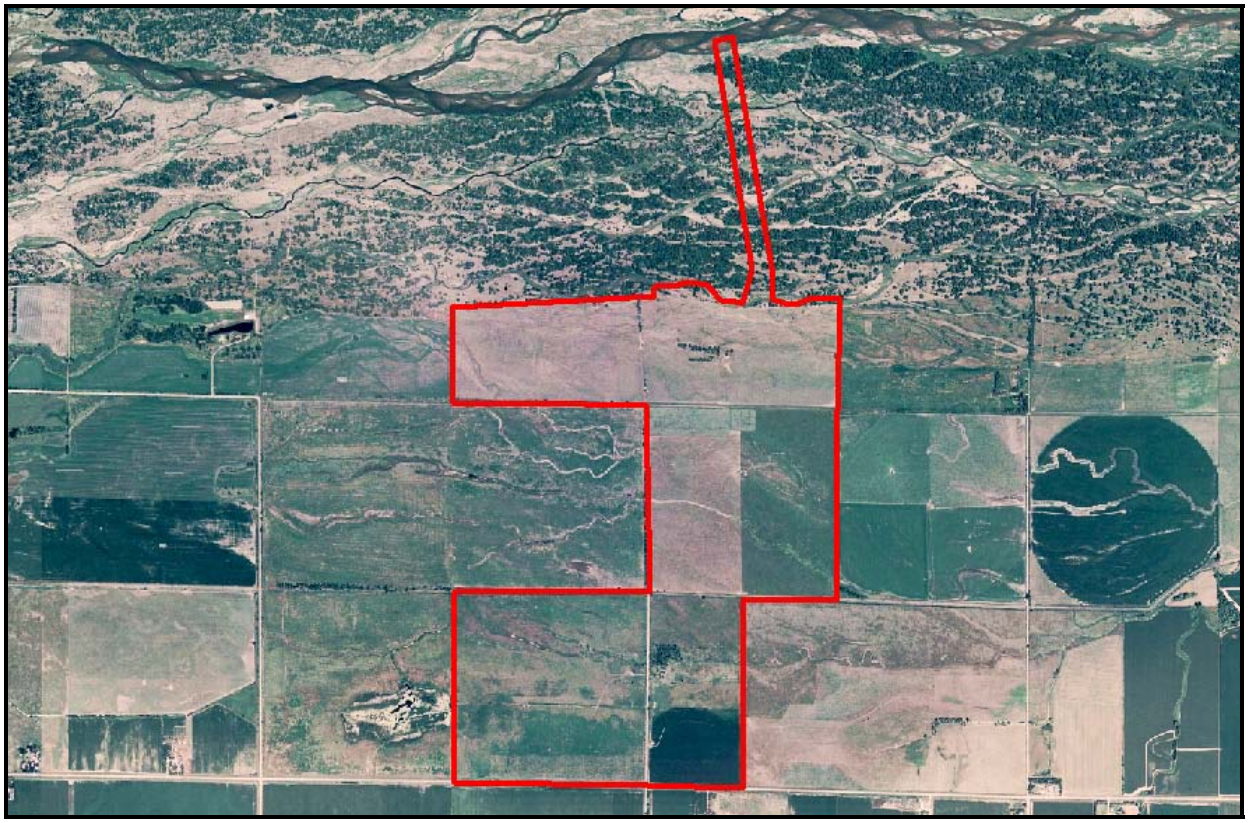
2011–2014 OPERATIONS AND MAINTENANCE PLAN

For

TRACT 2010001



Prepared for:
Platte River Recovery Implementation Program
Land Advisory Committee

Completion Date:
XX/XX/XX

Table of Contents

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 2010001 (Evaluation Tract Number 0839) during the period of 2011-2014. Species habitat and Adaptive Management research and monitoring actions associated with this tract are addressed in the Restoration and Management Plan for the Cottonwood Ranch 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. The intent of this plan is to address the following goals:

1. Property Maintenance
   - Goal 1- Fulfill basic property ownership obligations.
   - Goal 2- Minimize impacts due to invasive vegetation.
2. Agricultural Operations
   - Goal 3- Manage cropland responsibly
3. Species Habitat
   - Goal 4 –Improve wet meadow/grassland habitat for WC and other species of concern

B. Tract Location and Size

Tract 2010001 is approximately 565 acres in size and is located in Section 9, 10, 15, and 16, T-8N, R-19W. Figure A-1 (located in Appendix A) delineates the property boundary. The tract is located in the Overton to Elm Creek bridge segment. 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.

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 2010001 Habitat Complex Acres

Land Classification*	Acres
Buffer	
Grassland	561
Cropland	33

* 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 – 2008 CIR Aerial Photography

Table 2 – Tract 2010001 2005 Land Cover/Use Summary

Land Cover Classification	Acres	Percent of Tract
Agricultural	60.2	10.1%
Bareground/Sparse Vegetation	2.4	0.4%
Floodplain Marsh	0.1	0.0%
Mesic Wet Meadow	76.8	12.9%
Phragmites	0.4	0.1%
Riparian Shrubland	23.8	4.0%
Riparian Woodland	17.0	2.9%
River Channel	0.6	0.1%
River Early Successional	0.0	0.0%
River Shrubland	1.4	0.2%
Roads	17.2	2.9%
Upland Woodland	5.3	0.9%
Warmwater Slough	1.1	0.2%
Xeric Wet Meadow	387.5	65.3%
Total	**594**	**100.0%**

C. Existing Land Features of Interest

1. Non-Riverine Surface Water

There is a large palustrine wetland on the tract that intermittently contains surface water. There is also a large groundwater drain that runs through the entire property from east to west 1/2 mile north of the county road.

