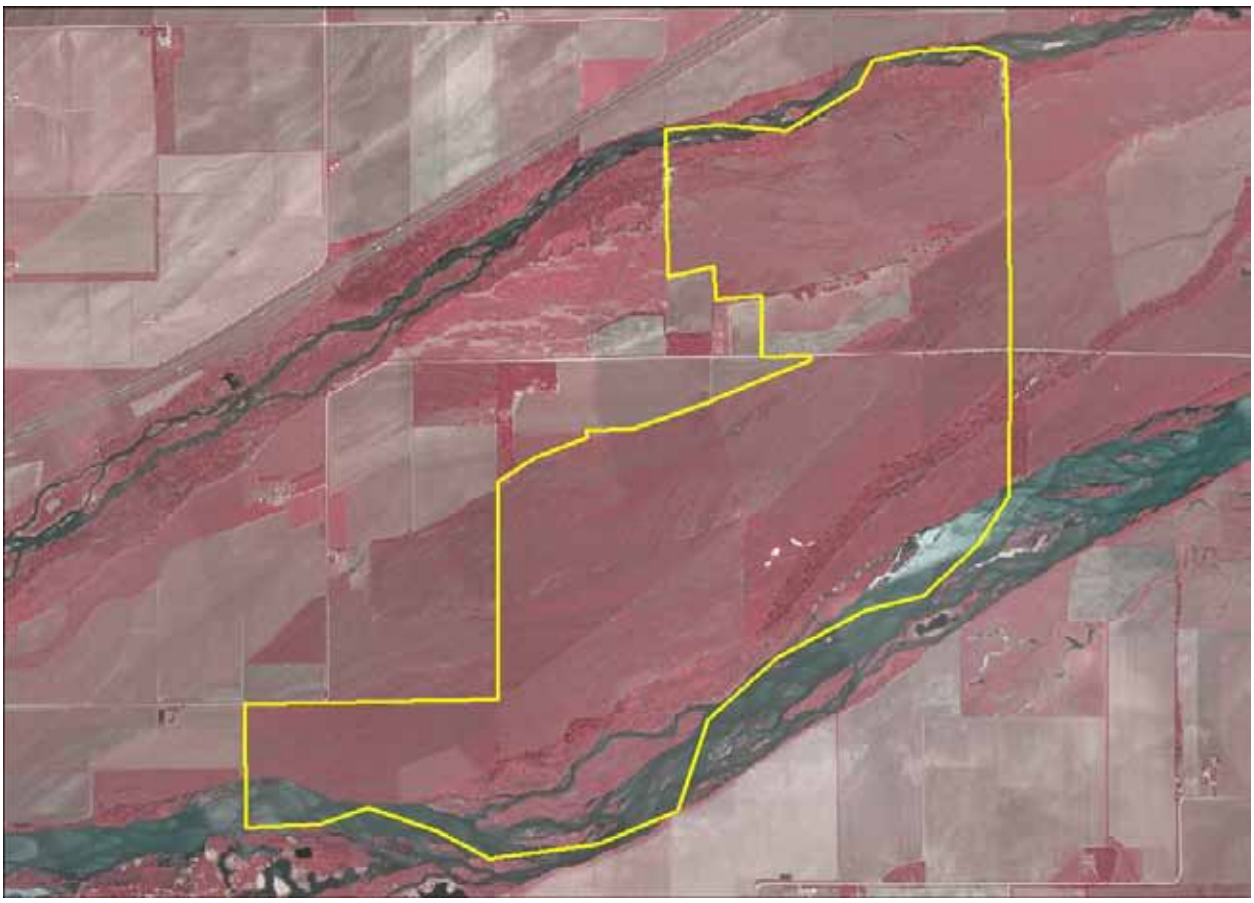
2011–2014 OPERATIONS AND MAINTENANCE PLAN

For

TRACT 2010004



Prepared for:
Platte River Recovery Implementation Program
Land Advisory Committee

Completion Date:
06/13/2012

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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 2010004 (Evaluation Tract Number 0918) during the period of 2012-2016. Species habitat and Adaptive Management research and monitoring actions associated with this tract are addressed in the Restoration and Management Plan for the Shoemaker Island Complex because planning and implementation of those activities will primarily occur at a complex scale. Operations and maintenance will primarily occur on a tract scale and as such, this plan addresses those activities within the broader context of complex goals and objectives.

B. Tract Location and Size

Tract 2010004 is approximately 1,525 acres in size and is located in Section 2, 10, 11, 14, 15, and 16, T-9N, R-11W. Figure A-1 (located in Appendix A) delineates the property boundary. The tract is located in the Wood River to Alda bridge segment. Part of the tract is under a perpetual easement in favor of the Platte River Whooping Crane Maintenance Trust (PRWCT), and the property is located adjacent to properties owned and managed by both PRWCT and The Nature Conservancy (TNC). Figure A-2 shows the parcel location within the Program land acquisition area, bridge segment and its proximity to existing leased and owned conservation lands and other tracts being evaluated by the Program.

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. The Platte River Whooping Crane Maintenance Trust owns a conservation easement over a portion of the tract.

