

Bigelow Mountain- Flagstaff Lake- North Branch Dead River



WHY IS THIS AREA SIGNIFICANT?

This focus area is an acclaimed recreational destination that encompasses a range of natural features and landscapes of exceptional ecological value. The Bigelow Range supports a variety of rare and sensitive ecosystems and species, along with hiking trails and spectacular views. Flagstaff Lake, the North Branch of the Dead River, and the surrounding wetlands provide boating opportunities, important wildlife habitat, and a high quality cold water fishery that supports wild brook trout. This area includes significant portions of the Appalachian Trail and the Northern Forest Canoe Trail and provides habitat for seven Threatened or Endangered species.

OPPORTUNITIES FOR CONSERVATION

- » Minimize recreational impacts on sensitive alpine areas through careful siting of trails and monitoring for overuse.
- » Educate hikers on proper trail use to minimize off-trail impacts, especially in alpine areas.
- » Protect sensitive natural features through careful management planning on state-owned lands.
- » Work with landowners to encourage sustainable forest management practices on private lands.
- » Maintain intact forested buffers along the lake, river, 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.

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Rare Animals

- Bald Eagle
- Peregrine Falcon
- Tomah Mayfly
- Bicknell's Thrush

- Creeper
- Rock Vole
- Canada Lynx

Rare Plants

- Alpine Blueberry
- Alpine Sweet-grass
- Appalachian Fir-clubmoss
- Bigelow's Sedge
- Boreal Bentgrass
- Dwarf Rattlesnake Root
- Fragrant Cliff Wood-fern
- Lapland Diapensia
- Lesser Wintergreen
- Mountain Sandwort
- Vasey's Pondweed

Rare and Exemplary Natural Communities

- Acidic Cliff
- Grassy Shrub Marsh
- Heath Alpine Ridge
- Lower-elevation Spruce - Fir Forest
- Montane Spruce - Fir Forest
- Northern Hardwoods Forest
- Red and White Pine Forest
- Spruce - Northern Hardwoods Forest
- Spruce Rocky Woodland
- Streamshore Ecosystem
- Subalpine Fir Forest
- Tall Sedge Fen
- Unpatterned Fen Ecosystem

Significant Wildlife Habitats

- Inland Waterfowl and Wading Bird Habitat
- Deer Wintering Area



Little Bigelow Mountain, Maine Natural Areas Program

FOCUS AREA OVERVIEW

This focus area encompasses over 50,000 acres of forest, wetlands, and alpine areas spread across eight townships to the north of Carabassett Valley. It includes Bigelow Mountain, Flagstaff Lake, and adjacent forest and wetland habitat. The focus area supports fourteen populations of eleven different rare plants, fifteen rare or exemplary natural communities, and habitat for four rare animal species. Together with the Mount Abraham – Saddleback – Crocker Mountain Focus Area just to the south, this complex represents one of the largest concentrations of high value ecosystems and significant natural features in the state.

Much of the focus area (about 36,000 acres) is part of the State-owned Bigelow Preserve, the first park in the U.S. created by voter referendum. 10,561 acres of the Bigelow Preserve, including all of the alpine habitat, have been designated as an Ecological Reserve. Bigelow is the second largest in Maine's system of Ecological Reserves, state-owned lands set aside from active management in order to protect and monitor the state's natural ecosystems. Other state-owned lands within the focus area include the Flagstaff Lake, Flagstaff Island, and Spring Lake Units, managed by the Bureau of Public Lands (BPL) along with Bigelow Preserve.

