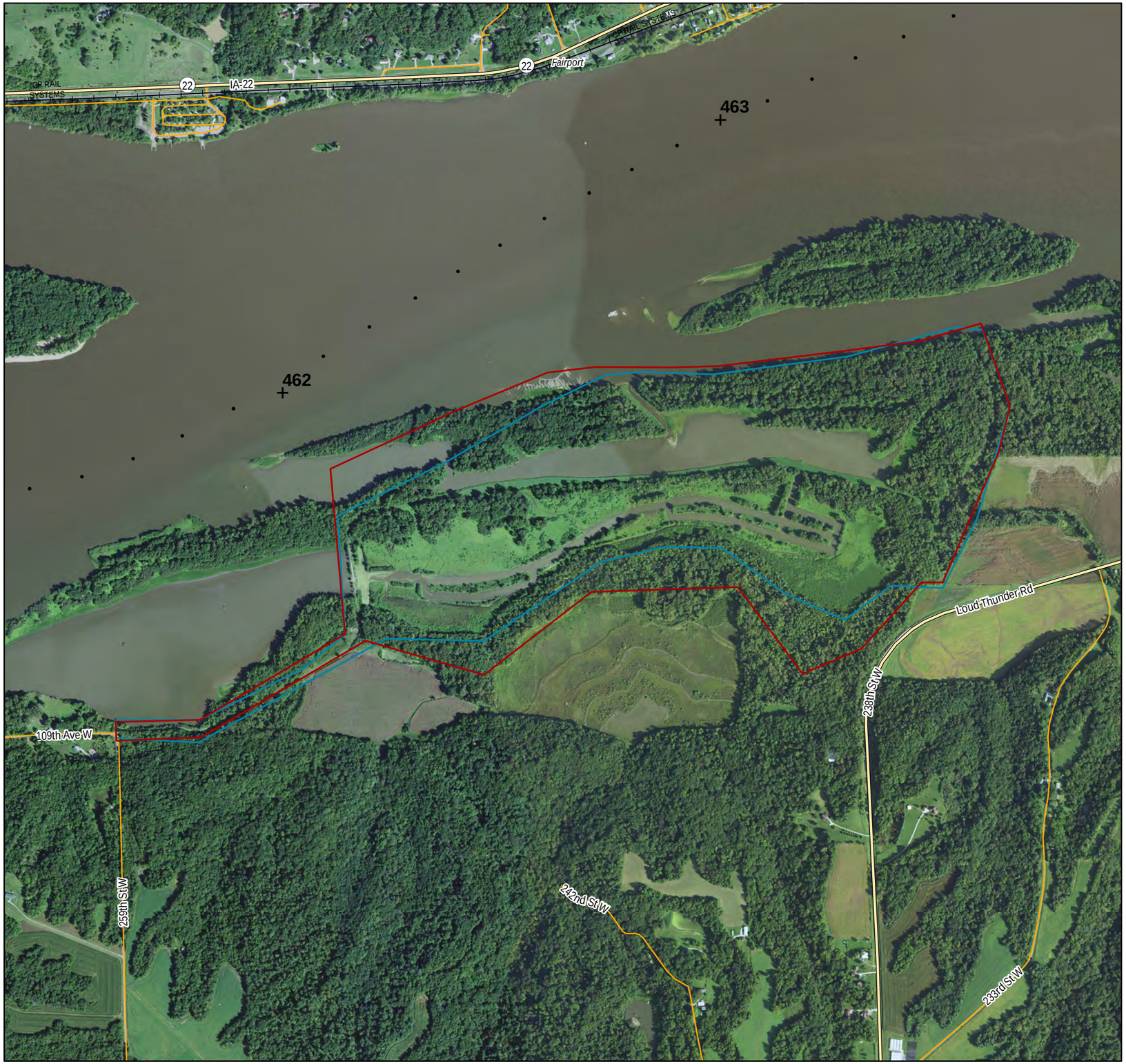
Andalusia Refuge



Project Information

District: MVR

Status: Complete

Database Acres (existing): 393

Proposed Polygon Acres: 391

2010 Report to Congress Acres: 320

Study Area Acres: 393

Study Area Source: DPR, page 7 under assessment of existing resources

Problems

1. The current polygon is inconsistent with the study area reported in feasibility.

2.

3.

Resolutions

1. The current polygon boundary was adjusted to coincide with the real estate tract.

2.

3.

Rationale

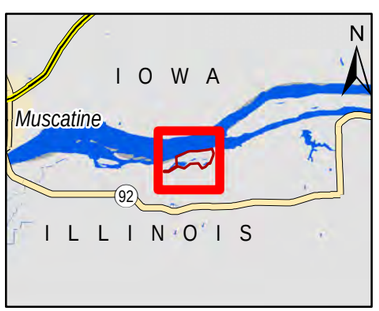
The geographical scope of the study area emphasized developing project features located on State or Federal lands (DPR, 2). Current real estate data provided the closest approximation to the study area reported in the DPR. Adjusting the boundary to match ownership brought the resulting polygon within 2 acres of the study area. The review team zoomed in to ensure project features fall within the proposed boundary and agreed that this was a reasonable adjustment.

HREP Boundaries Proposed

HREP Boundaries Existing

0 2.5 5 7.5 10 Miles

1:12,760



Banner Marsh

Project Information

District: MVR

Status: Complete

Database Acres (existing): 4,290

Proposed Polygon Acres: 4,184

2010 Report to Congress Acres: 4,290

Study Area Acres: 4,045

Study Area Source: DPR, page 10, existing habitat classification

Problems

1. Restoration acreage reported to Congress is inconsistent with the actual study acreage reported in feasibility.

2. The current boundary polygon is inconsistent with higher resolution LiDAR DEM and aerial photography.

3.

Resolutions

1. Used current LiDAR DEM and aerial photography to constrain the project by following the highway to the North of the project and the reconstructed levee on the river side of the project.

2.

3.

Rationale

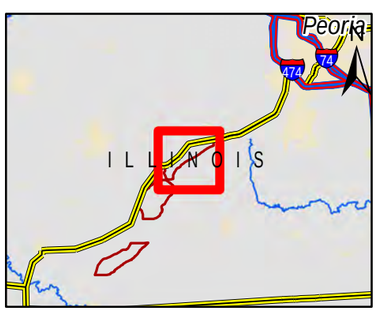
The resulting area now more closely matches the study area size. The +130 acre-difference remaining is due to including the levee footprint which was not considered in benefit calculations. Review team advised that proposed boundary (red line) be moved back to the current boundary (blue line) to include the inlet channel near the pump station. Review team concurred with all other proposed changes.

HREP Boundaries Proposed

HREP Boundaries Existing

0 8.5 17 25.5 34 Miles

1:38,840



Bay Island

Project Information

District: MVR

Status: Complete

Database Acres (existing): 650

Proposed Polygon Acres: 713

2010 Report to Congress Acres: 750

Study Area Acres: 700

Study Area Source: DPR, page A-9, existing conditions

Problems

1. The current polygon is slightly inconsistent with the study area.

2. The current boundary polygon is inconsistent with higher resolution LiDAR DEM and aerial photography.

3.

Resolutions

1. Used current LiDAR DEM and aerial photography to constrain the project by following the shoreline to the east of the project and the levee toe on the north/west of the project. Adjusted polygon to better match adjacent features using LiDAR DEM and aerial photography.

2.

3.

Rationale

Portions of the original polygon did not align well with adjacent natural boundaries and accounts for the minor discrepancies between reported areas. The resulting proposed polygon is now more aligned with study area acres and real estate. No comment by the review team.

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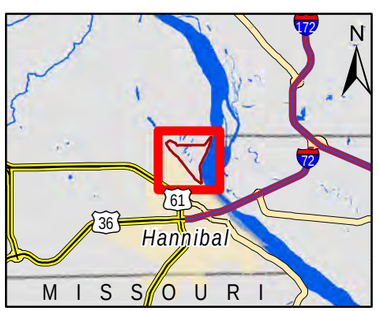
HREP Boundaries Proposed

HREP Boundaries Existing

0 3 6 9 12 Miles

1:13,560



Beaver Island

Project Information

District: MVR

Status: Active

Database Acres (existing): 1,750

Proposed Polygon Acres: 1,682

2010 Report to Congress Acres: 1,750

Study Area Acres: 0

Study Area Source:

Problems

1. Current boundary should continue to be updated using latest feasibility geometry.

2. The current boundary polygon is slightly inconsistent with higher resolution LiDAR DEM and aerial photography.

3.

Resolutions

1. Propose boundary adjusted using fee and easement tracts to the east.

2. Propose westernmost boundary adjusted to hug the shoreline and the southernmost boundary be adjusted to the shoreline including the small island in the main channel using LiDAR DEM and aerial photography.

3.

Rationale

Study is still in feasibility and will continue to be updated using the most current feasibility geometry. The boundary was also adjusted using a combination of the project map, real estate tracts, LiDAR DEM and aerial photography to increase precision in reporting project benefits. Review team concurred.

