



DEPARTMENT OF THE ARMY
MISSISSIPPI VALLEY DIVISION, CORPS OF ENGINEERS
P.O. BOX 80
VICKSBURG, MISSISSIPPI 39181-0080

REPLY TO
ATTENTION OF:

CEMVD-PD-SP

29 September 2010

MEMORANDUM FOR Commander, Rock Island District, ATTN: CEMVR-PM-M

SUBJECT: Upper Mississippi River Restoration - Environmental Management Program (UMRR-EMP), Turkey River Bottoms and Backwater Complex Habitat Rehabilitation and Enhancement Project (HREP), Clayton County, Iowa, and Grant County, Wisconsin, Fact Sheet

1. Reference memorandum, CEMVR-PM-M, 02 August 2010, subject as above.
2. Subject fact sheet was resubmitted on 24 September 2010 and is approved for continued HREP planning (encl 1) with the following stipulations:
 - a. Any tentative recommendation for a moist soil unit is justified based on the restoration of historic ecosystem structure, form, and function, rather than the creation of habitat for migratory birds.
 - b. Any tentative recommendation for a moist soil unit is cleared with MVD prior to public release of a draft document. Our compliance with EO 13186, January 2001, per the Migratory Bird Treaty Act, must be within the overall context of our agency's mission.
3. The MVD point of contact is Elizabeth Ivy, CEMVD-PD-SP, (601) 634-5310.

A handwritten signature in black ink that reads "Charles B. Barton".

CHARLES B. BARTON
Chief, District Support Team for
St. Louis, Rock Island, and
St. Paul

Encl

**TURKEY RIVER BOTTOMS DELTA AND BACKWATER COMPLEX
HABITAT REHABILITATION AND ENHANCEMENT PROJECT
CLAYTON COUNTY, IOWA AND GRANT COUNTY, WISCONSIN
UPPER MISSISSIPPI RIVER RESTORATION –
ENVIRONMENTAL MANAGEMENT PROGRAM
ROCK ISLAND DISTRICT**

FACT SHEET

I. LOCATION

The Turkey River Bottoms Delta and Backwater Complex is located in Pool 11 at the confluence of the Turkey River and the Upper Mississippi River (UMR) between river miles (RM) 604.7 and 609, across the river from Cassville, Wisconsin. It lies within the UMR National Wildlife and Fish Refuge and is bounded on the west, north, and east by the main channel, and by railroad tracks on the south (figure 1).

