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Historical logging practices damaged the St. Louis River.

CAROLE LENT



The Duluth-Superior harbor is the largest shipping port on the Great Lakes.



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FRANK KOSHERE

Runoff brings sediments and pollutants into the Duluth-Superior harbor.

Healing the St. Louis River Area of Concern

High stakes for a globally significant wetland and estuary.

Kevin Harter and Kendra Axness

First paddled and fished by the Ojibwe long before European explorers and French fur traders arrived in the 17th century, the pristine St. Louis River became a vital link connecting the Mississippi River to the west and Great Lakes to the east.

In the decades to follow, dredging to enlarge the natural harbor was conducted and unregulated industries, including timber and iron mining, resulted in the St. Louis River's decline. Its waters became unsuitable for boating, drinking, fishing or swimming. Pellets of a low-grade iron ore called taconite washed onto the shoreline, grain dust blew in the breeze, and oil sheens from refineries and coal gasification plants marred the water's surface.

The St. Louis River is the second largest river flowing into Lake Superior, which is the largest, deepest and cleanest of the Great Lakes. The river runs 179 miles from northeastern Minnesota through the 12,000-acre St. Louis River Estuary to its outlet at the Duluth-Superior harbor.

Where the St. Louis River enters Lake Superior is one of the most biologically rich coastal wetlands and freshwater estuaries in the Great Lakes. It includes shallow backwaters, bays and islands that provide ideal habitat for many resident and migratory bird and wildlife species. It is a unique ecosystem with regional and global significance. It is this significance which makes the stakes for cleanup so high and the opportunities for habitat restoration so exciting.

The Duluth-Superior harbor, which is the largest port on the Great Lakes, be-

came the hub of industrial development for businesses wishing to transport ore, grain, fuel and lumber.

"This was a big, booming industrial area at one time, and we still have industries, and industries are an important part of our economy. But before the Clean Water Act, before the regulations that are in place now, industries just put their waste right into the water," says DNR Northern District Water Leader Nancy Larson.

Pollution discharge from industry and consequential river sediment contamination by toxic chemicals resulted in the listing of the St. Louis River as an Area of Concern (AOC). The AOC was also listed due to historic habitat loss from the extensive filling of wetlands and dredging of shallow aquatic habitat. Since 1861, nearly 3,000 acres of wetlands have been filled, and 4,000 acres have been dredged or deepened for navigation.

Today, the St. Louis River AOC — defined as the lower 39 miles of the river, along with the Nemadji River and a portion of Lake Superior — is one of eight remaining AOCs on Lake Superior.

Local communities invest in clean water

One key to restoring the AOC was wastewater treatment. Prior to the 1970s, untreated sewage and industrial waste were significant sources of pollution in the St. Louis River. With the creation in Minnesota of the Western Lake Superior Sanitary District (WLSSD) in 1978 and the establishment of a wastewater treatment



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Eroded stream banks contribute heavy loads of sediment during rain storms.

facility in Superior, Wis., water quality conditions improved rapidly. Upgrades to wastewater facilities, pipes and holding tanks have continued in recent years, and water quality has improved as a result. Having stemmed the most significant pollutant flows from so-called "point source" (or end-of-pipe) dischargers, communities turned to cleaning up toxics and restoring habitat.

Collaborative plans chart the course

People living in the areas of northeast Minnesota and northwest Wisconsin have a long history of joint efforts to protect and restore this world-class resource. They worked together to develop a Remedial Action Plan (RAP), published in 1992, that recommended actions within the AOC that would lead to the restoration of beneficial uses. The RAP was updated in 1995 and stated that uses will be restored through programs and measures



Backwaters of the St. Louis River provide an ideal habitat for fish, water birds, amphibians, reptiles and other wildlife.

to control pollution sources, restore habitat and remediate environmental problems.

In 2002, government agencies, stakeholders, and citizens collaborated to produce the St. Louis River Habitat Plan to guide the protection of ecological diversity within the Lower St. Louis River.

Since 2010, Wisconsin and Minnesota have been working together on a strategic action plan to focus remediation and restoration projects on the most important sites. These sites are primarily in the lower river and estuary where the most industrial development occurred; they are also in the watersheds that contribute high sediment loads to the water due to historical logging.

Priorities for delisting the AOC continue to include remediation of contaminated sediments, habitat restoration and reducing sediment loads.

Sturgeon return

Activities that grew out of these initial planning efforts are beginning to pay off. Lake sturgeon were plentiful in the St. Louis River until the early 1900s, when populations declined due to overharvesting, pollution and dam construction. In 1983, the Minnesota and Wisconsin Departments of Natural Resources began stocking sturgeon fry in the river. In 2009, a project to improve habitat conditions for sturgeon spawning was completed. Finally, in 2011 four young sturgeon were collected: the first evidence of sturgeon reproduction in many decades. This is a positive step towards the recovery of this

species in the AOC.

Habitat protection and restoration successes

Habitat protection projects in Wisconsin include the creation of the St. Louis River Streambank Protection Area in 1995 and the purchase of Clough Island in 2010 as a State Conservation Area. A significant milestone in habitat restoration was achieved with Douglas County's Hog Island restoration project from 2009-2012. The Hog Island project was the first remediation to restoration project on the Great Lakes. This type of project combined cleaning up the worst of the pollution (petroleum byproducts called PAHs), and priming the area for habitat improvements by establishing native vegetation.

"Personally, it was very rewarding," says Christine Ostern, Douglas County conservationist, who coordinated the project. "It has not only made a difference for habitat, fish and wildlife, but for people who can again recreate there. It is not only cleaned up and restored, but it is beautiful."

"The goal of the St. Louis River restoration is to create a new legacy that includes a healthy harbor and river for future generations," says Cherie Hagen, DNR's Lake Superior Water Resources Supervisor. •

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Great blue heron.



Researchers capture white suckers for tumor and deformity evaluation.

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