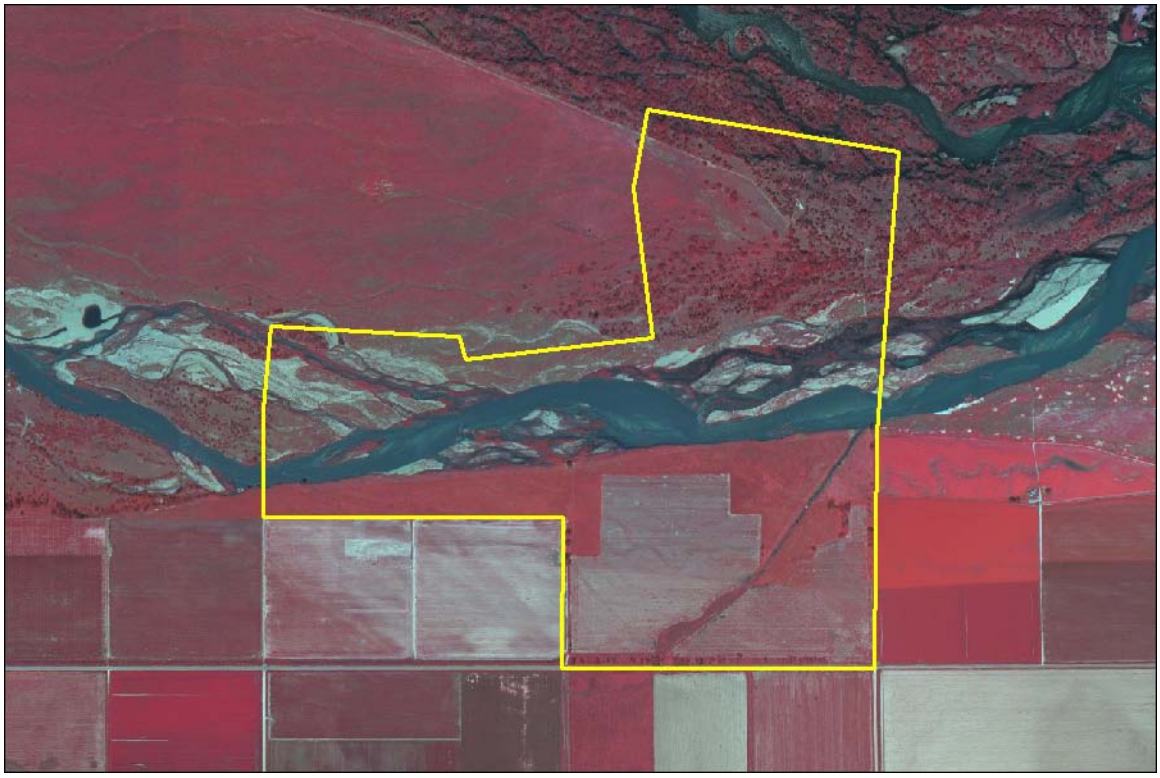
2011–2014 OPERATIONS AND MAINTENANCE PLAN

For

TRACT 2009007



Prepared for:
Platte River Recovery Implementation Program
Land Advisory Committee

Completion Date:
XX/XX/XX

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I. PROPERTY DESCRIPTION AND BACKGROUND

A. Purpose

The purpose of this Operations and Maintenance Plan (Plan) is to outline the restoration, operations and maintenance activities that will occur on Tract 2009007 (Evaluation Tract Number 0815) during the period of 2011-2014. Tract 2009007 was acquired with the intent to explore sediment augmentation activities at this location. Sediment augmentation feasibility studies are underway, with initial implementation scheduled to begin in 2011. Early results from this effort indicate that one of the Program's sediment augmentation operations will be located on Tract 2009007. As such, no major habitat restoration activities are being planned at this time and actions are limited to basic property operations and maintenance requirements. Once the sediment augmentation implementation design process is completed, the Program will initiate a complex-scale planning effort that will encompass Tracts 2009007 and 2009003. The complex plan will delineate restoration and management actions that are compatible with sediment augmentation. Interim operations and maintenance goals for this property include:

1. General
   - **Goal 1** – Facilitate sediment augmentation operations.

     Objective 1a – Conform operations and maintenance planning and actions to sediment augmentation implementation design.

     Objective 1b – Develop complex-scale restoration and management plan that is compatible with sediment augmentation implementation design.

2. Property Maintenance
   - **Goal 2 -** Fulfill basic property ownership obligations.

     Objective 2a – Establish and maintain property boundary fencing and signage.

     Objective 2b – Control noxious weeds on property.

   - **Goal 3** – Minimize habitat impacts due to invasive vegetation.

     Objective 3a – Prevent woody vegetation expansion into grassland areas.

3. Agricultural Operations
   - **Goal 4 -** Manage cropland responsibly**.**

     Objective 4a – Coordinate with lessee to ensure that crop rotation, tillage practices and nutrient/pest management are being conducted in accordance with current agricultural best management practices.

B. Tract Location and Size

Tract 2009007 is approximately 356 acres in size and is located in Sections 10 and 11, T-8N, R-20W. Figure A-1 (located in Appendix A) delineates the property boundary. The tract is located in the Lexington to Overton bridge segment. The tract bounds the west property line of Program Tract 2009003. Figure A-2 shows the tract location within the bridge segment and its proximity to existing leased and owned conservation lands.

C. Land Interest

A fee simple absolute title is held in trust by the Platte River Recovery Implementation Foundation (PRRIF) on behalf of the Program.

D. Communication and Coordination

The Executive Director's Office (ED Office) is responsible for communication and coordination with tenant and neighboring landowners. Neighbors will not be asked to provide formal comment on annual Work Plans but will be notified and consulted regarding specific restoration or management activities that could impact their properties.

II. RESPONSIBILITIES

A. Management Responsibilities

1. Planning

Annual Work Plans for this property (as part of a complex-level annual work plan) will be written by representatives of the Executive Director's office with oversight and input from the Program's Land Advisory Committee (LAC). Program staff will be responsible for conducting, or retaining contractors to conduct, planning, design, and permitting for specific activities carried out under this plan.