2. River Frontage and Active Channel Widths

This tract does not have river frontage.

3. Contiguous Sand Substrates

This tract does not contain unvegetated sand habitat.

4. Island and Channel Bank Height

This tract does not include river frontage.

5. Groundwater

Depth to groundwater on this tract was estimated from NDNR well logs for wells on the property. The well logs indicate that the static groundwater elevation is 4 to 6 feet below ground 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.

7. Power/Transmission Lines

There is a power transmission line running east to west along the minimum maintenance road on the north side of the mile section. There is a service line running north to south along the gravel road that divides sections 15 and 16. This service line was for a house that is longer present about 1/4 mile north of the county road. It also provides service to irrigation well for the small cropland section in the southwest 1/4 of section 15. Power lines will be marked as recommended in the Land Evaluation Report.

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 51.44 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 Cottonwood Ranch Complex. Tract-level goals and objectives are a function of property management and operations needs.

1. Property Maintenance

- ***Goal 1 – Fulfill basic property ownership obligations and needs.***
  - ***Objective 1a*** – Rehabilitate and maintain property boundary fencing and signage.
    - **Strategy** – The existing fence is in average to good 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 stacked into piles and burned and buried. 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 –**Segments of immediate fence replacement are displayed on Figure A-8.
    - **Timeline** – Fence reconstruction and associated vegetation removal will begin after July 15, 2010.
    - **Costs** – Tree clearing and fence reconstruction are expected to cost on the order of $20,000. Annual maintenance costs are expected to be on the order of $2,000.
    - **Responsibilities** – Program staff are responsible for design and permitting. Construction and maintenance activities will be bid.

- ***Objective 1b*** – Rehabilitate and maintain livestock watering infrastructure.
  - **Strategy** – The existing livestock watering system consists of 2 windmills and an electric submersible pump. The overall strategy will be to perform an inspection of the existing facilities and replace if necessary. Livestock watering infrastructure maintenance strategy will be to schedule regular maintenance inspections annually.
    - **Methods** –N/A
  - **Area –**Livestock watering infrastructures are displayed on Figure A-8.
  - **Timeline** –Late winter/ early spring 2011.
  - **Costs** –$20,000. Annual maintenance costs are expected to be on the order of $1,000.
  - **Responsibilities** – Program staff are responsible for design and permitting. Construction and maintenance activities will be bid.
- ***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.

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

  - ***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, salt 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. Specific areas of tree removal are displayed on Figure A-8.

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

    - **Costs –** Annual costs have not been developed.

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

2. Agricultural Operations

- ***Goal 3 – Manage cropland responsibly.***

  - ***Objective 3a*** – Coordinate with renter 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 rental 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 $500 annually. Estimated income is $4,400.

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

3. Species Habitat

- ***Goal 4 –Improve wet meadow/grassland habitat for WC and other species of concern.***

    - ***Objective 4a*** – Manage existing grasslands in varying degrees of vegetative stature as of March first in any given year to provide for use by species of concern (sandhill cranes and grassland nesting birds). Refer to Objective 6a in the Cottonwood Ranch Complex Plan for more information on this goal.

        - **Strategy** – Use a combination of livestock grazing, haying, mowing, and prescribed fire to provide a diverse mixture of vegetative structure and species composition as of March 1 in all years. This will include short structure for crane use on approximately 1/4 of total grassland area of Tract 2010001 and Tract 2008002 (south of the river) and the remaining 3/4 of the total grassland area in taller standing dead vegetation for certain grassland nesting birds.

            - ***Methods –*** Grazing in combination with prescribed fire will be used to manage existing grasslands. Grazing will typically be for a 5 month grazing period (May-October) each year at a moderate stocking rate. Prescribed fire will be planned to suppress cool season, invasive vegetation under appropriate environmental conditions and fuel loading and conducted during late April- early

May. Prescribed fire will be implemented on each grazing unit on a 4 year return interval with 1 grazing unit being burned annually.

- **Area –** Grazing areas are presented on Figure A-8.
- **Timeline** – Annually.
- **Costs** – Prescribed fire costs are $10-15/ acre. Grazing income is estimated to be $14,660 for 5 month grazing season (May 15-October 15).
- **Responsibilities** – Program staff in coordination with the appropriate Program committees will be responsible for planning, design and permitting. Contractors, hired by the Program, will perform the construction and maintenance work. Contractors, hired by the Program, will perform the prescribed burn. Opportunities to work with local NRD burn teams will also be pursued when available.

- ***Objective 4b*** – Manage water control structures to provide adequate surface water within restored palustrine wetlands.
  - **Strategy** – Manipulate water control structures to allow for sufficient surface water within wetland during spring and fall whooping crane migration.
    - ***Methods –*** Control structures will be closed (boards in) in late summer and remain full all winter so there is adequate water during crane migration. Control structures will be opened (boards pulled) around April 15 and let sit over the summer.
  - **Area –** Approximate locations of water control structures on located on Figure A-8.
  - **Timeline** – Annually.
  - **Costs** – N/A
  - **Responsibilities** –Ducks Unlimited staff in coordination with Program staff will be responsible for manipulating water control structures.

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

The tract was surveyed for presence of Platte River Caddisfly (PRCF) in March of 2010 by USFWS personnel. As noted by USFWS in the correspondence following the survey, one side channel was determined to be potentially suitable habitat upon looking at aerial imagery. One quarter mile section of side channel on the south side of the property was surveyed for the presence of caddisflies. No caddisflies were found at this location.