Bigelow Mountain

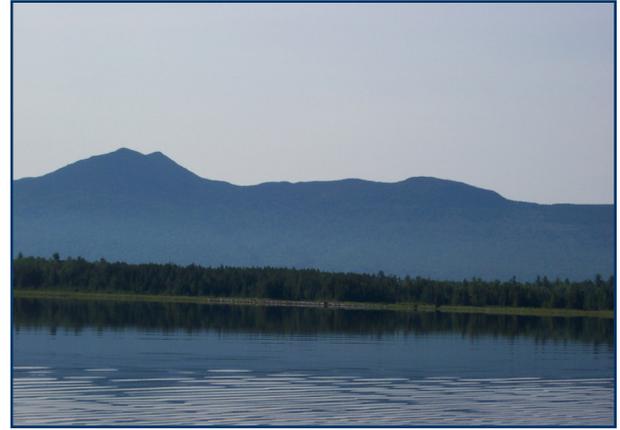
Bigelow Mountain is also known as the Bigelow Range because it has several peaks, the highest of which is West Peak (4145 feet). The mountain supports a complex of valuable alpine and subalpine habitats clustered in three areas along the ridge tops and upper slopes (including Cranberry, West, Avery, the Horns, and Little Bigelow peaks). Mapped features include large areas of excellent subalpine forest, which is largely undisturbed above 2700' feet, and an exemplary and old red spruce stand. Above treeline, the high peaks support alpine vegetation shaped by the harsh growing conditions. Among the rare alpine communities is an excellent heath alpine ridge community on West and Avery Peaks that encompasses populations of seven rare plants. The cliffs and exposed ledges on the southwest side of Little Bigelow Peak support a distinctive acidic cliff natural community, with populations of the rare fragrant cliff wood-fern. The high summits of Bigelow Mountain provide exceptional recreational opportunities for hikers, including those traveling the Appalachian Trail, which traverses the mountain.

Lakes, ponds, and wetlands

Flagstaff Lake is a large impoundment created in 1949 for hydroelectric power generation. It provides recreational fish-

ing and boating opportunities and forms part of the Northern Forest Canoe Trail, a 740-mile water trail through New York, Vermont, Quebec, New Hampshire, and Maine. The shores of Flagstaff Lake support four active bald eagle nest sites. Many of the open wetlands around the lake have been designated as Significant Wildlife Habitat for waterfowl and wading birds, part of the over 5000 acres of Significant Wildlife Habitat included in this focus area.

The focus area includes several other wetlands and water bodies of note, including high elevation ponds, or tarns, and an excellent quality tall sedge fen at Jones Pond (south of Bigelow Mountain). The exemplary unpatterned fen ecosystem around Black Brook Pond in Pierce Pond Township is one of only two unpatterned fens in the Western Mountains region of Maine.



Flagstaff Lake, Andy Cutko

Large forest blocks

This focus area is notable for its large areas of unfragmented forest, which provide habitat for a suite of specialized wildlife species. Though most of the low and moderate elevation forest (up to about 3400') has been harvested, in some cases heavily, in the past, the focus area does include nine areas mapped as exemplary forest communities. As forests in this region and throughout the state continue to undergo fragmentation, this focus area is likely to become even more important as habitat for species that require large forest blocks.

RARE AND EXEMPLARY NATURAL COMMUNITIES

The **heath alpine ridge** is a varied community of dwarf evergreen shrubs and herbs found at high elevation in Maine's central and western mountains. Though this is a frequent community type above treeline, it is ranked as a very rare community in Maine because of its restricted habitat. The community occurs on exposed, windswept ridges. Like other alpine community types, the heath alpine ridge can be sparsely vegetated, with up to 65% bare ground. Shrubs often found in this community include alpine bilberry, diapensia, and mountain cranberry. Typical herbs include the rare Bigelow's sedge and highland rush. An excellent example of this community is found on West Peak and Avery Peak above 3700'.

Subalpine fir forest occurs below treeline and generally above 2700 feet. This community is a patchy mixture of some-

what stunted trees, dominated by balsam fir and heart-leaved birch. Where wind, fire, or landslides have created openings, the canopy may be dominated by heart-leaved birch and mountain ash, with a dense shrub layer of mountain ash, hobblebush, and regenerating fir. Common herbs include wood ferns, bluebead lily, northern wood-sorrel, and big-leaved aster. Disturbances, including landslides, can be important in shaping this community. Fir waves, an unusual landscape pattern of linear bands of fir dieback and regeneration, are a variant of this community.

