

UMRR HREP

Rock Island District

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Agenda

- ▶ Assuming the sun is not going to swallow the earth in the near future....
 - ▶ Feasibility
 - ▶ Design
 - ▶ Construction
 - ▶ O&M
 - ▶ Post Construction Monitoring

Feasibility Level Studies (formerly called “DPR”)

- ▶ Ongoing:
 - ▶ Beaver Island HREP
 - ▶ Keithsburg HREP
- ▶ Next projects

Beaver Island

Mississippi River

Pool 14

Clinton County, Iowa

Project partners:

U.S. Fish and Wildlife Service

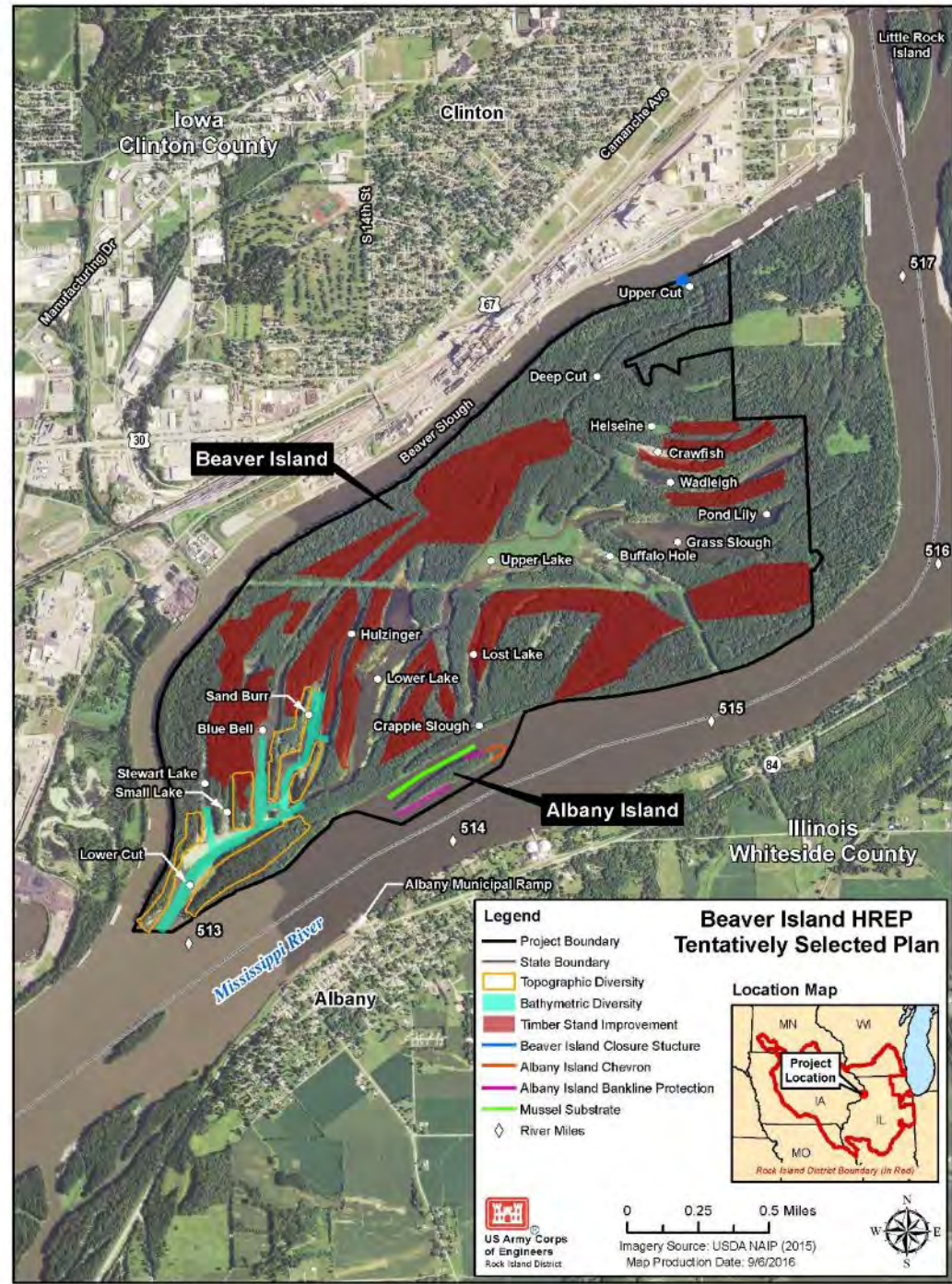
Iowa DNR



Beaver Island

Restore backwater aquatic habitat, island diversity, and forest diversity

- Feasibility phase underway
 - ▶ Agency comments received July 1st
 - ▶ July 27th - PDT and Sponsor meeting at the Upper Mississippi Refuge Office
 - ▶ DQCR comments are back checked
 - ▶ ATR Review - Scheduled for Oct 3rd



