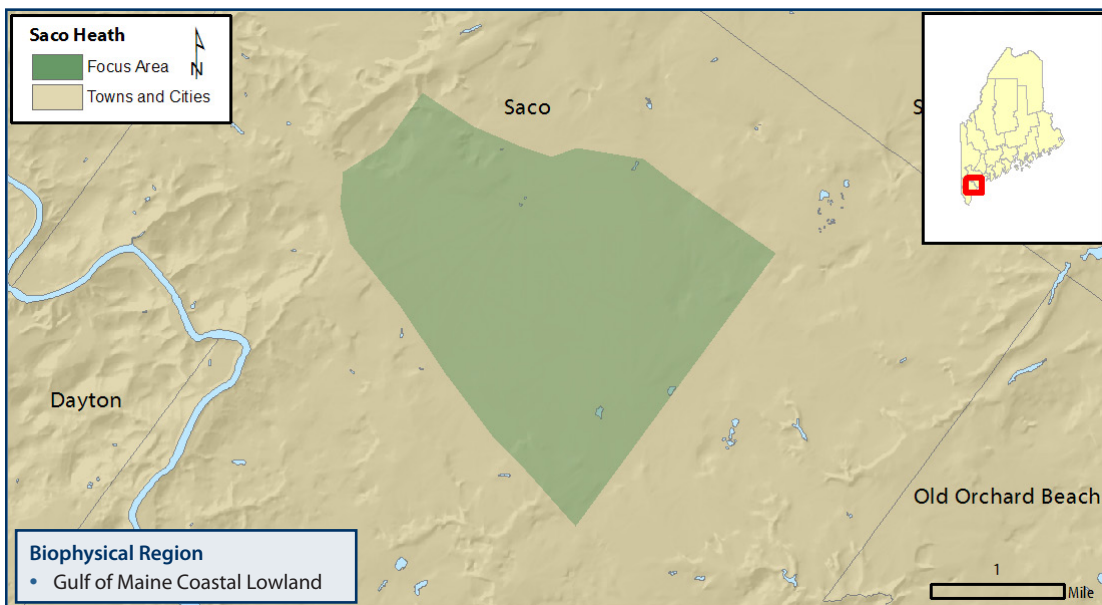
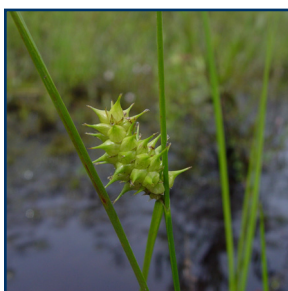
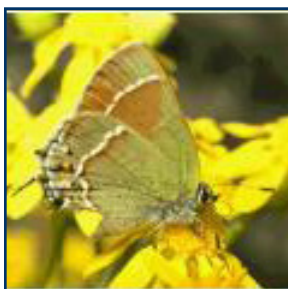
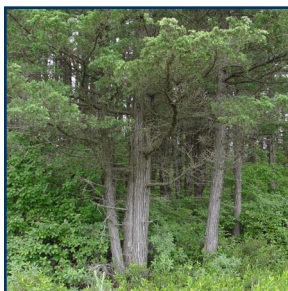


# Saco Heath



## WHY IS THIS AREA SIGNIFICANT?

Saco Heath is the southern-most coalesced domed bog in Maine. Saco Heath and the surrounding forest cover over 1000 acres and include a mosaic of habitat types including forested bog, wooded shrub heath and shrub heath. Several rare natural communities, rare plants, and rare animal species have been documented in the heath, including species only known in a few locations in Maine and other species at the northern edge of their range.

## 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 to protect natural communities, rare species and wetland integrity.
- » Encourage best management practices for forestry, vegetation clearing, and soil disturbance activities near the heath and its associated natural communities.
- » Maintain the natural hydrology of the Focus Area.
- » Limit use of pesticides, especially aerial spraying.

For more conservation opportunities, visit the Beginning with Habitat Online Toolbox: [www.beginningwithhabitat.org/toolbox/about\\_toolbox.html](http://www.beginningwithhabitat.org/toolbox/about_toolbox.html).

