

## Upper Saco River Area

Bridgton, Brownfield, Denmark, Fryeburg, Hiram,  
Lovell, Stow, and Sweden, Maine

### ***Description:***

Maine's vast upper Saco River floodplain extends from the New Hampshire border southward to the Route 117 bridge in Hiram. This stretch of river supports a complex mosaic of diverse wetland communities that comprise one of the most extensive and best remaining floodplain ecosystems in New Hampshire and Maine. This ecosystem includes floodplain forests, vernal pools, oxbow ponds, backwater sloughs, acidic fens, grassy swales, outwash plain pond shores, several large lakes, and the meandering river itself. This ecosystem also supports numerous rare species, including once of the largest concentrations of the globally rare Long's bulrush (*Scirpus longii*), three globally rare dragonfly species, the globally rare river-wash barrens community, outstanding examples of floodplain forests, and at least ten other plant species that are rare in Maine.



Hardwood floodplain forest along the upper Saco River

The magnitude, frequency, and duration of flooding appear to be the dominant natural processes that control the distribution and species composition of these wetland communities. Because so many of these natural processes have been altered, the New Hampshire Natural Heritage Program estimates a decline of over 95% of the floodplain forests in New Hampshire. Similar losses have likely occurred in Maine.

Adjacent upland communities include mixed hardwood forests, low acidic summits, and globally rare pitch-pine/scrub oak forests that add to the diversity of the overall site. Good quality examples of other upland natural community types found in the area include: oak - pine forest, oak - northern hardwoods forest, red pine woodland, and white oak - red oak forest.



Infrared Aerial Photograph of the Saco River in the vicinity of the Boston Hills

The area includes populations of 13 species of rare plants representing a variety of habitats including pine barrens, marshes, rivershores, and mountain top balds. It also includes multiple populations of 23 rare animal species, also representing a wide variety of habitat types and including a diversity of animal groups such as odonates, lepidopterans, birds, and reptiles.

***Rare Species/Natural Community Table for Upper Saco River Area:***

Common Name	Scientific Name	Status	S-Rank	G-Rank
Rare and Exemplary Natural Communities				
Pocket Swamp	Hemlock - Hardwood Pocket Swamp	n/a	S2	--
Riverwash Sand Barren	Hudsonia River Beach	n/a	S1	G2
Oak-Ash Woodland	Ironwood – Oak - Ash Woodland	n/a	S2S3	--
Kettlehole Bog – Pond Ecosystem	Kettlehole Bog – Pond Ecosystem	n/a	--	--
Tall Sedge Fen	Mixed Tall Sedge Fen	n/a	S4	--
Oak - Pine Forest	Oak - Pine Forest	n/a	S4	--
Pitch Pine Bog	Pitch Pine Bog	n/a	S1S2	--
Pitch Pine-Scrub Oak Barren	Pitch Pine-Scrub Oak Barren	n/a	S1	G2

Common Name	Scientific Name	Status	S-Rank	G-Rank
Oak – Northern Hardwoods Forest	Red oak - Northern Hardwoods - White Pine Forest	n/a	S4	--
Red Pine Woodland	Red Pine Woodland	n/a	S3	--
Silver Maple Floodplain Forest	Silver Maple Floodplain Forest	n/a	S3	--
Three-way Sedge-Goldenrod Outwash Plain Pondshore	Three-way Sedge-Goldenrod Outwash Plain Pondshore	n/a	S1	G3
Sedge Meadow	Tussock Sedge Meadow	n/a	S3	--
Unpatterned Stream Ecosystem	Unpatterned Stream Ecosystem	n/a	--	--
White Oak – Red oak (Quercus rubra) Forest	White Oak – Red Oak Forest	n/a	S3	G5
Rare Plants				
Allegheny vine	<i>Adlumia fungosa</i>	T	S1	G4
Ebony spleenwort	<i>Asplenium platyneuron</i>	SC	S2	G5
Fern-leaved false foxglove	<i>Aureolaria pedicularia</i>	SC	S2	G5
Upright bindweed	<i>Calystegia spithamea</i>	T	S1	G4G5
Ram’s-head lady’s-slipper	<i>Cypripedium arietinum</i>	E	S1	G3
Ground fir	<i>Diphasiatrum x sabinifolium</i>	E	S1	HYB
Narrow-leaved goldenrod	<i>Euthamia tenuifolia</i>	T	S2	G5T5
Dwarf bulrush	<i>Lipocarpa micrantha</i>	T	S1	G5
Adders tongue fern	<i>Ophioglossum pusillum</i>	SC	S1?	G5
Silverling	<i>Paronychia argyrocoma</i>	T	S1	G4
Douglas’ knotweed	<i>Polygonum douglasii</i>	T	S1	G5
Longs bulrush	<i>Scirpus longii</i>	T	S1	G2
Blunt-lobed woodsia	<i>Woodsia obtusa</i>	T	S1	G5
Rare Animals				
Wood Turtle	<i>Clemmys insculpta</i>	SC	S4	G4
Thaxter’s Pinion Moth	<i>Lithophane thaxteri</i>	SC	S4	G4
Similar Underwing	<i>Catacola similis</i>	SC	S2S3	G5
Edwards’ Hairstreak Butterfly	<i>Satyrium edwardsii</i>	E	S1	G4
Ebony Boghaunter Dragonfly	<i>Williamsonia fletcheri</i>	SC	S3?	G4G5
Pine Barrens Zanclognatha Moth	<i>Zanclognatha martha</i>	T	S1	G3Q
Twilight Moth	<i>Lycia rachelae</i>		S1	G4
Golden eagle	<i>Aquila chrysaetos</i>		S1B,SN	
Elusive clubtail	<i>Stylurus notatus</i>		S?	G3
Extra-striped snaketail	<i>Ophiogomphus anomalus</i>	SC	S2	G3
Peregrine falcon	<i>Falco peregrinus</i>		S1S2N, S2B	G4