2. Implementation of Management Activities

Implementation of management activities will be carried out by Program staff or by contractors under the oversight of Program staff.

3. Enforcement

Program staff is responsible for establishing controlled access to the property and will notify law enforcement agencies and others of issues as appropriate.

B. Budget and Invoicing

Program staff will be responsible for budgeting and invoicing of activities on this property. No later than March 1 of each year during the term, a report showing income and expenditures for the property during the preceding fiscal (same as calendar) year will be completed and presented to the LAC and Governance Committee (GC) for review.

C. Plan Authorization and Modifications

The LAC and TAC will provide comments on this Plan and the LAC will forward a recommendation to the GC. The GC must authorize this Plan before it can be executed. In addition, the LAC and TAC will provide comments on annual Work Plans and the LAC will forward a recommendation on the annual Work Plans to the GC. The GC must approve the annual Work Plans before they can be executed.

It is anticipated that once every five years, complex-level restoration and management plans will go through a major revision process where the goals, objectives, and activities will be reevaluated. This Plan will also be reevaluated at that time and updated. Plan updates will be subject to the same comment and approval process as the original Plan.

III. EXISTING HABITATS

A. Complex and Non-Complex Habitat

The tract complex acres are classified by type in the following sections. The entirety of the tract will be managed as complex habitat. Table 1 provides the total acres of land contributing to a habitat complex. The classifications are based on *Table 1. Target Habitat Complex Guidelines* of the Program's Land Plan. The classification acres in Table 2 are based on existing tract land cover/use. All classifications reflect land cover/use at the time of acquisition and may change based on management and restoration decisions.

Table 1 – Tract 2009007 Habitat Complex Acres

Land Classification*	Acres
Riverine Habitat	
Active Channel (841 ft mean width)	115
In-Channel Bare Sand (subset)	60
Wet Meadow Habitat	
Wet Meadow	0
Buffer	
Grassland	95
Woodland	73
Cropland	87

* Habitat complex land classification categories are more general than the 2005 land cover/use classification and areas may vary due to changes in land use and vegetation since 2005.

B. Land Cover

Existing land cover/use on and adjacent to this tract was evaluated utilizing the updated 2005 land cover overlay developed in cooperation with the Whooping Crane Maintenance Trust Inc. (Crane Trust) and the United States Fish and Wildlife Service (USFWS). The land cover classifications from the overlay were compared to the most recent United States Department of Agriculture (USDA) Farm Service Agency (FSA) and Program aerial photography in order to identify any land use changes that have occurred since the development of that dataset. The 2005 land cover/use for this tract is summarized in Table 2. Several additional land cover/use related maps are located in Appendix A including:

- Figure A-3 – 2005 Land Cover/Use
- Figure A-4 – National Wetland Inventory
- Figure A-5 – 1938 Aerial Photography
- Figure A-6 - 1998 Aerial Photography
- Figure A-7 – 2010 CIR Aerial Photography

Table 2 – Tract 2009007 Land Cover/Use Summary

Land Cover Classification	Acres	Percent of Tract
Agricultural	75.95	20.54%
Canal/Drainage	1.29	0.35%
Mesic Wet Meadow	9.77	2.64%
Phragmites	13.52	3.66%
Riparian Shrubland	11.82	3.20%
Riparian Woodland	47.13	12.75%
River Channel	10.42	2.82%
River Early Successional	24.87	6.73%
River Shrubland	21.63	5.85%
Roads	2.24	0.61%
Rural Developed	13.55	3.66%
Unvegetated Sandbar	29.84	8.07%
Warmwater Slough	3.36	0.91%
Xeric Wet Meadow	104.28	28.21%
Total	369.68	100.00%

C. Existing Land Features of Interest

1. Non-Riverine Surface Water

The only non-riverine surface water on the tract is a groundwater drain that crosses the tract from the southwest to northeast and empties into the Platte River at the east edge of the tract. The drain has no habitat value for target species.

2. River Frontage and Active Channel Widths

The tract contains approximately 5,400 feet of Platte River frontage along both banks of the river's south channel (i.e. south side of Jeffrey Island). Program channel width measurement protocols define active channel width as the width of the channel that is unvegetated. Tract channel widths were measured at ¼ mile intervals utilizing 2007 FSA National Agricultural Imagery Program photography, which is flown in August and September. The measured channel widths are presented below in Table 3. Flow in the south channel is largely dependent upon releases from the CNPPID J-2 return and typically ranges from 200 cfs when the return is off to approximately 2,000 cfs during full releases. As such, channel width can vary widely.

Table 3 – Tract 2009007 Channel Widths

Measurement	Width (ft)
Minimum Channel Width	606
Maximum Channel Width	1,016
Median Channel Width	918
Mean Channel Width	841
Minimum Water Width	112
Maximum Water Width	184
Median Water Width	145
Mean Water Width	148

3. Contiguous Sand Substrates

This tract contains approximately 60 acres of sand substrate with less than 25% vegetative cover. All of this area is located within the Platte River channel. The sand substrate does not provide reproductive habitat for least terns and piping plovers because the sand substrate is not in the form of bar features. The lack of sand bar features under summer flow conditions can be seen on Figure A-1.

4. Island and Channel Bank Height

This tract is located approximately five miles below the CNPPID J-2 return. Return canal flows have caused significant channel degradation in the south channel in this area, which is in evidence on this property. The south bank of the channel is approximately 12 feet above water level. Island bank heights ranged from zero to four feet above water.

5. Groundwater

Depth to groundwater on this tract was estimated from several sources including groundwater monitoring data from the Tri-Basin NRD, NDNR well logs, and visual inspection of the property. Tri-Basin monitoring data from wells approximately two miles upriver from the property indicate that the groundwater elevation is typically higher than the river bed except during the months of July and August. This indicates that this reach of the south channel is typically a gaining reach of the river.

