



**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), Keithsburg Division Habitat Rehabilitation and Enhancement Project (HREP), Mercer County, Illinois, Fact Sheet

1. Reference memorandum, CEMVR-PM-M, 08 July 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. The array of alternatives investigated should include levee removal as an alternative.
  - b. Any tentative recommendation is cleared with MVD prior to public release of a draft document.
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

**KEITHSBURG DIVISION**  
**HABITAT REHABILITATION AND ENHANCEMENT PROJECT (HREP)**  
**MERCER COUNTY, ILLINOIS**  
**UPPER MISSISSIPPI RIVER RESTORATION-ENVIRONMENTAL MANAGEMENT PROGRAM**  
**ROCK ISLAND DISTRICT**

**FACT SHEET**

**I. LOCATION**

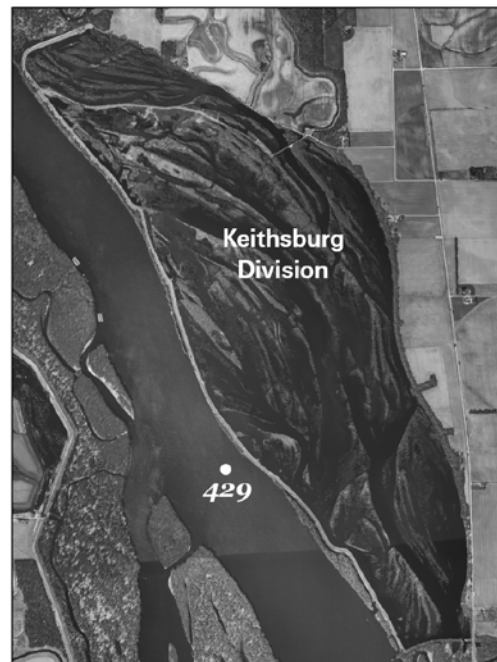
The Keithsburg Division (Division) of Port Louisa National Wildlife Refuge (NWR) is a 1,400-acre backwater complex located along the left descending bank of the Mississippi River between river miles 431 and 428. The entire Division lies within Pool 18 immediately north of Keithsburg, Illinois. Port Louisa NWR is part of the Mark Twain National Wildlife Refuge Complex of the U.S. Fish and Wildlife Service (USFWS). An 8-acre boat ramp site is owned in fee title by the USFWS; the remaining acreage is General Plan lands owned by the U.S. Army Corps of Engineers (figure 1).

**II. EXISTING RESOURCES**

Keithsburg Division averages 0.75 mile wide and is bordered by the Edwards River to the north, Pope Creek to the south, and the Mississippi River to the west. It is separated from the Mississippi River by a 3-mile-long levee which ties into two short sections of levee at the north and south ends. A spillway on the Edwards River levee at the north end and a spillway on the Mississippi River main levee at the south end allow floodwaters to flow into the division. A water control structure with two 36-inch screw gates is located at the south end of the main levee. The screw gates permit water levels to be lowered by gravity during the summer and to be raised in the fall when Mississippi River flows are high enough.

The Division is a mosaic of both wetlands and bottomland forest. A mature hard mast component still survives at the north end of the Division. The wetlands provide important backwater habitat for fish, migrating waterfowl, shorebirds, amphibians and other wetland species.

The bottomland forest supports a wide array of neotropical migrant birds, a large breeding population of wood ducks, and several declining bird species such as the red-headed woodpecker and the yellow-billed cuckoo. Figure 2 shows 2000 land cover data and acreages.



**Figure 1.** General Project Location

### III. PROBLEM IDENTIFICATION

During the 1993 flood, a large break occurred in the southern tie back levee adjacent to Pope Creek. The levee breach and existing spillway allows some connectivity, but appropriate inlet/outlet design to reduce erosive forces during high flow conditions through the backwater sloughs does not exist in the Division. Water level management capability is limited, and uncontrolled flood events result in heavy sediment accumulations. This sedimentation reduces the depth and quality of wetlands, inhibits wetland plant growth, and eliminates overwintering habitat for fish. Frequent inundation inhibits island forest regeneration and causes increased mortality of mature trees.