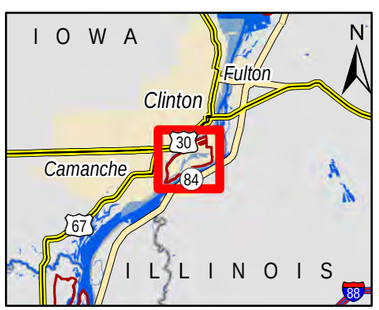
US Army Corps of Engineers ®

HREP Boundaries Proposed

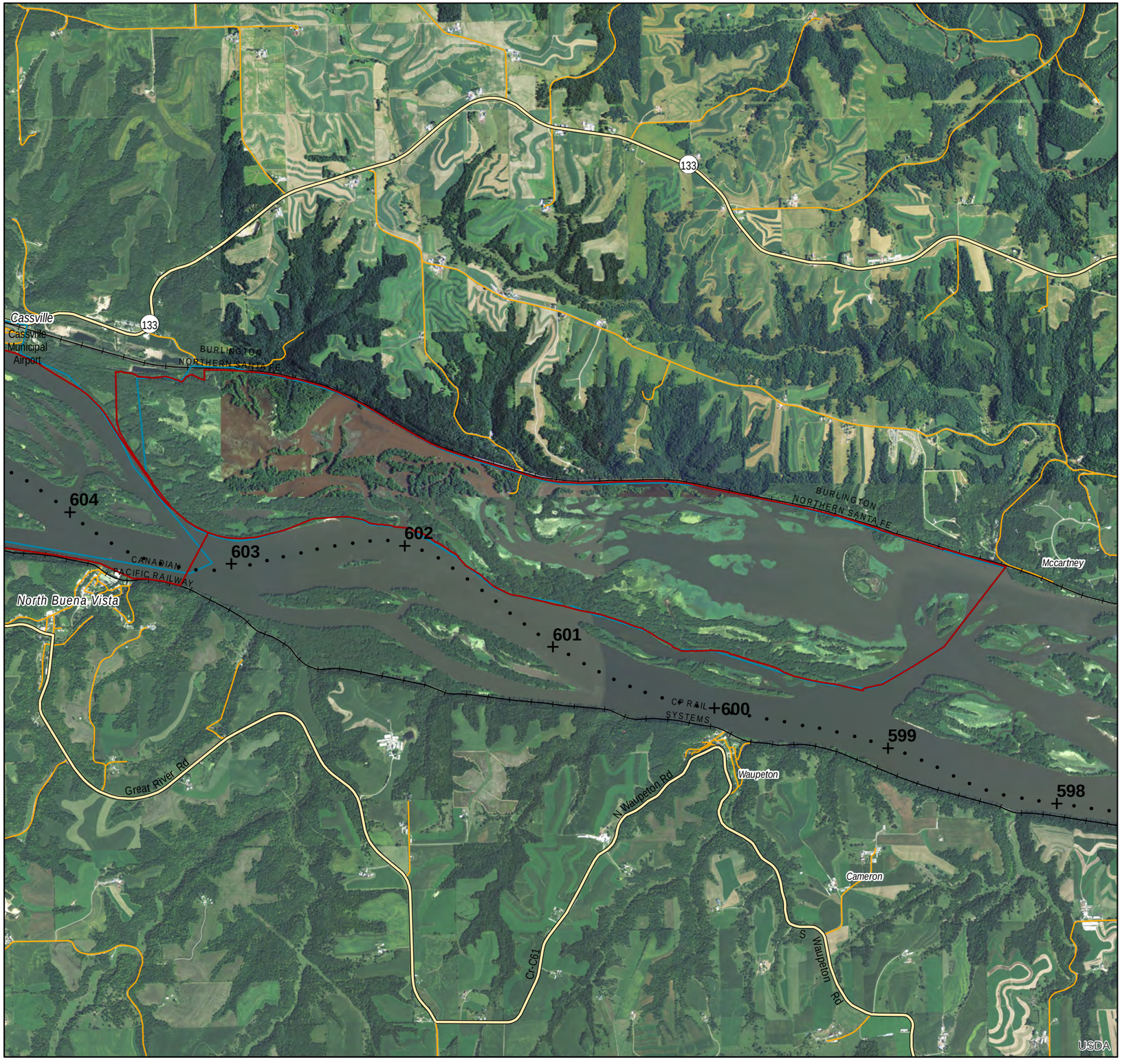
HREP Boundaries Existing

0 4 8 12 16 Miles

1:18,680



Bertom McCartney Lakes



Project Information

District: MVR

Status: Complete

Database Acres (existing): 2,000

Proposed Polygon Acres: 2,381

2010 Report to Congress Acres: 2,340

Study Area Acres: 2,661

Study Area Source: DPR, page 7, page A-17

Problems

1. The current boundary polygon is slightly inconsistent with higher resolution LiDAR DEM and aerial photography.

2. The current polygon is inconsistent with the study area reported in feasibility.

3.

Resolutions

1. The north-northwest corner of the boundary was adjusted to real estate tract data and aerial photography, approximately following the railroad.

2. The west-southwest boundary was adjusted to hug the shoreline of Jack Oak Slough to avoid encroachment on Turkey Bottoms HREP boundary.

3. Original plates from the DPR were used to delineate an arbitrary cutoff boundary at the easternmost edge of the project area.

Rationale

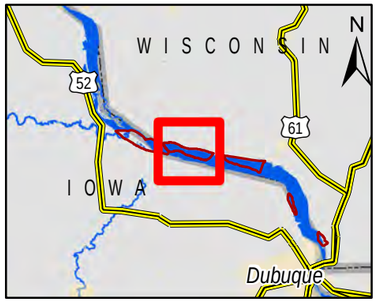
Study area occurred mainly on federal lands (DPR, pp. 1,6, A-16; plates 1-3); therefore, real estate was a factor considered in adjusting the boundary, as were LiDAR and aerial photography. It appears the 2,661 acres reported as "existing conditions" in the DPR covers a much broader area and may not reflect the study area considered in feasibility. Review team suggested the proposed boundary include the partial closure structure and bankline protection on the southern edge of project.

HREP Boundaries Proposed

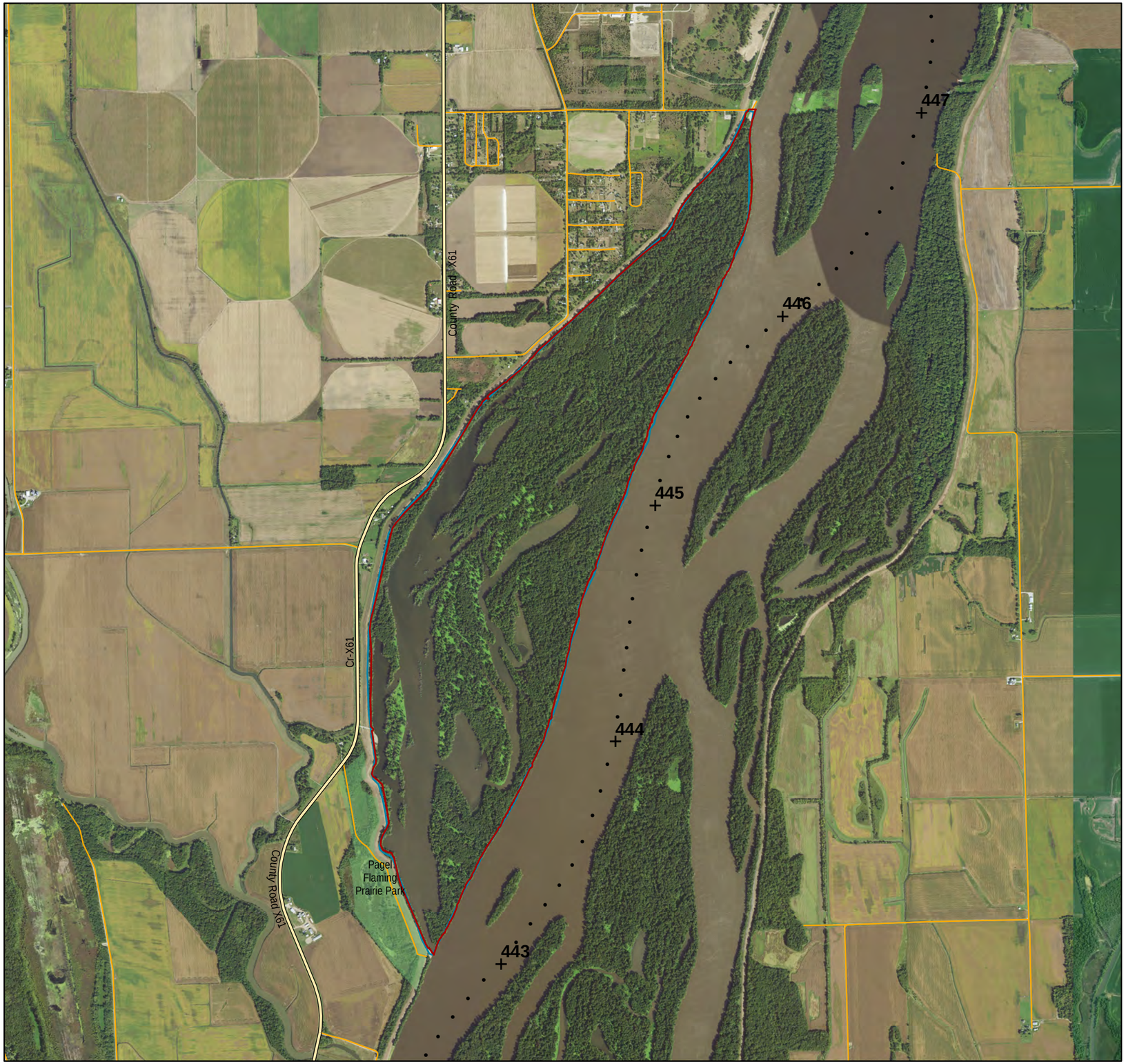
HREP Boundaries Existing

0 8.5 17 25.5 34 Miles

1:37,310



Big Timber



Project Information

District: MVR

Status: Complete

Database Acres (existing): 1,039

Proposed Polygon Acres: 1,217

2010 Report to Congress Acres: 1,240

Study Area Acres: 1,039

Study Area Source: DPR, page 7 assessment of existing resources

Problems

1. The current boundary polygon is slightly inconsistent with higher resolution LiDAR DEM and aerial photography.

2.

3.

Resolutions

1. Adjusted the westernmost boundary to the river side toe of Muscatine Island Levee using LiDAR DEM and aerials.

2. The northernmost boundary was adjusted to coincide with the real estate tract.

3. The easternmost boundary was adjusted to coincide with both natural accretion and manmade features using LiDAR DEM and aerials.

Rationale

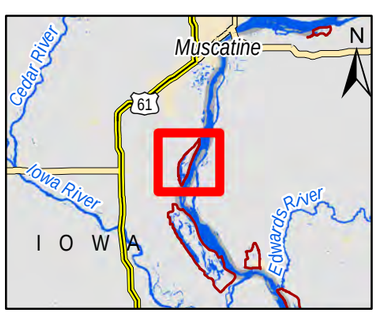
The proposed boundary now more closely matches the study area size. Inconsistency in the original boundary polygon was due to including portions of the levee footprint and main channel not considered in feasibility. The original DPR does not state how it arrived at 1,039 acres; both the study area description and construction as-builts depict the project as occurring on federal lands bound on the west by the Muscatine Island Levee and on the east by the UMR. More refined estimates of the proposed boundary were obtained by the use of high-quality geospatial data appropriate to the primary restoration objectives stated in the DPR. No comment by the review team.

HREP Boundaries Proposed

HREP Boundaries Existing

0 6 12 18 24 Miles

1:27,130



Boston Bay

Project Information

US Army Corps of Engineers ®

District: MVR

Status: Active

Database Acres (existing): 900

Proposed Polygon Acres: 921

2010 Report to Congress Acres: 900

Study Area Acres: 0

Study Area Source:

Problems

1. The current boundary is inconsistent with natural or built features.

2. Current boundary should continue to be updated using latest feasibility geometry.

3.