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 20010001 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. 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-level research activities have been identified at this time.

VI. PUBLIC ACCESS

A. Education

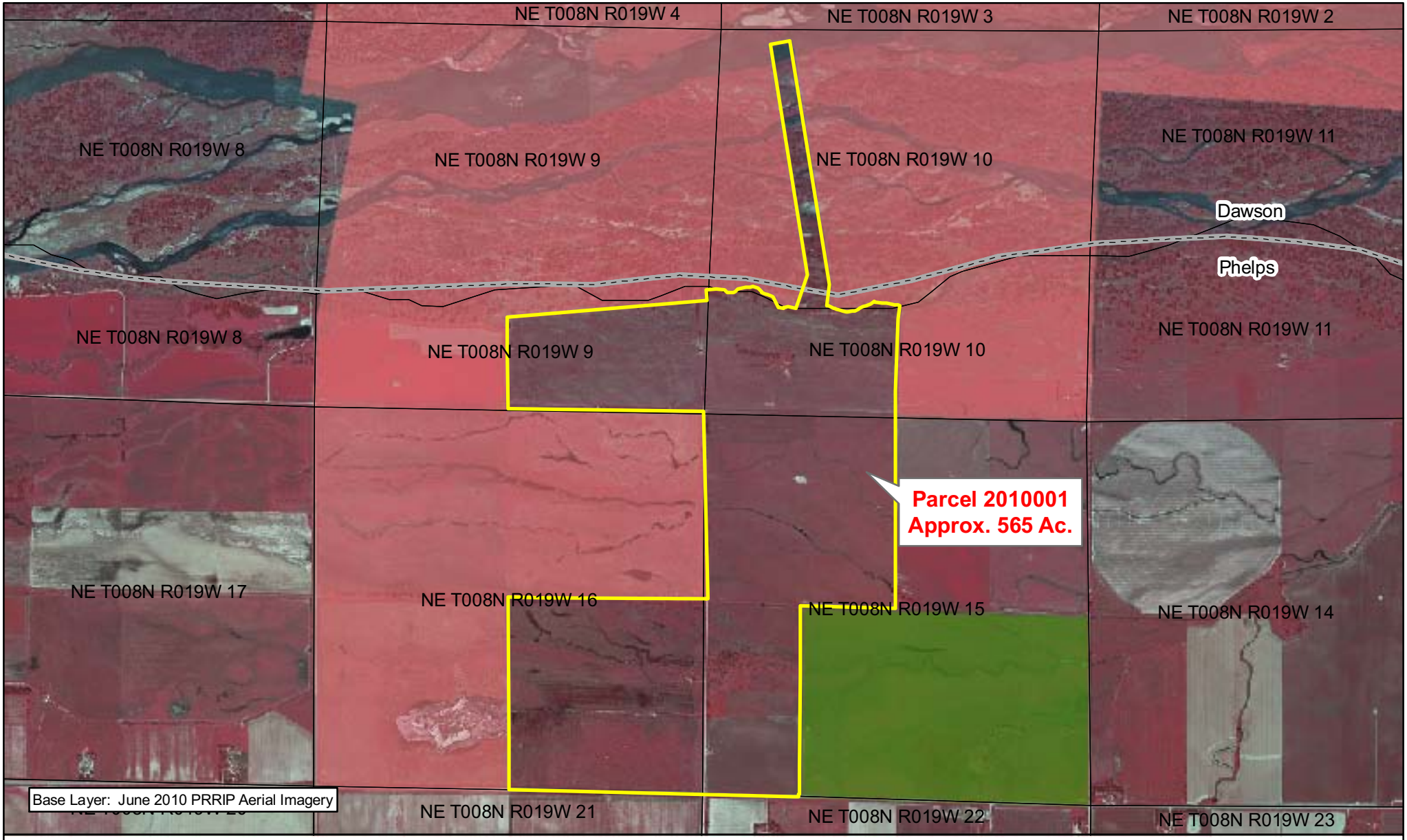
Public access for education, including non-Program research, will be allowed on a case-by-case basis as long as it is compatible with target species usage and does not negatively impact species habitat. Program staff will be responsible for evaluating requests and granting access permission.

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.

Development of a more comprehensive outdoor recreation policy will be addressed in 2010 for 2011 if approved by the GC.