Beaver Island

- ▶ Albany Island protects Albany Slough, a site that contains decent mussel habitat
- ▶ Albany Island is rapidly eroding
- ▶ TSP:
 - ▶ Construct Chevron U/S of Albany Island
 - ▶ Protect eroding Albany Island bank line
 - ▶ Provide mussel substrate in Albany slough



Beaver Island

- ▶ High levels of sediment are entering the backwater, converting aquatic habitat to wetland and rapidly reducing deep water habitat used for overwintering fisheries
- ▶ TSP:
 - ▶ Construct Rock Closure Structure at U/S end of major inlet to backwater
 - ▶ Excavate deep water habitat connected to provide overwintering habitat, larger widths, narrow widths, finger lakes, and center channel
 - ▶ Provide fisheries “structures” throughout backwater



Beaver Island

- ▶ Sedimentation on the lower end of the island, along with prolonged higher water levels have stressed floodplain forest.
- ▶ Upper end of island has higher elevations in historic farm fields.
- ▶ TSP:
 - ▶ Elevate downstream end of island to elevation selected in EFM for likely floodplain hard mast tree survival.
 - ▶ Plant series of RPM trees and shrubs
 - ▶ Perform TSI on higher elevations of island to promote forest diversity and health



Keithsburg

Mississippi River

Pool 18,

RM 428-431

Mercer County, IL

Project partners:

U.S. Fish and Wildlife Service

IL DNR

IA DNR

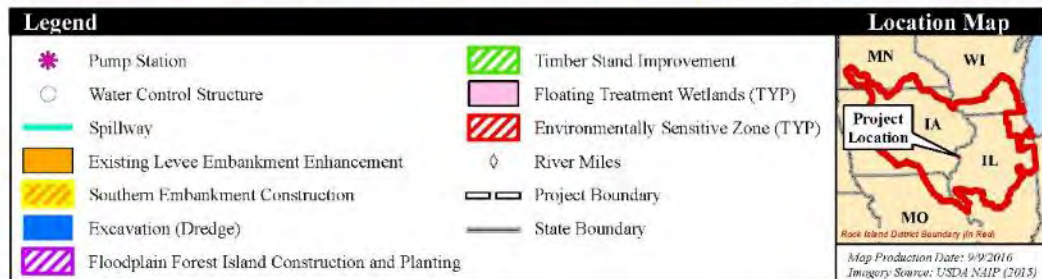
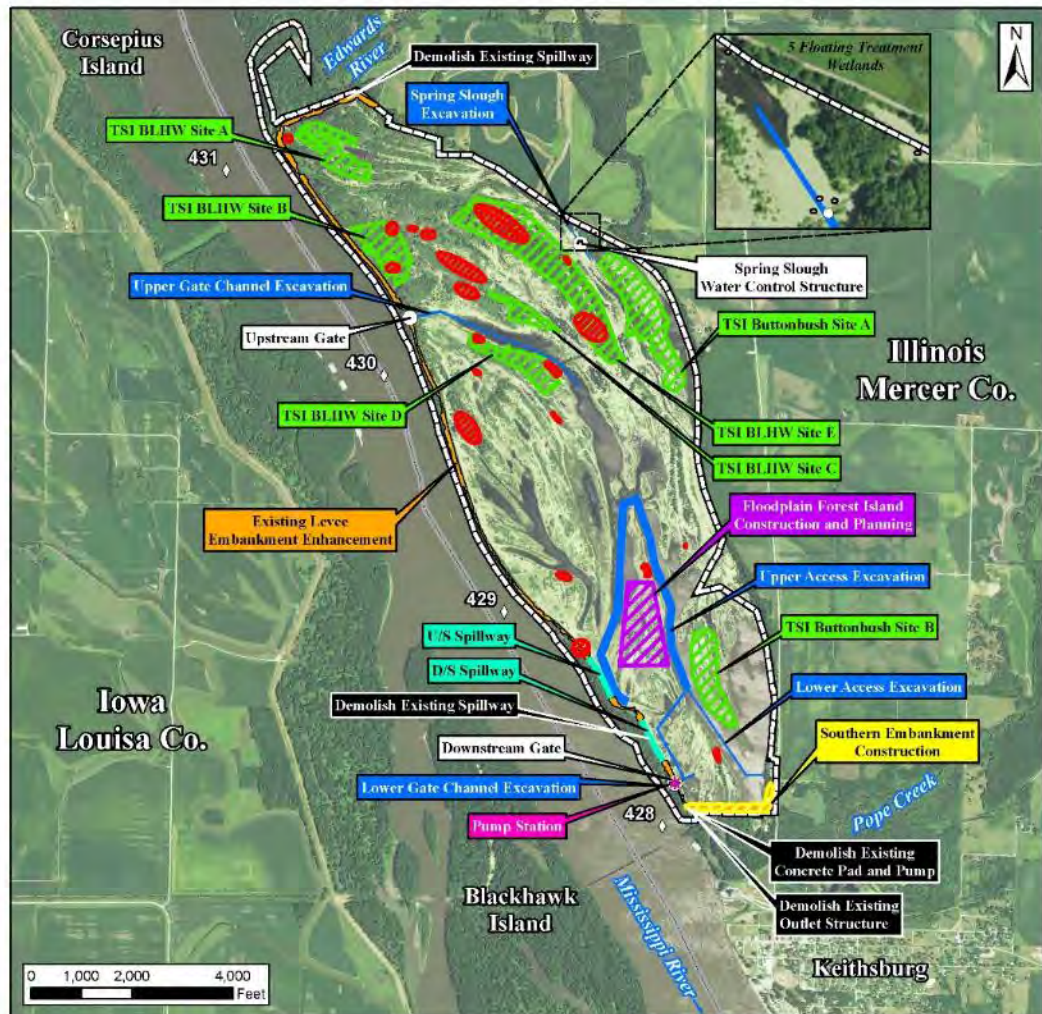