There is no evidence of hydrophytes on the portions south of the high bank of the river. Well registration logs from two wells near the property list static water levels of 7 and 10 feet below existing ground. As mentioned previously, a groundwater drain crosses the southeastern portion of the property. The water surface elevation in that drain is approximately 10 to 12 feet below existing ground. This along with the well logs supports a groundwater level estimate of 10 to 12 feet below existing ground for the portions of the property south of the high bank of the river.

6. Flooding in Non-Wetland Areas

There is no evidence of temporary inundation of non-wetland areas.

7. Power/Transmission Lines

There are no above-ground power/transmission lines present on the property. Buried service line and a meter are present on the southeast edge of the property where the farmstead used to be located.

D. Incompatible Uses and Environmental Concerns

Tract 2009007 does not currently have land uses that are incompatible with target species habitat. Land uses on neighboring properties are primarily agricultural, and are not incompatible with target species habitat. A farmstead used to be located in the southeast corner of the parcel but was removed by the previous owner. The presence of a farmstead does not necessarily raise potential environmental concerns but buried debris may be encountered if this area is disturbed in the future.

In addition, the previous owner has removed a significant amount of wire and automobile bodies lining and buried in the south bank of the river along the length of the property. At least one automobile body remains buried in the channel and the previous owner indicated that more material may be buried in the bank.

E. Certified Irrigated Acres

Tract 2009007 includes no NRD certified irrigated acres.

IV. OPERATIONS AND MAINTENANCE

A. Goals and Objectives

Goals and objectives will function as the benchmark for evaluation of ongoing land-related actions. Implementation of Program actions to address goals and objectives will be accomplished at both complex and tract-level scales. This section addresses tract-level actions which are a function of property maintenance and operations needs.

1. General

- ***Goal 1 – Facilitate sediment augmentation operations.***

  - ***Objective 1a*** – Conform operations and maintenance planning and actions to sediment augmentation implementation design.

    - **Strategy** – Sediment augmentation implementation design will be developed during the first half of 2011. This tract is expected to be one of the trial-scale implementation sites to test augmentation material placement alternatives. As such, the site may be subjected to a significant amount of physical and traffic disturbance that would make it difficult to develop/maintain species habitat at this time. As such, the general strategy for this tract will be to limit Program actions (outside of sediment augmentation) to basic operations and maintenance requirements at this time.

    - **Area –** Entire property.

    - **Timeline** – Sediment augmentation implementation design will be developed during the first half of 2011 and augmentation operations are expected to commence during the second half of 2011 and continue indefinitely.

    - **Responsibilities** – Program staff are responsible for ensuring that operations and maintenance actions are compatible with sediment augmentation operations requirements.

  Objective 1b – Develop complex-scale restoration and management plan that is compatible with sediment augmentation implementation design.

    - **Strategy** – Sediment augmentation implementation design will be developed during the first half of 2011. Following completion of the implementation design, Program staff will initiate a complex-scale planning effort for Tracts 2009007 and 2009003. The complex-scale plan

will identify restoration and management actions that are compatible with sediment augmentation activities and would benefit the Program's target species.

- **Area –** Entire property – Tracts 2009007 and 2009003.

- **Timeline** – Complex-scale planning effort will be initiated following sediment augmentation implementation design and is expected to be completed in 2011.

- **Responsibilities** – Program staff are responsible for initiating the planning process. Representatives from the LAC and TAC will participate in the planning process. The LAC and TAC will provide comments on the draft plan and the LAC is responsible for recommending approval to the GC. The GC must approve the complex-scale plan before activities associated with the plan can commence.

2. Property Maintenance

- ***Goal 2 – Fulfill basic property ownership obligations and needs.***

  - ***Objective 2a*** – Establish and maintain property boundary fencing and signage.

    - **Strategy** – Existing boundary fence is present on the entirety of the tract but is in disrepair. The primary use of the property south of the channel is as cropland and hay meadow with no immediate plans for converting cropland to grassland given the potential for sediment augmentation operations to occur on this tract. Fencing efforts will be to remove and replace the west boundary fence (~314 feet). Any additional fencing will be contingent upon sediment augmentation. Fences on the north side of the channel will be evaluated and repaired as needed. As restoration efforts mature on Tract 2009003, fencing may be replaced to allow for grazing on the east side of the drainage ditch on Tract 2009007 in conjunction with Tract 2009003.

      - **Methods** –Boundary fencing will be four wire livestock fencing and will be constructed per Natural Resources Conservation Service (NRCS) and Nebraska Game and Parks Commission (NGPC) design criteria. Boundary fence will include Program ownership and contact signage at regular intervals. Maintenance methods may include mowing or spraying of woody species in the cleared fence area as well as routine fence upkeep.

- **Area –** Property boundary. Also along drainage ditch if grazed (Figure A-8).

- **Timeline** – Boundary signage will be installed on existing boundary fences in 2010. Any fencing activities would take place after July 15 of each year.

- **Costs** – Removal of the existing fence will be approximately $500.00 and construction of new fence on west side will be $1,000.00. Boundary signage is expected to cost on the order of $500. Annual maintenance costs are expected to be on the order of $3,000.

- **Responsibilities** – Program staff are responsible for design and permitting. Construction and maintenance activities will be bid.

o ***Objective 2b*** – Control noxious weeds on property.

- **Strategy** – Infestations of noxious weeds will be eliminated (to the extent possible) annually. An integrated management approach to control noxious weeds will be used to the extent possible and specific control methods will be updated as new information becomes available. Ongoing management/control needs will be assessed annually and incorporated into Work Plans.

    - **Methods -** Herbicide application will be the primary method for control of noxious weeds. Biological controls will be considered but only used if deemed effective enough to result in effective control within three growing seasons.

- **Area –** Noxious weed control will be conducted on the entirety of the property.

- **Timeline** – Noxious weed control activities will be conducted annually.

- **Costs** – Annual costs will be identified in the annual Work Plans and are expected to be less than $2,000.

- **Responsibilities-** Program staff are responsible for identifying infestations and planning/coordinating control efforts. Control activities will be carried out by contractors. The contractor will typically be the county weed authority.