D. Communication and Coordination

The Executive Director's Office (ED Office) is responsible for communication and coordination with 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 entirety of the Property 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 2010004 Habitat Complex Acres

Land Classification*	Acres
Wet Meadow	1100
Riverine	300
Buffer	125

* 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 CIR Aerial Photography
- Figure A-7 – 2011 CIR Aerial Photography

Table 2 – Tract 2010004 2005 Land Cover/Use Summary

Land Cover Classification	Acres	Percent of Total
Bareground/Sparse Veg	3.70	0.24%
Meadow Sand Ridge	83.69	5.49%
Mesic Wet Meadow	261.56	17.17%
Phragmites	63.00	4.14%
Purple Loosestrife	2.34	0.15%
Riparian Shrubland	109.20	7.17%
Riparian Woodland	110.19	7.23%
River Channel	43.08	2.83%
River Early Successional	19.74	1.30%
River Shrubland	24.44	1.60%
Roads	5.82	0.38%
Unvegetated Sandbar	31.57	2.07%
Upland Woodland	13.57	0.89%
Xeric Wet Meadow	751.35	49.33%
	1523.22	**100.00%**

C. Existing Land Features of Interest

1. Non-Riverine Surface Water

There is no non-riverine surface water on the property.

2. River Frontage and Active Channel Widths

The tract contains approximately 2.5 miles of river frontage on the main (south) channel of the Platte River and approximately 1 mile of river frontage on the north channel of the Platte River.

Table 3 – Tract 2010004 Main (South) Channel Widths

Measurement	Width (ft)
Minimum Channel Width	610
Maximum Channel Width	1,470
Median Channel Width	1,250
Mean Channel Width	1,162

3. Contiguous Sand Substrates

At the time of the site visit there were no contiguous sand substrates with less than 25% vegetative cover. However, PRWCT and/or USFWS periodically disc or mow this portion of the channel to control vegetation.

4. Island and Channel Bank Height

Channel bank height is on the order of three to six feet above water surface under typical summer flow conditions. Islands on this property have been disced in the past and range from zero to six feet above water.

5. Groundwater

Depth to groundwater on this tract was estimated from NDNR well logs for wells on and around the property. The well logs indicate that the static groundwater elevation is two to ten feet below ground surface. Livestock watering wells in the southern grassland portion of the tract indicate water levels of two to four feet below the surface.

6. Flooding in Non-Wetland Areas

There is no evidence of temporary inundation of non-wetland areas. However, variations on vegetation density and species indicate that seasonal flooding and ponding of water in swales and depressions does occur. Members of the evaluation team indicated this property is one of the premier examples of a functioning wet meadow.

7. Power/Transmission Lines

There are no above ground power lines on this property.

D. Incompatible Uses and Environmental Concerns

This tract does not currently have land uses that are incompatible with target species habitat. No environmental concerns have been identified.

E. Certified Irrigated Acres

This tract 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. Complex-level actions are presented in the Restoration and Management Plan for the Shoemaker Island Complex. Tract-level goals and objectives are a function of property management and operations needs.

1. Property Maintenance

- Ø ***Goal 1 – Fulfill basic property ownership obligations and needs.***
  - o ***Objective 1a*** – Rehabilitate and maintain property boundary fencing and signage.
    - § **Strategy** – The existing fence is primarily in poor condition. The overall strategy will be to clear woody vegetation as necessary for access and fence reconstruction, and rebuilding or replacing the boundary fence (with signage) as necessary. Fence maintenance strategy will be a combination of minimizing maintenance needs and scheduled maintenance.
      - · **Methods** – Where necessary, trees will be cleared using heavy equipment. They will be either burned and buried or chipped and hauled off-site. Boundary fencing will be four wire livestock fencing and will be constructed per Natural Resources Conservation Service (NRCS) design criteria. The fence will include Program ownership and contact signage at regular intervals. Maintenance methods may include mowing or spraying of woody species in the cleared area as well as routine fence upkeep.
    - § **Area –** Figure A-8 shows the location of fences to be removed, replaced, or repaired.
    - § **Timeline** – The majority of fence reconstruction and associated vegetation removal will be completed in 2012. Some fence work may carry into 2013 or beyond based on design and schedule of other projects (ie. “caddisfly slough” area)
    - § **Costs** – Tree clearing and fence reconstruction are expected to cost on the order of $100,000 for approx. 60,000 linear feet of fence replacement,

fence repair, and associated vegetation removal. Annual maintenance costs are expected to be on the order of $4,000.

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

- o ***Objective 1b*** – Rehabilitate and maintain livestock watering infrastructure.

  - § **Strategy** – The existing livestock watering infrastructure consists of 2 windmills in poor condition and an electric submersible pump on the south side of the property. The existing infrastructure will be assessed and repaired or replaced if necessary based on grazing needs. Currently there is no livestock water available on the property north of Shoemaker Island Road. If needed, a new well will be drilled and a solar watering unit installed.

  - § **Area –** Livestock watering infrastructures are displayed on Figure A-8.

  - § **Timeline** – Late winter/ early spring 2012.

  - § **Costs** – New infrastructure/repair costs on the order of $20,000. Annual maintenance costs are expected to be on the order of $1,000.

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

- o ***Objective 1c*** – 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 weeds will be controlled on the entire property.

  - § **Timeline** – Control efforts will be undertaken annually.

- **Costs** – Annual costs are expected to be less than $5,000.

- **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.

Ø ***Goal 2 – Minimize impacts due to invasive vegetation.***

o ***Objective 2a*** – Eliminate existing and control future infestations of invasive vegetation not listed as noxious weeds. Some of the species with the potential to be invasive in certain situations include eastern red cedar, Russian olive, willow, false indigo, intermediate wheatgrass, and tall wheatgrass.

- **Strategy** – An integrated management approach to control vegetation 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 entire property.

- **Timeline** – Control efforts will be undertaken as necessary.

- **Costs –** Annual costs are expected to be less than $3,000.

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

2. Species Habitat

Species habitat goals are discussed in section III.A.3. of the Shoemaker Island Complex Plan. No additional tract-level activities are anticipated.

TRACT-LEVEL SURVEYS, MONITORING AND RESEARCH

B. Baseline Surveys and Monitoring

1. Bald Eagle

No bald eagle nests have been identified on this property.