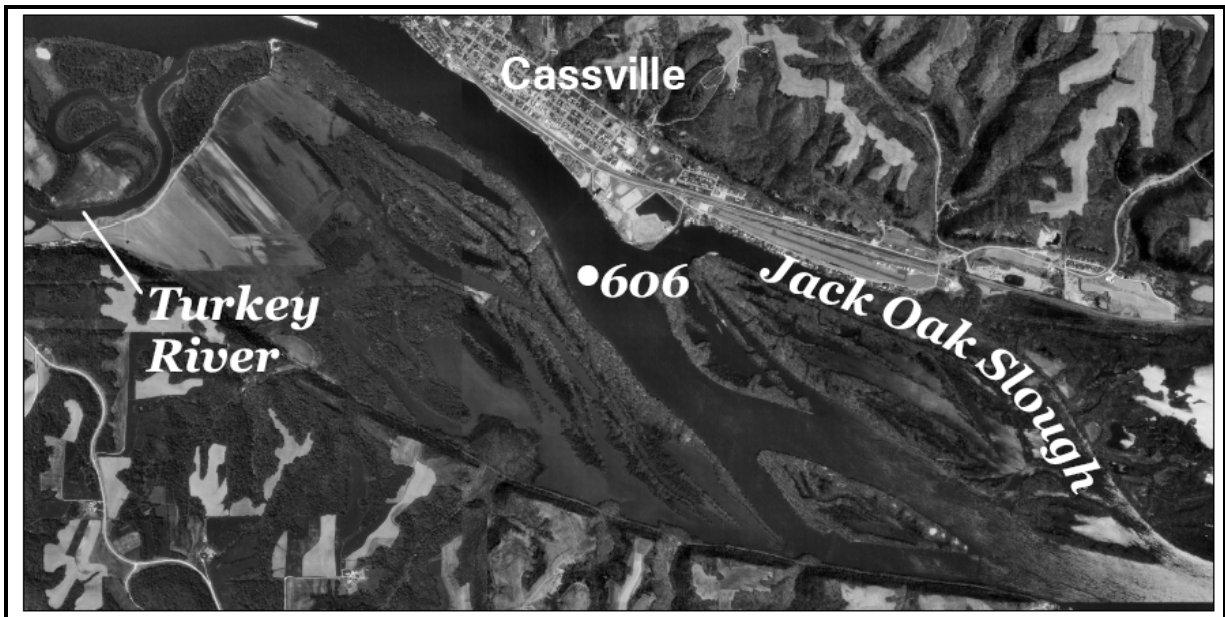


Figure 1. General Project Location

II. EXISTING RESOURCES

The project area includes the 2,800 acre delta of the Turkey River as well as backwater lakes, sloughs, flowing channels, and islands. Though degraded, this important delta backwater area supports a diverse population of wildlife including ducks, geese, swans, pelicans, eagles, and muskrats. Figure 2 shows existing habitat conditions; figure 3 shows 2000 land cover and acreages.

III. PROBLEM IDENTIFICATION

Identified problems include lack of migratory bird habitat; loss of mast tree diversity; poor overwintering habitat; and poor nursery habitat for fish and wildlife.

The majority of Mississippi River tributary mouths and their associated delta formations have degraded habitat quality and a lack of habitat diversity due to various human actions. Historically, much of the Turkey River Delta area had been a mixture of wet prairie, bottomland forests and backwater complexes before a large portion was converted to agricultural uses.

Migratory birds need areas of flooded, nutrient rich food sources along a migration route. Reliable, consistent flooded food sources for migratory birds have been declining. Manageable wetland complexes are needed to supply this habitat deficiency on the Upper Impounded Reach of the UMRS, which was lost when the water levels were managed for the 9-foot navigation project.

Historically, the backwater complexes in the area have been important overwintering fish habitat. However, fisheries problems with the backwater lakes in the area include too little depth to accommodate fish through winter ice-up and low oxygen levels in both winter and summer. Due to siltation, fish movement is restricted at the entrance to the lakes. Fish become trapped in isolated areas during high water and die when the water drops and oxygen becomes depleted.

IV. PROJECT GOALS

Project goals are derived from the Environmental Pool Plans, Pools 11 through 22; the Habitat Needs Assessment; and Reach Planning efforts. These project goals are consistent with the systemic goals adopted by Environmental Management Program Coordinating Committee and the Navigation Environmental Coordination Committee in January of 2008.

Rehabilitation and Enhanced Quality Habitat for all Native and Desirable Plant, Animal and Fish Species

- restoration and enhancement of aquatic habitat for fish, invertebrates, aquatic and semi-aquatic mammals, reptiles, amphibians, waterfowl, shorebirds, etc.
- restore and enhance floodplain habitat for the variety of mammals, birds, reptiles, amphibians, etc.

Rehabilitation and Enhancement of Natural River Process to Emulate a Sustainable Ecosystem (Natural Water Levels, Sediment Transport and Deposition Regime, and Distribution of Water Flows Across the Mississippi River Floodplain)

- stabilize flows throughout the complex
- restore sediment transport and deposition throughout the complex to a more natural condition
- manage water elevations to emulate more natural seasonal water elevations
- minimize adverse effects of elevated water table on soil moisture conditions

V. PROPOSED PROJECT

The proposed project includes development of a 300-acre moist soil unit (MSU) where a wetland once existed, backwater dredging, forestry enhancement, and shoreline stabilization. In addition, habitat restoration in the Jack Oak Island backwater complex (RM 603 to 606) may also be included with this project, if it is justified by habitat needs and cost effectiveness (figure 4).

For the MSU, the water would be supplied by either wells or surface water managed during low water periods to support emergent wetland vegetation. This will provide the high-energy food source used by migratory birds during fall and spring migration. The MSU would be designed to accommodate the ingress and egress of fishes during high water, supplying connectivity to the Mississippi River, and to provide the widest range of management for both wildlife and fish.

Portions of Spring Lake, Dead Lake, Wood Duck Slough, Wachendorf Lake, and Long Lake, located on the Iowa side of the UMR at RM 606 will be dredged to provide wintering habitat. The cuts will provide suitable overwintering habitat for fish by providing adequate depth, access to fresh flowing spring waters and shelter from the cold and current of the main channel. Anchored cedar tree bundles will be placed as fish habitat in the dredged areas to provide additional shelter. Dredged material will be used to construct the MSU.

Forest enhancement could be accomplished by bank stabilization, elevating the existing ground elevations using dredged material, planting hardwoods, and forest management.

The above proposed features will protect, enhance, and restore quality wetland habitat for many native and desirable plant, wildlife, and fish species. Targeted animals include eagles, mussels, fish, turtles, migrating waterfowl, mammals, and shorebirds. Targeted plants include emergent vegetation such as arrowhead, burreed, and bulrush; submersed vegetation such as wild celery and sago pondweed; and floodplain vegetation such as swamp white oak and button bush.