*Photo credits, top to bottom: MNAP, Margret Pizer, MDIFW, MNAP, MNAP*

## Rare Animals

Hessel's Hairstreak Butterfly  
Malleated vertigo

## Rare Plants

Atlantic White Cedar  
Long's Bulrush  
Smooth winterberry  
Wild Ginger

## Rare and Exemplary Natural Communities

Atlantic White Cedar Bog  
Pitch Pine Bog  
Raised Level Bog Ecosystem

## Significant Wildlife Habitats

Deer Wintering Area

## Public Access Opportunities

- » Saco Heath Preserve, The Nature Conservancy



*Saco Heath, Margret Pizer*

## FOCUS AREA OVERVIEW

Saco Heath Focus Area covers approximately 3,500 acres and includes the southern-most coalesced domed bog in Maine, perhaps the southernmost of the boreal domed bogs. The heath and adjacent forest cover over 1000 acres and include a mosaic of habitat types with most of the acreage as forested bog, wooded shrub heath, and shrub heath. Two rare natural communities, Atlantic white cedar bog and pitch pine bog also occur here. Atlantic white cedar reaches the northern limit of its range in southern Maine and is considered rare. It is declining throughout its range due to land conversion and timber harvesting. Saco Heath is the only known site where Atlantic white cedar occurs in a domed bog ecosystem north of the pocosins of the Carolinas. In addition, Saco Heath is one of only four sites in the state known to support a population of the Endangered Hessel's hairstreak butterfly. The larvae of this rare butterfly subsist solely on Atlantic white cedar leaves. The forested wetland surrounding the heath supports a few black gum trees, another southern species at the northern limit of its range in Maine.

A series of ponds form a flowage along the central section of the heath where two peat domes meet. Atlantic white cedar is abundant on the northwestern raised portions of the peatland, along with white pine, black spruce, and tamarack.

Heath vegetation including Labrador tea, sheep laurel, bog laurel, leatherleaf, rhodora, and dwarf huckleberry, dominates the understory. To the southeast, the peatland slopes noticeably downwards where scattered patches of pitch pine dot the open heath and the upland edges. Atlantic white cedar trees become less abundant and smaller as shrub-heath dominance increases. Bands of shrub-heath vegetation consisting of rhodora shrub-heath, sedge meadow/shrub-heath, and shrub-heath/moss-lawn occur along the eastern boundary of the heath.

The forest surrounding the heath ranges from swamp hardwood forest to mixed conifer-hardwood forest. Pockets of Sphagnum moss are often found in depressions within the swamp forests. Common trees include hemlock, white pine, red oak, beech, gray birch, yellow birch, red maple, and sugar maple.

## NATURAL COMMUNITIES

Saco Heath is a **raised level bog ecosystem**. This type of peatland ecosystem is made up of a group of natural communities that form flat peatlands in basins with mostly closed drainage, receiving water from precipitation and runoff from the immediate surroundings. Sphagnum moss dominates the

ground surface and is the primary peat constituent. These bog ecosystems are often at least partly treed with black spruce and larch.

A portion of Saco Heath is classified as an **Atlantic white cedar bog**. This rare natural community includes peatlands dominated by dwarf ericaceous shrubs with a sparse tree layer of Atlantic white cedar. Shrubs can form an almost continuous carpet beneath the stunted cedars. Abundant peat moss covers the ground and forms the substrate. These bogs are typically part of larger peatlands. Ensuring the persistence of this rare community requires maintaining the hydrologic integrity of the entire wetland including upland buffers.

Another portion of Saco Heath is classified as **pitch pine bog**, a sparsely forested peatland dominated by pitch pine. This natural community type includes a shrub layer that includes maleberry and highbush blueberry along with other common bog shrubs, and an herb layer of dense evergreen heath shrubs, especially leatherleaf. Peat moss forms the substrate. Strong development pressures in southern Maine threaten unprotected sites and degrade their landscape surroundings.

#### CHARACTERISTIC SPECIES

A globally rare and state Endangered invertebrate species, the **Hessel's hairstreak butterfly** (*Callophrys hesseli*), is known from the Saco Heath Focus Area. This is one of only four known populations of this species in Maine. Hessel's hairstreak only occurs in swamps and bogs where its host plant, Atlantic white cedar, is abundant. While probably never common on the northern end of its range, Hessel's hairstreak is now vulnerable to extinction in Maine due to the incremental loss and fragmentation of remaining cedar swamps from logging and development activity in rapid growth areas of York County.

**Malleated vertigo** (*Vertigo malleata*), a snail species of Special Concern, has also been documented here. This species prefers acidic habitats such as the bogs plentiful in the Saco Heath. Much of the heath has also been mapped as a **Deer Wintering Area**, a Significant Wildlife Habitat that provides adequate protection from cold temperatures and deep snow for deer. **Wild brook trout** can be found in Nonesuch, Cascade and Deep Brooks as well as other unnamed tributaries to the Saco River.