2. Platte River Caddisfly

Platte River caddisfly cases and/or larvae were noted in 2 separate sloughs during March and October 2011 surveys performed by contracted personnel from University of Nebraska–Kearney (UNK). Further surveys to document Platte River caddisfly density and distribution on the property will be conducted during spring, 2012.

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. Cultural Resources

The legal description of Tract 20010004 will be provided to the State Historic Preservation Office (SHPO) to facilitate the early identification of potential cultural resources related issues. 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.

C. Research

No tract-level research activities have been identified at this time.

V. PUBLIC ACCESS

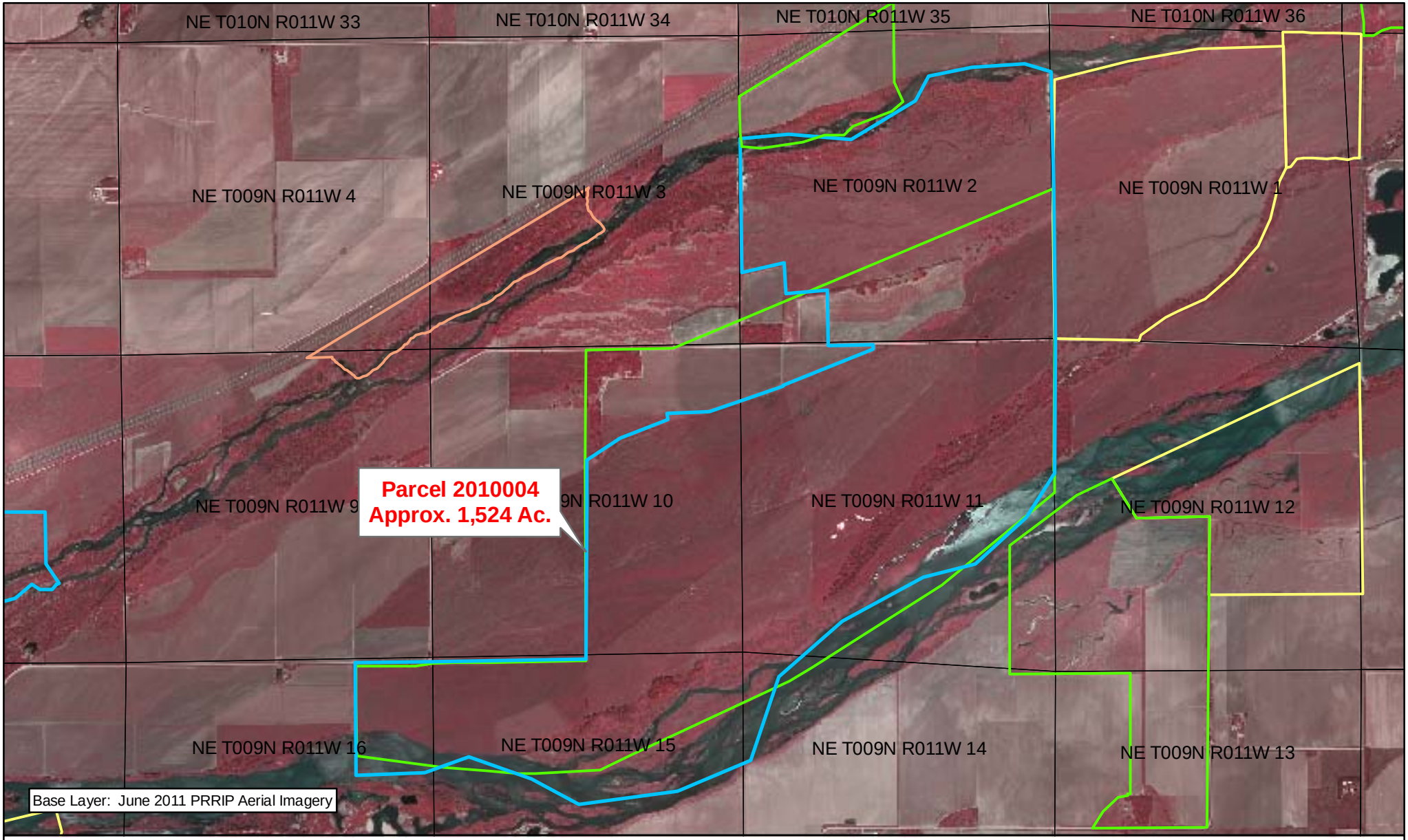
A. Education

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

Due to potential limitations within the conservation easement in favor of the PRWCT, this tract will not be entered into the Program's public access policy at this time. Public access may be revisited as needed if there are any changes to these limitations.