Keithsburg

Keithsburg Division is a 1,400 acre backwater within Port Louisa National Wildlife Refuge located immediately north of Keithsburg, IL. Problems in the area include; limited water management capability, reduced habitat due to sedimentation, limited forest diversity, blue-green algae blooms, abundance of duckweed, etc.

■ Feasibility phase underway

- ▶ **Environmental – working on HEP analysis**
- ▶ **Sept 21st – Habitat Analysis Workshop**
- ▶ **Engineering is working with cost to figure out cost for all features**
- ▶ **Sept 12th - PDT meeting with Sponsor**
- ▶ **PDT goal is to run CE/ICA by mid Oct**



Keithsburg Potential Measures

- ▶ Interior system is not manageable in current conditions. Abandoned pump and improperly sized gates and spillways do not adequately allow for filling and draining the wetland system. Large breach connects site to river during high water.
- ▶ Targeted water level management plan has been developed and modeled.
- ▶ Measures:
 - ▶ L0: No action to improve management.
 - ▶ L1: Improve embankment, provide adequately sized spillways and gates, construct southern berm on fee title land
 - ▶ L2: Same measures plus pumping capacity



Keithsburg Potential Measures

- ▶ Lower end of system has significantly stressed floodplain forest.
- ▶ Measures:
 - ▶ F0: No action
 - ▶ F1: Elevate area in lower system to target elevation and plant floodplain soft mast trees.
 - ▶ F2: Elevate area in lower system to target elevation and plant floodplain soft mast trees
 - ▶ F1 and F2 to be selected based on selection of L1 or L2 measures (one elevation is set assuming interior water level control and the other assumes direct connection to the river.



Keithsburg Potential Measures

- ▶ Floodplain Forest in Upstream End is not adequately regenerating. Buttonbush and other wetland plants are surviving but are not regenerating.
- ▶ Measures:
 - ▶ T0: No action
 - ▶ T1: Perform TSI of floodplain forest
 - ▶ T2: Perform TSI of buttonbush stands
 - ▶ T3: Perform TSI of both.