Subalpine fir forest provides nesting habitat for high elevation and coniferous forest specialist birds, such as the spruce grouse, dark-eyed junco, bay-breasted warbler, blackbacked woodpecker, white-throated sparrow, and blackpoll warbler. Other high elevation wildlife species that have been found in this focus area include the uncommon Bicknell's thrush and the rock vole. This community is considered rare in Maine because it is limited to higher elevation mountains.

The **red and white pine forest** is a coniferous forest dominated by red pine. White pine, red spruce, and northern white cedar may also occur as important canopy tree species. The understory is typically sparse, with scattered heath shrubs, bracken fern, and wintergreen. This community frequently occurs on sites with a history of fire. A 700 acre example of this community found on Flagstaff Peninsula is dominated by red pine, with scattered red spruce and quaking aspen. Most of this forest has been harvested within the last decade and is regenerating, but some areas of mature trees remain.

Natural forests dominated by red pine are rare in Maine, occurring primarily on well-drained outwash soils or dry ridgetops. As a result, these exemplary communities make an important contribution to local and regional biodiversity. This example is one of the largest natural red pine stands in Maine.

The **northern hardwoods forest** is the dominant hardwood forest community in Maine. A combination of beech, yellow

Public Access Opportunities

- » Black Brook Flowage Wildlife Management Area, MDIFW
- » Bigelow Preserve, Big Eddy, Flagstaff Lake, and Dead River Public Reserved Land, BPL
- » Appalachian Trail Corridor and Jones Pond, USNPS

birch, and sugar maple typically forms the majority of the canopy. Other common canopy trees include paper birch, red maple, red oak, and eastern hemlock. Shrubs and herbs are often sparse, with wildflowers such as Canada mayflower, starflower, and bluebead lily among the most common herbs. Although this community is very common in Maine, large undisturbed examples are scarce. This forest type includes valuable timber species and has been extensively harvested over the past two centuries. Two exemplary northern hardwoods forests have been identified within the focus area. One stand, along the Lower Horns Pond Trail on the south side of Bigelow Mountain, is a good example of a relatively high elevation northern hardwoods forest. Another late-successional northern hardwood forest, occurring on the north slope of the mountain, was selectively harvested by BPL in 2006, with the aim of retaining late-successional features.

CHARACTERISTIC SPECIES

Bald eagles nest along sea coasts, inland lakes and major rivers. Breeding habitat includes large trees, primarily old white pines, in close proximity (less than one mile) to water where food is abundant and human disturbance is minimal. Bald eagles, once abundant in Maine, were nearly extirpated throughout their range because of widespread use of environmental contaminants. Due to a wide variety of efforts, bald eagles have now made a dramatic recovery. As a result, the species was removed from Maine's Threatened species list in 2009. It is now listed as a species of Special Concern in Maine.

Bicknell's thrush is a rare and elusive songbird that breeds in isolated patches of montane habitat in New York, northern New England, and southeastern Canada. During the breeding season, the species prefers cool, damp subalpine forest habitat dominated by stunted balsam fir and red spruce thickets. It feeds primarily on insects gathered from the forest floor. It is the only thrush known to be polyandrous, with each female having multiple mates. Up to four males may breed with a female and help to raise the young from one nest. One of the rarest songbirds in North America, Bicknell's thrush appears to be declining in numbers across its range. The inherent patchiness of its breeding habitat, on widely separated mountain ranges and coastal areas, makes the species more vulnerable to local extinction. Its montane breeding habitat is threatened by recreational use, including ski resort development, wind power and telecommunications development, air pollution, and climate change. The species winters in the West Indies, primarily on the island of Hispaniola, where native forests have been decimated and remaining forested areas are under continued threat.

Canada lynx occupy an extensive range from Alaska to Nova Scotia, where the species reaches its southeastern limit. Lynx are well adapted to living in areas of deep snow where their large feet give them the advantage over other forest predators. The lynx is one of 2 wild cats found in Maine. Although lynx and bobcat are similar in appearance, lynx can be differenti-



Bicknell's Thrush, Steven Faccio

ated from bobcats by their larger well furred-feet, completely black tipped tail, longer ear tufts and uniform grey to grey brown coat. In Maine, lynx are found primarily in northern and western sections where snow depths remain high throughout the winter and forested stands with young dense spruce and fir are common. These stands provide lynx with an abundant source of prey, primarily snowshoe hare and in 2006 reached record levels following intensive clear cutting of diseased spruce and fir. Perhaps the most critical threat to lynx is the loss of spruce and fir forest in northern and western Maine. Fortunately, active forest management can benefit lynx if 25 to 30% of Maine's current spruce and fir stands are comprised of well to overstocked (>3,000 stems/acre) regenerating sapling trees.