- ***Goal 3 – Minimize habitat impacts due to invasive vegetation.***

  - ***Objective 3a*** – Prevent woody vegetation expansion into grassland areas. Elimination and prevention of future infestations of woody vegetation in grassland areas will allow the Program to harvest native grass seed from this area and maintain vegetation in short stature.

    - **Strategy** – An integrated management approach to control will be used to the extent possible and specific control methods will be updated as new information becomes available. Ongoing management/control needs will be assessed annually and incorporated into Work Plans.

      - **Methods** – Elimination of existing infestations will be accomplished through a combination of herbicide application and mechanical removal. Control of certain species like eastern red cedar will not require herbicide application while other species may not need to be mechanically removed after herbicide application. Management of future infestations will be accomplished through a variety of integrated management methods including: herbicide application, prescribed fire, mechanical disturbance/removal and grazing.

    - **Area –** Invasive vegetation will be controlled on the grassland areas south of the channel.

    - **Timeline** – Annually

    - **Costs** – To be determined annually

    - **Responsibilities** – Program staff will be responsible for identifying infestations. Control activities will be carried out by contractors.

3. Agricultural Operations

- ***Goal*** 4 – ***Manage cropland responsibly.***

  - ***Objective 4a*** – Coordinate with lessee to ensure that crop rotation, tillage practices and nutrient/pest management are being conducted in accordance with current agricultural best management practices (BMPs).

    - **Strategy** – The Program will make entry into a crop share agreement subject to agreement to coordination and approval of the above-mentioned

items. The Program will employ standard crop management BMPs like annual soil nutrient testing to ensure that objectives are being met.

- **Methods** – Methods will be determined annually by Program staff and/or farm management contractors in association with the renter.

- **Area –** All cropland areas.

- **Timeline** – Annual.

- **Costs** – Cropland management activities are expected to cost on the order of $1,000 annually. Estimated income is for the cropland is $5,760 and $1,860 for the hay meadow.

- **Responsibilities** – Program staff or a farm management contractor acting on behalf of the Program will be responsible for annual planning and coordination.

V. TRACT-LEVEL SURVEYS, MONITORING AND RESEARCH

A. Baseline Surveys and Monitoring

1. Bald Eagle

No bald eagle nests have been identified on this property.

2. Platte River Caddisfly

No populations of Platte River Caddisfly were noted on a March 2010 larval survey performed by USFWS personnel. No suitable habitat was identified on this property.

3. Northern River Otter

No otters have been observed on this tract but they have been known to use the general area. Surveys will be conducted prior to commencement of activities that may negatively impact natal dens when undertaken during the period when otters are utilizing dens.

4. Sandhill Crane

Central Nebraska Public Power & Irrigation District has monitored an active sandhill crane roost near this property. To the extent possible, sediment augmentation implementation design will include measures to minimize roost impacts.

5. Cultural Resources

The legal description of Tract 2009007 was provided to the State Historic Preservation Office (SHPO) to facilitate the early identification of potential cultural resources related issues. SHPO did not identify any potential cultural resources concerns on the property. The Program is aware and sensitive to the historical significance associated with this general area. If Program actions uncover potential artifacts or human remains, work will cease until such time that the Program can consult with SHPO to determine the appropriate course of action.

B. Research

No tract-scale research efforts have been identified at this time. However, sediment augmentation management experiment activities will likely occur on this property. The implementation design will be developed during the first half of 2011 and sediment augmentation operations are expected to commence during the second half of 2011 and continue through the remainder of the First Increment.

VI. PUBLIC ACCESS

A. Education

Public access for education, including non-Program research, will be allowed on a case-by-case basis as long as it is compatible with target species usage and does not negatively impact species habitat. Program staff will be responsible for evaluating requests and granting access permission.

B. Recreation

Public access for outdoor recreation is currently being managed by Program staff using a combination of good neighbor policy considerations, wildlife management needs, and compatibility with tenant farming practices, as well as available options to control access and minimize conflicts. Presently whitetail doe harvest is being accomplished by allowing and requiring each hunter to take three does with the supervision of a selected individual chosen and approved by Program staff. Credentials are provided identifying all individuals allowed to hunt this area. Hunting will not occur during whooping crane migration. As hunters complete their required take of animals' additional hunters will be allowed through a drawing. Names of the next opportunity will be given to the individual area supervisor to coordinate hunting opportunities.