Resolutions

1. The boundary was adjusted to shoreline and inside toe of agricultural levees.

2.

3.

Rationale

Study is still in feasibility and will continue to be updated using the most current feasibility geometry. Proposed changes were made using a combination of project maps, LiDAR DEM and aerial photography to increase precision in reporting project benefits. Review team concurred

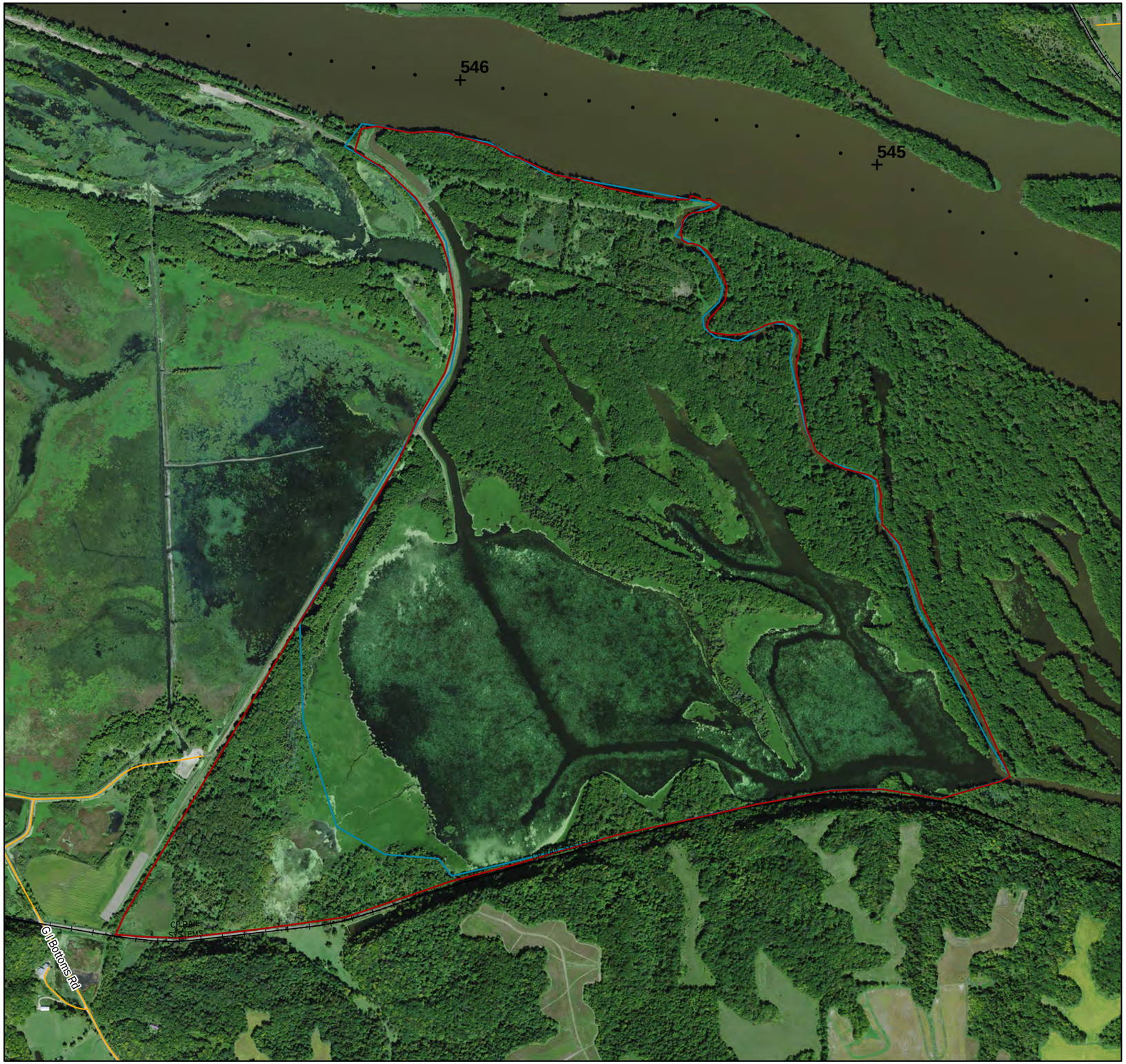
HREP Boundaries Proposed

HREP Boundaries Existing

0 3 6 9 12 Miles

1:14,910

Brown's Lake



Project Information

US Army Corps of Engineers ®

District: MVR

Status: Complete

Database Acres (existing): 453

Proposed Polygon Acres: 1,271

2010 Report to Congress Acres: 1,120

Study Area Acres: 1,161

Study Area Source: DPR, page 5 existing features

Problems

1. Current boundary does not align with natural or built topographic features.

2. Current boundary polygon is inconsistent with the study area defined in feasibility (DPR, p.5).

3. The current boundary polygon is inconsistent with higher resolution LiDAR DEM and aerial photography.

Resolutions

1. Used GIS real estate layer to resolve inconsistent acreage reported within the DPR.

2. Used current LiDAR DEM and aerial photography to bound the project by the Mississippi River to the north, the Green Island Levee to the west, Lainsville Slough to the east, and the U.S. Government property line to the south.

3.

Rationale

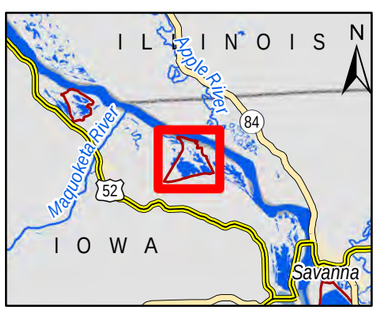
Looking at the GIS real estate layer, it appeared that the 453 acres reported in the DPR refers only to USACE fee title tracts (DPR, pp. 2, 4). In addition to these USACE-owned tracts, the 1,161-acre study area reported in the DPR includes refuge tracts owned by FWS. Since the project objectives, study area, and restoration features occur on both types of real estate, the larger reported acreage is likely more accurate (DPR, pp. 4-5). Study area was thus reconciled using a combination of the project map, real estate tracts, LiDAR DEM and aerial photography to increase precision in reporting project benefits. Review team suggested moving the boundary to the outside toe of portions of the levee where material was placed (approximately following the dredged channel to its intersection with Brown's Lake). The remaining portion of the boundary will remain on the inside toe of the Green Island levee. Review team agreed that the red line was more representative of study area.

HREP Boundaries Proposed

HREP Boundaries Existing

0 3.5 7 10.5 14 Miles

1:15,590



Chautauqua Refuge

Project Information

District: MVR

Status: Complete

Database Acres (existing): 3,940

Proposed Polygon Acres: 4,649

2010 Report to Congress Acres: 3,940

Study Area Acres: 4,212

Study Area Source: DPR, page 11 under habitat classification

Problems

1. The current polygon is inconsistent with the study area reported in feasibility.

2. Large sections of the study area were excluded from the southeastern portion of the current boundary.

3.

Resolutions

1. Used current LiDAR DEM and aerial photography to constrain the project by Quiver Creek to the south, the base of the floodplain bluff to the east, Meyers Ditch to the north-northwest, and the river side edge of Liverpool Ditch to the west (see DPR, p. 10 3-c).

2.

3.

Rationale

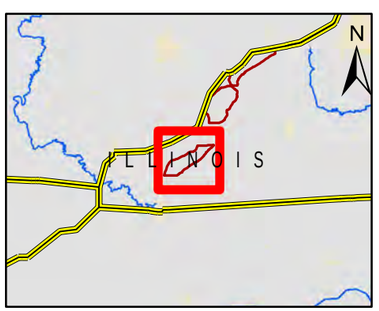
Most Liverpool Island excavation alternatives were excluded early in the evaluation process due to high construction costs and potential encroachment on known archaeological sites in Liverpool Lake (DPR, 30). Therefore, the proposed project boundary does not include Liverpool Island as part6 of the study area. The western boundary was constrained by the riverward edge of Liverpool Ditch, which was considered important side channel habitat. The eastern boundary follows the floodplain bluff and includes the new parking area, which was part of the feasibility study (DPR, p. 20). The resulting area of this proposed polygon is much more in keeping with the study area as designated in feasibility. North and south bounded by real estate, western edge follows bankline and includes Liverpool Island.