Northern bog lemmings have been documented from Bigelow Mountain. The northern bog lemming is a tiny, round, grayish-brown rodent with a short tail. It is believed to be one of the rarest mammals in Maine, though its status is not well known. Northern bog lemmings live in colonies, typically in moist or boggy environments surrounded by arctic or alpine tundra or spruce-fir forest. Their diet includes a variety of plant materials, including sedges and grasses, as well as mushrooms, snails and slugs. The species is at the southern extent of its range, and has been documented from only five sites in Maine, but additional habitat for this species likely occurs in other high elevation areas. More common in Canada, this species is found in only four U.S. states: Alaska, Washington, Maine and New Hampshire. Most of the documented habitat in Maine and New Hampshire is at higher elevations (above 2000 feet). The northern bog lemming is considered to be Threatened in Maine because of its low numbers and because its habitat is uncommon in the state. Potential threats to its high-elevation habitat include wind power development, recreational use, and forestry activities within sensitive areas of spruce-fir forest.

The **Tomah mayfly** is sometimes referred to as a living fossil because it resembles a prehistoric insect that might have lived 300,000 years ago. This insect is found in small rivers and streams bordered by extensive areas of seasonally flooded sedge meadow. It spends most of its lifecycle under water,

as an egg and then an aquatic larva, or nymph. Like other mayflies, this species' lifespan as an adult is only days. It uses different habitat in each stage of its life cycle, from the stream channel as an egg and young nymph to flooded sedge meadows as an older nymph to streamshore forest as an adult. As a result, it is crucial to maintain all components of its habitat at each breeding site, including the vegetation, water quality, and hydrology of the stream corridor and floodplain. This species is known to exist at only 17 sites in the world, 16 of which are in Maine. It has been listed as Threatened in Maine because of its rarity, its specific habitat requirements, and the importance of Maine to the species' survival. Habitat for the Tomah mayfly has been identified near the outlet of the North Branch of the Dead River into Flagstaff Lake.

Spring salamanders live in cold, clean streams and springs in mountainous areas. Adults are large and pinkish-orange in color, with tails well-adapted for swimming. Because this species does not have lungs but instead absorbs oxygen through its skin, it is dependent on well-oxygenated waters. Headwater, first-order, and second-order streams with rocky bottoms and/or gravel bars are ideal habitat. The spring salamander is a species of Special Concern in Maine because of its specialized habitat needs and limited range. Healthy forest systems and especially intact forested buffers surrounding its stream habitat are crucial to maintaining the water quality and temperature this species needs. Most of the sites where this species is known to exist in Maine are in the Western Mountains region. Spring salamanders have been documented from at least two sites in the focus area, streams on both the north and south slopes of the Bigelow Range. These salamanders are known to move long distances (up to 1600 feet) up and down stream. Not all suitable habitat has yet been surveyed, and the species is likely found in other suitable streams within the focus area.

Creepers, a freshwater mussel species have been found in Stratton Brook. This species is widely distributed across the state and throughout its range, however where it has been found it is rarely abundant. Usually fewer than ten individuals are found at a single location, and there is considerable question about the long-term viability of such small populations. Consequently, this species has been listed as Special Concern in Maine. The creeper prefers clean, flowing water, and thus habitat degradation and pollution have probably affected this species.