Common Name	Scientific Name	Status	S-Rank	G-Rank
Huckleberry sphinx	<i>Paonias astylus</i>	SC	S3	G4G5
Spadderdock darner	<i>Aeschna mutata</i>		S?	G3G4
Rapids clubtail	<i>Gomphus quadricolor</i>		S?	G3G4
Pygmy snaketail	<i>Ophiogomphus howei</i>		S2	G3
Buck moth	<i>Hemileuca maia maia</i>		S1	G5T5
Riverine clubtail	<i>Stylurus amnicola</i>		S?	G4
Pine barrens itame	<i>Itame</i> sp 1	SC	S1	G3
Acadian Swordgrass Moth	<i>Xylena thoracica</i>	SC	S3	G4
Northern black racer	<i>Coluber constrictor</i>	E	S2	G5
Ribbon snake	<i>Thamnophis sauritus</i>	SC	S3	G5
New England Bluet	<i>Enallagma laterale</i>	SC	S1	G3
Ringed Boghaunter Dragonfly	<i>Williamsonia lintneri</i>	E	S1	G2

***Other Resources Mapped by MDIFW:***

Deer Wintering Area  
Wading Bird / Waterfowl Habitat

***Conservation considerations:***

Hydrologic alteration may be caused by aquifer withdrawals, existing and new dams, ditching and canal construction, poor forestry practices, development in the watershed, and stream channellization. Historical canal construction, for example, shortened the course of the river and drained several large ponds, and resulted in major changes to the hydrologic regime. These changes subsequently altered the locations of natural communities within the floodplain.

Fire Suppression: Without managed burns or an a related management program, pine barrens community types will succeed to more mesic forest types. A loss of pine barrens community will lead to a loss of pine barrens dependent lepidoptera.

Residential Development: Poorly planned development in the area may cause irreversible impacts to the natural systems through fragmentation due to roads and land conversion. Increases in invasive plant species often accompany development.

Timber Management: Timber management can lead to increased fragmentation and isolation of habitat patches and conversion to other forest types. However, timber management, applied properly within pitch pine habitats may actually help regenerate some barrens community types.

Wetlands and Aquatic Systems: The integrity of wetlands are dependent on the maintenance of the hydrology and water quality of these systems. Intensive logging, clearing, soil disturbance, new roads, and development on buffering uplands can result in greater runoff, sedimentation, and other non-point sources of pollution.

Preserving Natural Communities: Preserving natural communities and other sensitive features will be best achieved by conserving the integrity of the larger natural systems in which these features occur. Conserving the larger systems helps ensure both common and rare natural features will persist in this part of the state.

Set Asides: Conservation planning for upland features should include setting some areas aside from timber harvests to allow for the development of some unmanaged forests.

Vernal Pools: Close adherence to Best Management Practices for forestry activities near vernal pools (see Forestry Endangered and Threatened Species Guide) will ensure the protection of wetlands and the amphibian food source they supply.

Off Road Vehicle (ORV) Use and Wetlands: Where there is use by ORV's care needs to be taken that ORV's stay on existing trails and remain out of all wetlands.

***Protection Status:***

The Department of Inland Fisheries and Wildlife owns approximately 5,934 acres and The Nature Conservancy owns approximately 1137 acres.

### STATE RARITY RANKS

- S1** Critically imperiled in Maine because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extirpation from the State of Maine.
- 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.

**Note:** **State Ranks** are determined by the Maine Natural Areas Program.

### GLOBAL RARITY RANKS

- G1** Critically imperiled globally because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extirpation from the State of Maine.
- 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.

**Note:** **Global Ranks** are determined by The Nature Conservancy.

### STATE LEGAL STATUS FOR PLANTS

**Note:** State legal status is according to 5 M.R.S.A. § 13076-13079, which mandates the Department of Conservation to produce and biennially update the official list of Maine's endangered and threatened plants. The list is derived by a technical advisory committee of botanists who use data in the Natural Areas Program's database to recommend status changes to the Department of Conservation.

- 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 considered Threatened or Endangered.

Visit our web site for more information on rare, threatened and endangered species!  
<http://www.state.me.us/doc/nrimc/mnap/factsheets/mnapfact.htm>