HREP Boundaries Proposed

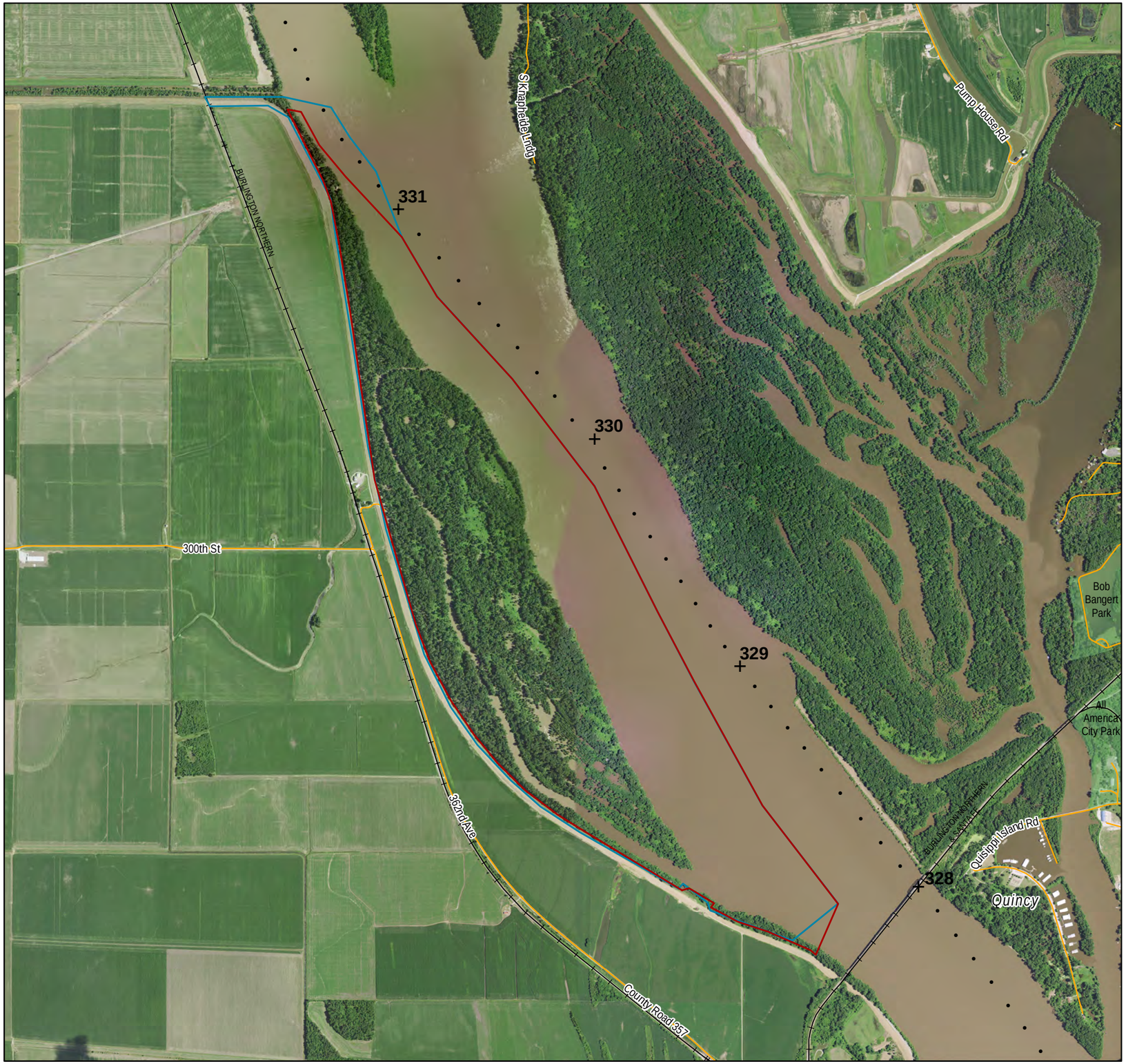
HREP Boundaries Existing

0 9 18 27 36 Miles

1:41,320



Cottonwood Island



Project Information

US Army Corps of Engineers ®

District: MVR

Status: Complete

Database Acres (existing): 463

Proposed Polygon Acres: 948

2010 Report to Congress Acres: 990

Study Area Acres: 1,070

Study Area Source: DPR, page 11 land cover map

Problems

1. The current northernmost boundary includes a ditch that is not included as part of the study area as outlined in the DPR or on any of the project maps or Land Use/Land Cover maps.

2. There are some minor discrepancies between the current boundary and real estate data located along the western shoreline of the project.

3.

Resolutions

1. Adjusted the northernmost boundary to more closely resemble both the Project Boundary map (DPR, 15) and the Land Use/Land Cover map (DPR, 11).

2. To increase precision, GIS real estate layer was used to adjust the boundary to coincide with USACE-fee title lands.

3. Riverward boundary snapped to distal end of wing dams which were notched as restoration project features.

Rationale

The 463 acres recorded in the HREP database and the DPR generally refers to the area of terrestrial resources. However, the Land Use/Land Cover map (DPR, 11), includes an additional ~412 acres of open water. Because existing wing dams were notched in order to achieve project objectives, it makes sense to include this open water area in the project boundary. Adjustments to the current boundary thus followed the Land Use/Land Cover map, which was used to derive management objectives and habitat benefits for the project. Adjustments were also made to coincide with the most current real estate data.

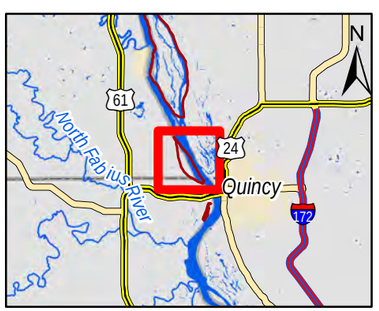
No comment by the review team.

HREP Boundaries Proposed

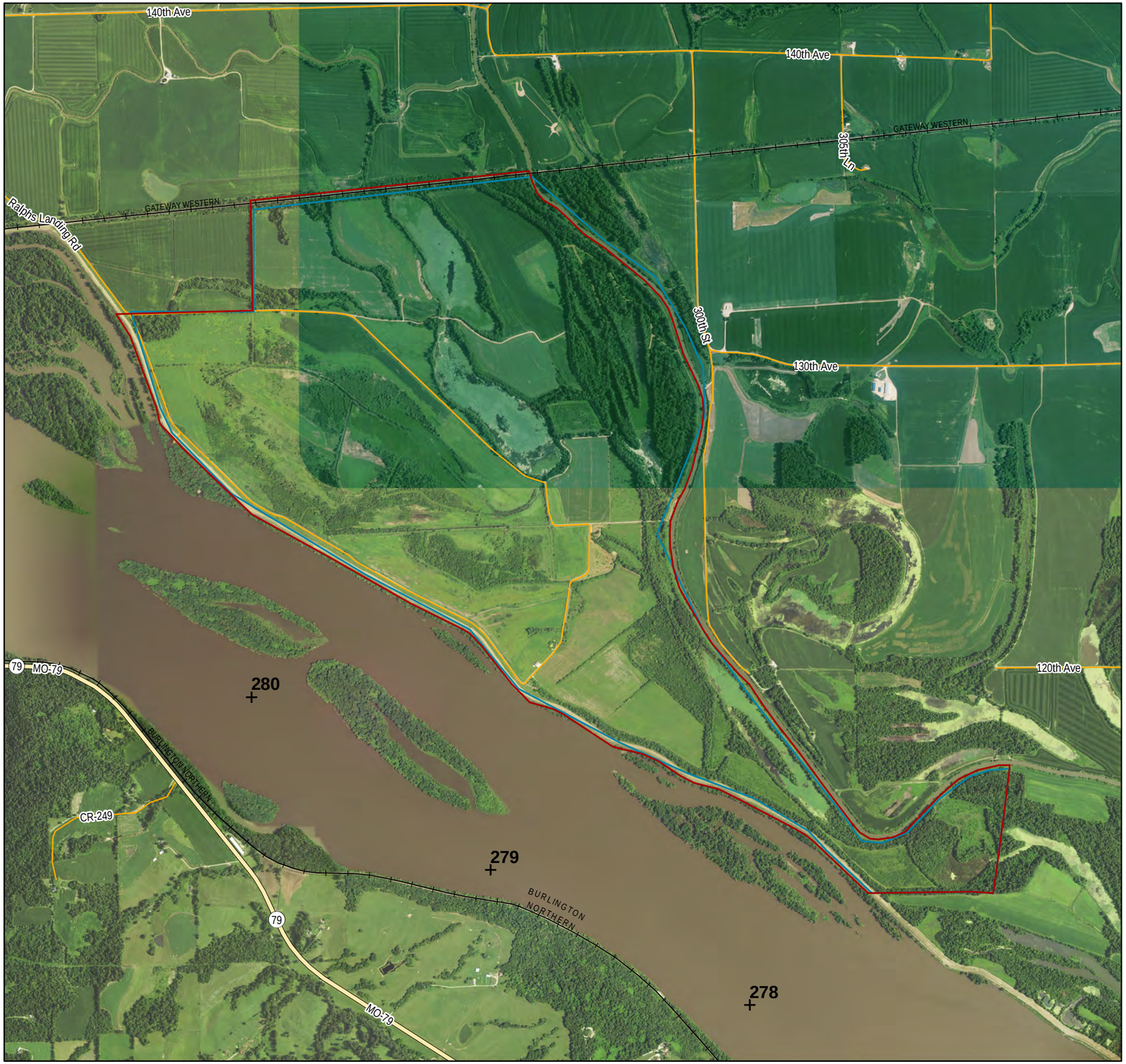
HREP Boundaries Existing

0 5 10 15 20 Miles

1:21,900



Delair Division



Project Information

District: MVR

Status: Active

Database Acres (existing): 1,685

Proposed Polygon Acres: 1,731

2010 Report to Congress Acres: 2,080

Study Area Acres: 1,730

Study Area Source: Project Fact Sheet

Problems

1. Boundary around entire project area does not align on structures or shorelines.

2.

3.

Resolutions

1. Boundary digitized along outside levee toe to the east, outside roadways and treelines to the north, and riverward edge of creek to the east using LiDAR DEM and project maps as a guide.

2.

3.

Rationale

Adjustments bring the boundary within 1 acre of the study area reported in the Fact Sheet. This project is not yet in any formal feasibility planning. As a study team develops, this boundary will continue to be updated using the most current feasibility geometry. Review team concurred.