APPENDIX A – MAPS



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

- Section
- NGPC
- PRRIP
- PRWCT
- TNC

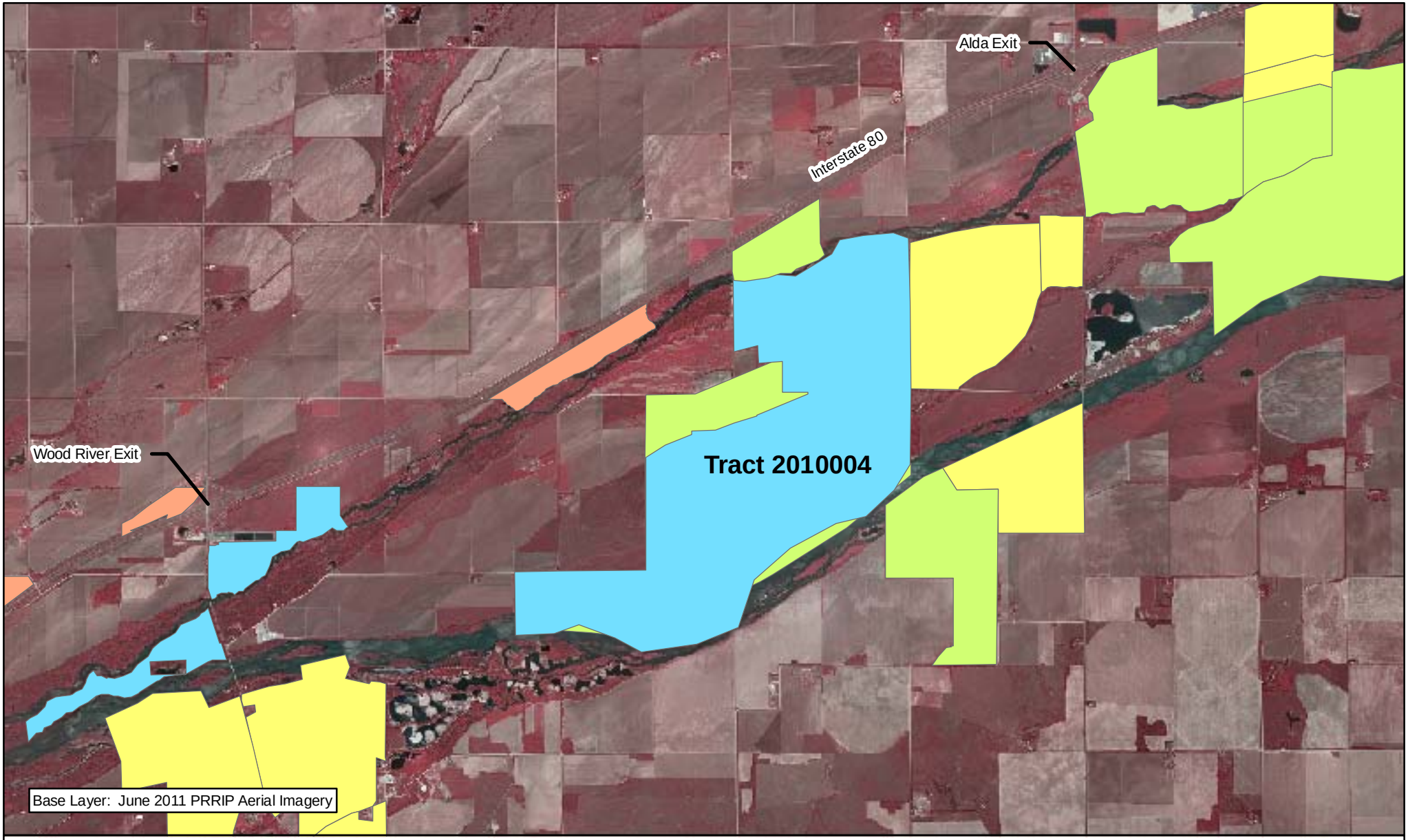
N

Miles
0.5

TRACT 2010004
BOUNDARY MAP

Date: 01/09/12
By: JDB

Figure A-1



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

- County
- Audubon
- CNPPID
- NGPC
- NPPD
- PRRIP
- PRWCT
- TNC
- Wyoming

N

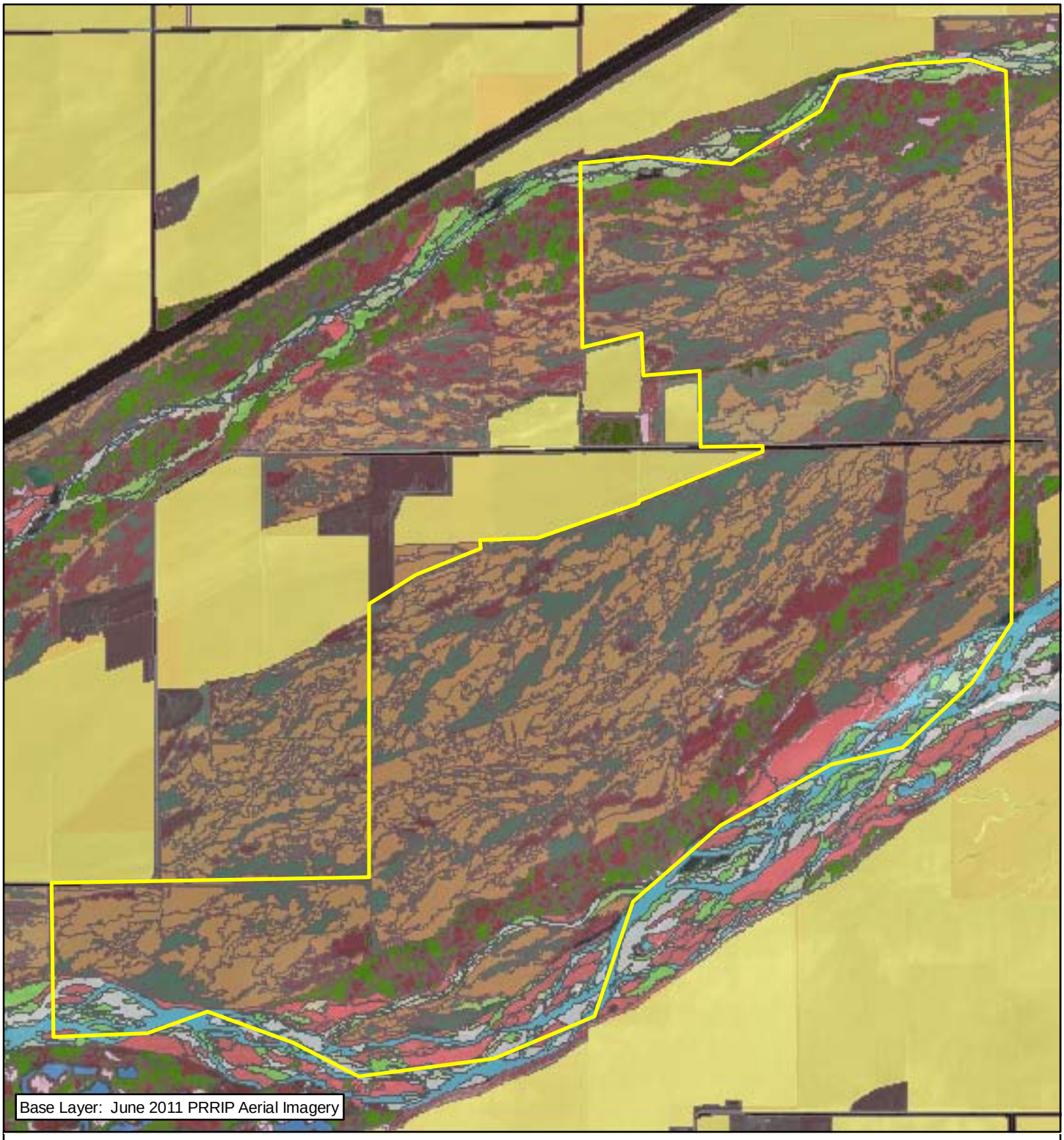
Miles

1

TRACT 2010004
LOCATION MAP

Date: 01/09/12
By: JDB

Figure A-2



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

- 2010004
- Ag
- Bareground/Sparse Veg
- Canal/Drainage
- Mesic Wet Meadow
- Phragmites
- Riparian Shrubland
- Riparian Woodland