Four rare plants have been documented growing within the Focus Area. **Atlantic white cedar** (*Chamaecyparis thyoides*), **long's bulrush** (*Scirpus longii*), and **smooth winterberry** (*Ilex laevigata*) occur in swamps, bogs and/or fens of the heath. These three species are at the northern edge of their range in southern Maine. **Wild ginger** (*Asarum canadense*) has also been documented in the Focus Area. This state Threatened species is found in rich woods.

#### CONSERVATION CONSIDERATIONS

» The integrity of the heath and the processes and life forms it

#### Ecological Services of the Focus Area

- Purifies water and recharges groundwater
- Supports regional biodiversity by providing habitat for rare plants, animals, and communities

#### Economic Contributions of the Focus Area

- Retains floodwaters
- Attracts tourism to the area for hiking and wildlife observation



Saco Heath Pitch Pine Bog, Maine Natural Areas Program

supports are dependent on the maintenance of the current hydrology of the site. Intensive timber harvesting, vegetation clearing, soil disturbance, or development on adjacent uplands can result in greater runoff, sedimentation, and other non-point sources of pollution. Improperly sized crossing structures such as culverts can 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 heath's hydrology. Logging of the uplands may also open new avenues for ATV traffic along the margin of the heath. Future management activity should avoid additional impacts to the heath's hydrology.

- » Natural communities still occurring on the uplands adjacent to the heath should be conserved as part of the greater heath ecosystem. Long term preservation of the biodiversity of a high value natural area such as Saco Heath will be best affected by retaining as much of the surrounding natural

- landscape as possible.
- » Harvesting of Atlantic white cedar has occurred in some parts of the heath in the past. While proper harvesting will promote cedar regeneration, improper harvesting, draining, and ditching will lead to the displacement of cedar by other species. Operating harvesting machinery on the heath can lead to compaction of the peat and alterations in drainage patterns. Retaining a large healthy cedar population is critical to the survival of Hessel's hairstreak butterfly at the heath.
  - » Development around the heath is concentrated along the major roads and in small subdivisions located off of Jenkins Road and Buxton Road. If this same trend continues along Flag Pond Road and Heath Road, the heath will eventually become an island of habitat. There may be implications for large mammals such as moose, coyote, and bear which are known to utilize Saco Heath. Movements of these species to and from the heath may become restricted, and the species may be viewed as a nuisance if interactions with humans increase. In addition, unrestrained pets such as dogs and cats, may have an impact on the movements of animals and may directly prey upon small mammals and birds nesting on the ground and within the shrub layer. As the number of homes adjacent to the heath continues to grow there will be other conservation considerations including the effects of increased groundwater withdrawal and water quality degradation through pollution from storm water runoff and private sewage systems.
  - » 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.
  - » Vehicle use is a potential threat even on those areas that are currently protected. Although most of the vehicle use occurs on the adjacent uplands, there are several areas where vehicles (mostly ATVs and snowmobiles) drive directly on the heath mat. Rutting and linear depressions where the peat has been compacted can affect local surface hydrology. In addition, vehicles can cause direct destruction of the vegetation.
  - » Aerial spraying of broad spectrum pesticides (e.g. for gypsy moth control or mosquito control) should be avoided over the heath or the adjacent upland buffer to minimize incidental impacts to rare butterflies and invertebrates occupying the heath.
- » 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>.



*Saco Heath, Margret Pizer*

RARE SPECIES AND EXEMPLARY NATURAL COMMUNITIES OF THE FOCUS AREA

	Common Name	Scientific Name	State Status*	State Rarity Rank	Global Rarity Rank
Animals	Hessel's Hairstreak Butterfly	<i>Callophrys hesseli</i>	E	S1	G3/G4
	Malleated vertigo	<i>Vertigo malleata</i>	SC	S3	G5
Plants	Atlantic White Cedar	<i>Chamaecyparis thyoides</i>	SC	S2	G4
	Long's Bulrush	<i>Scirpus longii</i>	T	S1	G2
	Smooth winterberry	<i>Ilex laevigata</i>	SC	S2	G5
	Wild Ginger	<i>Asarum canadense</i>	T	S1S2	G5
Natural Communities	Atlantic White Cedar Bog	Atlantic White Cedar Bog		S1	G3G4
	Pitch Pine Bog	Pitch Pine Bog		S2	G3G4
	Raised Level Bog Ecosystem	Raised Level Bog Ecosystem		S4	Not Ranked

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.