US Army Corps of Engineers ®

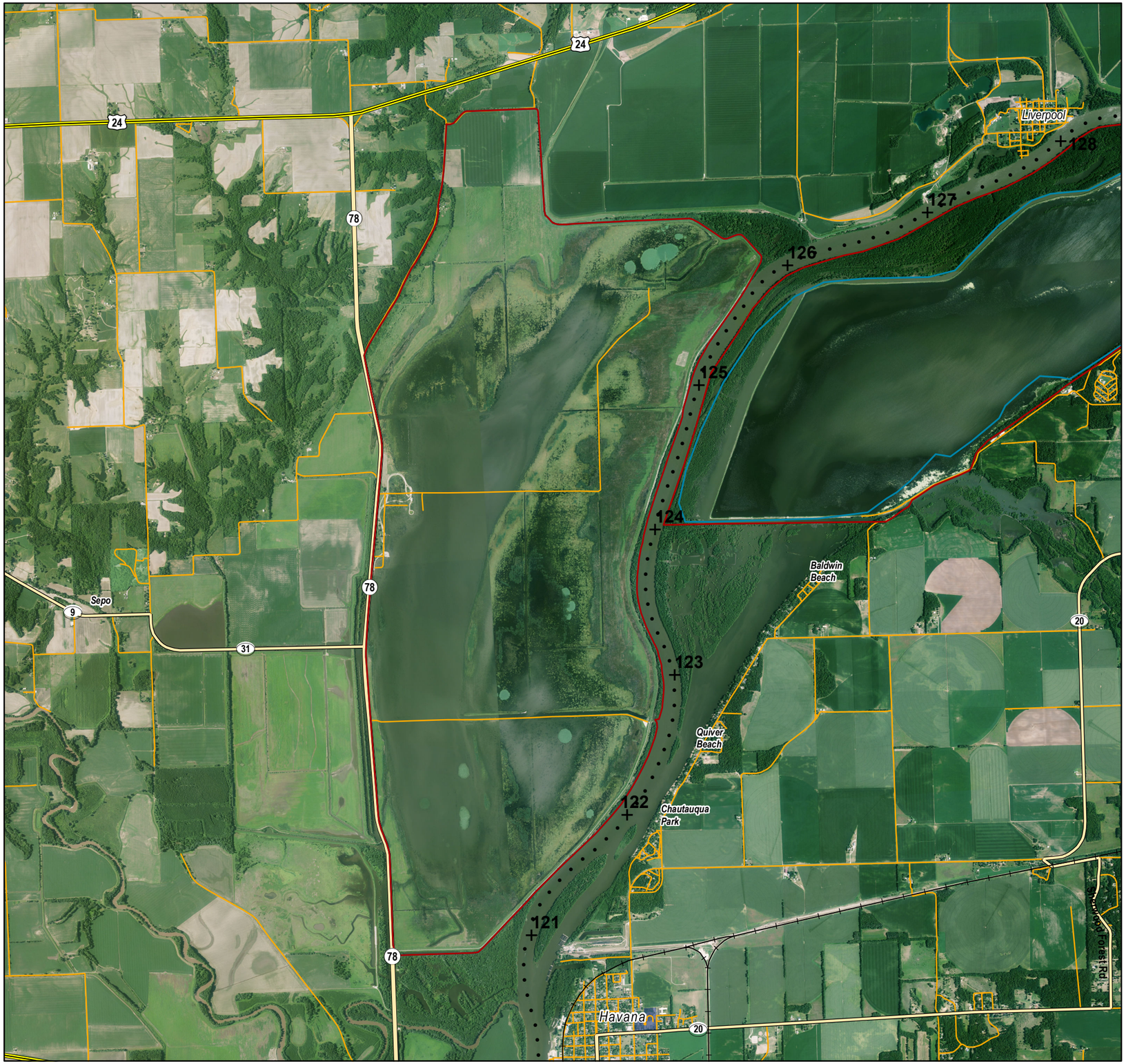
HREP Boundaries Proposed

HREP Boundaries Existing

0 5 10 15 20 Miles

1:22,400

Emiquon



Project Information

District: MVR

Status: Active

Database Acres (existing): 5,800

Proposed Polygon Acres: 5,808

2010 Report to Congress Acres: 0

Study Area Acres: 5,808

Study Area Source: ES-VI Study Area Acres

Problems

1.

2.

3.

Resolutions

1.

2.

3.

Rationale

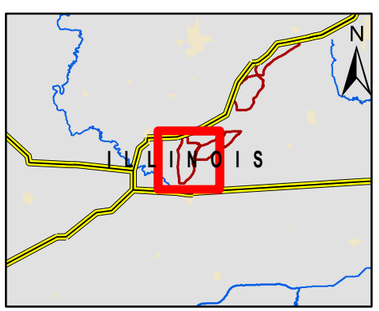
US Army Corps of Engineers ®

HREP Boundaries Proposed

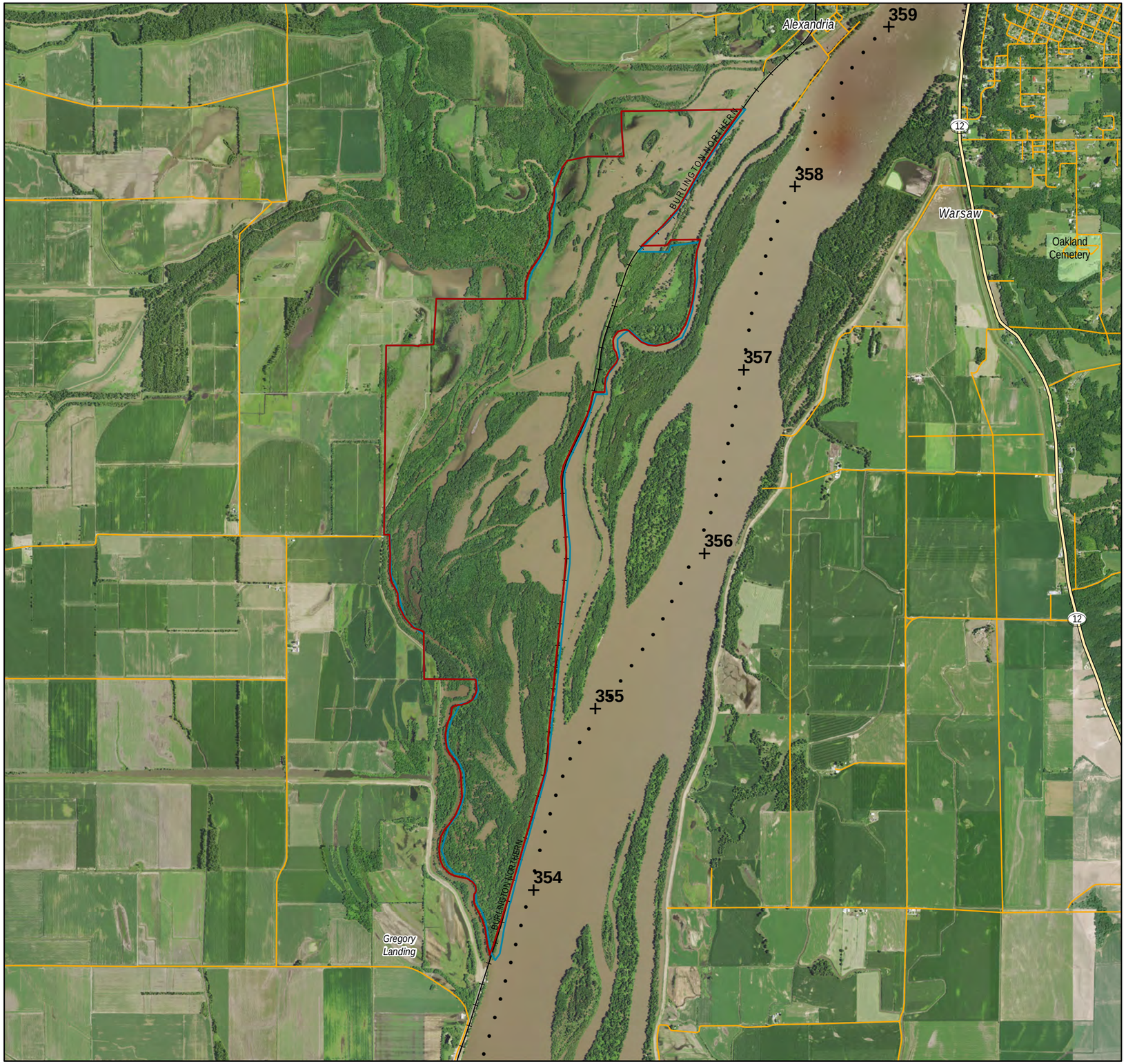
HREP Boundaries Existing

0 10 20 30 40 Miles

1:43,840



Fox Island



Project Information

US Army Corps of Engineers ®

District: MVR

Status: Active

Database Acres (existing): 2,033

Proposed Polygon Acres: 2,017

2010 Report to Congress Acres: 2,030

Study Area Acres: 2,033

Study Area Source: DPR, page 4 division's current size, pp. 6-8, project maps

Problems

1. The current boundary polygon is slightly inconsistent with higher resolution LiDAR DEM and aerial photography.

2.

3.

Resolutions

1. Used a combination of project maps and higher resolution geospatial data to adjust boundary.

2. Adjusted portions of easternmost boundary to fall inside railroad.

3.

Rationale

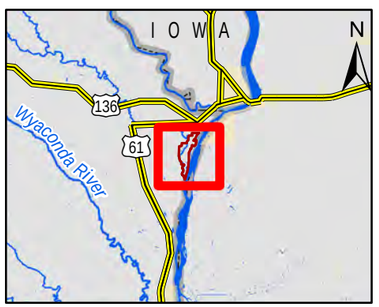
Only slight adjustments to the project boundary were needed to follow topographic features. Overall, the boundary is largely consistent with the study area acreage reported in feasibility. This study area is also aligned with various project area maps (DPR, 6-8), assessment of existing resources (DPR, 4), and multi-agency habitat analysis (DPR, A-30). No comment from review team.

HREP Boundaries Proposed

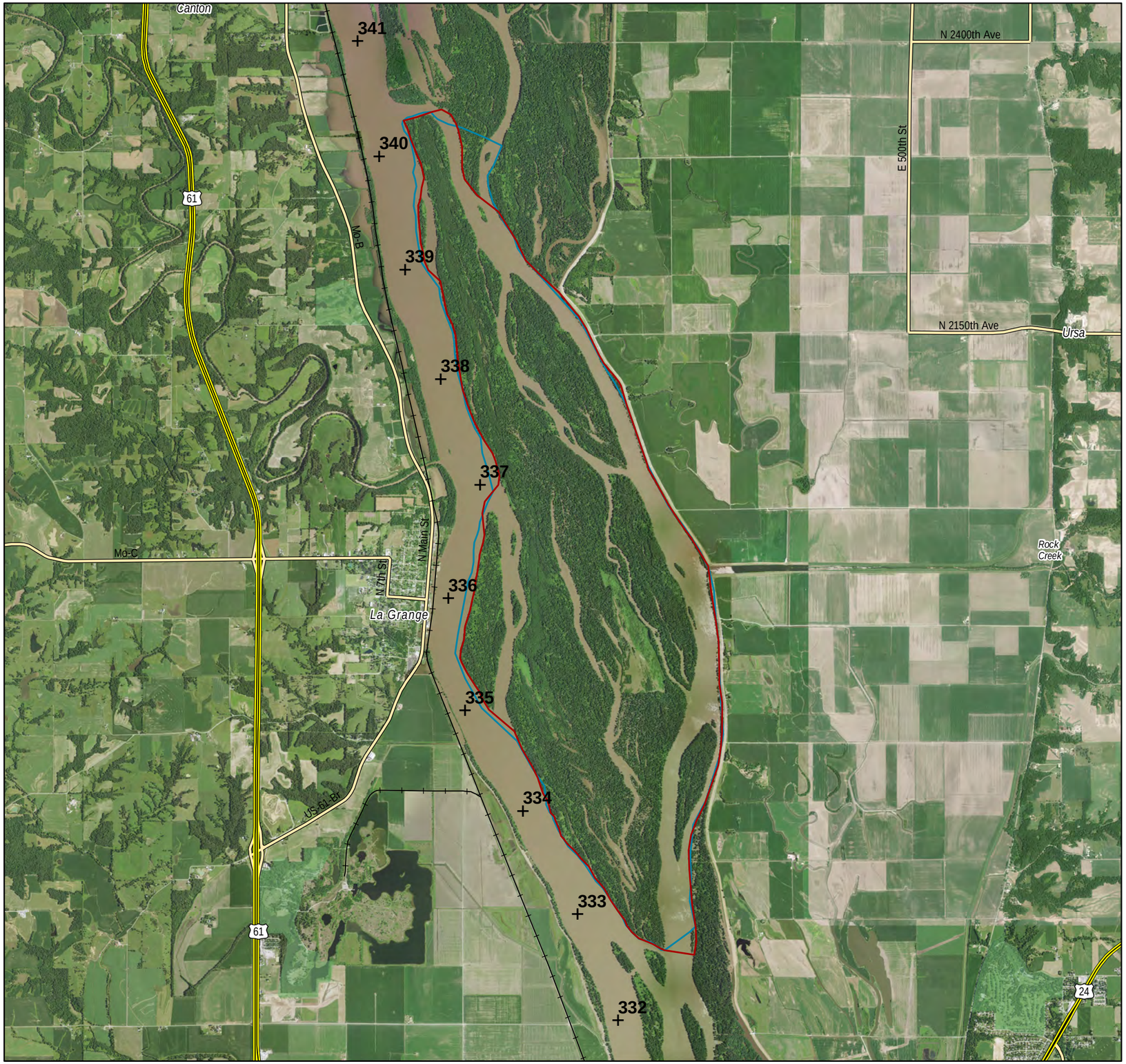
HREP Boundaries Existing

0 7.5 15 22.5 30 Miles

1:34,800



Gardner Division (Long Island Division)



