

## Lower St. George River Focus Area

Cushing, St. George, South Thomaston, Thomaston, Warren



### **Description:**

The Lower St. George River Focus Area extends from Route 1 in the village of Thomaston south to Pleasant Point in Cushing and Howard Point in St. George. The focus area includes the St. George River, numerous coves, and the adjacent shorelands. The St. George River has high-speed currents, and the shoreline consists of mudflats and ledge with banks of moderately steep terrain. The salinity gradient varies along the length of this riverine system, influenced by the volume of freshwater discharged from the river and the tidal fluctuations affecting the estuary.

### **Wildlife and Wildlife Habitat**

**Eelgrass beds** are present from Maple Juice Cove and seaward. Eelgrass (*Zostera marina*) forms extensive underwater meadows in shallow bays and coves, tidal creeks, and estuaries. It is a flowering plant that reproduces by seed and by vegetative growth. Eelgrass beds are among the most productive plant communities in the world. They serve as a nursery, habitat, and feeding area for many fish, waterfowl, wading birds, invertebrates, and other wildlife, including commercially valuable fish and shellfish.



*An aerial photo (2007) of Maple Juice Cove along the lower St. George River.*

Eelgrass reduces water pollution by absorbing nutrients, and it dampens wave energy and slows currents, which helps stabilize sediments and buffer shorelines. Because of its important ecological functions, loss of eelgrass beds can result in reduced fish and wildlife populations, degraded water quality, and increased shoreline erosion.

Intertidal mudflats, especially those in the Upper Bay, support sizeable populations of marine worms and other invertebrates. **Marine worms** in Maine include commercially harvestable bloodworms and sandworms. These worms live in muddy and sandy habitats along the coast that are also economically valuable for shellfish and ecologically critical as feeding grounds for migratory birds and other species. Although populations and landing numbers have fluctuated over the years, marine worm landings have declined overall since the 1950s.

Intertidal mudflats are important **tidal waterfowl and wading bird habitat** and feeding areas and make the Lower St. George River an area of statewide significance for its concentration of coastal wildlife. The mudflats around Cutler Cove and Maple Juice Cove represent large areas of habitat for shorebirds and tidal wading birds.

**Diadromous fish**, species that use both marine and freshwater habitats during their life cycle, utilize the St. George River, allowing them free passage to the Sennebec Dam at the outlet of Sennebec Pond, well upstream of the focus area. As a result, the St. George has abundant runs of smelt, alewives, and eels. Shad and striped bass also frequent the river. The alewife run is one of the largest in the state, and North and South Ponds (upstream of the focus area) are important alewife spawning habitats.



*Mudflats are abundant along the lower St. George River (Photograph by Denis Nault).*

The lower St. George River is known for its high quality shellfish habitat. Most of the productive mussel beds are located in the lower half of the focus area from Bradford Point seaward. Major clam beds include the Upper Bay between Thomaston and South Thomaston, the east side of the river from Hospital Point to Fort St. George, the west side of the river from Hyler Cove to Bradford Point, and the numerous coves located seaward (e.g. Broad Cove, Watts Cove, Otis Cove, Maple Juice Cove, and Turkey Cove). When taken as a whole, the lower St. George River boasts the largest number

of **shellfish** landings in the state, and the tidal flats along the St. George Estuary are among the most productive soft-shell clam harvesting areas in midcoast Maine.

***Mapped Coastal Habitats and Features:***

Tidal waterfowl and wading bird habitat	Eelgrass beds
Shorebird feeding and roosting area	Shellfish
Inland waterfowl and wading bird habitat	Diadromous fish
Marine worm habitat	Deer wintering area

**Protection Status:**

The shoreline along the estuary is moderately developed and there are relatively few large sections of unfragmented shoreline. Clusters of seasonal and year-round residential development are located at Watts, Cutler, and Otis Coves. Very little shoreline land along the estuary is in conservation.

**Conservation Considerations:**

- Excessive and unplanned shoreline development can have adverse impacts on estuarine habitat through increased nutrient loads, siltation, and loss of a habitat buffer.
- Seawalls and other shoreline stabilization techniques (e.g. riprap) can disrupt sediment inputs from natural erosion processes resulting in alterations to the sediment structure. This can adversely affect species composition and the productivity of mudflats.
- Physical barriers such as dams, culverts, and bridges can change tidal flows, alter salinity, modify drainage, prevent sediment movement, and impede animal movements.
- Eelgrass is sensitive to losses due to disease, storms, sediments, ice damage, dredging, shellfishing, propeller damage, pollution, nutrient enrichment, runoff, jet skis, and inboard and outboard motors. In 1931-1932, a wasting disease decimated 90% of the eelgrass in the North Atlantic. Mussel dragging can pose severe and long lasting threats to eelgrass beds; it takes an average of 11 years for eelgrass in dragged areas to grow to 95% cover in undisturbed beds. Eelgrass is a key indicator for assessing nitrogen loading as it will rapidly decline due to shading by algae overgrowth.
- Barriers to diadromous fish passage threaten productive fisheries and in turn may have impacts on other species like bald eagles that feed on them. Dam removal or the installation of man-made fishways can help to alleviate this threat.
- Marine worm landings have declined overall since the 1950s. In 1950, an average tide would yield 4,000 worms, but today that average is about 550 worms, often forcing diggers to take smaller worms that have not yet reproduced. Smaller worms should be left to mature and reproduce in order to rebuild or sustain the population. In addition, many of these smaller worms perish before they can be used for bait, and

are unattractive to dealers. Marine worms are sensitive to losses from pollution and dredging, and diggers believe that intertidal mussel dragging is ruining worm habitat. A license is required to dig more than 125 per day.

- Water quality changes such as changes in salinity, temperature, turbidity, or physical properties of the water can negatively affect habitat for species.
- Point and non-point sources of pollution can change faunal communities in tidal communities. Oil spills can destroy or significantly disrupt functioning systems.
- Direct alteration of habitat through filling, dredging, dragging, or other major human disturbances can alter floral and faunal communities and disrupt complex food webs.

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<http://www.mainenaturalareas.org/>

### **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.