **upland sandpiper**, a State Threatened species. Upland sandpipers require large open fields (greater than 150 acres) and were more common when a higher percentage of the state was in farmland. As grasslands disappeared and converted to forests, upland sandpiper populations declined. They are now among the rarest of grassland birds in the Northeast. Most of the states' population nests in downeast blueberry barrens. Maine has the largest upland sandpiper population in the region and plays an important role in the conservation of this species

CONSERVATION CONSIDERATIONS

» In general, threats to these peatlands include invasive species, peat mining, cranberry harvesting, timber harvest around the forested perimeters, and development and hydrologic alteration including draining. Most of these threats have been eliminated by protection of most of this area by the state, the Town of Columbia and The Nature Conservancy. Prior to protection by the state, the area was apparently used as a gunnery and bombing range in World War II, and there were unsuccessful past attempts to harvest peat in the southeast part of the heath. Peat mining is currently not conducted on a commercial scale in Maine, but the potential remains in the future for the small portion of the Heath not owned by the state.

Ecological Services of the Focus Area

- High quality habitat for waterfowl, wading birds, and other wildlife.
- Supports regional biodiversity by providing habitat for rare plants, animals, and natural communities.

Economic Contributions of the Focus Area

- Attracts tourism for wildlife observation, and outdoor recreation.
- Provides opportunity for research.
- Provides wildlife habitat for a number of game species that are seasonally important to Maine's rural economy.

» 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.

» The ecological integrity of peatlands, including all the processes and life forms they support, is dependent on the maintenance of the current hydrology and water quality of these systems. 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. In addition, improperly sized and installed crossing structures such as culverts can block fish and invertebrate passage through stream channels often resulting in aquatic habitat fragmentation. Future management activity should avoid additional impacts to the site's hydrology.

» The wetland system will benefit from establishing and/or maintaining vegetative buffers around its perimeter wherever possible. A buffer of 250 feet or more will serve to limit impacts from adjacent development, help prevent erosion,

provide habitat needed by numerous species that depend on the wetlands, limit colonization of invasive species, and prevent impacts from ORV use.

» This area includes Significant Wildlife Habitat for waterfowl and wading birds. Both land managers and private landowners should follow best management practices with respect to forestry activities in and around wetlands, shoreland areas, and Significant Wildlife Habitat. Maintaining wide forested buffers along all lakes, rivers, streams, and wetlands 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 waterfowl and wading bird habitat.

» 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.

» The Great Heath Focus Area includes the Great Heath Ecological Reserve. Research and education are actively encouraged on all state Ecological Reserves. The state has developed a long term ecological monitoring program for Reserves and seeks opportunities to promote research efforts that complement its monitoring program.

Pleasant River, Craig Snapp

For more information about Focus Areas of Statewide Ecological Significance, including a list of Focus Areas and an explanation of selection criteria, visit **www.beginningwithhabitat.org**

RARE SPECIES AND EXEMPLARY NATURAL COMMUNITIES OF THE FOCUS AREA

	Common Name	Scientific Name	State Status*	State Rarity Rank	Global Rarity Rank
Animals	Upland Sandpiper	*Bartramia longicauda*	T	S3B	G5
Plants	Bog Bedstraw	*Galium labradoricum*	SC	S2	G5
	Canada Mountain-ricegrass	*Oryzopsis canadensis*	SC	S2	G5
	Jacobs Ladder	*Polemonium vanbruntiae*	E	S1	G3G4
Natural Communities	Domed Bog	Domed bog ecosystem		S3	GNR
	Dwarf Shrub Bog	Sheep laurel dwarf shrub bog		S4	G5
	Leatherleaf Bog	Leatherleaf boggy fen		S4	G5
	Maritime Huckleberry Bog	Huckleberry - crowberry bog		S3	G3G5
	Northern White Cedar Swamp	Northern white cedar swamp		S4	GNR
	Sedge - Heath Fen	Sedge - leatherleaf fen lawn		S4	G4G5
	Tall Grass Meadow	Bluejoint meadow		S3	G4G5

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.