Adjacent agriculture fields are contaminated by high levels of nitrogen and ammonia. When high levels of nitrogen and phosphorus concentrate in the Division from this area, large blooms of nuisance aquatic plants such as blue-green algae and duckweed cover a large extent of the Division. The invertebrate community is also adversely affected by concentrated contaminants; studies indicate low invertebrate density and diversity with communities dominated by pollution-tolerant species. Contaminant-related reduction of the invertebrate food supply is a serious limiting factor for fish, amphibians, and birds which occupy the Division.

### IV. PROJECT GOALS AND OBJECTIVES

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 the Environmental Management Program Coordinating Committee and the Navigation Environmental Coordination Committee in January of 2008.

#### **Enhance Fish Spawning, Rearing and Overwintering Habitat; Improve Nutrient Recycling; Promote a More Diverse Aquatic Invertebrate Community; and Enhance Aquatic Vegetation Growth:**

- may include adding water volume from the river to provide for mixing and dilution of the water column in the sloughs and lessen contaminant effects and re-establishing a continuous flow of Mississippi River water through the backwater sloughs in spring and fall

#### **Improve Water Circulation and Water Level Management Throughout the Division and To Install a More Efficient Operating System To Regulate Flows and Depths to Better Sustain Wetland, Forest, and Scrub Shrub Health:**

- may include modifying/constructing spillways and water control structures at the northern and southern ends of the levee

#### **Provide Overwintering Fish Habitat and Decrease Fish Stress During Summer Drawdown Periods:**

- could include dredging portions of primary channels to enhance water flow and improving bathymetric diversity

## **V. PROPOSED PROJECT FEATURES**

- Construct a water control structure through Spring Slough Road just west of the public use parking lot. By installing this structure, low quality run off water from adjacent agricultural fields will be retained within the 145-acre wetland area north of the Spring Slough Road. Increased nutrient uptake by wetland vegetation will improve water quality before it is released to the rest of the Division. The existing north spillway will be moved west to the river levee to allow greater connectivity and reduced sediment deposition within the Division (figure 3).
- Install two 36-inch pipes with screw gates and a flap gate insert on the main levee near the north end to allow river water to enter the Division. The existing south end structure will be modified to improve efficiency. Structure base elevations will be designed to ensure proper water flow from the north to the south end of the Division. The existing Mississippi River spillway will be lowered one foot to allow water ingress over the spillway during normal flood events rather than only during historically high flood events. Additional armoring will be needed to better protect the spillway from erosion and blowouts.
- Construct spillway near the south boundary of the refuge adjacent to Pope Creek. This feature will enhance water level management capabilities.
- Dredge portions of primary channels where needed to improve water flow and enhance fish habitat. Dredged material potentially could be used to raise the elevation of adjacent floodplain areas and to construct the south spillway.

## **VI. IMPLEMENTATION CONSIDERATIONS**

Project features within the closed area must fit with the purpose of the closed area, and construction activities would be restricted during the waterfowl hunting season.