- River Channel
- River Early Successional
- River Shrubland
- Roads
- Rural Developed
- Sand Pit
- Unvegetated Sandbar
- Upland Woodland
- Warmwater Slough
- Xeric Wet Meadow

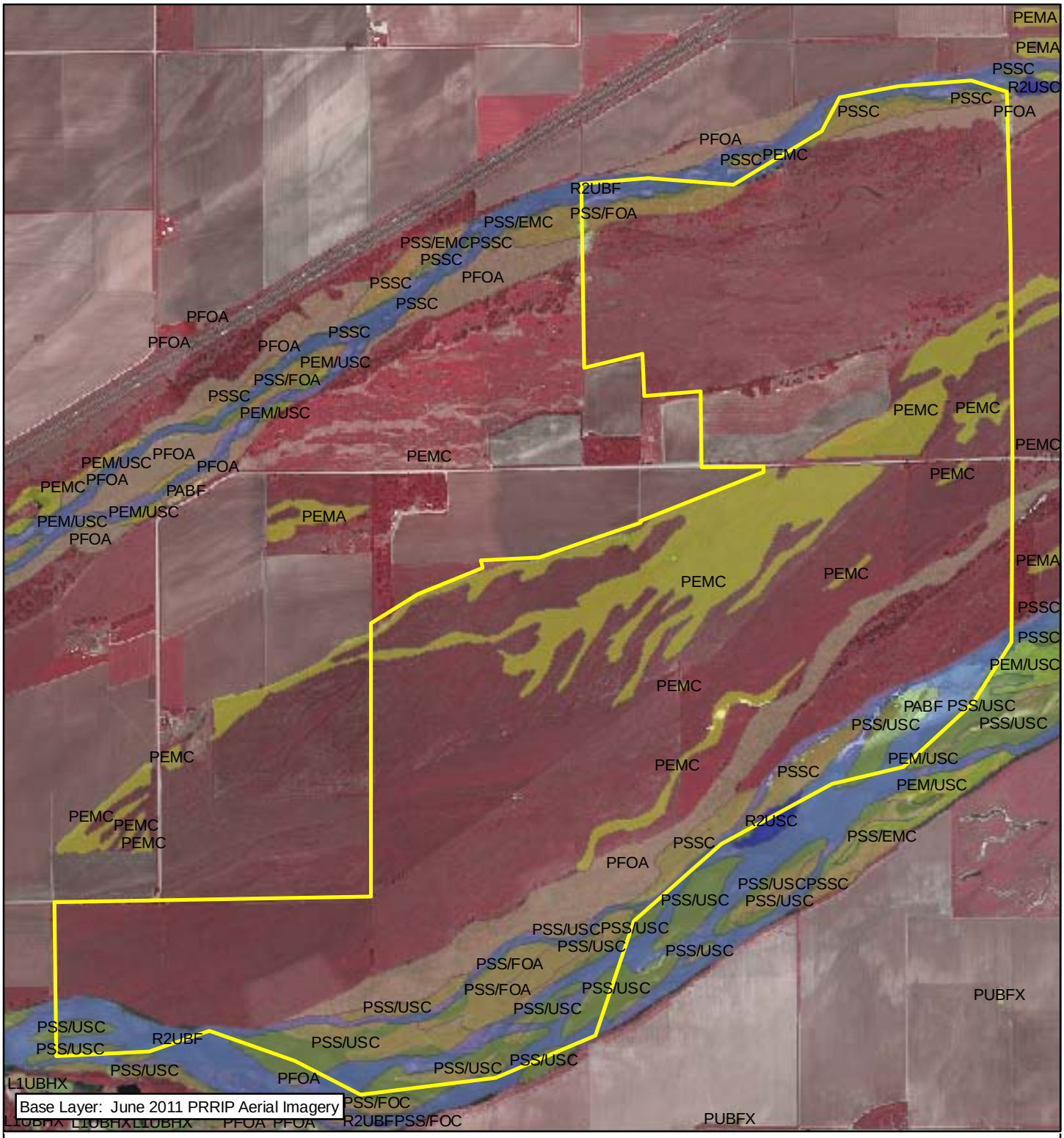
N

0.25 Miles

TRACT 2010004
2005 LAND COVER/USE

Parcel Evaluation
Date: 01/04/12
By: JDB

Figure A-3



Legend

- 2010004
- Lacustrine Unconsolidated Bottom (LUB)
- Palustrine Aquatic Bed (PAB)
- Palustrine Emergent (PE)
- Palustrine Forested (PF)
- Palustrine Scrub-Shrub (PSS)
- Palustrine Unconsolidated Bottom Excavated (PUBx)
- Riverine Unconsolidated Bottom (RUB)
- Riverine Unconsolidated Shore (RUS)
- Riverine Streambed (RS)

PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

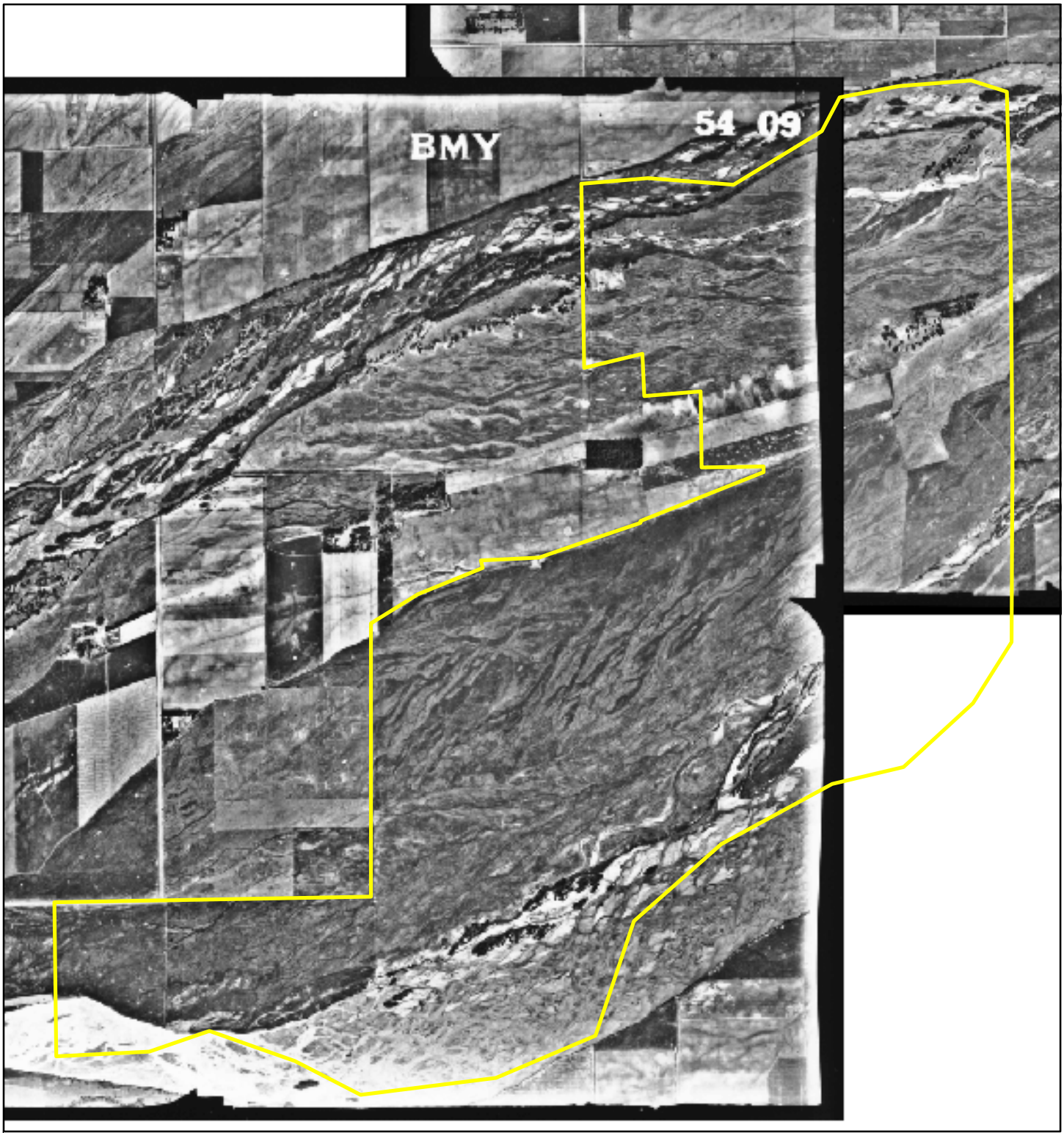
N

0.25 Miles

TRACT 2010004
NWI MAP

Date: 01/09/12
By: JDB

Figure A-4



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

2010004

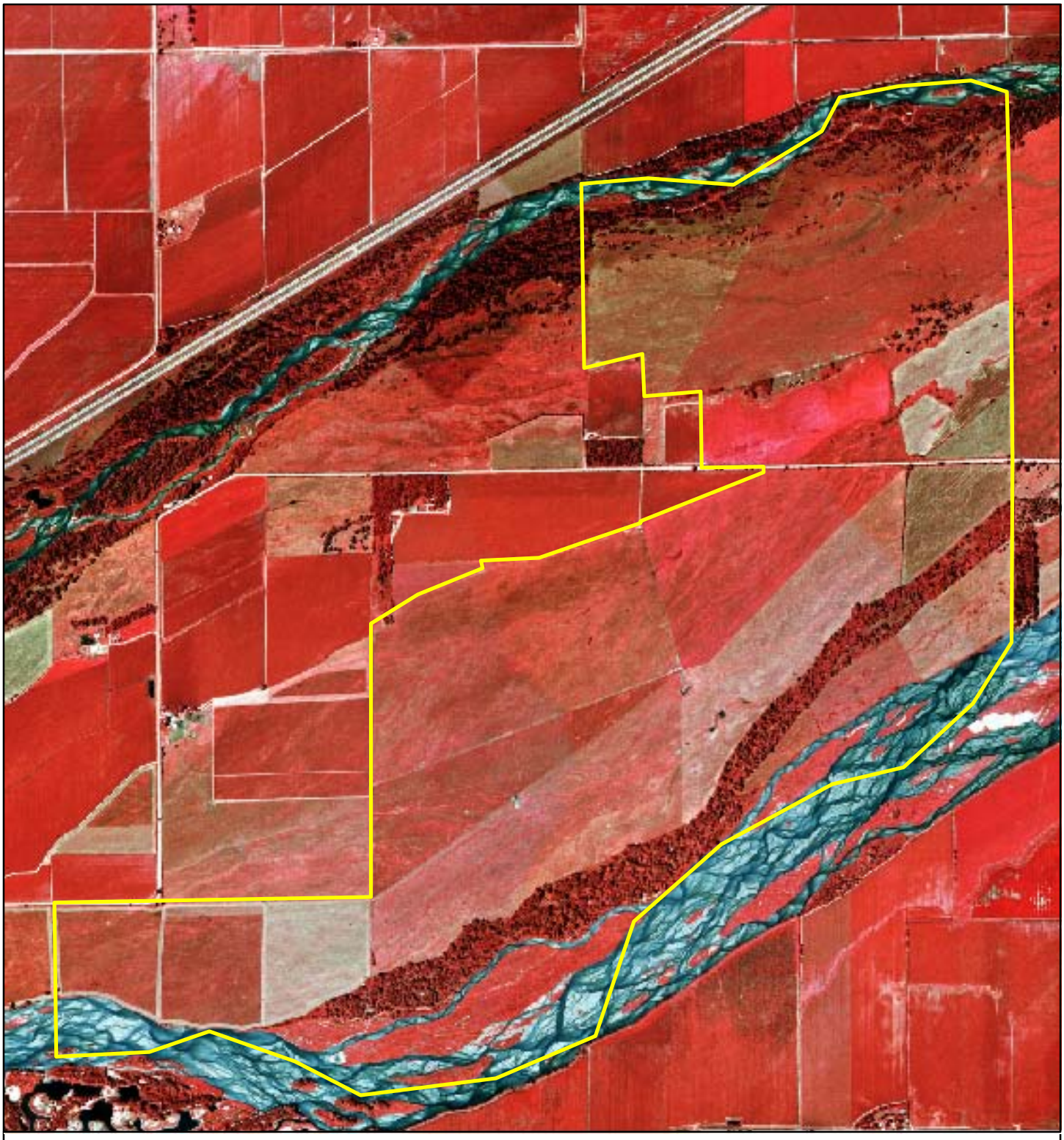
N

0.2 Miles

TRACT 2010004
1938 IMAGERY

Date: 01/09/12
By: JDB

Figure A-5