Roaring Brook mayfly is a state-Endangered mayfly that is currently known from only eight sites in Maine, one site in New Hampshire, and one site in Vermont. This globally rare mayfly appears to be restricted to undisturbed, high-elevation headwater streams along the northern Appalachian Mountain Range, and may be New England's only endemic mayfly. Five of Maine's eight occurrences are located in the State's western mountains. The remaining three occurrences are from streams on Mt. Katahdin. Although, the Roaring Brook mayfly has not been documented in the Bigelow Mountain-Flagstaff Lake-

Ecological Services of the Focus Area

- Provides high quality habitat for waterfowl, wading birds, deer, moose, and other wildlife.
- Supports regional biodiversity by providing habitat for rare species and natural communities.
- Contributes to water quality and ecological integrity of Flagstaff Lake and the Dead River.

Economic Contributions of the Focus Area

- Provides scenic vistas that contribute to Maine's natural character.
- Attracts hikers and campers to the Appalachian Trail and other trails, including the new Maine Huts and Trails.
- Attracts tourism for wildlife viewing, leaf-peeping, paddling, hunting, angling, cross-country skiing, and snowmobiling.
- Supports valuable brook trout and other cold water fisheries.
- Serves as a valuable recreational resource for local residents and visitors from around the world.
- Provides opportunity for research and education.

North Branch Dead River Focus Area, there is likely suitable habitat for this species here.

Rock vole, also known as the yellow-nose vole because it has an orange to yellow coloration on its nose, is listed as a species of special concern in Maine. This vole inhabits high-elevation forests with moss-covered rock outcrops or talus slopes, similar to habitats found between West Peak and Avery Peak along the Bigelow Range. The specialized habitat of the rock vole has a spotty distribution throughout its range, thus at risk from development pressures on high mountain habitats.

CONSERVATION CONSIDERATIONS

- » The alpine and subalpine habitats on Bigelow Mountain support many rare and sensitive plants and natural communities. Although these high elevation lands are protected within the Bigelow Preserve, recreational use can pose a threat to alpine plants and communities. Harsh environmental conditions severely limit the rate of vegetation growth in alpine areas, making these communities very sensitive to disturbance from hikers. The fact that these communities occur on summits and ridges with high recreational and scenic value adds to the potential for overuse. Proper trail construction, signage, monitoring, and hiker education to minimize off-trail use can help to minimize recreational impacts.
- » With expected changes in climate over the next century, al-

- pine areas may become important as refuges for native species and communities currently found at lower elevations.
- » Recreational use of this focus area should be managed to prevent potential negative impacts on important resources and recreational values. Education of users can help to limit any damage from recreational activities, especially in sensitive areas such as lake and pond shores, ridge lines, and summits. Both motorized and non-motorized users should be encouraged to minimize off-trail use and practice minimum impact camping. Proper trail construction and monitoring is also important. ATV use should be excluded from the summits and upper slopes of the mountains, as well as from wetlands.
 - » Preserving the natural communities and other sensitive features within the focus area will be best achieved by working to conserve the integrity of the larger natural systems in which these features occur. This can be achieved through management planning on state-owned lands and encouraging sustainable forest management on remaining actively managed private lands. Where late successional and old growth stands remain, these should be conserved when possible. Additional areas should also be aside from timber harvests to allow for the development of some unmanaged forests.
 - » Managers and visitors should strive to minimize impacts to high elevation habitats that may potentially harbor northern bog lemmings and associated species (cool, moist, mossy areas of a boreal or alpine character). Before any recreational development activities or forest harvesting in or near known lemming habitat, managers should consult with a biologist from MDIFW to assist with planning.
 - » The integrity of wetlands and the processes and life forms they support are dependent on the water quality and hydrology 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. These effects could have devastating impacts on populations of rare freshwater mussels and Tomah mayflies.
 - » Forested areas surrounding the lakes, ponds, streams, and wetlands are vital to the ecological health of the water bodies and wetlands within the focus area. These buffers also provide valuable riparian habitat for many wildlife species. In particular, intact forested buffers around spring salamander streams protect the water quality and temperature of the streams and are used by the salamanders for foraging and dispersal. A 250 foot buffer from development and road-building and a 150 foot riparian management zone for forestry activities is recommended within ¼ mile upstream or downstream from documented spring salamander habitat. When planning forestry activities within this riparian zone, foresters are encouraged to consult with an MDIFW biologist.
 - » The bald eagle nest sites on Flagstaff Lake are important habitat features that should be protected with buffers from incompatible activities such as timber harvesting during the nesting season.
 - » Other threats facing the bald eagle population, including habitat loss, environmental contamination, diminished water quality, and human-caused deaths and injuries can be mitigated through conservation of the Focus Area as a whole. Healthy lakes and wetlands with intact forested buffers provide valuable habitat for bald eagles, as well as a diverse array of other wildlife.
 - » The creeper, a mussel species of Special Concern, has been documented from Stratton Brook on the southern side of the focus area. Freshwater mussels are sensitive to contaminants and changes in habitat. Maintenance and/or improvement of water quality and habitat integrity via protection of riparian buffers is essential. Any activities that may potentially degrade water quality or negatively alter habitat type (including substrate, flow rate, water levels) should be avoided. A minimum of 250-foot contiguous, forested buffer is recommended on waterways that provide habitat for rare, threatened, and endangered mussel species. Likewise, because larval freshwater mussels require a specific fish host, activities that may result in changes to the fish community or prevent access by fish should be avoided. When designing projects near known mussel habitat consult with a MDIFW biologist to assist with planning, and refer to the Maine Forest Service's forestry Best Management Practices handbook or the Maine Department of Environmental Protection's Maine Erosion and Sediment Control Recommendations.
 - » Spraying of pesticides, especially insecticides, near Tomah mayfly habitat should be avoided.
 - » 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>.
 - » This focus area includes The Horns 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.