APPENDIX A – MAPS



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

2010001	Audubon	NPPD
County	CNPPID	PRWCT
Section	Ducks Unlimited	TNC
	NGPC	Wyoming

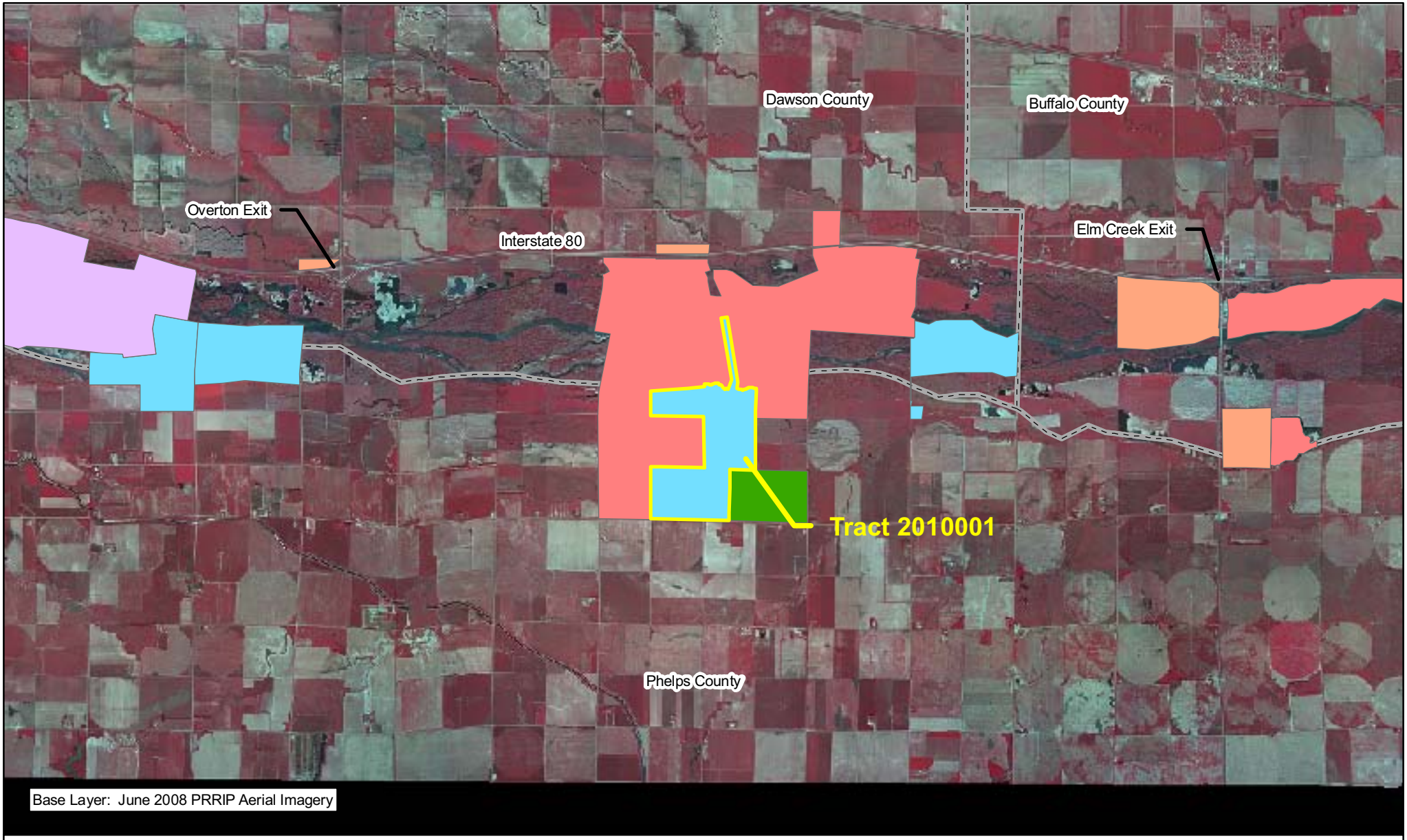
N

0.5 Miles

TRACT 2010001 BOUNDARY MAP

Date: 11/22/10
By: JDB

Figure A-1



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

- 2010001
- County
- Audubon
- CNPPID
- Ducks Unlimited
- NGPC
- NPPD
- PRRIP
- PRWCT
- TNC
- Wyoming

