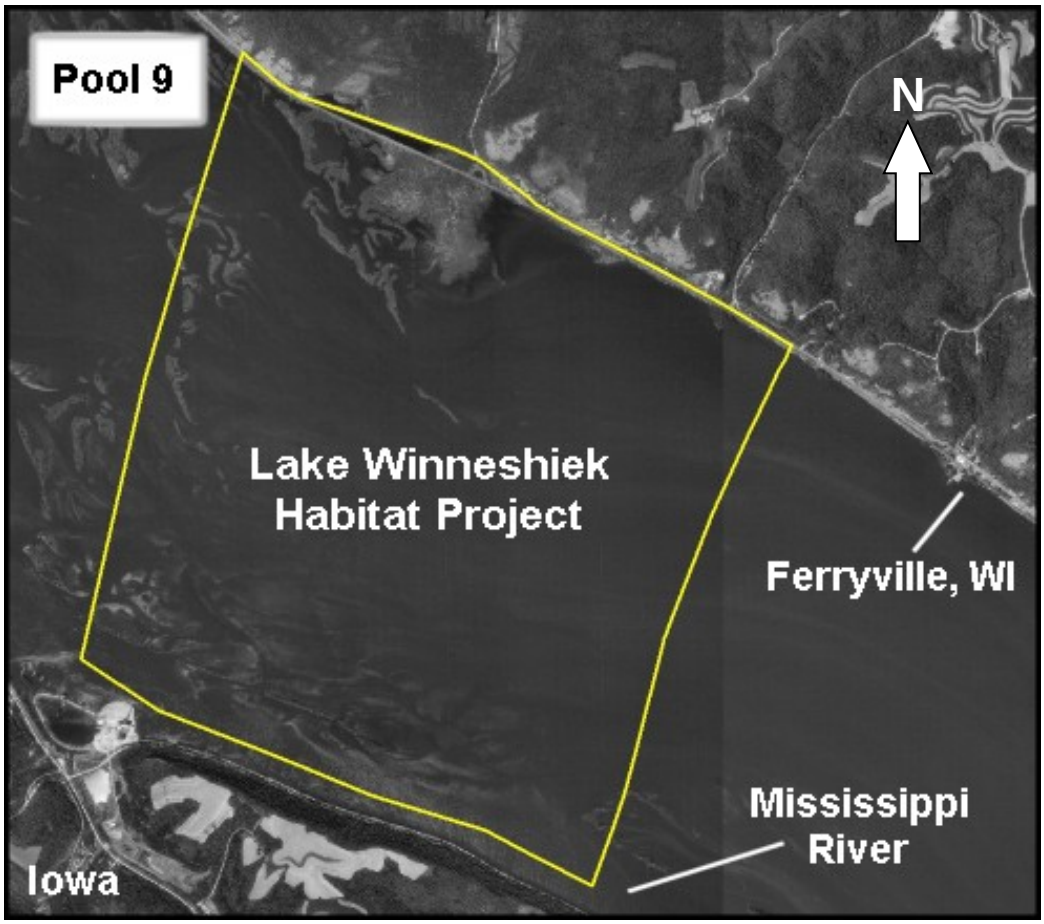
9 March 2010

FACT SHEET

LAKE WINNESHIEK ISLANDS HABITAT PROJECT
POOL 9, UPPER MISSISSIPPI RIVER, WISCONSIN
ENVIRONMENTAL MANAGEMENT PROGRAM

LOCATION

Lake Winneshiek is a 6,000-acre backwater area located on the Wisconsin side of the Mississippi River navigation channel in lower Pool 9 at approximate RM 659, about 4 miles downstream of Lansing, Iowa, and just upstream of Ferryville, Wisconsin. The specific study area is about 3,400 acres. The site lies within the Upper Mississippi River National Wildlife and Fish Refuge. It is a large open water expanse bordered on the southwest by remnant islands separating it from the main channel and on the northeast by the Wisconsin shoreline.



EXISTING RESOURCES

Most of the natural islands in Lake Winneshiek have eroded and disappeared, leaving a large expanse of shallow open water. In September 2001, color infrared aerial photography of the Lake Winneshiek study area site was collected. Despite the late date in the growing season, submersed and emergent vegetation appeared vigorous and healthy because of warmer than

usual weather and excellent water quality. Table 1 provides a summary of the aquatic habitat contained within the Lake Winneshiek habitat project study area.

Table 1. Frequency of occurrence and acreage of aquatic vegetation in the study area

Upper Mississippi River Class	Frequency	Acres
Deep Marsh Perennial	151	338.7
Developed	1	1.9
Floodplain Forest	108	160.2
Lowland Forest	2	0.3
Mud	1	0.3
Open Water	15	1463.4
Populus Community	13	10.7
Roadside Grass/Forbs	2	28.5
Rooted Floating Aquatics	164	319.8
Salix Community	67	56.5
Sand Bar	4	1.1
Shallow Marsh Perennial	70	67.3
Submerged Aquatic Vegetation	195	865.7
Wet Meadow	60	45.0
Wet Meadow Shrub	14	4.5
TOTALS	**867**	**3363.9**

The location and relative distribution of these classes are shown in Figure 1. Aerial photographic overviews of the study area in True Color and Color Infrared are shown in Figure 2.