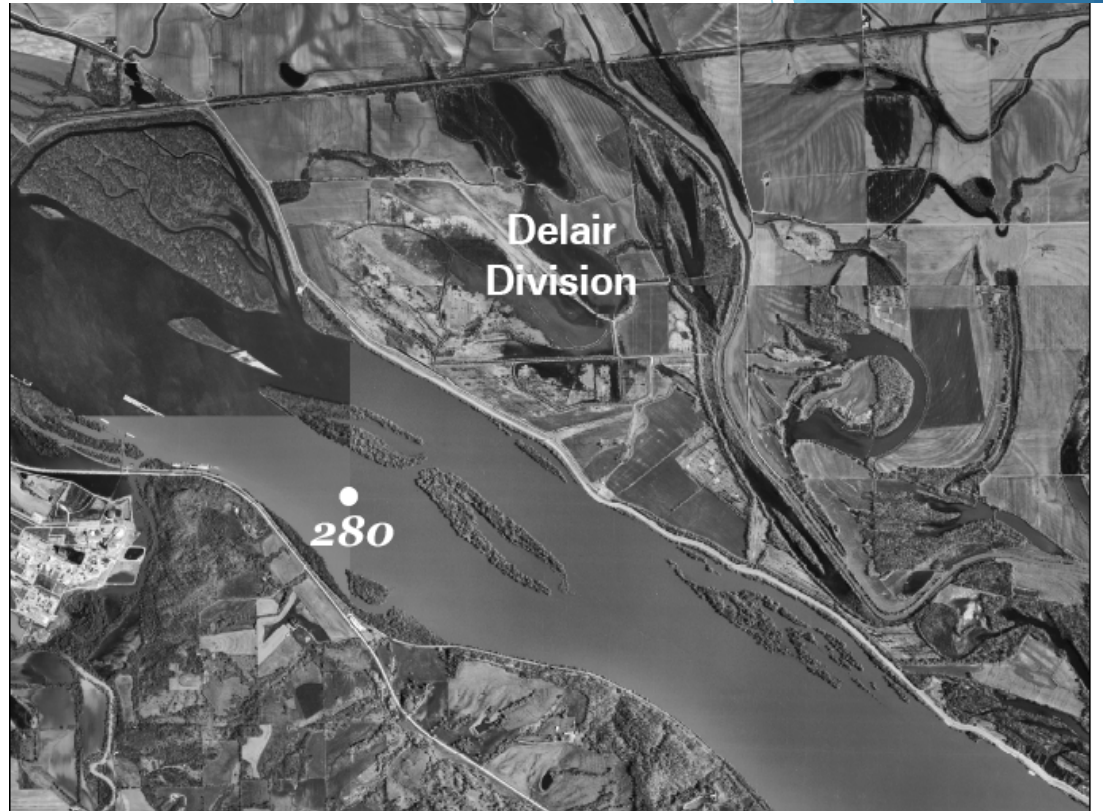
Keithsburg Potential Measures

- ▶ Spring Slough is a smaller wetland unit located on the north end of the refuge. Based on elevations and an interior road, the two units could be operated separately, especially during drawdown years for the lower unit.
- ▶ Measures:
 - ▶ S0: No action
 - ▶ S1: Independent operation (water control structure)



HREP: DELAIR DIVISION

- Delia Division- start in November
- MVD Fact sheet approved



HREP STATUS

- Steamboat Island- start 2nd QTR FY2017
 - ▶ MVD Fact sheet approved
- Turkey River Island- start 2nd QTR FY2017
 - ▶ MVD Fact sheet approved
- Snyder Slough
 - ▶ MVD Fact sheet approved

Projects in Design

- ▶ None at this time.
- ▶ Beaver Island next summer

Projects In Construction

- ▶ Rice Lake
- ▶ Pool 12
- ▶ Huron Island
- ▶ Lake Odessa

Rice Lake

RM 132.0 through 138.0

Illinois Waterway

(LaGrange Pool)

Fulton County, Illinois



Rice Lake: 6,800-acre MSMU

Project Partner: ILDNR

LEGEND

Perimeter Water Control Spillway

New Water Control Structure

New Berm

0 1 mile
Scale

Regional Map



Rice Lake: Stage I

- ▶ Major project features:
 - ▶ Pump station and control building
 - ▶ Discharge channel
 - ▶ Water control structures
 - ▶ Overflow Spillway
 - ▶ Outlet structure
- ▶ Schedule:
 - ▶ Stage I Contract awarded September 2011 to S&F Inc. for \$8.64 million
 - ▶ Majority of earthwork and seeding completed in 2012
 - ▶ Flood of 2013 - spillway and discharge channel scouring, outlet structure
 - ▶ Flood damage repairs completed November 2014
 - ▶ Reseeding completed Spring 2015
 - ▶ Substantial completion June 2015
 - ▶ Final Stage I Contract amount \$9.38 million