## **VII. FINANCIAL DATA**

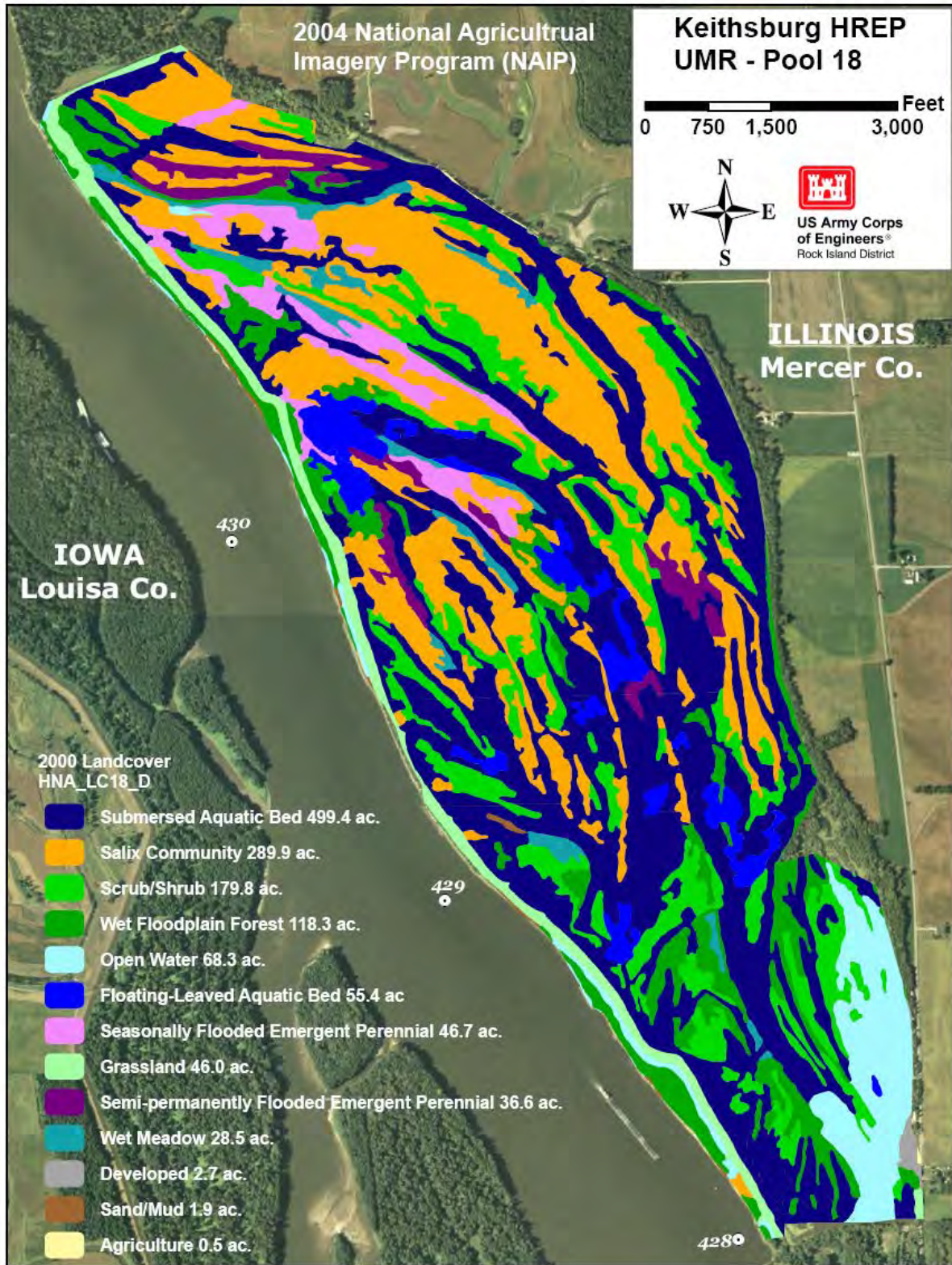
The project features are located entirely on lands managed as a national wildlife refuge, so the project cost would be 100 percent Federal. The estimated total cost for planning, design, and construction is \$8 million. The USFWS will be the project sponsor and therefore responsible for operation and 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.