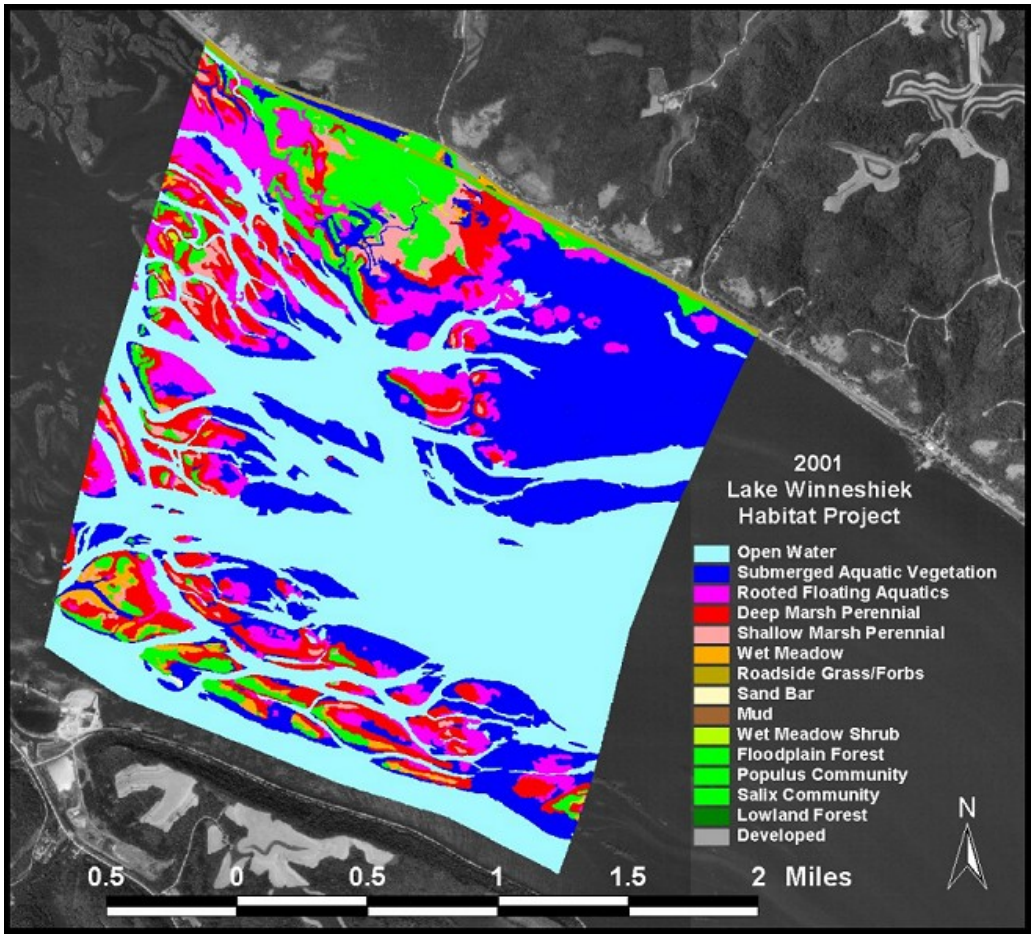


Figure 1. Distribution of aquatic vegetation

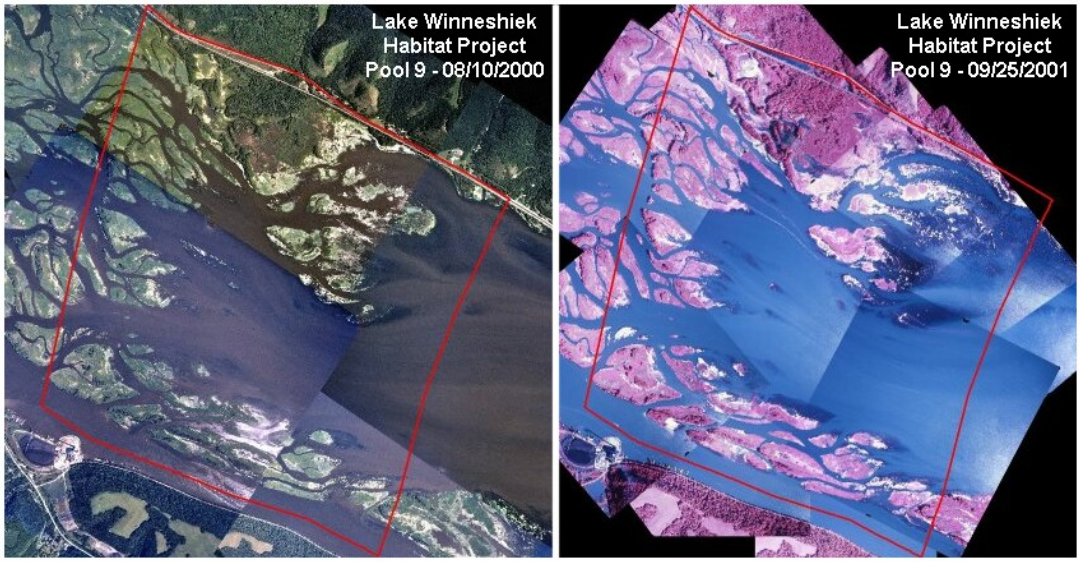


Figure 2. True color and color infrared aerial photography

PROBLEM IDENTIFICATION

Historically, islands in the Lake Winneshiek area served to break up wind fetch and wave action, reduce turbidity, and provide protection to shallow aquatic areas supporting aquatic plant beds. The lake is now a wide expanse of shallow water with little habitat diversity. Wind and wave action resuspends sediments and prevents establishment of vegetation. It is believed that the increased wave action and associated turbidity have contributed to the observed loss of aquatic plant beds used by migratory waterfowl. Main fishery problems in the area are loss of overwintering areas and loss of fish and wildlife nursery habitat.

PROJECT GOALS

Project goals are derived from the Environmental Pool Plans (EPPs), Pools 1 through 10. As described in the EPPs, increased emergent vegetation and maintenance of existing submerged vegetation is desired. Island construction and increased water depths in Lake Winneshiek are also desired for the area. The project goals are as follow:

Maintain/Enhance/Create quality habitat for all native and desirable plant, animal and fish species

- Restore the quality of backwater fish overwintering habitat
- Restore the quality of migratory bird habitat with an emphasis on dabbling ducks and wading birds
- Protect existing and construct additional islands

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)

- Optimize connectivity of aquatic and floodplain habitats
- Improve the quality of tertiary channel habitat
- Increase depth diversity, flow control feature, island protection and construction

These goals are consistent with identified needs in the Habitat Needs Assessment for backwater, side channel, and island habitat.

PROPOSED PROJECT

The proposed project would create two islands, each about 8,000 feet long, in the center of Lake Winneshiek to reduce wave action in this large open water area. The location of the islands would be determined during the study based on hydraulic considerations and prevailing wind information. If suitable construction material can be found, island fill would be selectively dredged from the lake as much as possible to provide additional deepwater habitat benefits. Otherwise, material for island fill would be dredged from the vicinity of the main navigation channel. Fine material for capping the islands would be dredged from the backwater area in the vicinity of the islands. Additional features to improve dissolved oxygen levels and habitat structure in the lake would also be considered. For example, anchoring tree stumps in the islands would provide additional habitat for both birds and fish and mud flats would provide habitat for shorebirds.

