

## EXECUTIVE SUMMARY

This Habitat Plan was prepared to facilitate protection of the ecological diversity of the Lower St. Louis River. The conservation goals described in the Plan represent an ideal from an ecological perspective. It may not be possible to achieve every goal to its full extent; practical considerations will play a role in where, how, and to what extent the goals can be achieved. It is not the intent of this Habitat Plan to recommend the restoration of the entire estuary and its surroundings to a presettlement condition. Rather, by setting conservation goals that will achieve a mix of ecological and social benefits, this Plan presents a new vision of the St. Louis River ecosystem toward which communities, organizations, and individuals can work in cooperation and partnership.

The Habitat Plan was prepared by the St. Louis River Citizens Action Committee (CAC). Members of the Habitat Committee of the CAC developed the following vision to guide the planning process:

*The vision for the Lower St. Louis River is a thriving human community connected to the aquatic and terrestrial ecosystems of the river. The river ecosystems are diverse, productive, and healthy, with natural processes (such as hydrologic regimes, biological productivity, and nutrient cycling) operating within the natural range of variation. The diversity of plants and animals and the composition of natural communities present at the time of European settlement is reflected in the sustainable ecosystems of today.*

The St. Louis River, draining approximately 3,634 square miles of northeastern Minnesota and northwestern Wisconsin, is the major U.S. tributary to Lake Superior—largest and deepest of the Great Lakes. The lower 21 river miles of the St. Louis River include a 12,000 acre freshwater estuary that supports unique ecosystems as well as the largest harbor and international port on the Great Lakes.

The combination of ecosystems within the Lower St. Louis River area—estuarine wetland and aquatic habitats, baymouth bar complex, and surrounding upland forest—are very unusual in Lake Superior, the Upper Midwest, the Great Lakes region, and the world. Great Lakes wetland systems are unique from a global perspective, and the St. Louis River wetlands are the largest such complex on the Lake Superior shore, representing a significant source of productivity for the entire Lake Superior ecosystem. The estuary and its tributaries are unusual in having such a variety of habitat types supporting a large and diverse assemblage of native fish species. The baymouth bars are unusual in the Great Lakes—aside from Minnesota and Wisconsin Points, the only similar examples are Point Pelee and Long Point in Ontario and Long Island-Chequamegon Point in Wisconsin. The plant communities supported by these baymouth bars are endemic to the Great Lakes. The freshwater estuary and baymouth bar systems are virtually absent elsewhere in the interior of North America. In spite of human impacts, the Lower St. Louis River ecosystem is both regionally and globally significant and therefore warrants the consideration presented in this Habitat Plan.

In the 1980s, environmental quality conditions prompted the designation of the Lower St. Louis River System as one of 43 Great Lakes Areas of Concern (IJC 1989). To address the impairments of beneficial uses in the St. Louis River Area of Concern (AOC), a Stage One Remedial Action Plan (RAP) was developed (MPCA and WDNR 1992). This was followed by a Stage Two RAP, which recommended development of a Habitat Plan because it was recognized that although habitat is still being lost, many valuable areas remain (MPCA and WDNR 1995). Cooperative action among various stakeholders, decision-makers, and resource managers in both Minnesota and Wisconsin is needed to protect the remaining habitat and restore degraded areas.

The Habitat Committee of the CAC determined that the Habitat Plan would include:

1. A detailed and comprehensive synthesis of existing information.
2. An estuary-wide guide for resource management and conservation that would lead to adequate representation, function, and protection of ecological systems in the St. Louis River, so as to sustain biological productivity, native biodiversity, and ecological integrity.
3. A list of conservation and management objectives that reflects a consensus of the Habitat Committee members.
4. A suite of specific, obtainable, prioritized conservation and management actions that address specific threats.

The Habitat Plan for the Lower St. Louis River was developed using a modified version of The Nature Conservancy's "Site Conservation Planning" methodology (TNC 2000). The first step in the development of this plan was to identify the conservation targets, which are the native species, plant communities, aquatic habitats, and ecological systems that are the focus for conservation activities. The Committee chose to focus primarily on aquatic habitats and plant communities that can be broadly grouped into the following categories: estuarine aquatic habitats, estuarine plant communities, baymouth bar communities, upland forest communities, and other inland plant communities.

Plant communities and aquatic habitats were assumed to serve as coarse filters, representative of a broad array of most species native to the estuary. In some cases, the needs of individual species or species assemblages could not be adequately met solely by targeting plant communities and aquatic habitats. In these cases, specific bird, fish, and mussel species or assemblages were also identified as conservation targets.

After assessing the health of the conservation targets, goals were developed and threats were analyzed. Threats are factors that have a direct and negative impact on the health of the conservation targets or on the ecological systems and processes that support and maintain the conservation targets. Threats are described in two parts: a stress and a source of the stress. Stresses are the processes or events that directly impact the conservation targets. The sources are the entities that cause the stresses. Stresses need to be eliminated or minimized to protect the conservation targets, but this can only be done by acting on the sources of the stress. The identified major threats to the ecosystems of the Lower St. Louis River include:

1. Loss of habitat due to development, commercial shipping, and other sources.
2. Increased sedimentation due to development, forest management practices, and other sources.
3. Competition from undesirable exotic species introduced by commercial shipping, development, and other sources.
4. Exposure to sediment-associated contaminants from historical and current point and nonpoint sources.
5. Degradation of water quality due to development, commercial shipping, forest management practices, contaminated sediments, and other sources.

Eighteen strategies are presented in this Habitat Plan to address the most significant identified threats and move toward achieving conservation goals. The Plan also includes a general approach for assessing whether the strategies are successfully mitigating threats and improving the health of the conservation targets.