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	
	Creeper	<i>Strophitus undulatus</i>	SC	SNR	G5	
	Peregrine Falcon	<i>Falco peregrinus</i>	E	S1S2N,S2B	G4	
	Rock Vole	<i>Microtus chrotorrhinus</i>		S3	G4	
	Tomah Mayfly	<i>Siphonisca aerodromia</i>	T	S2	G2G3	
Plants	Alpine Blueberry	<i>Vaccinium boreale</i>	SC	S2	G4	
	Alpine Sweet-grass	<i>Hierochloe alpina</i>	T	S1	G5	
	Appalachian Fir-clubmoss	<i>Huperzia appalachiana</i>	SC	S2	G4G5	
	Bigelow's Sedge	<i>Carex bigelowii</i>	SC	S2	G5	
	Boreal Bentgrass	<i>Agrostis mertensii</i>	T	S2	G5	
	Dwarf Rattlesnake Root	<i>Prenanthes nana</i>	E	S1	G5	
	Fragrant Cliff Wood-fern	<i>Dryopteris fragrans</i>	SC	S3	G5	
	Lapland Diapensia	<i>Diapensia lapponica</i>	SC	S2	G5	
	Lesser Wintergreen	<i>Pyrola minor</i>	SC	S2	G5	
	Mountain Sandwort	<i>Minuartia groenlandica</i>	SC	S3	G5	
	Vasey's Pondweed	<i>Potamogeton vaseyi</i>	SC	S2	G4	
	Natural Communities	Acidic Cliff	Acidic cliff - gorge		S4	GNR
		Grassy Shrub Marsh	Mixed graminoid - shrub marsh		S5	GNR
Heath Alpine Ridge		Dwarf heath - graminoid alpine ridge		S2	GNR	
Lower-elevation Spruce - Fir Forest		Spruce - fir - broom-moss forest		S4	GNR	
Montane Spruce - Fir Forest		Spruce - fir - wood-sorrel - feather-moss forest		S4	G3G5	
Northern Hardwoods Forest		Beech - birch - maple forest		S4	G3G5	
Red and White Pine Forest		Red pine - white pine forest		S3	G3G4	
Spruce - Northern Hardwoods Forest		Spruce - northern hardwoods forest		S4	GNR	
Spruce Rocky Woodland		Spruce talus woodland		S4	G3G5	
Streamshore Ecosystem		Streamshore ecosystem		S4	GNR	
Subalpine Fir Forest		Fir - heart-leaved birch subalpine forest		S3	GNR	
Tall Sedge Fen		Mixed tall sedge fen		S4	G4G5	
Unpatterned Fen Ecosystem		Unpatterned fen 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.