Project Information

District: MVR

Status: Complete

Database Acres (existing): 6,300

Proposed Polygon Acres: 5,908

2010 Report to Congress Acres: 6,090

Study Area Acres: 6,300

Study Area Source: DPR, page 1

Problems

1. The current polygon is slightly inconsistent with the study area.

2. The current boundary polygon is inconsistent with higher resolution LiDAR DEM and aerial photography.

3.

Resolutions

1. Used current LiDAR DEM and aerial photography to adjust the western boundary to hug the shoreline, being sure to include any project features along this edge.

2. Used current LiDAR DEM and aerial photography to constrain the project by the outside levee toe (Illinois side) to the east.

3.

Rationale

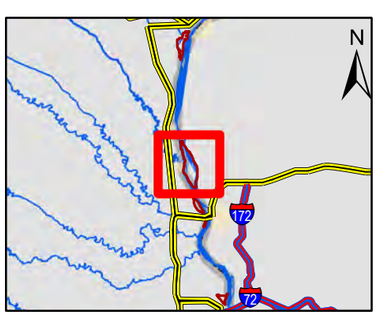
Wing dam notching was an early proposed feature eliminated prior to benefits analysis (DPR, 8). Thus, the western boundary was adjusted to narrowly hug the shoreline and to include evaluated project features that occur on this edge (DPR, Plate 5). To the east, habitat benefits in Canton Chute were calculated as part of the side channel restoration objective (DPR, 17). Therefore, the eastern boundary was adjusted to the riverside toe of the Illinois Grave Drainage District's levees. With these adjustments, the new polygon area is 6,164 acres, which is much closer to the 6,300-acre study area reported in the DPR (1). Review team suggested adjusting the red line out around chevron dike and to follow bankline on.

HREP Boundaries Proposed

HREP Boundaries Existing

0 10 20 30 40 Miles

1:56,940



Huron Island

Project Information

US Army Corps of Engineers ®

District: MVR

Status: Active

Database Acres (existing): 2,000

Proposed Polygon Acres: 2,532

2010 Report to Congress Acres: 2,670

Study Area Acres: 2,600

Study Area Source: DPR, page 1 executive summary project area

Problems

1. The current boundary polygon is slightly inconsistent with higher resolution LiDAR DEM and aerial photography.

2. Boundary not tight to land features, extends into main channel.

3.

Resolutions

1. Used LiDAR DEM and project maps to tighten boundary to the shorelines.

2.

3.

Rationale

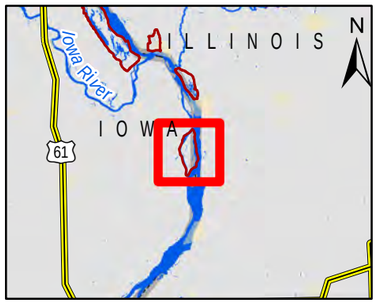
Only minor adjustments to the boundary were needed. No major outstanding issues.

HREP Boundaries Proposed

HREP Boundaries Existing

0 7 14 21 28 Miles

1:31,850



Keithsburg Division

Project Information

US Army Corps of Engineers ®

District: MVR

Status: Active

Database Acres (existing): 1,390

Proposed Polygon Acres: 1,400

2010 Report to Congress Acres: 1,390

Study Area Acres: 0

Study Area Source:

Problems

1. boundary does not track FWS ownership

2. Current boundary should continue to be updated using latest feasibility geometry.

3.

Resolutions

1. Used LiDAR DEM and aerial photography to tighten boundary to topographic features.

2. See Brandon Stevens/PDT for updates.

3.

Rationale

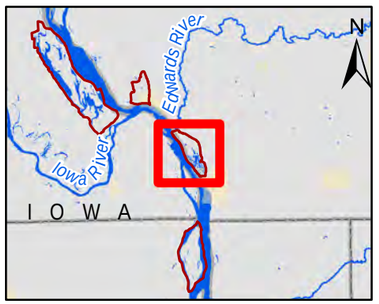
LiDAR helped ID natural features, but this project is still in feasibility and will continue to be updated using the most current feasibility geometry.

HREP Boundaries Proposed

HREP Boundaries Existing

0 4.5 9 13.5 18 Miles

1:21,180



Lake Odessa

Project Information

US Army Corps of Engineers ®

District: MVR

Status: Active

Database Acres (existing): 6,788

Proposed Polygon Acres: 6,395

2010 Report to Congress Acres: 6,320

Study Area Acres: 6,788

Study Area Source: DPR, page 4 complex acres

Problems

1. The current boundary polygon displays slight inconsistencies at the outside toe of levee.

2. Current boundary only includes lower part of Turkey Chute.

3. Western boundary is inconsistent with real estate tracts.

Resolutions

1. Made slight adjustments using LiDAR

2. Adjusted the eastern boundary to include the portion of Turkey Chute where work was done.

3. Northwesternmost boundary aligned to real estate tracts. Western boundary adjusted to shoreline features to avoid encroachment on private lands.

Rationale

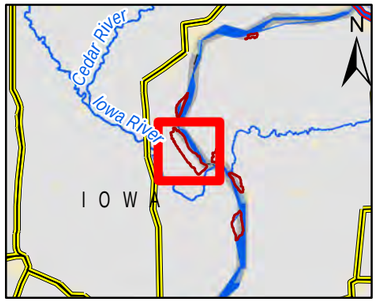
Both LiDAR and real estate data helped identify natural features and ownership to define study area boundary. Boundary was adjusted to naturally follow the banklines within ownership tracts and does not include Turkey Chute.

HREP Boundaries Proposed

HREP Boundaries Existing

0 10 20 30 40 Miles

1:50,930



Monkey Chute

Project Information

District: MVR

Status: Complete

Database Acres (existing): 88

Proposed Polygon Acres: 75

2010 Report to Congress Acres: 110

Study Area Acres: 88

Study Area Source: DPR, page 1

Problems

1. Current boundary is too broadly drawn around backwater.

2.

3.

Resolutions

1. Tightened boundary to backwater lake shoreline using LiDAR.

2.

3.

Rationale

The original polygon did not align well with adjacent natural boundaries and accounts for the minor discrepancies between reported areas. LiDAR allows identification of natural features, increasing precision in defining study area.

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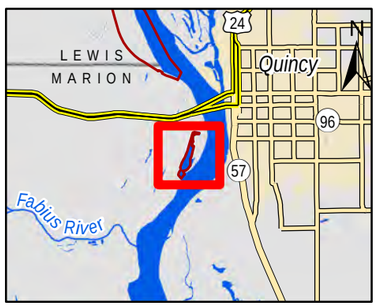
HREP Boundaries Proposed

HREP Boundaries Existing

0 1.5 3 4.5 6 Miles

1:8,200



Peoria Lake

Project Information

District: MVR

Status: Complete

Database Acres (existing): 2,500

Proposed Polygon Acres: 2,457

2010 Report to Congress Acres: 2,500

Study Area Acres: 5,604

Study Area Source: DPR, page 12, calculated from land class

Problems

1. Current boundary polygon is inconsistent with the study area defined in feasibility (DPR, p. 12, Table 3-2).

2. The current boundary polygon is slightly inconsistent with higher resolution LiDAR DEM and aerial photography.

3.

Resolutions

1. Did not add backwater restoration areas that were screened early in feasibility study.

2. Adjusted current boundary to include East River outlet and riverside shoreline of Chillicothe Island to the west, to include the Forested Wetland Management Area and topographic features (inside of road) to the east, and Douglas Lake to the north-northeast using LiDAR.

3.

Rationale

Early in feasibility, there were 4 sites in Upper and Lower Peoria Lake considered as alternative sites for restoration features. However, these sites were screened out prior to more extensive habitat appraisal analysis based on the following: engineering considerations, land ownership, local restrictions/constraints, and contribution to achieving project objectives (DPR, pp. 26-31). More specifically, sites that were cost-prohibitive, occurred in high-density recreational areas, or required additional land purchase were not subjected to further analysis. Therefore, the current polygon best represents the study area as designated in feasibility and its boundaries were tightened to better align with topographic features using updated geospatial data.

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HREP Boundaries Proposed

HREP Boundaries Existing

0 4.5 9 13.5 18 Miles

1:21,540

Pleasant Creek

Project Information

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District: MVR

Status: Complete

Database Acres (existing): 2,350

Proposed Polygon Acres: 685

2010 Report to Congress Acres: 680

Study Area Acres: 2,035

Study Area Source: DPR, page 1

Problems

1. Current boundary does not accurately follow low levee position, which is an important restoration features.

2. Database is recording much larger area than was studied in feasibility.

3.

Resolutions

1. Adjusted boundary to outside toe of levee using LiDAR.

2.

3.