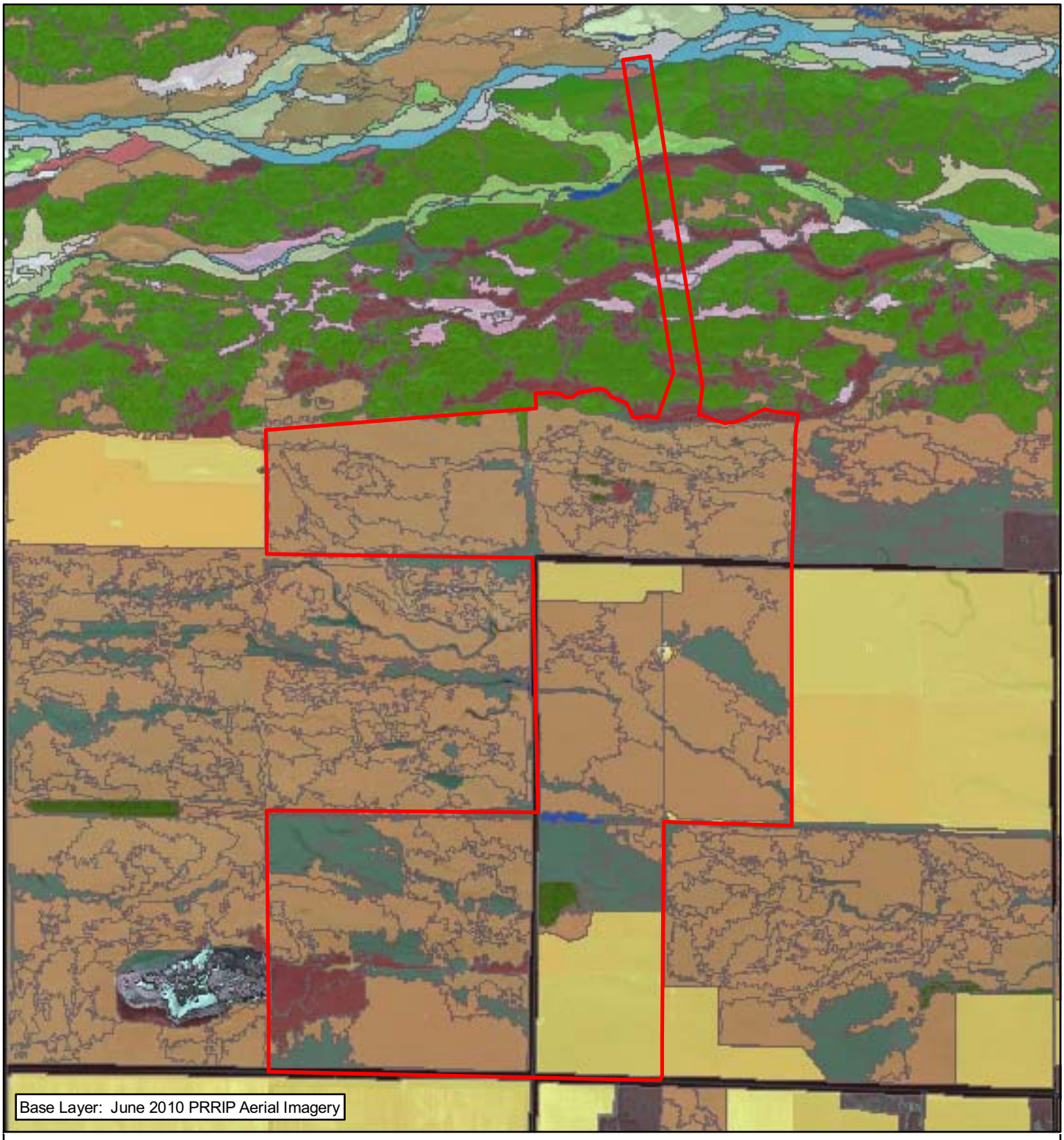
N

2 Miles

TRACT 2010001 LOCATION MAP

Date: 11/22/10
By: JDB

Figure A-2



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

- 2010001
- 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

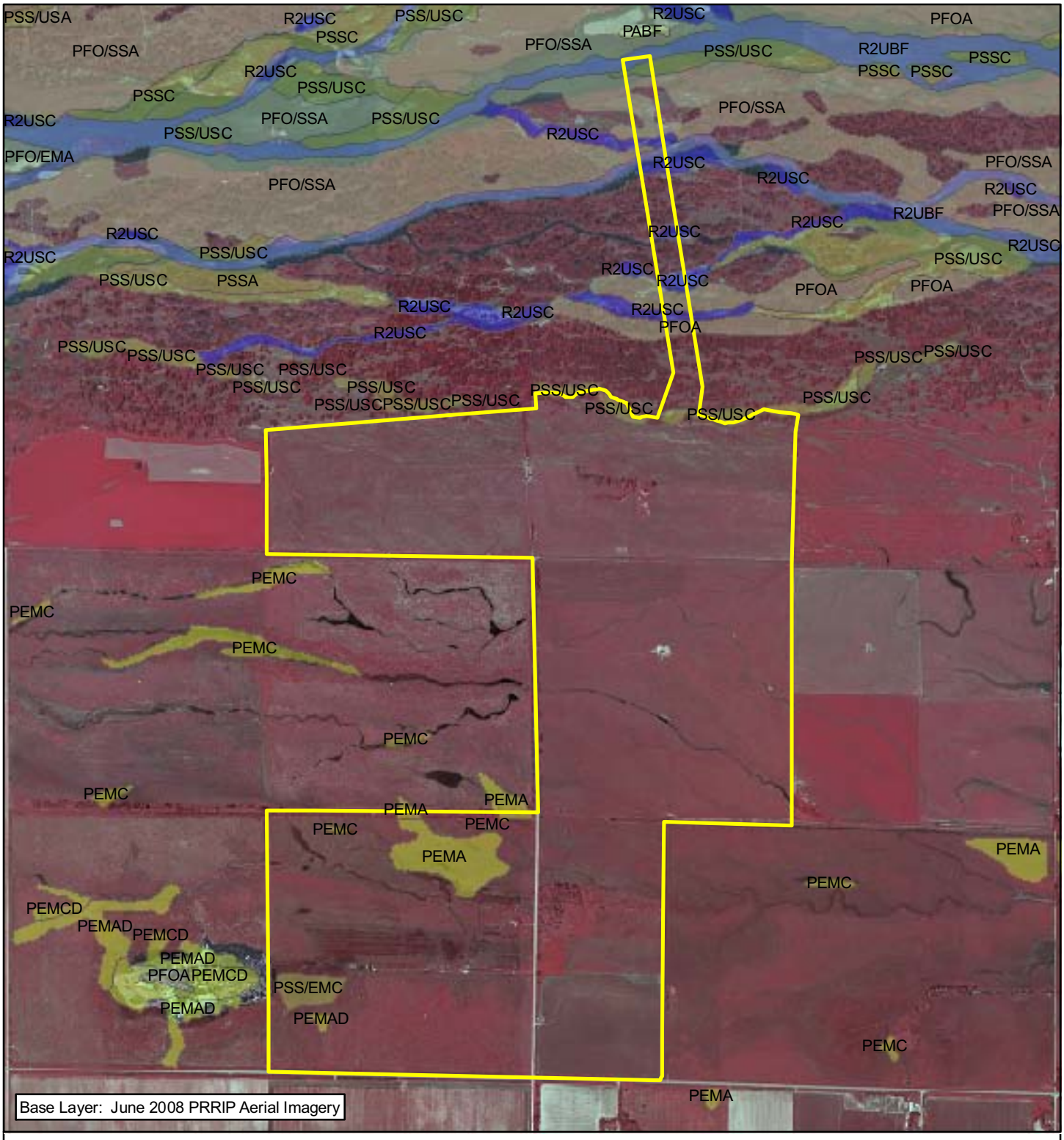
N

0.25 Miles

TRACT 2010001
2005 LAND COVER/USE

Date: 11/22/10
By: JDB

Figure A-3



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

- 2010001
- 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)

