

FACT SHEET

NORTH AND STURGEON LAKES HABITAT RESTORATION PROJECT POOL 3, UPPER MISSISSIPPI RIVER, MINNESOTA ENVIRONMENTAL MANAGEMENT PROGRAM

LOCATION

North and Sturgeon Lakes are large backwater complexes located in pool 3 of the Upper Mississippi River, west of the navigation channel between River miles 798 and 805. North and Sturgeon Lakes are separated from the Vermillion River flowage in the upper end of the project area by elevated railroad tracks and by Prairie Island in the lower end. The Gores Wildlife Management Area (State) is located just upstream of the project area. The land separating the lakes from the main channel is floodplain forest and much of it is set aside for the exclusive use of the Prairie Island Indian Community. Water typically flows from the 1,300-acre North Lake to the 1,000-acre Sturgeon Lake and reenters the main channel at the outlet of Sturgeon Lake near River mile 798, about one mile upstream of Lock & Dam 3.

EXISTING RESOURCES

The project area includes a marshy area at the upstream end and encompasses Sharp Muskrat Lake as well. Also included in the project area are Twin Lake and Brewer Lake. Several side channel connections with the main channel exist, including Jackson Run and Miley Run. North Lake to the north and Sturgeon Lake to the south are connected by Buffalo Slough, a deep flowing channel that is unique in its cobble and gravel substrate. Both lakes today are shallow and subject to frequent wind-generated wave action that keeps fine sediments suspended and limits aquatic plant growth. Historically, these two lakes had an extensive marshy fringe and extensive submerged aquatic plant beds.

PROBLEM IDENTIFICATION

Major habitat concerns for North and Sturgeon lakes are sedimentation, island dissection, vegetation loss, and reduced depth for overwintering fish. A significant loss of emergent and submerged aquatic vegetation has occurred throughout North and Sturgeon Lakes. Flood effects, erosion from waves, and resuspension of fine sediments caused by continual inundation have reduced the fish and wildlife value of these areas, which once provided outstanding waterfowl use and overwintering for fish.

PROJECT GOALS

Project goals are derived from the Environmental Pool Plans (EPPs), Pools 1 through 10. The desired future condition for North and Sturgeon lakes, as described in the EPPs, recognizes that sedimentation will most likely continue and result in the formation of mudflats, islands, and deltas which will lead to an increase in the amount of floodplain habitat. Construction of islands in selected areas, along with backwater dredging, would

improve conditions for growth of aquatic vegetation, increase depth diversity and concentrate flows to promote scour. The project goals are as follow:

Maintain/protect/enhance/restore quality habitat for all native and desirable plant, animal and fish species.

- Restore aquatic vegetation and bathymetric diversity throughout North and Sturgeon lakes
- Strategically design and construct islands that will effectively reduce wind fetch and associated erosion
- Increase quantity and quality of overwintering habitat for centrarchids by creating areas with an average minimum depth over the next 50 years of 4 feet and current velocities of 0.05 ft/second or lower
- Facilitate wild rice restoration efforts currently being done by the Prairie Island Indian Community through creative project design

Maintain/enhance/restore/emulate a sustainable ecosystem (natural water levels, sediment transport and deposition regime, and distribution of water flows across the Mississippi River floodplain).

- Maintain/enhance/create more natural sediment transport and deposition
- Decrease suspended solids concentrations
- Reduce average wind fetch to 1,000 feet (maximum not to exceed 4,000 feet)
- Emulate more natural seasonal water elevations

PROPOSED PROJECT

The project involves constructing a series of small islands (approximately five within North Lake and three within Sturgeon Lake) to reduce wave-generated erosion. Island construction would utilize substrates within North and Sturgeon Lakes to enhance bathymetric diversity and reduce resuspension of fine sediments. Dredging in Twin Lakes and Sturgeon Lake would provide some of the island fill material and also deepwater habitat for centrarchids. Ideally, this project would be sequenced with pool 3 water level management that would consolidate sediments and promote growth of aquatic vegetation along the shoreline.

The authority for this study and potential project construction is provided by Section 1103 of the Water Resources Development Act of 1986 (Public Law 99-662), as amended.

PROJECT OUTPUTS

The proposed project would result in more bathymetric diversity and improve conditions for growth of aquatic vegetation in about 2,300 acres of the backwater lakes. Increases in depths at selected areas would result due to concentrating flows that would promote scour. These greater depths would provide about five acres of additional overwintering habitat for centrarchids.

IMPLEMENTATION CONSIDERATION

Constructing islands in conjunction with backwater dredging has proven effective for past habitat projects and can be applied to North and Sturgeon Lakes. The Prairie Island Indian Community has interest in enhancing wild rice stands in this area.

Non-federal funding must be obtained for this project. The Minnesota Department of Natural Resources would submit a proposal for State bonding funds for the cost-share. Island design and location must be determined during planning in order to achieve habitat objectives and to be acceptable to resource users and the Prairie Island Indian Community.

Ideally, restoration efforts in North and Sturgeon lakes would be preceded with a pool-wide drawdown to promote vegetation growth in this backwater area. If a major drawdown cannot be scheduled, a minor drawdown of about one foot should be scheduled prior to, or in conjunction with, dredging and island construction, if possible.