Rice Lake: Pump Station



Pump Station & Control Building



Rice Lake: Discharge Channel



Rice Lake: Water Control Structures



Rice Lake: Overflow Spillway



Rice Lake: Outlet Structure



Rice Lake: Pump Repairs



Pool 12

Mississippi River

Pool 12

RM 563 -573

Jo Daviess County, Illinois

Project partners:

U.S. Fish and Wildlife Service
Illinois Department of
Natural Resources
Iowa Department of Natural
Resources



Pool 12 Overwintering

Pool 12 Overwintering Habitat Rehabilitation and Enhancement Project Overview

The project has two main goals:

1. Restore and Protect Off-Channel Aquatic Habitat, and
2. Restore Floodplain Forest Habitat

The goals of the project will be achieved through channel dredging, placement of land and aquatic berms, mast tree plantings, and rock closure structures.

- Tree Plantings
- Rock Closures
- Aquatic Placement
- Land Placement
- Transition Area
- Dredging



0 0.45 0.9 1.8 Miles



Pool 12

- Goals:
 - ▶ Restore and protect aquatic habitat
 - ▶ Restore floodplain forest habitat
- Major Project Features:
 - ▶ Channel excavation
 - ▶ Land/aquatic berms
 - ▶ Tree plantings
 - ▶ Rock closure structures
- Stage I Sunfish Lake:
 - ▶ Construction complete, developing as-builts and O&M Manual
- Stage II Stone and Tippy Lakes:
 - ▶ Tree clearing complete
 - ▶ Contractor dredging channel with crane at Stone Lake
 - ▶ High water delays last winter and this summer/fall
- Stage III Kehough Slough:
 - ▶ Awarded contract August 2016 & NTP September 2016
 - ▶ Minimal tree clearing
 - ▶ IDIQ for tree plantings

Site	Project	Contract Amt.	% Paid	Completion Date
Pool 12 Stage I	Channel Dredging/Placement & Rock Closure Structure	\$4,033,334	100%	December 2015
Pool 12 Stage II	Channel Dredging/Placement & Rock Closure Structure	\$4,581,084	16%	September 2019
Pool 12 Stage III	Channel Dredging/Placement & Rock Closure Structure	\$3,086,000	0%	October 2019

Pool 12

- ▶ Tree Clearing
 - ▶ Stage I On site
 - ▶ Stage II Off site
 - ▶ Stage III Minimal



Pool 12

- ▶ Channel Excavation
 - ▶ 3 CY Minimum Bucket Size
 - ▶ Turbidity testing
 - ▶ No work elevation



Pool 12

- ▶ Placement Berms
- ▶ Temporary seed mix
 - ▶ Japanese millet
- ▶ Permanent seed mix
 - ▶ Virginia wild rye
 - ▶ Canada wild rye
 - ▶ Redtop
 - ▶ Buttonbush (Stage I)
 - ▶ Swamp milkweed (Stage III)
 - ▶ Common milkweed (Stage III)



Pool 12

▶ Tree Plantings

- ▶ Kentucky Coffeetree
- ▶ American sycamore
- ▶ Pin Oak
- ▶ Northerm Pecan
- ▶ Swamp White Oak
- ▶ Bur Oak