Rationale

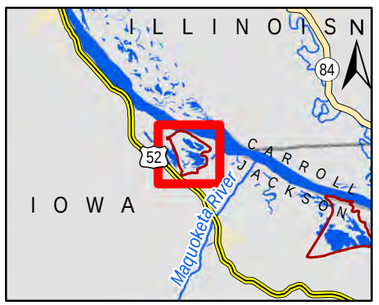
LiDAR and close inspection allowed more accurate digitizing along natural features defining project area. The original scope of this HREP was much larger and the USFWS conducted site upgrades in 1995 (DPR, p. 4, section 3.7). The new study area considered during feasibility is therefore much smaller than this orginial scope and is consistent with maps and plates in the DPR.

HREP Boundaries Proposed

HREP Boundaries Existing

0 2.5 5 7.5 10 Miles

1:11,420



Pool 11 Islands

Project Information

District: MVR

Status: Complete

Database Acres (existing): 4,550

Proposed Polygon Acres: 882

2010 Report to Congress Acres: 4,550

Study Area Acres: 0

Study Area Source: DPR, page 2, scope of study, acreage not explicitly defined

Problems

1. The current polygon is inconsistent with the study area reported in feasibility.

2. The current boundary polygon is inconsistent with higher resolution LiDAR DEM and aerial photography.

3.

Resolutions

1. Review team agreed the Mud Lake polygon be adjusted to omit the marina to the north, hug the deflection berm to the east, and to ensure boundary does not encroach upon private lands to the west.

2. Review team agreed the Sunfish Lake polygon be adjusted to hug the riverward shoreline and deflection berm on the west and omit forested area to the east.

3.

Rationale

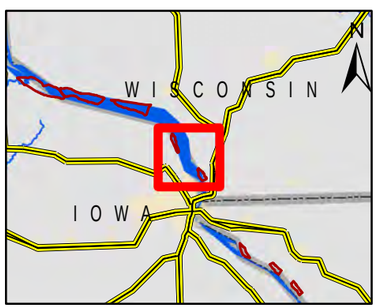
Originally, six main sites within Lower Pool 11 were considered for restoration activities: Mud Lake/Zollicoffer Slough, Sunfish Lake, Potosi Pier, Sinnippee Creek, John Deere, and mid-river island construction (DPR, p.18). Prior to extensive habitat analysis, two of these alternative study sites were deferred. John Deere was eliminated initially in response to questionable contaminant (cyanide) samples and also to reduce the scope of the project; Potosi Pier was also eliminated from further consideration to reduce financial constraints on the project (DPR, pp. 18-19). Following subsequent habitat analysis of the remaining four alternatives, Sinnippee Creek was dropped as a potential location following real estate investigations that revealed lands needed for construction were not under Federal ownership (DPR, p. 31). In 1999, a mussel survey indicated presence of an endangered mussel species within the Barrier Island site location and it was determined that constructing features at this site would be in direct conflict with Program goals (DPR, pp. 31-32). However, both Sinnippee Creek and the Barrier Island site were not eliminated until much later in the planning process. Study area in this case was too broad and not representative of project benefits as built; therefore, the boundary was adjusted around project features.

HREP Boundaries Proposed

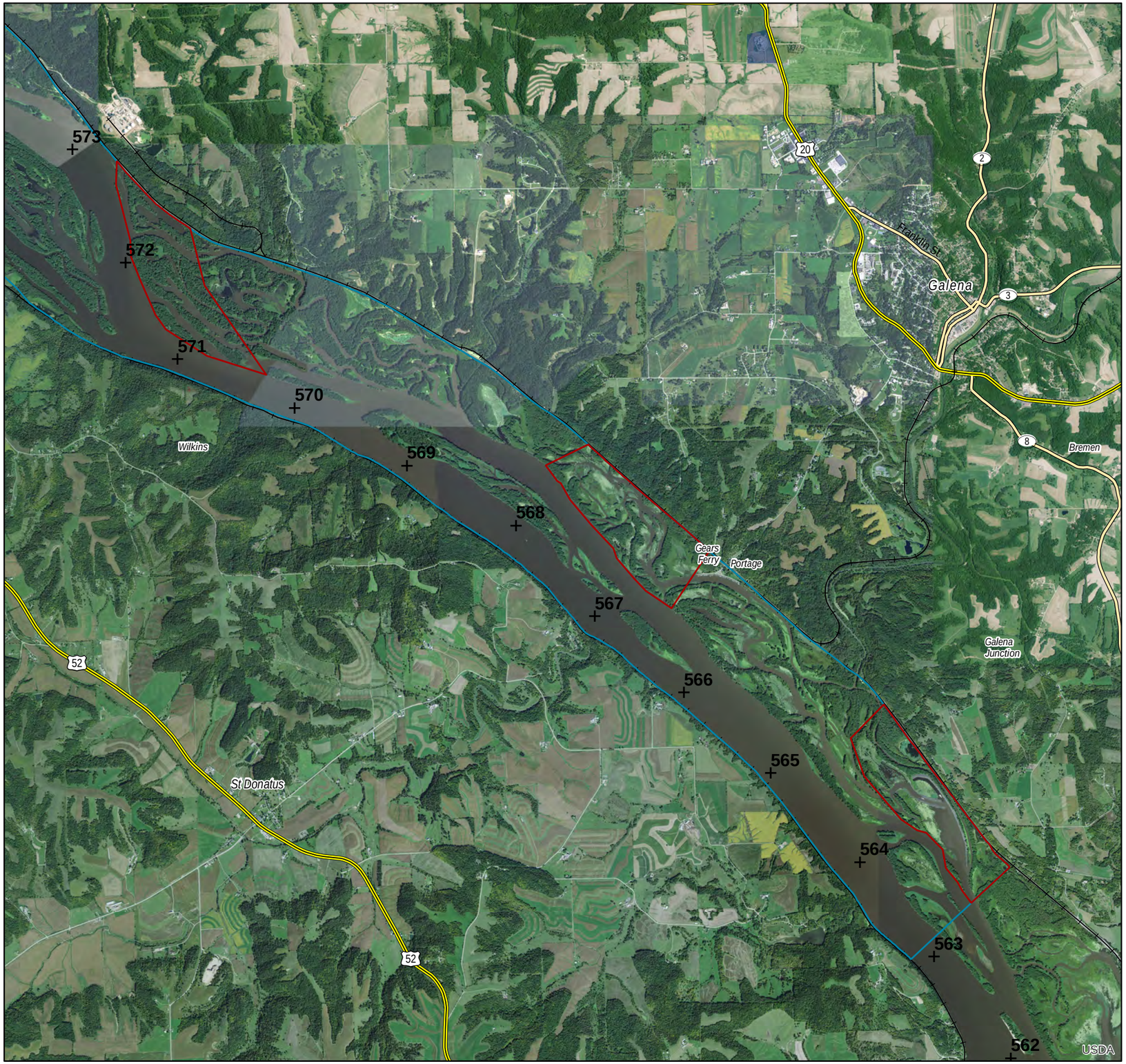
HREP Boundaries Existing

0 9.5 19 28.5 38 Miles

1:41,670



Pool 12 Overwintering



Project Information

District: MVR

Status: Active

Database Acres (existing): 7,990

Proposed Polygon Acres: 1,281

2010 Report to Congress Acres: 7,990

Study Area Acres: 6,942

Study Area Source: DPR, ES-2 executive summary

Problems

1. West boundary extends to Iowa shoreline, including main channel area.

2. North end of project extends too far

3.

Resolutions

1. Review team agreed to confine study area to project features occurring within Tippy, Stone, and Sunfish Lakes, and Kehough Slough.

2.

3.

Rationale

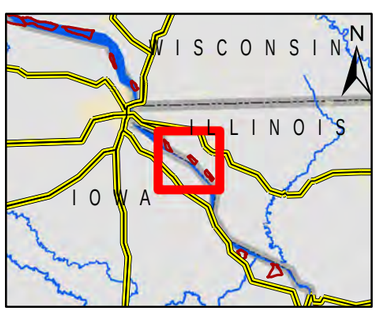
The original polygon included unsuitable overwintering areas (main channel) which were excluded from new study area polygon. Originally, the proposed boundary included everything studied adjacent to the left descending bank, but the review team determined that this study area was too broadly defined and the new proposed boundary was adjusted around project features.

HREP Boundaries Proposed

HREP Boundaries Existing

0 10 20 30 40 Miles

1:52,760



Potters Marsh

Project Information

District: MVR

Status: Complete

Database Acres (existing): 2,305

Proposed Polygon Acres: 1,170

2010 Report to Congress Acres: 1,200

Study Area Acres: 2,305

Study Area Source: DPR, Executive Summary area of Potters Marsh

Problems

1. Illinois shoreline boundary inconsistent with current LiDAR DEM data.

2. Riverward boundary does not follow natural features defining study area

3.

Resolutions

1. Eastern boundary adjusted to Illinois shoreline using LiDAR DEM.

2. Western boundary tightened to shoreline using LiDAR and southern boundary estimated from plates and project maps in the DPR.

3.

Rationale

The acreage reported the Executive Summary refers to a larger area than was studied in feasibility. Based on project maps and more precise geospatial data, the proposed boundary better reflects the primary restoration objectives stated in the DPR.

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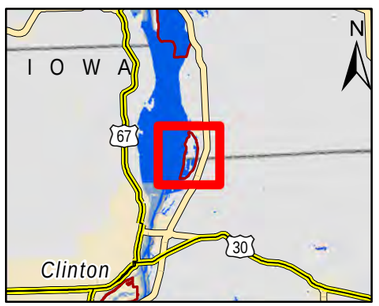
HREP Boundaries Proposed

HREP Boundaries Existing

0 5 10 15 20 Miles

1:22,910



Princeton Refuge

Project Information

US Army Corps of Engineers ®

District: MVR

Status: Complete

Database Acres (existing): 1,129

Proposed Polygon Acres: 1,105

2010 Report to Congress Acres: 1,080

Study Area Acres: 1,129

Study Area Source: DPR, page 9 calculation of existing habitat

Problems

1. Current boundary does not follow natural features or real estate boundaries (DPR, Fig. 3-3, p. 13).

2. Current boundary excludes SE moist soil unit.

3.

Resolutions

1. Adjusted the eastern boundary to outside toe of levee.

2. Adjusted boundary to include SE moist soil unit.

3. Adjusted the western boundary to the inside toe of the railroad and all other boundaries to inside toe of roadways.

Rationale

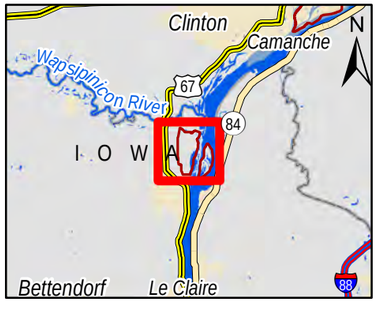
The proposed boundary now more closely matches the study area size. Using the most current geospatial data increased precision in following topographic features.

