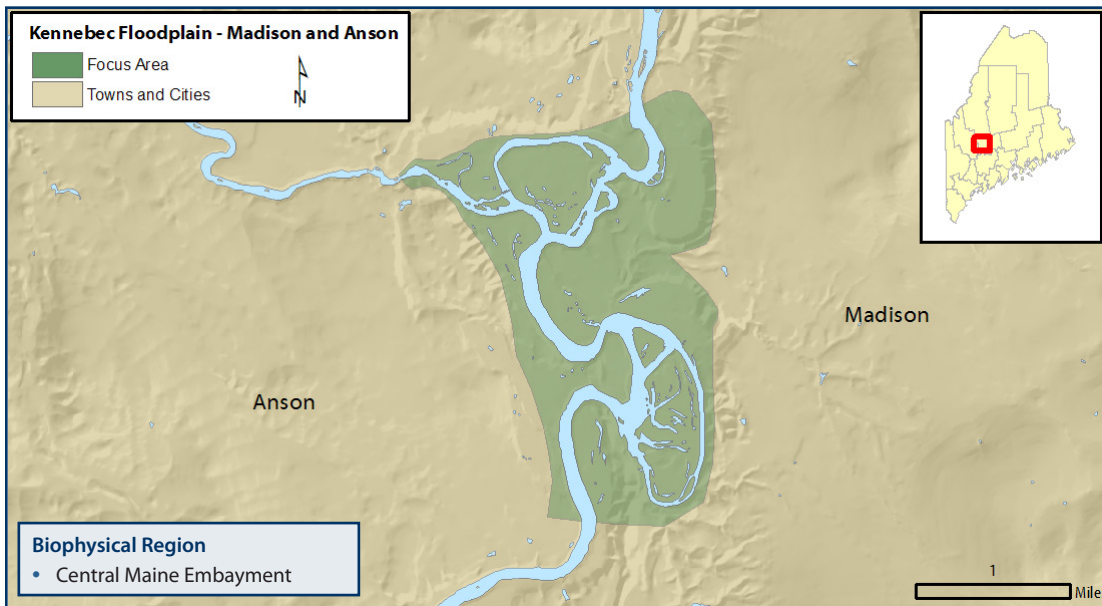


**Kennebec Floodplain- Madison and Anson**



**WHY IS THIS AREA SIGNIFICANT?**

This focus area hosts a concentration of ecological features associated with the flooding regime of the Kennebec and Carrabassett Rivers. The rich alluvial soils of floodplain forest provide unique habitat conditions for several rare plants. The presence of rare animals such as the brook floater mussel and wood turtle attest to the presence of good water quality and unfragmented habitat. In total, the river, islands, and floodplain in this focus area support two rare natural communities, five rare plant species and three rare animal species, all within a relatively small area around the intersection of these two large rivers.

**OPPORTUNITIES FOR CONSERVATION**

- » Encourage best management practices for forestry, vegetation clearing, and soil disturbance activities near significant features.
- » Encourage landowners to maintain enhanced riparian buffers.
- » Encourage town planners to improve approaches to development that may impact focus area functions.
- » Monitor and remove any invasive plant populations.
- » Work with landowners to encourage sustainable forest management practices on remaining privately owned lands.

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).

**Rare Animals**

- Bald Eagle
- Brook Floater
- Wood Turtle

**Rare Plants**

- Bottlebrush Grass
- Long-leaved Bluet
- MacGregor's Rye
- Wild Garlic
- Wild Leek

**Rare and Exemplary Natural Communities**

- Silver Maple Floodplain Forest
- Upper Floodplain Hardwood Forest

**Significant Wildlife Habitats**

- Inland Wading Bird and Waterfowl Habitat
- Deer Wintering Area

**Public Access Opportunities**

- » Boat launches near North Anson, Madison and Savage Island

*Photo credits, top to bottom: Maine Natural Areas Program, Maine Dept. of Inland Fisheries and Wildlife, Maine Natural Areas Program (photos 3-5)*



*Weston Island, Maine Natural Areas Program*

## **FOCUS AREA OVERVIEW**

The Kennebec Floodplain – Madison and Anson Focus Area encompasses a section of the Kennebec River from Savage Island at the confluence of the Carrabassett River downstream to Weston Island. Most of the land adjacent to the Kennebec River in this focus area, aside from a narrow forested riparian zone, is either currently being farmed or has been farmed in the recent past. The best examples of flood plain communities are therefore those found on the islands, the largest being Weston Island. On Weston Island two levels of floodplain terrace support two different floodplain community types. Silver maple floodplain forest dominates the lower elevation of the island while upper floodplain hardwood forest occupies the higher elevations. The floodplain likely sustained some grazing activity from pastured animals in the past, however it has since recovered much of its native plant diversity, canopy cover, and understory herbaceous cover, to include several rare plant species. Trees and herbs on the island include basswood, zig-zag goldenrod, and bloodroot, all typical species of rich floodplain soils. The floodplain forest on Weston Island is one of the largest examples that has been documented in the state, and the only example within the Central Maine Embayment Ecoregion.