▶ Stage I Photos

- ▶ December 2015
- ▶ June 2016



Lake Odessa

Mississippi River

Pools 17-18,

RM 435.0-440.0

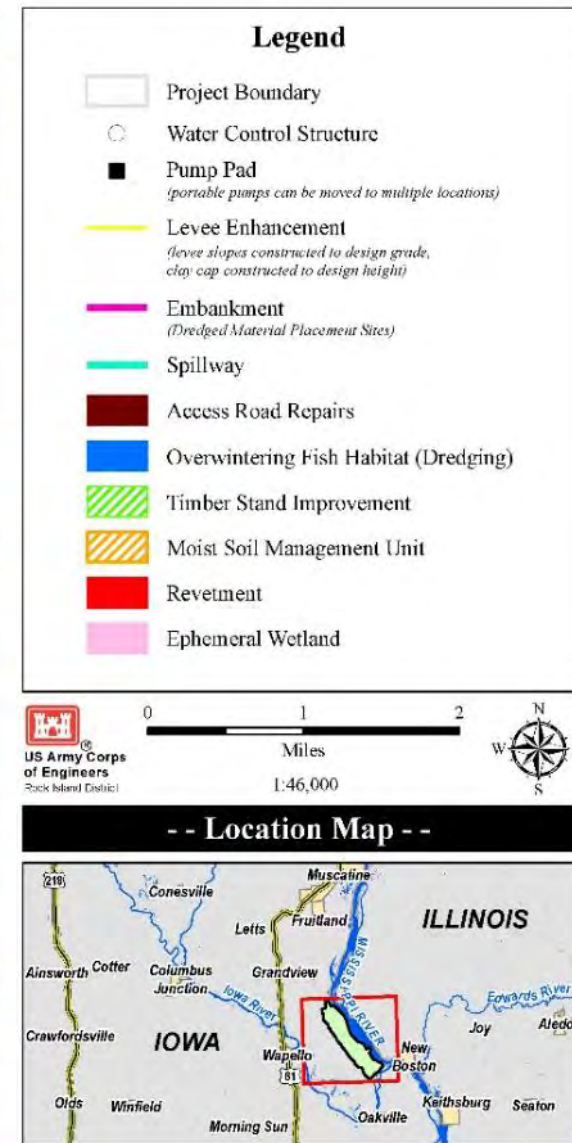
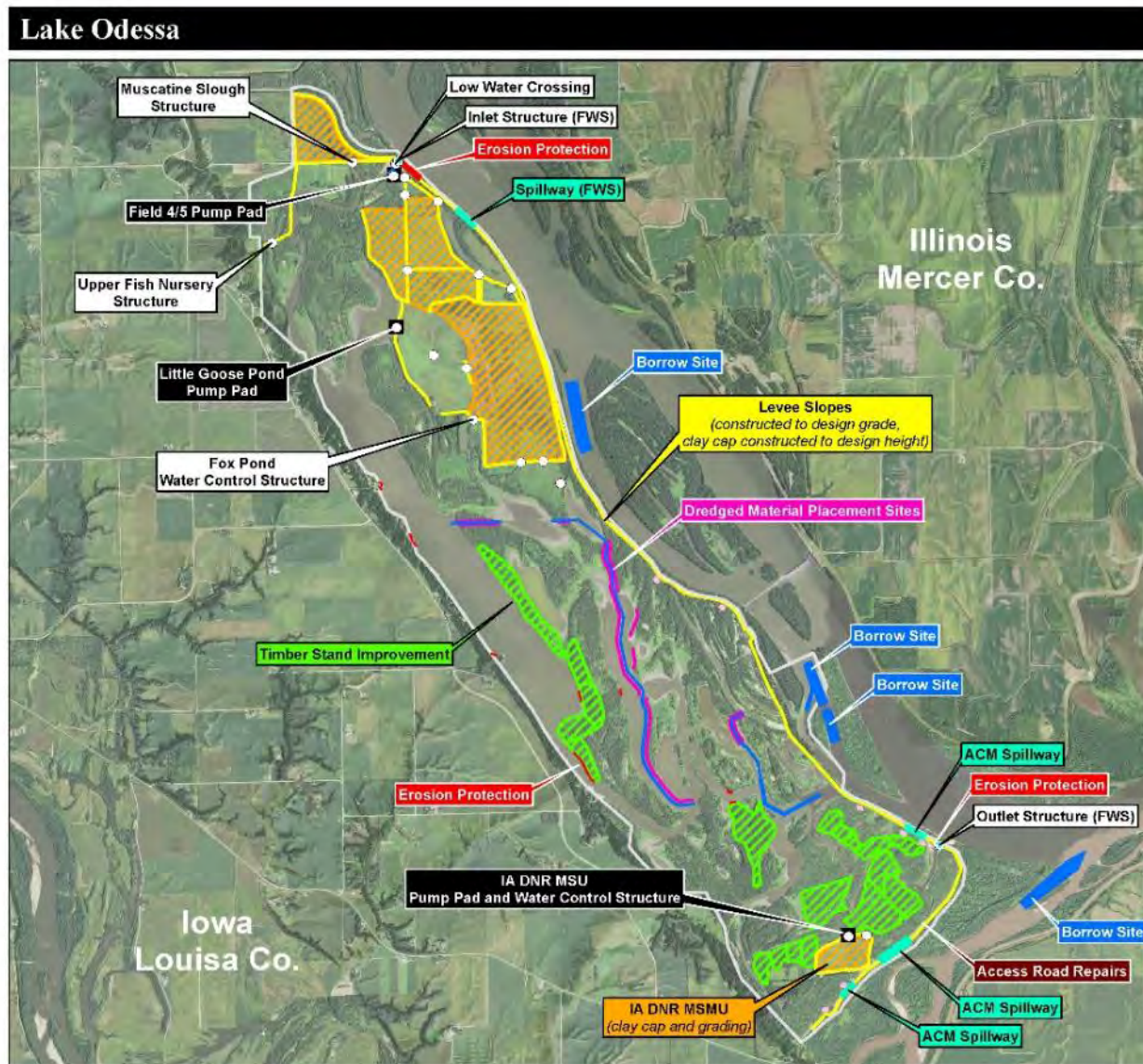
Louisa County, IA