VI. IMPLEMENTATION CONSIDERATIONS

Backwater dredged material will be used to construct the MSU. Any additional material will be used for topography enhancements, to provide sediment control, or to maintain, create, or enhance nearby islands.

There is a private holding in the Turkey River project area, but the project can proceed without purchasing it. Jack Oak Island also contains a private holding. If these holdings are purchased, they would become part of the UMR National Wildlife and Fish Refuge.

The Higgins eye pearly mussel (*Lampsilis higginsii*) has been found at various locations in Pool 11. The project will be formulated to avoid adverse impacts to the Higgins eye and enhance habitat where possible. Archeological sites have been documented on portions of Jack Oak Island and Turkey River Bottoms.

VII. FINANCIAL DATA

All project lands are owned by the U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service (USFWS) and are managed as part of the UMR National Wildlife and Fish Refuge. The

estimated cost for the general planning, design, and construction of the actions noted above is \$15 million. Since this project is located on a National Wildlife Refuge, it is 100 percent federally funded. The USFWS is responsible for operation and maintenance costs.

VIII. STATUS OF PROJECT

The project was submitted to the Fish and Wildlife Interagency Committee on January 12, 2006 and accepted by the River Resources Coordinating Team on January 24, 2006 and reaffirmed in May 2010.

Partnering organizations include the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, the Iowa Department of Natural Resources, and the Wisconsin Department of Natural Resources.

IX. POINTS OF CONTACT

Marvin Hubbell, Program Manager, U.S. Army Corps of Engineers, Rock Island District, 309-794-5428

Tim Yager, McGregor District Manager, U.S. Fish and Wildlife Service, 563-873-3423

Mike Griffin, Mississippi River Wildlife Biologist, Iowa Department of Natural Resources, 563-872-5700

Jeff Janvrin, Mississippi River Habitat Specialist, Wisconsin Department of Natural Resources, 608-785-9005

