

St. George River and Associated Ponds

Appleton/Union/Warren

Description:

Along with nearby ponds, a 15 mile stretch of the St. George River, from Appleton to Warren, supports an assemblage of rare plants, invertebrates, and natural communities that is found nowhere else in central or coastal Maine. The River meanders from its headwaters above Quantabacook Lake southward through Searsmont, Appleton, Union, and Warren. An outstanding unpatterned fen ecosystem abuts the northeast end of Quantabacook Lake, but the highest concentration of uncommon species and habitats extends from Sennebec Pond in Union and Appleton southward to South Pond in Warren.

Outstanding plant communities include a hardwood floodplain forest south of the aptly-named White Oak Pond. This floodplain forest contains both a high floodplain type, dominated by red oak, and a low floodplain type. Unlike most other floodplain forests in Maine, which are characterized by silver maple, this low floodplain forest contains an abundance of the rare swamp white oak, a tree at its northeastern range limit in coastal Maine. Also scattered in the swamp are several bur oak trees – also uncommon in Maine.

The New England bluet, a rare damselfly endemic to New England, was found in emergent vegetation along the shorelines of North Pond, South Pond, and Seven Tree Pond. Two uncommon dragonflies, the Halloween pennant and the ocellated darner, have also been observed along the North Pond lakeshore and the St. George River in Warren, respectively.



Floodplain Forest

MNAP file photo

The St. George River and its associated ponds, particularly the stretch from Appleton to Warren, support some of Maine's best populations of our two state-Threatened freshwater mussel species - the Tidewater Mucket (*Leptodea ochracea*) and Yellow Lampmussel (*Lampsilis cariosa*). These two mussels are known only from the St. George, lower Kennebec, and Penobscot River watersheds in Maine. Both are also rare and declining throughout their range, and conservation of important sites in Maine may hold regional significance as well. To date, one or both of these species have been documented in nearly all of the St. George River ponds, as well as in the main stem itself. Especially good populations are known to occur at South Pond, Seven Tree Pond, Sennebec Pond, Round Pond, Sidensparker Pond, and the main stem in Appleton. One or both species have also been documented from North Pond, Crawford Pond, Quantibacook Lake, and the main stem in Warren - though species abundance at these sites is currently unknown. Outside of the general focus area, Chickawaukee Pond on the Rockland/Rockport border also supports a very good population of both listed species.

A third rare freshwater mussel species, the Brook Floater (*Alasmidonta varicosa*), is also found in good numbers in the flowing waters of the St. George River main stem. This species is currently listed Special Concern in Maine, is very uncommon and rarely found in abundance at any site. It is also declining throughout its range, and Maine may hold some of the last best populations of this species.

Rare Species/Natural Communities Summary Table:

Common Name	Latin Name	State Status	G-Rank	S-Rank	Habitat
Natural Communities					
Hardwood Floodplain Forest			not ranked	S3	
Rare Plants					
Wild garlic	<i>Allium canadense</i>	SC	G5	S2	floodplains, rich woods
Wild leek	<i>Allium tricoccum</i>	SC	G5	S2	floodplains, rich woods
Bottlebrush grass	<i>Elumus hystrix</i>	T	G5	S2	floodplains, rich woods
Swamp White Oak	<i>Quercus bicolor</i>	T	G5	S1	high floodplains
Threadfoot	<i>Podostemum ceratophyllum</i>	SC	G5	S2	flowing water
Spotted pondweed	<i>Potamogeton pulcher</i>	T	G5	S1	lakes, rivers
Rare Animals					
Bald eagle	<i>Haliaeetus leucocephalus</i>	T	G4	S4	mature trees near open water
Ocellated damer	<i>Boyeria grafiana</i>	SC	G5	S?	rocky stream and lake shores
Halloween pennant	<i>Celithemis eponina</i>		G?	S?	lakes & ponds
New England bluet	<i>Enallagma laterale</i>	SC	G3	S1	lakeshores with emergent vegetation
Yellow lampmussel	<i>Lampsilis cariosa</i>	T	G3G4	S2S3	rivers, lakes, and ponds with sand & gravel substrates
Tidewater mucket	<i>Leptodea ochracea</i>	T	G4	S2	streams and rivers
Brook floater	<i>Alasmidonta varicosa</i>	SC	G3	S3	rivers, lakes, and ponds with sand & gravel substrates

Other Resources Mapped by MDIFW:

Several Deer Wintering Areas and Wading Bird and Waterfowl Habitats are mapped along this river segment (see map).

Conservation Considerations:

Much of the land in the St. George watershed is agricultural and residential, and the shorelines of some of the ponds (Sennebec Pond, Seven Tree Pond) are largely developed with homes and camps. In many locations there is little buffer between the river and adjacent yards or fields. Based on the biology and habitat considerations of some of the rare species, the following considerations are relevant:

- The New England Bluet is restricted to emergent vegetation (chiefly watershield and rushes) along shallow lakeshores, often with coarse substrates of sand and gravel. Individual bluets can move several hundred meters, depending on wind direction and speed. In limited sampling, there appeared to be a relationship between shoreline development and bluet presence, with bluets tending to occur more often along less developed lakeshores. A key land management consideration is the type of lakeshore vegetation; bluets seem attracted to old field vegetation adjacent to lakeshores, while avoiding closely mowed grass. Thus, where development abuts waterways, retention of an unmowed strip at least several meters wide would be favorable for this species.
- Freshwater mussels are very 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 alter habitat type (including substrate, flow rate, water levels) should be avoided. 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. Another potential threat is introduction of exotic species, such as the zebra mussel, which can out-compete and decimate native mussel populations. The local public should be educated on how to prevent accidental introduction of this invasive species into the St. George River watershed. Finally, an outreach program for freshwater mussel conservation in the St. George River watershed would be extremely beneficial to the conservation of these species.
- Water quality issues are also important for the two aquatic plant species. Consequently, strict enforcement of shoreland zoning ordinances and Best Management Practices should help to ensure that water quality is maintained.
- Floodplain forests with swamp white oak are an extremely limited in Maine, and there are only a few mature intact examples. In addition, the rare plants that occur along the St. George River are adapted to partial to full forest canopy and would likely be sensitive to heavy timber harvesting. Some of the floodplain forest west of the St. George River southwest of White Oak Pond has been selectively harvested in the last five years. Other nearby areas support valuable white oak timber stands that may be harvested in the near future. Because of the rarity of this vegetation type in the state, ideally forest harvesting should be avoided.
- Appropriate conservation strategies include open space tax treatment, conservation easements, and fee ownership.

Protection Status:

The town of Warren owns two small parcels, totaling less than 100 acres, along the St. George River