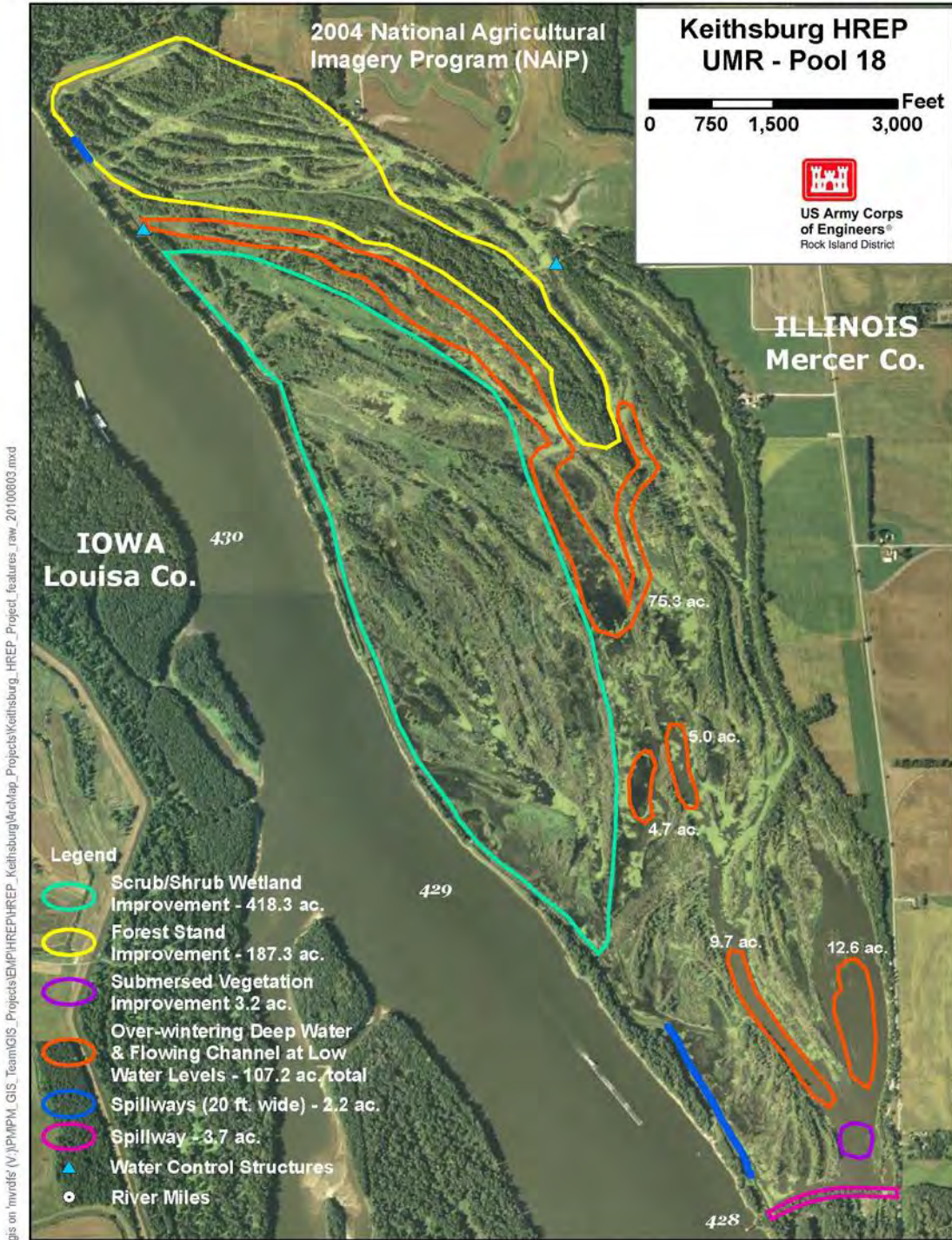
## **IX. POINTS OF CONTACT**

Cathy Henry, Refuge Manager, U.S. Fish and Wildlife Service, Port Louisa NWR, 319-523-6982  
Marvin Hubbell, EMP Manager, U.S. Army Corps of Engineers, Rock Island District, 309-794-5428  
Bob Clevestine, U.S. Fish and Wildlife Service, 309-793-5800, ext. 205  
Rick Mollahan, EMP Coordinator, Illinois Department of Natural Resources, 217-785-8264



**Figure 2.** 2000 Land Cover Data





**Figure 3.** Proposed Project Features