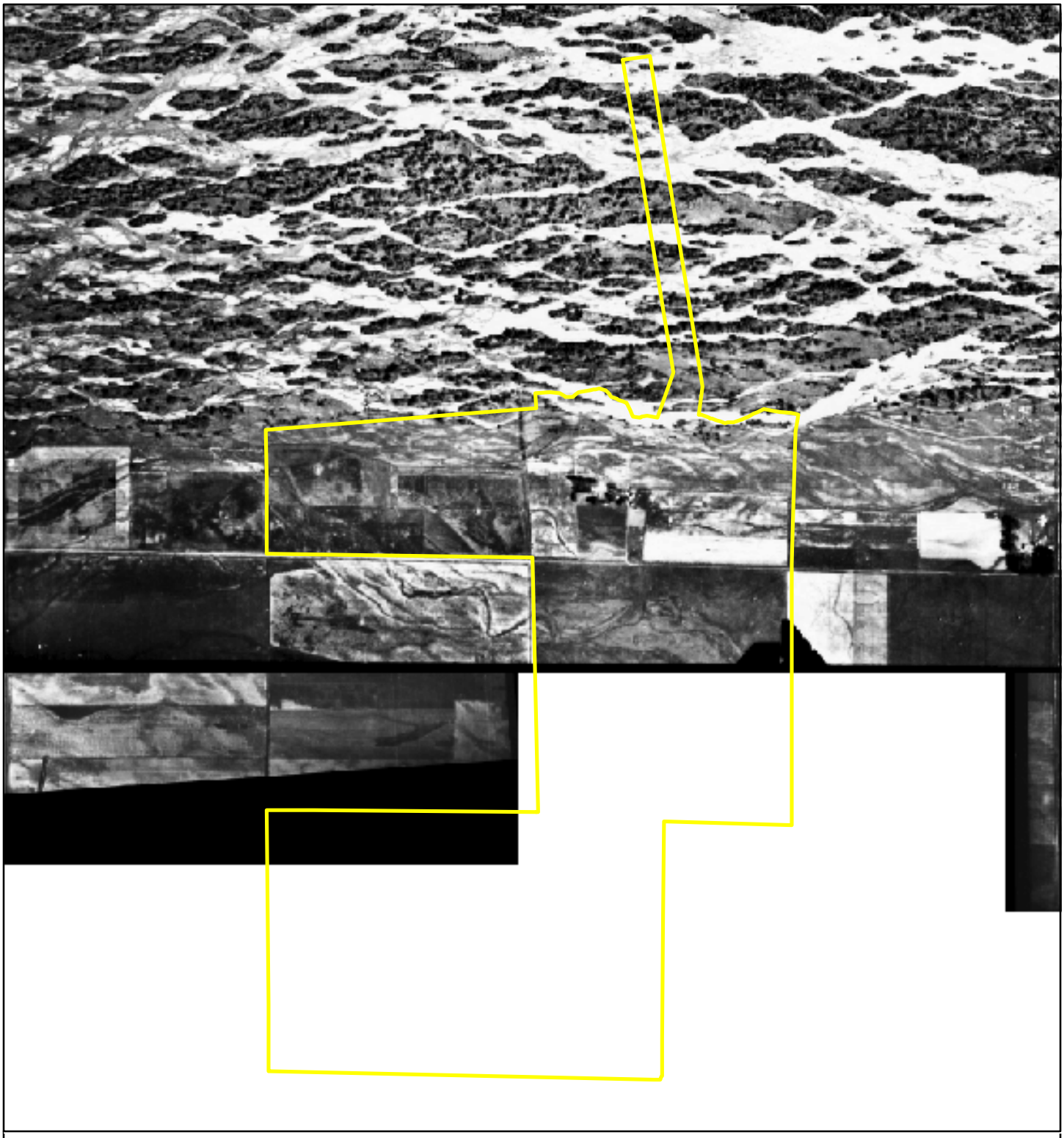
N

0.25 Miles

TRACT 2010001
NWI MAP

Date: 11/22/10
By: JDB

Figure A-4



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

2010001

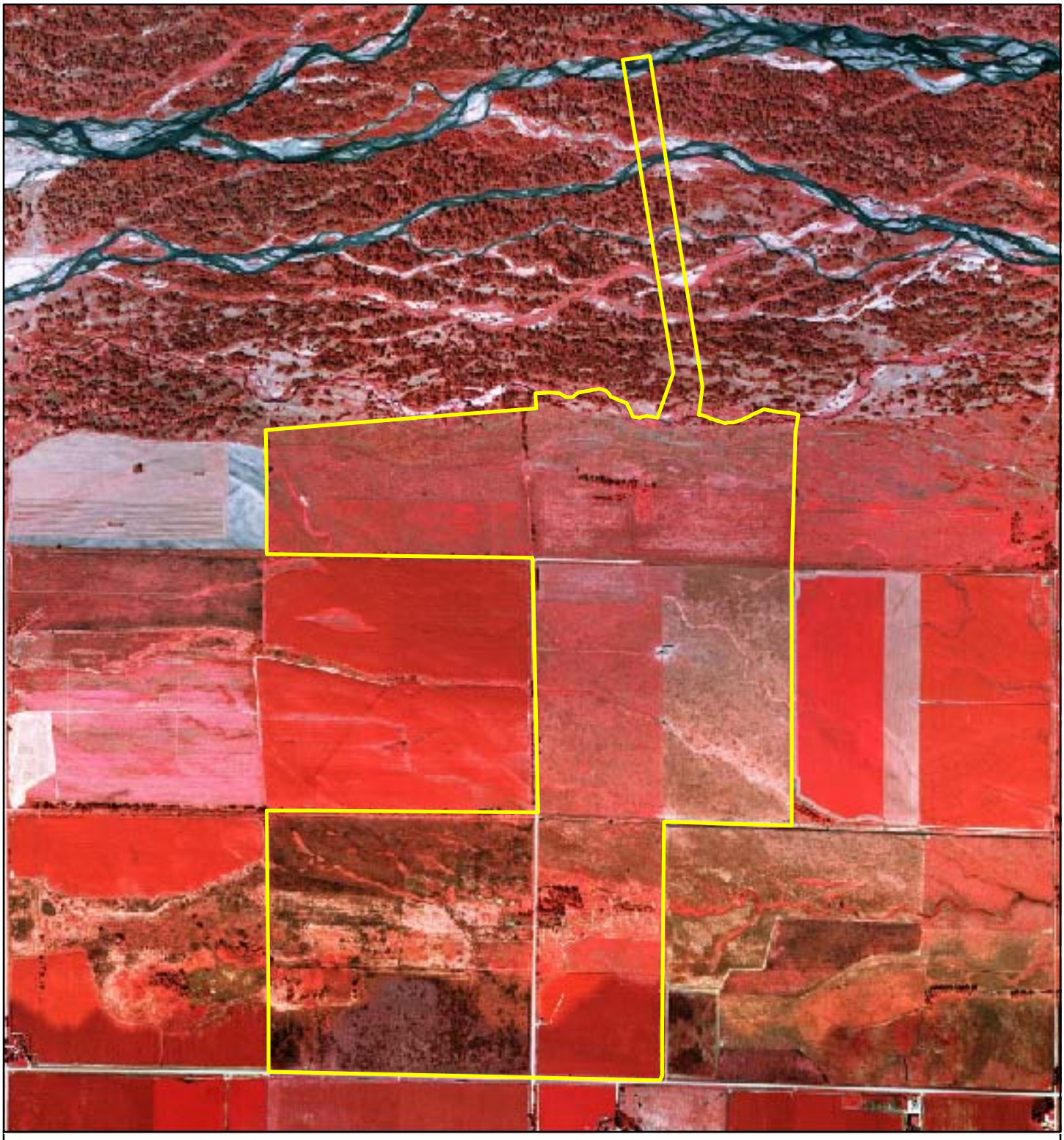
N

0.25 Miles

TRACT 2010001
1938 IMAGERY

Date: 11/22/10
By: JDB

Figure A-5



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