APPENDIX A – MAPS

PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

- CNPPID-Lease
- PRRIP-Owned
- **Section**
- **County**

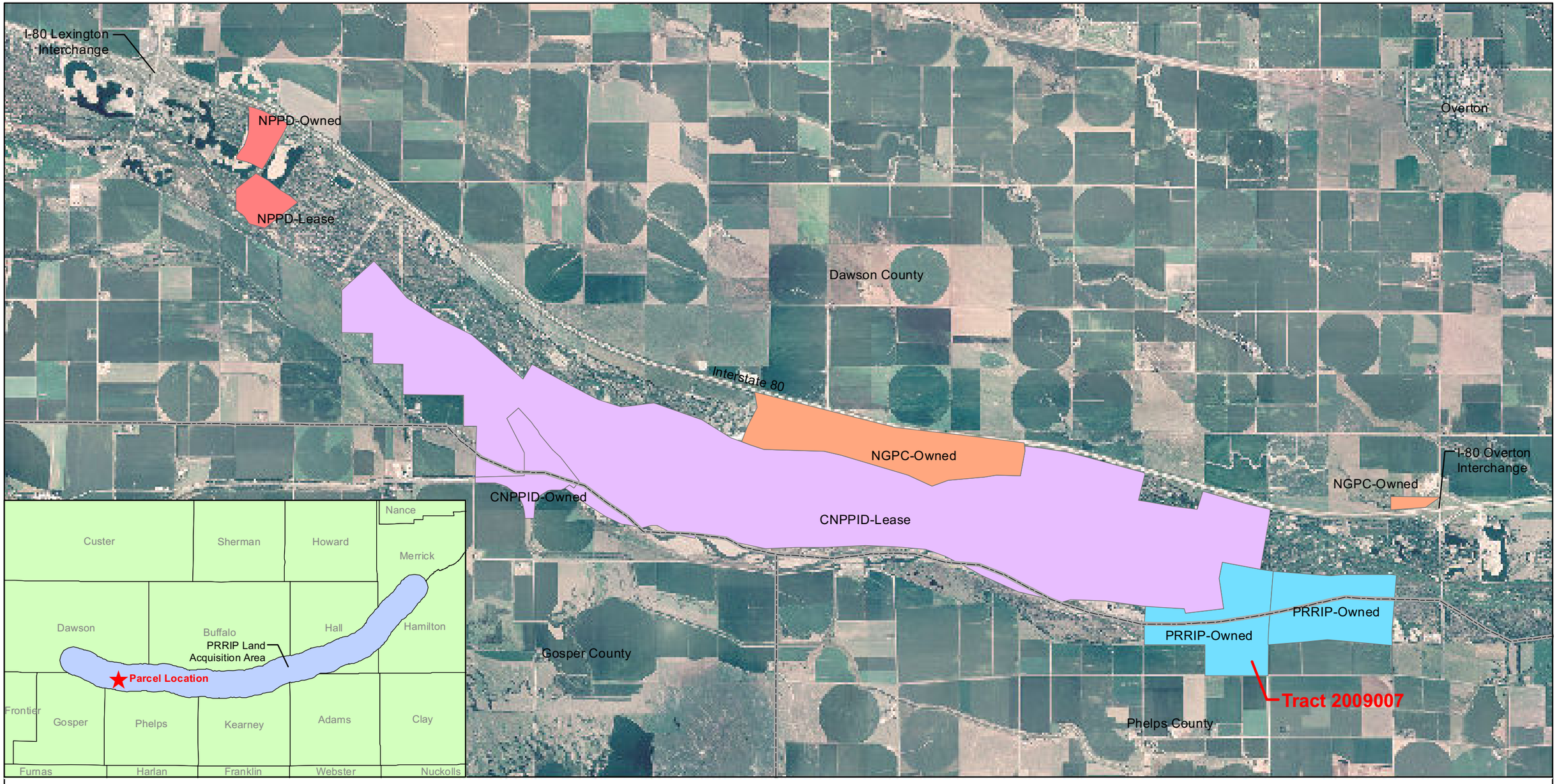
N

0.25 Miles

TRACT 2009007
BOUNDARY MAP

O&M Plan
Date: 11/15/10
By: JMF

Figure A-1



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

- County
- CNPPID
- NGPC
- NPPD
- PRRIP

N

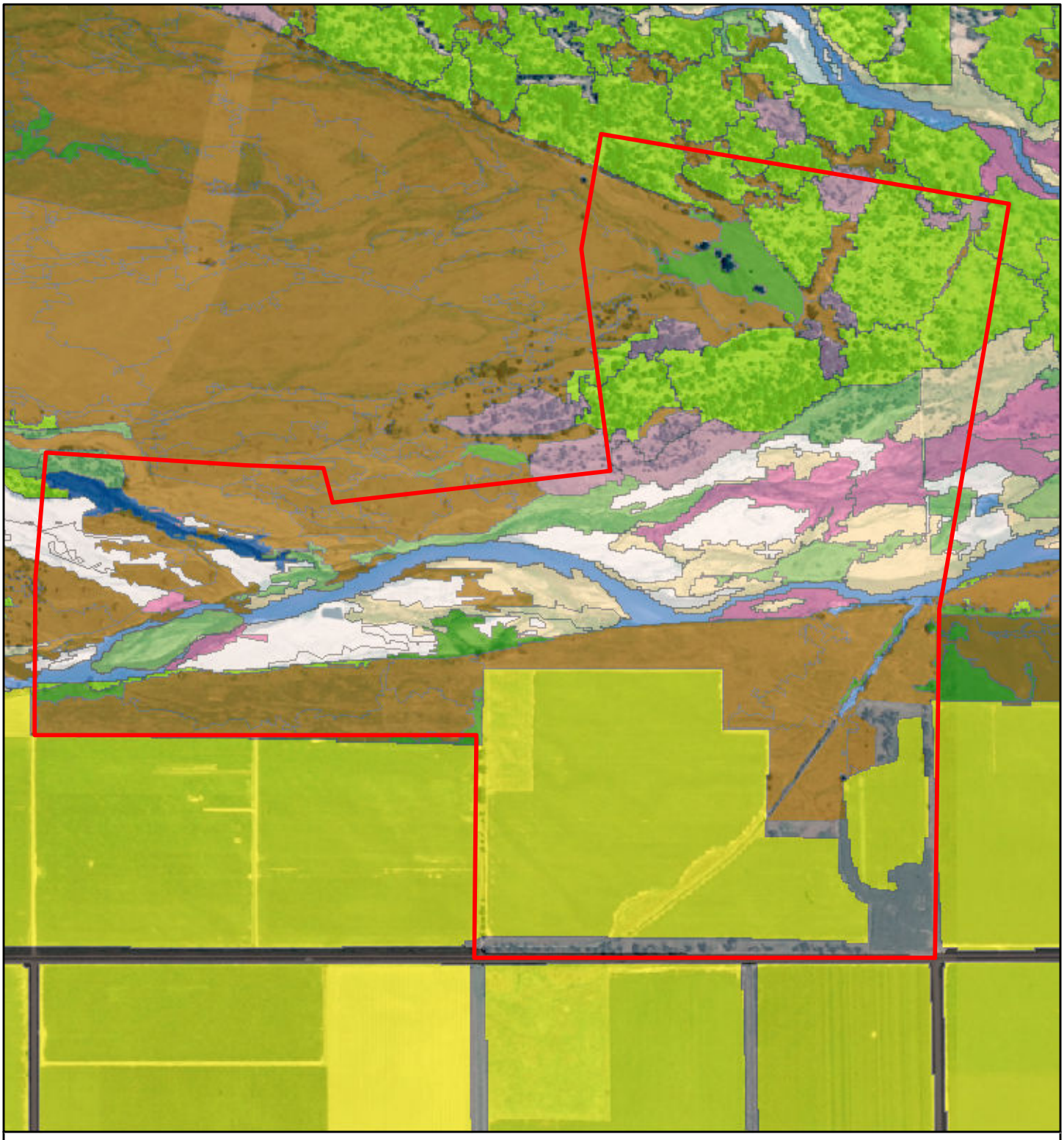
Miles

1

TRACT 2009007
LOCATION MAP

O&M Plan
Date: 11/15/10
By: JMF

Figure A-2



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

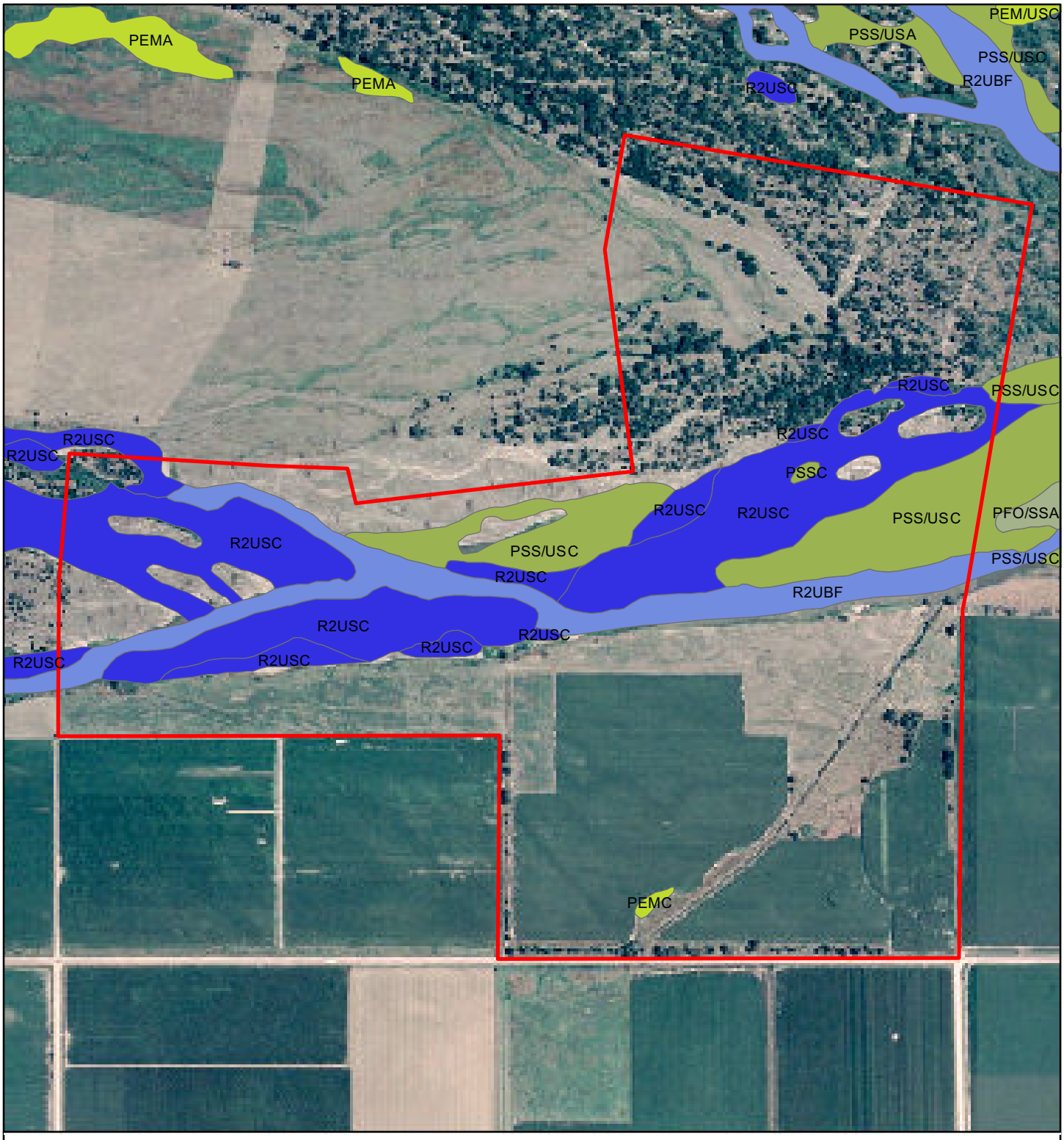
- Ag
- Canal/Drainage
- Mesic Wet Meadow
- Phragmites
- Riparian Shrubland
- Riparian Woodland
- River Channel
- River Early Successional
- River Shrubland
- Roads
- Rural Developed
- Unvegetated Sandbar
- Warmwater Slough
- Xeric Wet Meadow

N

TRACT 2009007
2005 LAND COVER

O&M Plan
Date: 11/15/10
By: JMF

Figure A-3



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

- Property Boundary
- **Palustrine Emergent (PE)**
- **Palustrine Forested (PF)**
- **Palustrine Scrub-Shrub (PSS)**
- **Riverine Unconsolidated Bottom (PUB)**
- **Riverine Unconsolidated Shore (RUS)**
- **Riverine Streambed (RS)**