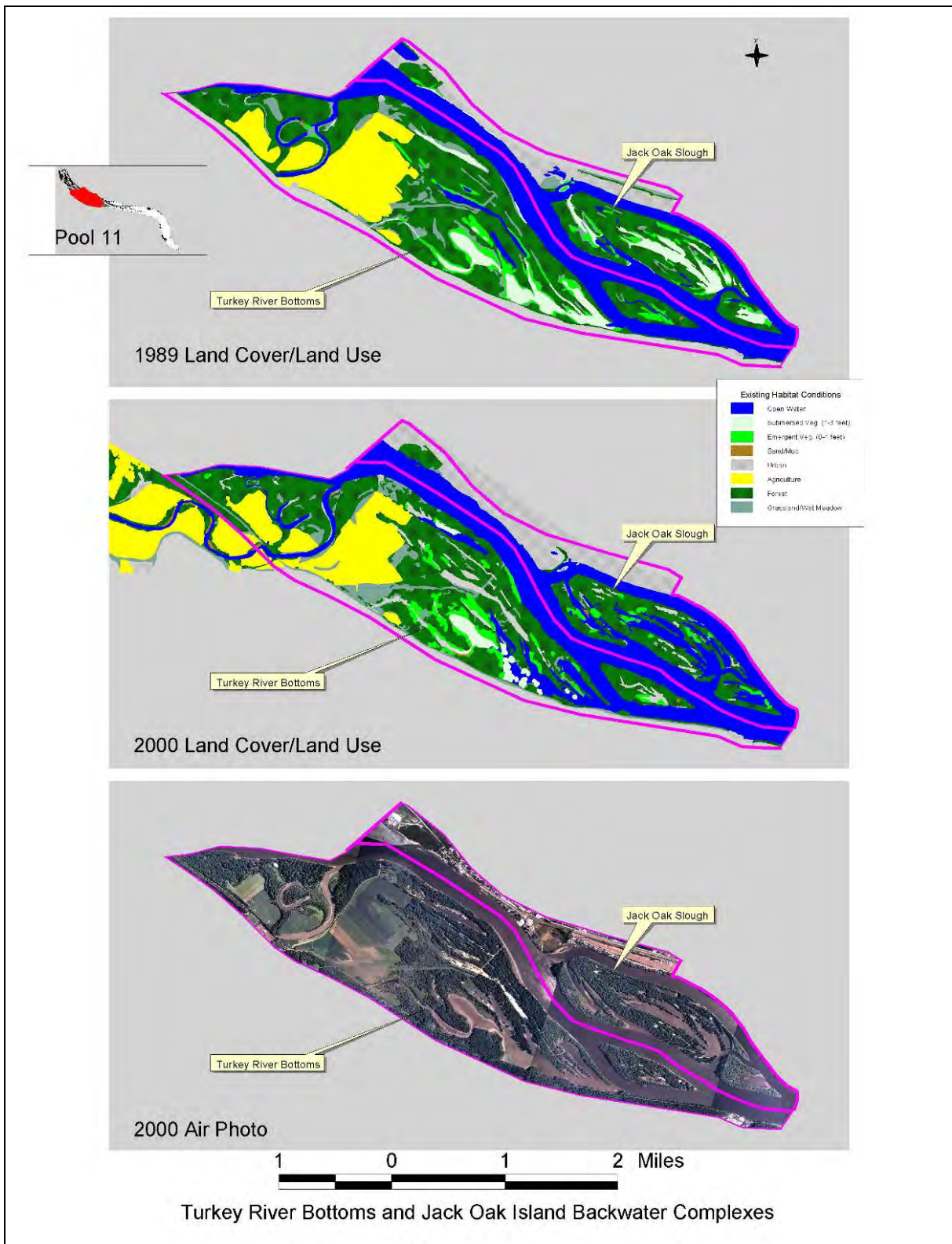


Figure 2. Existing Habitat Conditions

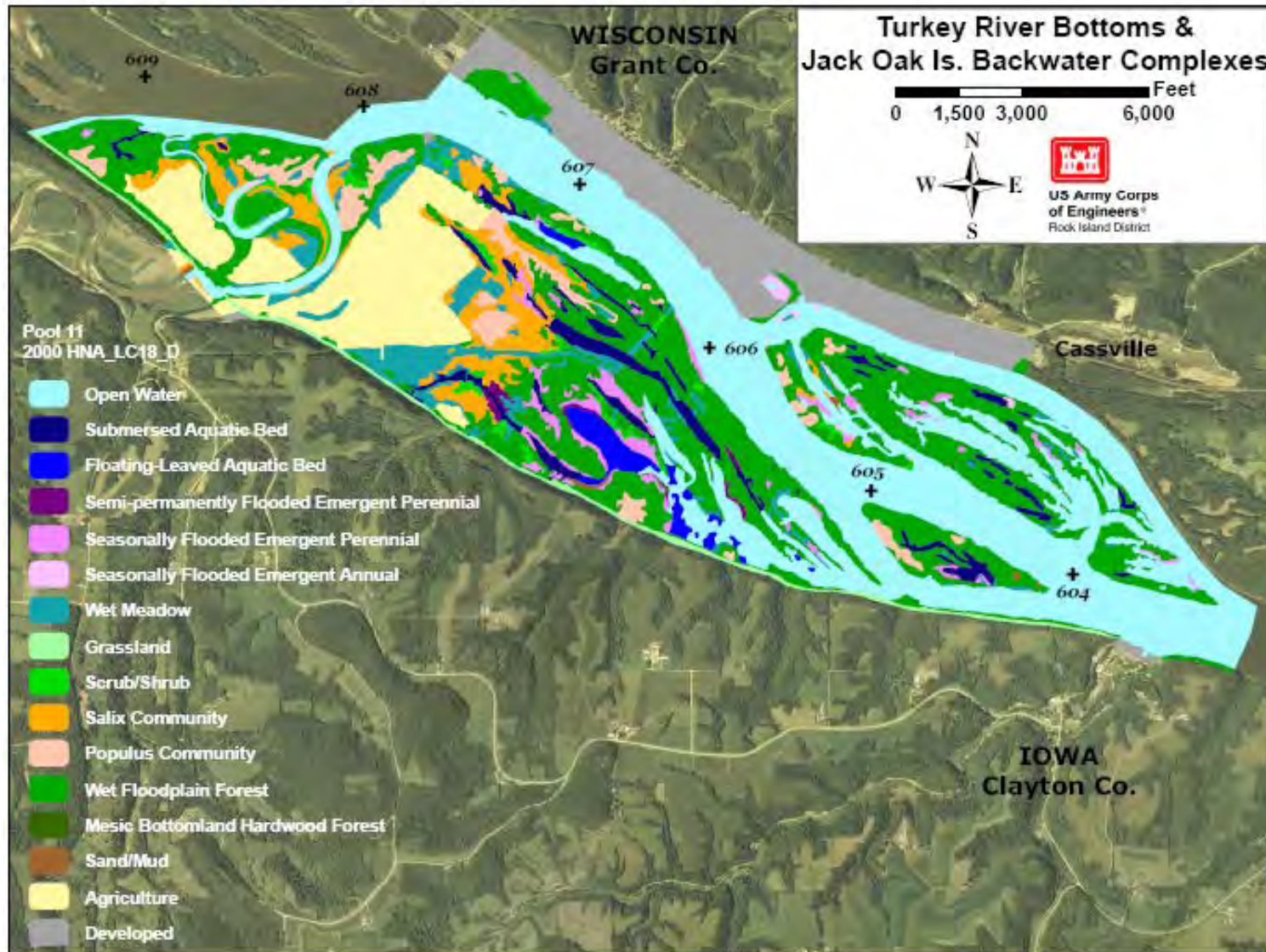