FINANCIAL DATA

The project features would be located entirely on State or Tribal lands. Therefore, in accordance with Section 906(e) of the Water Resources Development Act of 1986, the total estimated cost of \$5,000,000 for the proposed project dredging and island construction in North and Sturgeon lakes would be require a non-Federal cost share of 35%. The estimated non-Federal cost-share (\$1.75 million) would be provided by the State of Minnesota and/or other non-Federal partners. In addition, a drawdown in pool 3 is desired. However, the cost of such a drawdown is not included as an integral part of the proposed project because the project benefits would be evaluated independent of the drawdown. At this time, it is assumed that if a drawdown is done, it would be pursued under a separate authority or project. The cost or cost-sharing requirements of a drawdown have not been determined.

STATUS OF PROJECT

The Fish & Wildlife Work Group, the River Resources Forum, and the System Ecological Team (SET) have endorsed this project. Some initial bathymetry of the lakes has been obtained.

POINTS OF CONTACT

Jeff DeZellar, Corps of Engineers, St. Paul District, Project Manager, 651-290-5433
Sharonne Baylor, U.S. Fish and Wildlife Service, EMP Coordinator, 507-494-6207
Scot Johnson, Minnesota Department of Natural Resources, Habitat Project Coordinator, 651-345-5601

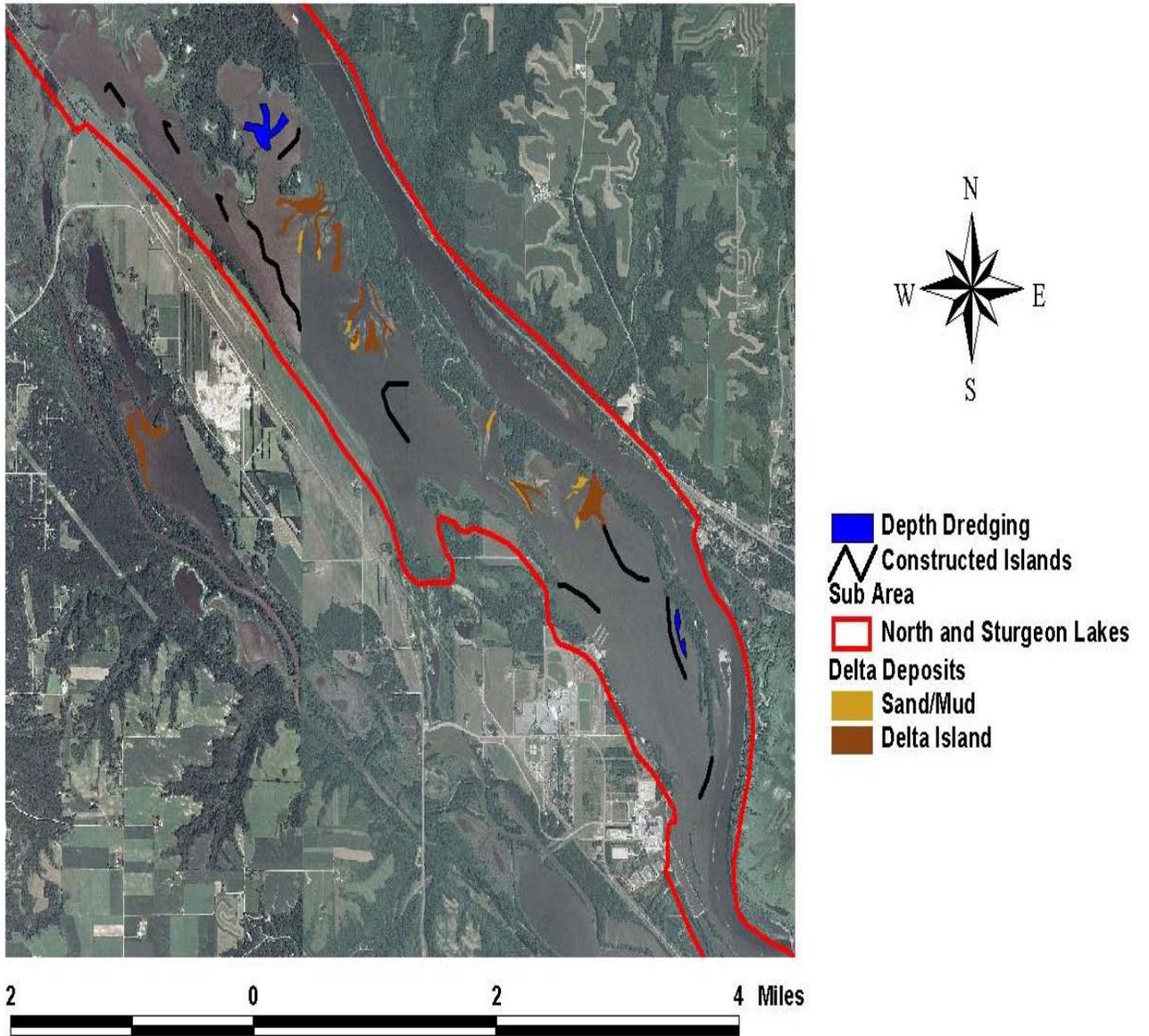


Figure 1 – North and Sturgeon Lakes – Proposed Project Features