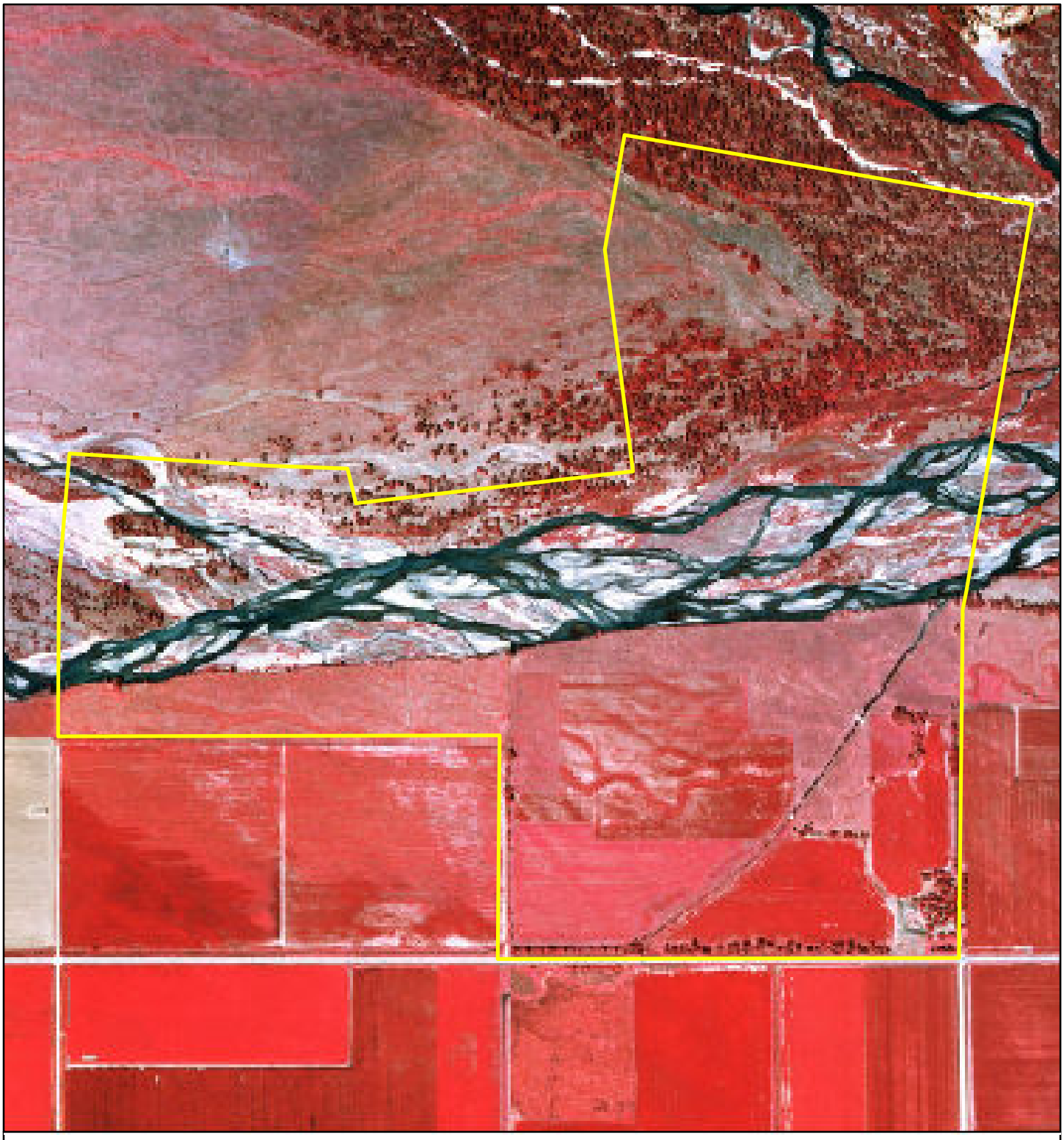
N

0.2 Miles

TRACT 2009007
NWI MAP

O&M Plan
Date: 11/15/10
By: JMF

Figure A-4



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

Property Boundary

N

TRACT 2009007
1998 CIR IMAGERY

O&M Plan
Date: 11/15/10
By: JMF

0.2 Miles

Figure A-5

PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

Property Boundary

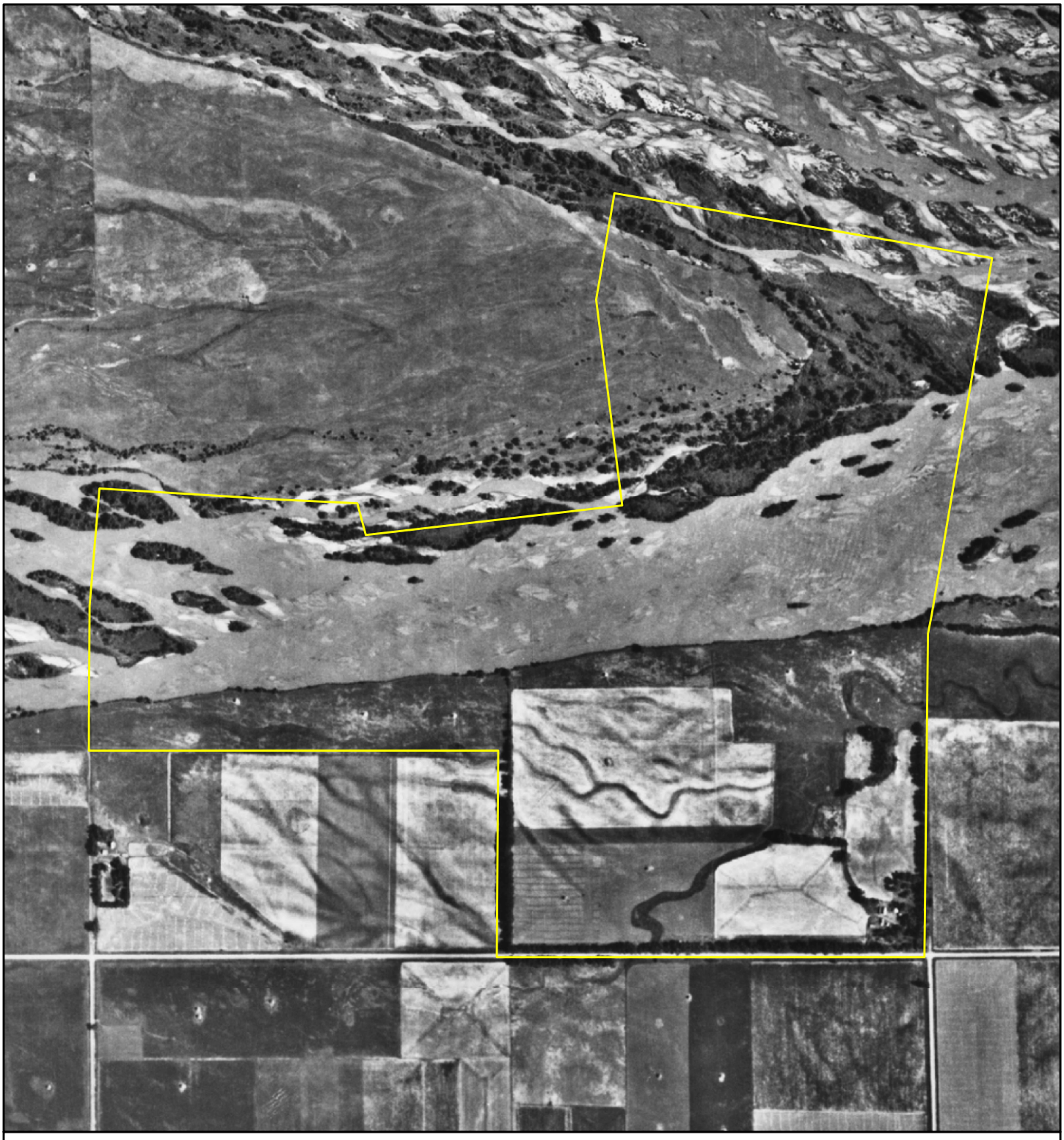
N

TRACT 2009007
2010 CIR IMAGERY

O&M Plan