Figure 3. 2000 Land Cover Data

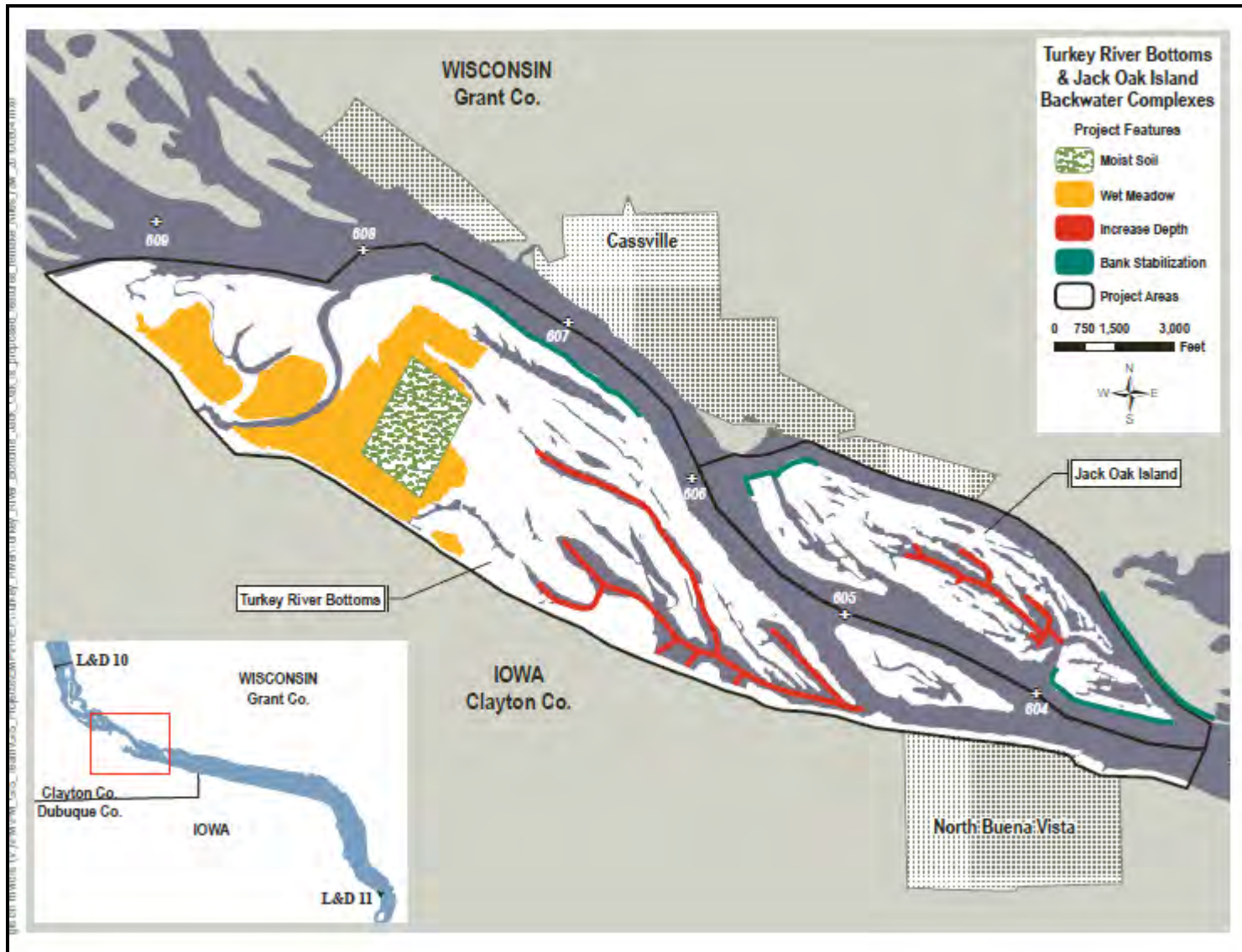


Figure 4. Proposed Project Features