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

2010004

N

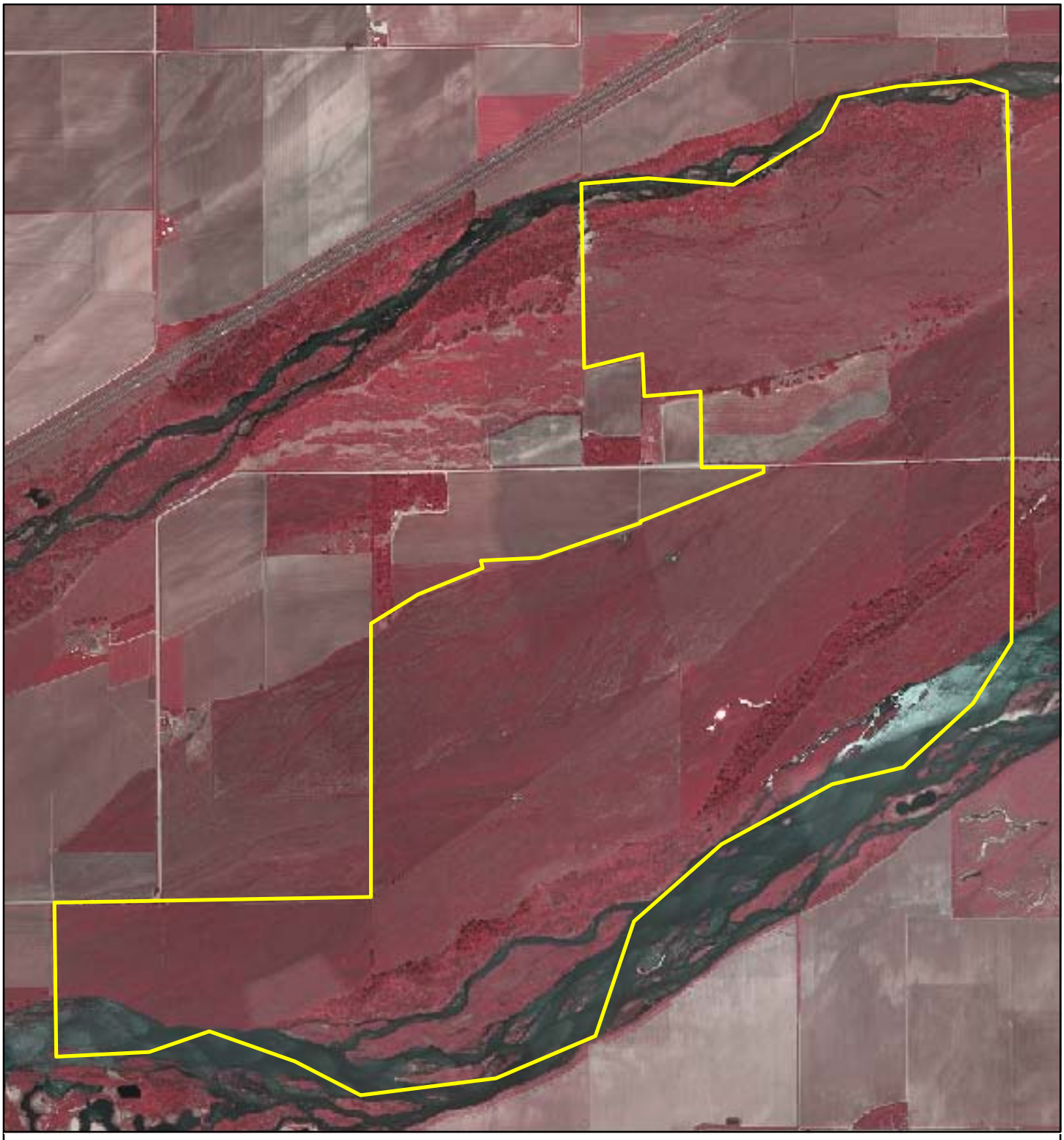
Miles

0.25

TRACT 2010004
1998 CIR IMAGERY

Date: 01/09/12
By: JDB

Figure A-6



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

2010004

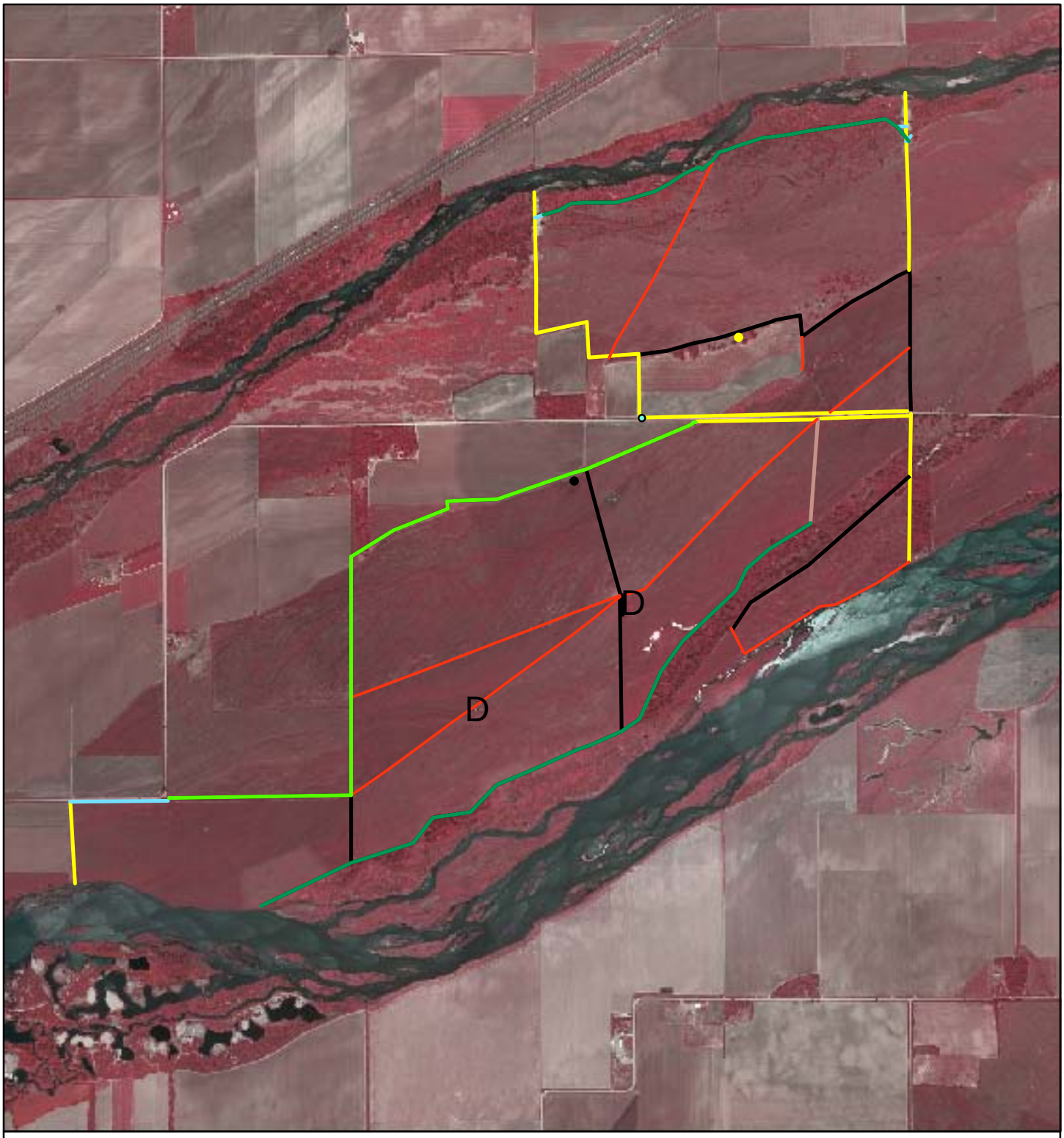
N

0.25 Miles

TRACT 2010004
2011 CIR IMAGERY

Date: 01/09/12
By: JDB

Figure A-7



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

Fences
- New 2011
- Replaced 2011
- Repaired 2011
- Existing
- Replace 2012
- Removed 2012
- Replace 2013

- Culvert installation
- Submersible pump
- D Windmill
- Well (No pump)

0.5 Mile

TRACT 2010004
Fence Work &
Livestock Water

Date: 1/11/12

By: TRT

Figure A-8