2010001

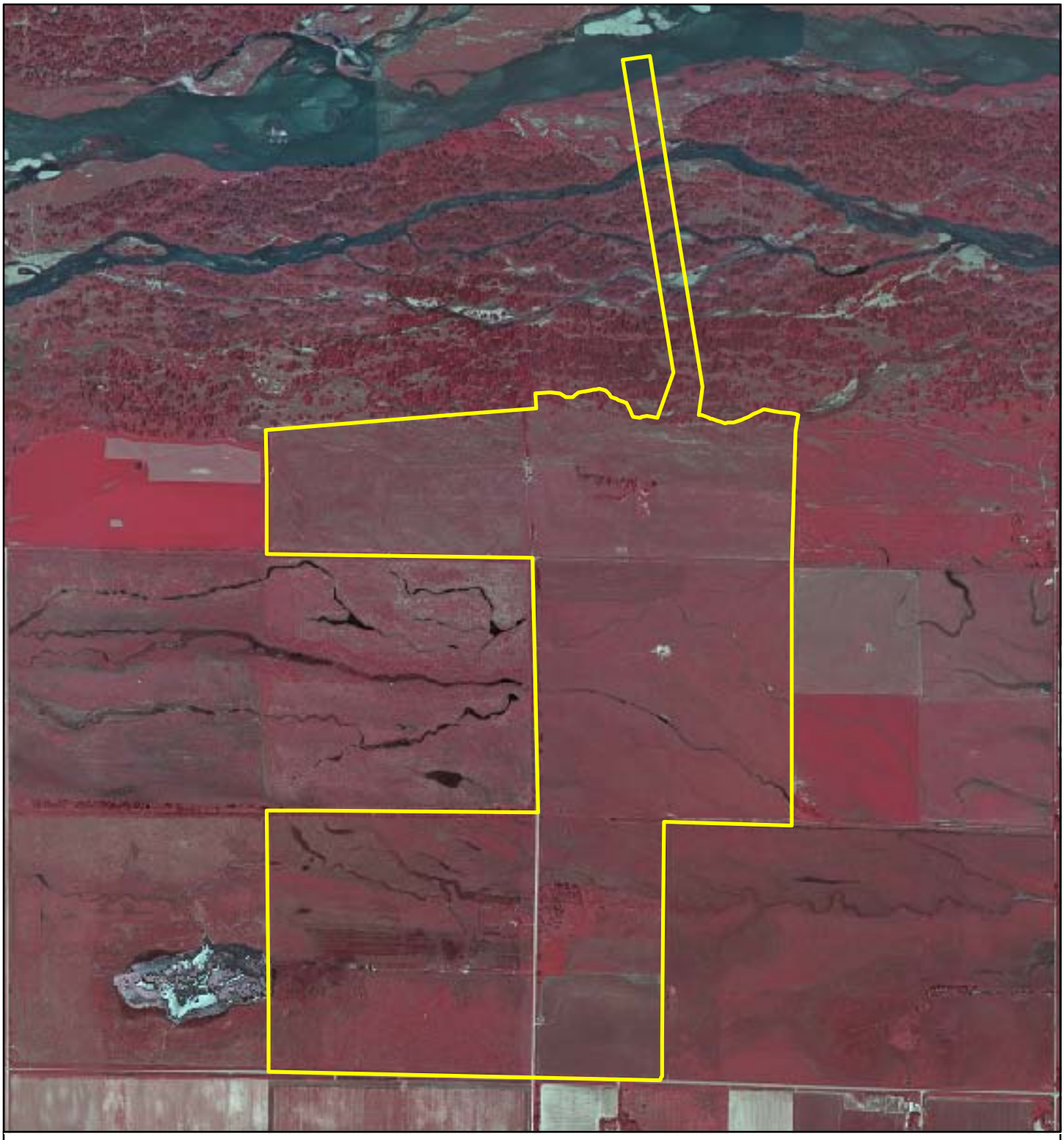
N

0.25 Miles

TRACT 2010001
1998 CIR IMAGERY

Date: 11/22/10
By: JDB

Figure A-6



Legend

2010001

PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

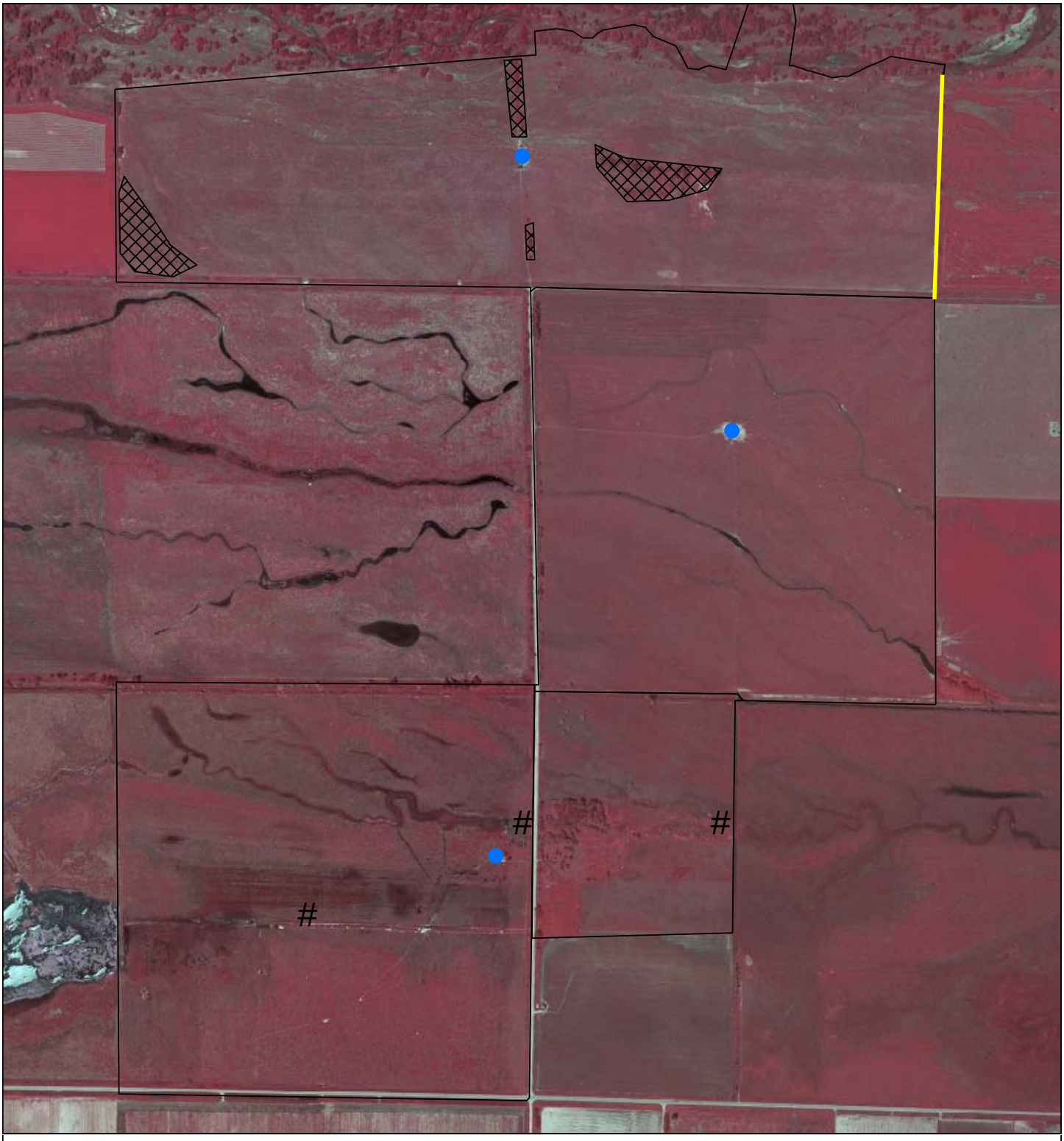
N

0.25 Miles

TRACT 2010001
2010 CIR IMAGERY

Date: 11/22/10
By: JDB

Figure A-7



PLATTE RIVER

Legend

- Fence Replacement
- Property Boundary
- Tree Removal
- # Water Control Structures
- Livestock Watering Infrastructure

0.25 Miles

TRACT 2010001
Tree Removal, Fence Replacement, Water Control Structures & Livestock Water
Date: 11/19/10
By: TRT

Figure A-8

APPENDIX C – COMPLEX ANNUAL WORK PLANS