Project partners:

U.S. Fish and Wildlife Service
Iowa Department of Natural
Resources



Lake Odessa



Lake Odessa

- 2013 Flood Recovery Contract
 - Final Inspection is completed
 - Proceeding with project close out

Site	Project	Contract Amt.	% Paid	Final Payment
Lake Odessa	Flood Recovery	\$2,890,720	84%	18 Aug 2014 22 Dec 2016

Lake Odessa

- ▶ Three large breaches and levee damages occurred in 2013/14.
 - ▶ Levee repairs on USFWS shown here, completed late summer.
 - ▶ Other levee repairs were completed on IA DNR portion of the levee in 2015-2016.



Lake Odessa

- ▶ Fastest river rise on record identified the need for 2 new spillways.
- ▶ Two ACM spillways were constructed to allow the interior to fill prior to future overtoppings



Huron Island

Mississippi River

Pool 18

RM 421.2-425.4

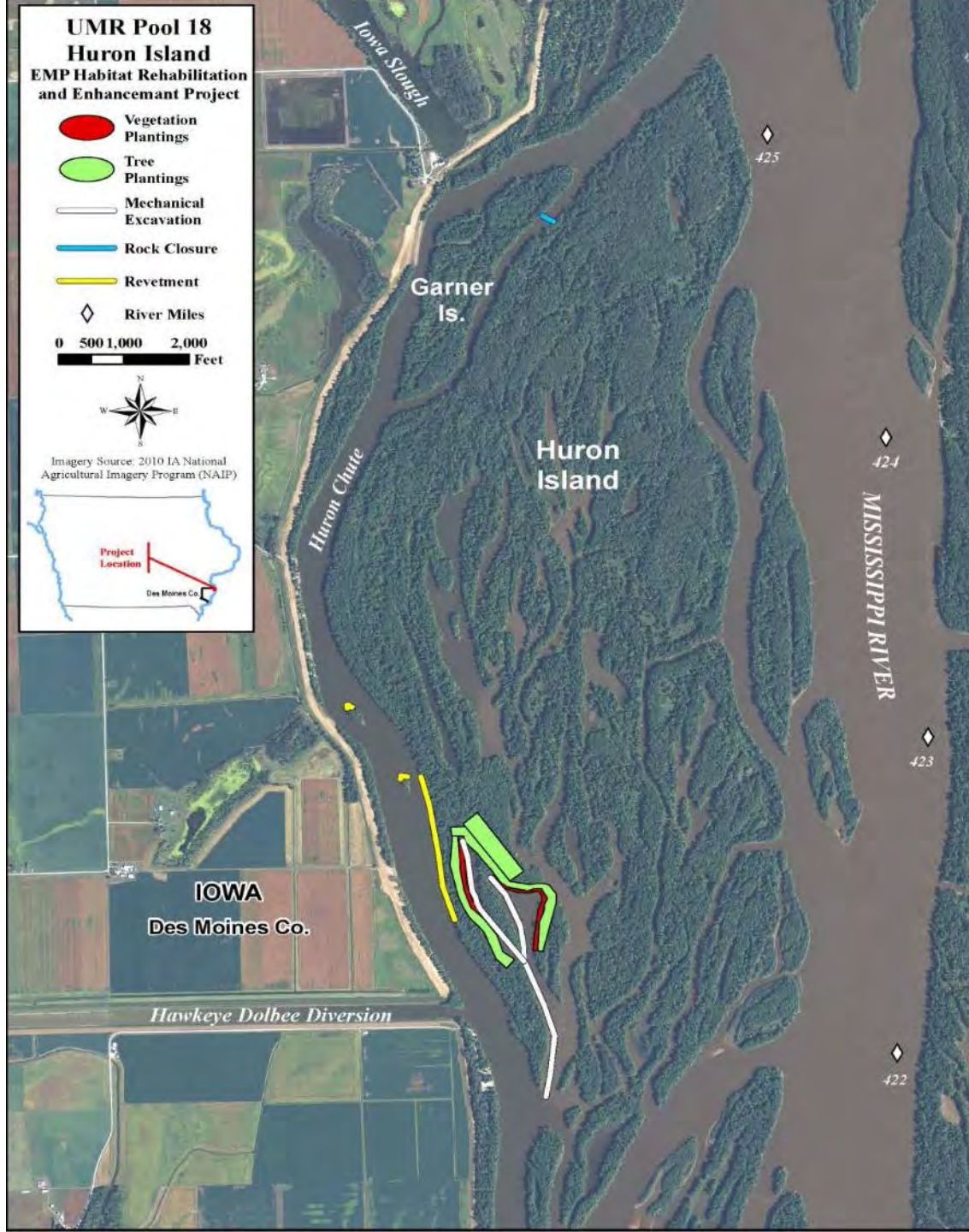
Des Moines County, IA

Project partners:

U.S. Fish and Wildlife Service
Iowa Department of Natural
Resources



Huron Island



Huron Island

▶ Restoration of backwater aquatic habitat, island diversity, and forest diversity

■ Stage I

- ▶ Contractor ordered more Riprap to finish the closure structure
- ▶ Laying rock last week

■ Stage II

- ▶ Awarded contract - July 28th
- ▶ Notice to Proceed - Sept 7th

Site	Project	Contract Amt.	% Paid	Final Payment
Huron Island Stage I	Dredging Rock work	\$4,055,615	83%	24 July 2014 16 Apr 2017