Several more rare plant populations are scattered along the floodplains, river banks, and islands of the focus area. The long-leaved bluet is more typical of rocky riverside ledges and gravel areas. Others such as wild leek, wild garlic, and a grass called MacGregor's wild rye, are generally found on rich alluvial soils in forested or woodland areas.

The floodplain forest, in conjunction with the river and adjacent upland forests, also provide excellent wildlife habitat for wood turtles, which are a rare species in Maine. Wood turtles overwinter in streams and rivers and may forage in adjacent floodplain forests of this focus area. Wood turtles use riverine and floodplain habitats for hibernation, breeding, and nesting, though they may be found in upland habitats at other times. The existing areas of unfragmented riparian corridor and unrestricted access between riparian and upland habitats make the Kennebec Floodplain - Madison and Anson Focus Area excellent habitat for the rare wood turtle.

The same forested buffered and unfragmented riparian corridors that provide turtle habitat also help protect water quality, which is critical for rare freshwater mussels and native fish. Brook floaters have been found within this segment of the

river, due to its excellent water quality, free-flowing water, and the condition of the aquatic habitat.

### RARE AND EXEMPLARY NATURAL COMMUNITIES

Weston Island and the tiny island to its north, Linnel Island, support examples of two rare floodplain forest community types: **Silver Maple Floodplain Forest** and **Upper Floodplain Hardwood Forest**. These two communities are both subject to seasonal flooding of the Kennebec River, and as a result have alluvial soils, though the soils may be dry for much of the growing season. The two communities are somewhat intermingled on the island, but they are separated primarily by slight differences in elevation. Silver maple (*Acer saccharum*) tends to dominate the tree canopy in lower elevation areas that predominate on the perimeter of the island and are more frequently flooded. In slightly higher elevations of the island other hardwood species become more abundant in the canopy, such as red oak (*Quercus rubra*) and yellow birch (*Betula allegheniensis*). The northern waterthrush, barred owl, belted kingfisher, bank swallow, scarlet tanager, and green heron are associates of this community type. The silver-haired bat often roosts in riparian habitats in trees with loose bark. Fairy shrimp may also occur in isolated vernal pools.

Though both floodplain communities are considered rare in Maine, the Upper Floodplain Hardwood Forest is much less common, having been documented at less than ten sites in the state. The occurrence of both community types together, in combination with several rare plant species, therefore represents a significant concentration of unique features.

### CHARACTERISTIC SPECIES

Annual enrichment of the alluvial soils helps to support a dense layer of herbaceous species such as ostrich fern (*Matteucia struthiopteris*), sensitive fern (*Onoclea sensibilis*), and a number of spring ephemerals. An extensive population of **wild garlic** (*Allium canadense*), a rare plant, is found within floodplain forest in the focus area. Populations of the rare plant species **wild leek** (*Allium tricoccum*) and **bottlebrush grass** (*Elymus hystrix*) are also found here. There is some evidence of historic use of floodplain areas as pasture land, but the condition of the floodplain forest communities is generally good. However it is important to note that small populations of non-native species such as goutweed (*Aegopodium podagraria*), dame's rocket (*Hesperis matronalis*), and Morrow's honeysuckle (*Lonicera morrowii*) are present.

Savage Island, at the confluence of the Carrabassett River, also has forest that is subject to seasonal flooding. Two rare plant species have been documented on Savage Island, wild garlic and **long-leaved bluet** (*Houstonia longifolia*). The long-leaved bluet population on Savage Island is large, but there are scattered occurrences of small satellite populations of this species at other riparian locations along the Kennebec River within this focus area.

The Kennebec River in this focus area supports at least two



Top Silver Maple Floodplain Forest, Maine Natural Areas Program  
Bottom: Brook Floater, Ethan Nedeau

rare animal species, the **brook floater** (*Alasmidonta varicosa*), a freshwater mussel, and the **wood turtle** (*Glyptemys insculpta*). Brook floater mussels have experienced significant declines throughout their range, with many populations being extirpated. Even where it is found, the population often consists of just a small number of individuals. Maine has more populations of this threatened species than the remainder of the Northeast combined and is, therefore, important for this species' conservation. Wood turtles, a primarily northeastern species listed as a species of Special Concern in Maine, are also declining throughout their range. Maine, however, likely hosts some of the largest and most viable remaining populations in the U.S.