PROJECT OUTPUTS

The project would provide both fishery and waterfowl benefits by creating a "shadow" effect behind and downstream of the islands. About 1,200 acres of backwater area would be directly impacted by the project. Dredging in the lake could provide up to 20 acres of additional deepwater fish habitat. The project would result in diversified and productive habitat for fish species with increased vegetation growth to provide cover and food for young fish. The quiet water habitat created by the islands would be protected from main channel flows.

IMPLEMENTATION CONSIDERATIONS

Construction access through the shallow backwater area from the main channel to the island construction sites will be a primary implementation consideration. The presence of mussels could constrain or limit some proposed actions. Thorough review, survey and coordination with state and Federal authorities will be necessary to determine the value or significance of the area for mussels. Soil borings will be needed to determine the characteristics of the bottom sediment in the Lake Winneshiek study area.

FINANCIAL DATA

The proposed project features are located in an area managed as part of the Upper Mississippi River National Wildlife and Fish Refuge. Therefore, the project cost would be 100 percent Federal. The estimated cost of the project planning stage is estimated at $300,000, and construction costs are estimated at $3,300,000. The project lands are managed by the U.S. Fish and Wildlife Service (USFWS). Therefore, in accordance with Section 107(b) of the WRDA 1992, all costs for operation, maintenance, and rehabilitation of project features would be the responsibility of the USFWS. The estimated annual OM&R costs are $4,000.

STATUS OF PROJECT

The Fish & Wildlife Work Group and the River Resources Forum endorsed this project several years ago. This project was proposed and selected for inclusion in the District EMP budget prior to the formation of the System Ecological Team (SET), but was never funded and the fact sheet not submitted for Division approval because of inadequate appropriations. Therefore, it should be considered at this time for fact sheet approval, without the need for SET endorsement.

POINTS OF CONTACT

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