Huron Island Stage II	Rock work Topo Diversity	\$3,687,960	0%	28 July 2016 12 Dec 2017

Huron Island

- ▶ Stage 1:
 - ▶ Backwater Lakes were excavated, with the material side cast



Huron Island

- ▶ Stage II:
 - ▶ Material to be shaped to two tiers, and planted with RPM hard mast trees, and wetland species.
 - ▶ Area will be studied during adaptive management plan.
 - ▶ Fisheries structure will be added to channels



Huron Island

- ▶ Bank Protection.
 - ▶ Stage I: Small Island Protected
 - ▶ Stage II: Huron Island protected near study area, to including the use of locked logs.
- ▶ Closure structure
 - ▶ Stage I: Constructed to provide overwintering conditions in Garner Chute



Projects Developing O&M Manuals

- ▶ Lake Odessa this FY
- ▶ Rice Lake (maybe) this FY

Post Project Assessments



2016 Traditional Reports (start-stop)

- ▶ Posted in 2016:
 - ▶ Lake Chautauqua (2012-2016)
 - ▶ Pool 11 (2012-2016)
 - ▶ Bay Island (2014-2016)
 - ▶ Andalusia (2014-2016)
 - ▶ Brown's Lake (2014-2016)

Site Inspections 2016

- ▶ Complete and posted:
 - ▶ Peoria Lake
 - ▶ Princeton
- ▶ Ready to Post:
 - ▶ Long Island (Gardner Division)
 - ▶ Big Timber
- ▶ Under review:
 - ▶ Potters Marsh
 - ▶ Spring Lake
 - ▶ Bertom and McCartney
- ▶ Preparing for Review:
 - ▶ Pleasant Creek

Next Years Site Inspections

- ▶ Banner Marsh
- ▶ Lake Chautauqua
- ▶ Pool 11
- ▶ Brown's Lake
- ▶ Andalusia
- ▶ Cottonwood Island
- ▶ Fox Island
- ▶ Bay Island

Questions?