The dynamic flow of the river has created multiple oxbows, pools, and channels that serve as excellent foraging habitat for inland waterfowl and wading birds. These features, in combination with adjacent wetlands, add up to over 150 acres of significant **Inland Waterfowl and Wading Bird Habitat** within the focus area.

**Bald eagles** have been known to nest along the Kennebec River, near Savage Island. 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 made a dramatic recovery and are

no longer listed as a state Threatened species. Problems for eagles still persist, however. Habitat loss, human disturbance at nest sites, environmental contamination, diminished water quality, and human-caused deaths and injuries are still primary conservation problems. Management will continue to ensure that declines of the past are not repeated, and that habitat and a clean environment persist to promote population growth and expansion.

### CONSERVATION CONSIDERATIONS

- » An adequate buffer should be retained between timber harvest areas and the wetlands. Because different species can have different buffering requirements, better protection will be afforded to the collective wetland plants and animals when larger buffers are used. Any timber harvesting within and adjacent to wetlands should be implemented with strict adherence to state or local Shoreland Zoning guidelines, the Maine Natural Resources Protection Act, and Maine Forest Service Best Management Practices.
- » Low-intensity cutting (single tree or small group selection, firewood harvest) within riparian buffers is likely compatible with rare turtle populations as long as operators avoid wetlands. Winter harvests are recommended to minimize impacts to turtles, amphibian prey, and wetland condition. Close adherence to Best Management Practices for forestry activities near vernal pools (available from Maine Audubon Society at 207-781-6180 ext. 222) will ensure the protection of wetland habitats and the amphibian food source.
- » Impervious surfaces, yards, buildings and roads should comprise no more than 20% of the landscape within ¼ mile of wetlands supporting rare turtles. Natural forests should dominate the landscape around these wetlands. No activities should be permitted that could lead to the loss or degradation of turtle inhabited wetlands, regardless of size, including filling, dredging, sedimentation, or changing hydrology unless the activity is approved by MDIFW.
- » Disturbances to soils and natural vegetation in or adjacent to wetlands and forested areas can create opportunities for colonization by invasive plant species. Local groups with an interest in the river floodplain should be made aware of the potential threat of invasive plants and keep an eye out for them before they become well established.
- » Nearly 50% of the focus area is classified as wetland or open water. The integrity of wetlands and the processes and life forms they support are dependent on the maintenance of the current hydrology of the site. Intensive timber harvesting, vegetation clearing, soil disturbance, agricultural conversion, new roads, and development on buffering uplands can result in greater runoff, sedimentation, and

other non-point sources of pollution.

- » 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.

#### Ecological Services of the Focus Area

- Contributes to water quality and ecological integrity of the Kennebec River.
- High quality habitat for waterfowl, wading birds, turtles, amphibians, freshwater mussels, native fish, and other wildlife.
- Supports regional biodiversity by providing habitat for rare plants, animals, and natural communities.
- Floodplains and pools provide effective floodwater storage and sediment/nutrient retention.

#### Economic Contributions of the Focus Area

- Attracts tourism for wildlife observation, paddling, hunting, and angling.
- Protects water quality of downstream resources.
- Provides scenic vistas that raise property values.
- Provides wildlife habitat for a number of game species that are seasonally important to Maine's rural economy, including local sporting camps.

- » Improperly sized culverts and other stream crossing structures can impede movement of fish and aquatic invertebrates effectively fragmenting local aquatic ecosystems and ultimately leading to local extirpation of some species. Future management should maintain or restore the sites natural hydrology.
- » This area includes Significant Wildlife Habitat for waterfowl and wading birds. Both land managers and private landowners should follow best management practices with respect to forestry activities in and around wetlands, shoreland areas, and Significant Wildlife Habitat. Maintaining wide forested buffers along all lakes, rivers, streams, and wetlands will provide valuable riparian habitat for many wildlife species. Consult with a MDIFW biologist prior to planning any activity that may disturb the forest around an IWWH/TWWH.



*Weston Island, Maine Natural Areas 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
	Brook Floater	<i>Alasmidonta varicosa</i>	T	S3	G3
	Wood Turtle	<i>Glyptemys insculpta</i>	SC	S4	G4
Plants	Bottlebrush Grass	<i>Elymus hystrix</i>	SC	S3	G5
	Long-leaved Bluet	<i>Houstonia longifolia var. longifolia</i>	SC	S2S3	G4G5T-NR
	MacGregor's Rye	<i>Elymus macgregorii</i>	SC	S2	GNR
	Wild Garlic	<i>Allium canadense</i>	SC	S2	G5
	Wild Leek	<i>Allium tricoccum</i>	SC	S3	G5
	Natural Communities	Silver Maple Floodplain Forest	Silver maple floodplain forest		S3
	Upper Floodplain Hardwood Forest	Hardwood river terrace forest		S3	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.