HREP Boundaries Proposed

HREP Boundaries Existing

0 4 8 12 16 Miles

1:17,910



Rice Lake, IL

Project Information

US Army Corps of Engineers ®

District: MVR

Status: Active

Database Acres (existing): 6,197

Proposed Polygon Acres: 6,184

2010 Report to Congress Acres: 6,350

Study Area Acres: 6,800

Study Area Source: DPR, page 8

Problems

1. MInor misalignements along perimeter including west edge; prior west boundary followed shoreline.

2. Current boundary contains Inholding notch (parking area) present on IWW channel.

3. SW corner agricultural field included in DPR but not database.

Resolutions

1. Aligned boundary along landward shoreline to the west and riverward shoreline to the east using LiDAR DEM and aerial photography.

2. Inholding parking lot is not private and is now included in project area.

3. SW corner ag field not included in HEP benefits and therefore not included as part of the study area.

Rationale

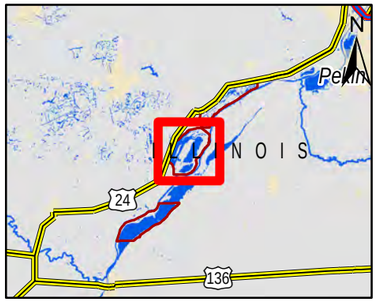
High resolution data supported better visibility of features. The proposed boundary now more closely matches the study area size.

HREP Boundaries Proposed

HREP Boundaries Existing

0 7.5 15 22.5 30 Miles

1:32,690



Snyder Slough Backwater Complex

Project Information

District: MVR

Status: Active

Database Acres (existing): 2,064

Proposed Polygon Acres: 1,988

2010 Report to Congress Acres: 4,280

Study Area Acres: 0

Study Area Source:

Problems

1. Current boundary contains minor misalignment along railroad on northern edge.

2. Channelward boundary inconsistent with either real estate tracts or natural features.

3.

Resolutions

1. Adjusted northern boundary to outside toe of railroad using LiDAR and aerial photography.

2. Used LiDAR DEM to adjust channelward boundary to shoreline.

3.

Rationale

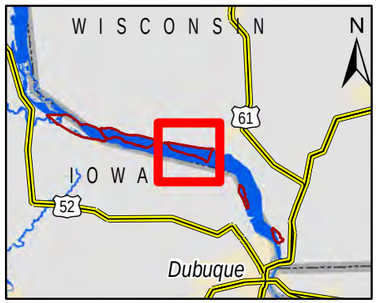
High resolution topography and careful inspection supported improvements. Fact sheet provides little guidance.

HREP Boundaries Proposed

HREP Boundaries Existing

0 7.5 15 22.5 30 Miles

1:33,490



Spring Lake, IL

Project Information

District: MVR

Status: Complete

Database Acres (existing): 3,300

Proposed Polygon Acres: 3,577

2010 Report to Congress Acres: 3,610

Study Area Acres: 3,146

Study Area Source: DPR, page 12, existing habitat classification

Problems

1. Current boundary contains minor misalignments along perimeter levee and shorelines.

2.

3.

Resolutions

1. Adjusted boundary to either shoreline or outside toe of perimeter levee using LiDAR DEM (see DPR, Fig. 1)

2.

3.

Rationale

Since the perimeter levee was restored to meet project objectives, the boundary was adjusted to the outside toe of the levee.

The resulting boundary is now enclosed by a perimeter levee and the riverbank, which adheres to the DPR delineation of the study area.

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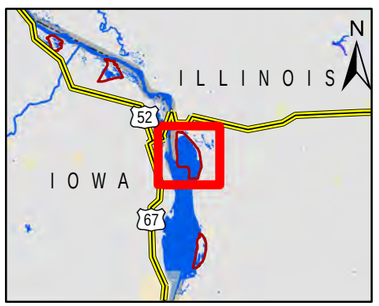
HREP Boundaries Proposed

HREP Boundaries Existing

0 7 14 21 28 Miles

1:31,180



Steamboat Island

Project Information

District: MVR

Status: Active

Database Acres (existing): 1,280

Proposed Polygon Acres: 440

2010 Report to Congress Acres: 1,280

Study Area Acres: 0

Study Area Source:

Problems

1. Exisitng polygon was too large, extending too far north and west, intersecting with Princeton Refuge HREP.

2. Current boundary should continue to be updated using latest feasibility geometry.

3.

Resolutions

1. A proposed polygon was fitted to the perimeter of the island based on features in Fact Sheet Figure 3

2.

3.

Rationale

Restoration features in Project Fact Sheet appeared confined to the island and side channels were restored as prior HREP.

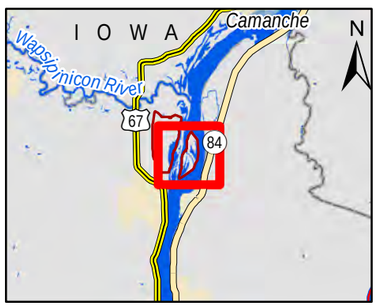
Feasibility team will continue to update geometry.

HREP Boundaries Proposed

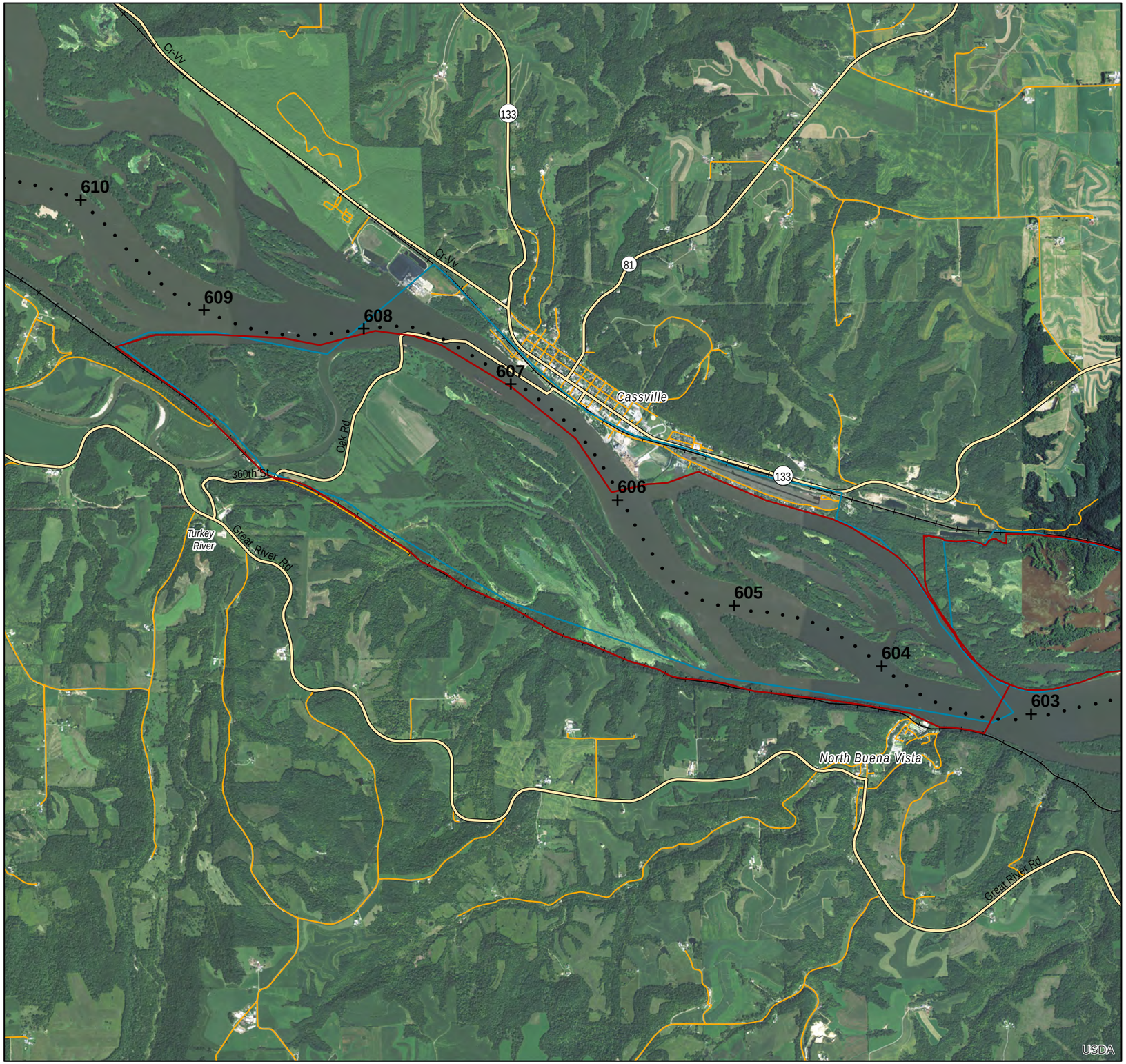
HREP Boundaries Existing

0 3 6 9 12 Miles

1:13,690



Turkey River Bottoms Delta and Backwater Complex



Project Information

US Army Corps of Engineers ®

District: MVR

Status: Active

Database Acres (existing): 3,638

Proposed Polygon Acres: 3,365

2010 Report to Congress Acres: 3,150

Study Area Acres: 4,310

Study Area Source: DPR, page 12 refuge area

Problems

1. NE Boundary included portions of the city of Cassville.

2. SW boundary was not consitent with ownership or natural features

3.

Resolutions

1. Edited boundary to remove Cassville to match Figure 4 of Fact Sheet.

2. Digitized SW boundary tight to shoreline/railroad using LiDAR

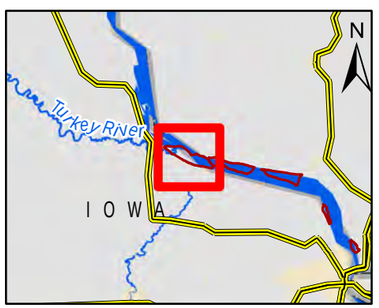
3. Adjusted east-northeast boundary to coincide with real estate tract on eastern edge of Jack Oak Slough.

Rationale

Restoration work would not occur in town. Higher resolution data allows more accurate delineation along natural topographic features

HREP Boundaries Proposed

HREP Boundaries Existing

0 9 18 27 36 Miles

1:40,480