Date: 11/15/10
By: JMF

0.2 Miles

Figure A-6



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

Evaluation Parcel

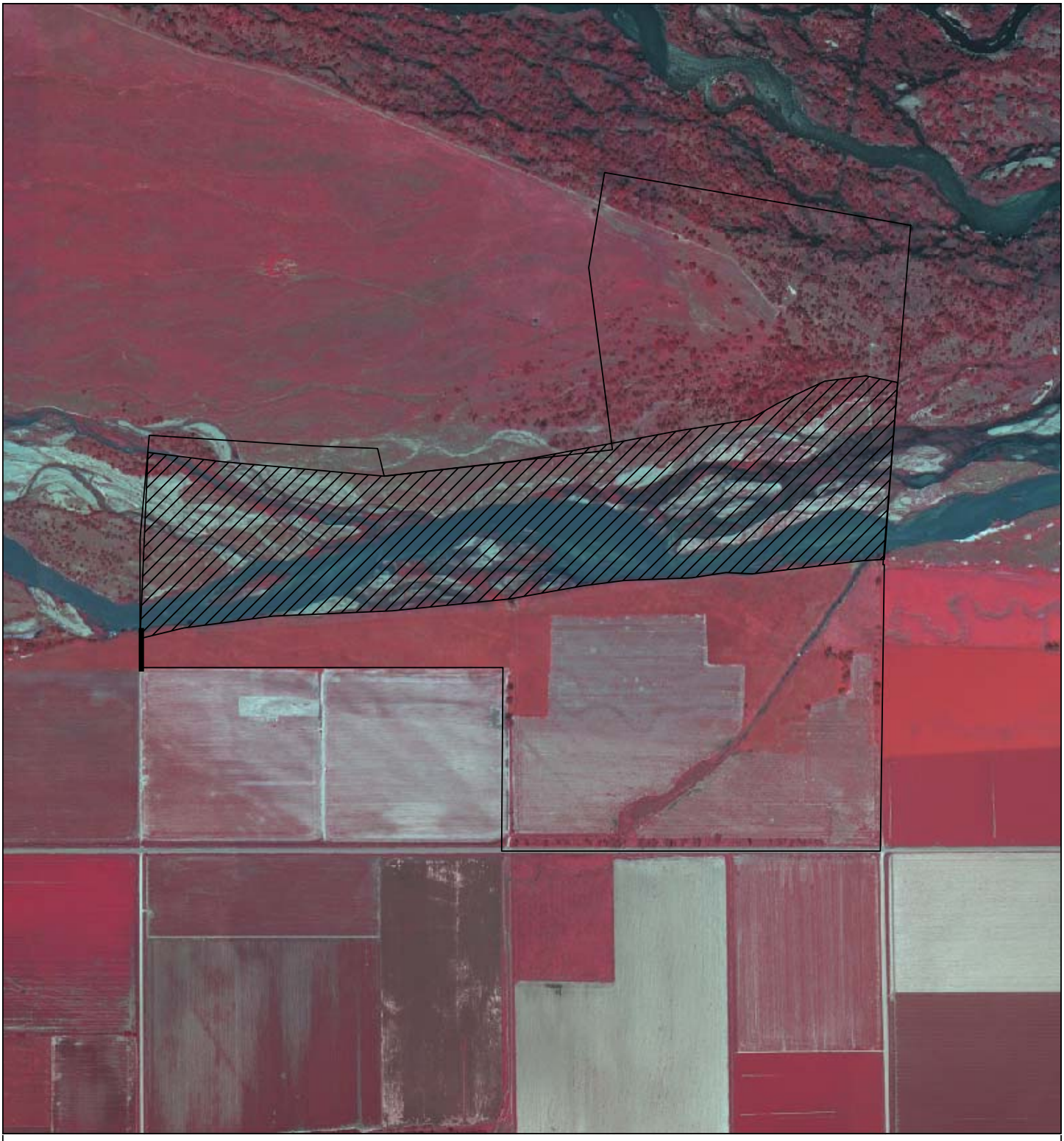
N

0.2 Miles

TRACT 0815
1938 IMAGERY

Parcel Evaluation
Date: 4/22/08
By: JDB

Figure A-7



PLATTE RIVER

Legend

- Fence Replacement- 2011
- Property Boundary
- In channel herbicide spraying

0.5 Miles

TRACT 2009007
In channel herbicide &
Fence Replacement

Date: 01/28/11
By: TRT

Figure A-8