2015–2019 OPERATIONS AND MAINTENANCE PLAN

For

TRACT 2015001

Prepared for:
Platte River Recovery Implementation Program
Land Advisory Committee

Completion Date:
XX/XX/15

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 2015001 (Evaluation Tract Number 1227) during the period of 2015-2019. Species habitat and Adaptive Management research and monitoring actions associated with this tract are addressed in the Restoration and Management Plan for the Fort Kearny 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 2015001 is approximately 799 acres in size and is located in Section 2, 10, 15, and 16, T-8N, R-15W. Figure A-1 (located in Appendix A) delineates the property boundary. The tract is located in the Kearney to Minden 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 ED 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 2015001 Habitat Complex Acres

Land Classification*	Acres
Wet Meadow	
Grassland	448
Riverine	
Channel	145
Buffer	
Woodland	104
Channel	102

* 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 – 2012 CIR Aerial Photography

Table 2 – Tract 2015001 2005 Land Cover/Use Summary

Land Cover Classification	Acres	Percent of Tract
Bareground/Sparse Vegetation	8.27	1.03%
Meadow Sand Ridge	7.28	0.91%
Mesic Wet Meadow	31.14	3.90%
Phragmites	27.62	3.46%
Riparian Shrubland	18.18	2.28%
Riparian Woodland	153.19	19.17%
River Channel	10.51	1.31%
River Early Successional	38.26	4.79%
River Shrubland	45.71	5.72%
Rural Developed	10.54	1.32%
Unvegetated Sandbar	16.52	2.07%
Upland Woodland	7.24	0.91%
Xeric Wet Meadow	424.49	53.13%
Total	**798.93**	**100.0%**

C. Existing Land Features of Interest

1. Non-Riverine Surface Water

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

2. River Frontage and Active Channel Widths

The tract contains approximately 11,000 feet of river frontage on the main (south) channel of the Platte River and approximately 12,000 feet of river frontage on the north channel of the Platte River.

Table 3 – Tract 2015001 Main (South) Channel Widths

Measurement	Width (ft)
Minimum Channel Width	120
Maximum Channel Width	930
Median Channel Width	490
Mean Channel Width	439

3. Contiguous Sand Substrates

November 2011 CIR imagery was examined to reflect the river under a 1,500-2,000 cfs flow condition. At this flow there is little contiguous sand substrate as most islands and bars are

covered with annual vegetation. With some clearing and herbicide treatment, it appears that 10-15 acres of bare sand substrate could be achieved.

4. Island and Channel Bank Height

Channel bank height is on the order of two to four feet above water surface under typical summer flow conditions. Islands on this property range from zero to three feet above water.

5. Groundwater

Depth to groundwater on this tract was estimated from NDNR well logs for area wells. The well logs indicate that the static groundwater elevation is 6-10 feet below ground surface.

6. Flooding in Non-Wetland Areas

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

7. Power/Transmission Lines

There is a large transmission line that crosses the property as indicated on Figure A-7. This line was marked with bird flight diverters (BFDs) across the river by the Program in 2012 (but not across the grassland). This power lines location is a concern. It was recommended at the site visit that the Program add BFDs to the rest of the power line on the property, increasing its visibility. Additionally, it was recommended that impact detectors be installed on the lines to detect any bird strikes and monitor the frequency and timing. Rowe Sanctuary (one of the largest crane roosts on the Platte) has a very similar transmission line crossing the roost and is marked and monitored in this way.

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

Tract 2015001 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 Fort Kearny 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 (32,268 LF or 6.1 miles). 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. Additionally, western access roads will be widened with a tree/brush mulcher to provide access to western property boundary for maintenance purposes.
    - **Area –** Existing fence and segment marked for removal are displayed on Figure A-8. West access road is shown on Figure A-9.
    - **Timeline** – Fence maintenance will occur annually. Fence removal around old home site will take place in 2018-2019 after native grass establishment.
    - **Costs** –Annual maintenance costs are expected to be on the order of $4,000. Removing fence around the old house will cost on the order of $3,000.

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

- ***Objective 1b*** – Maintain livestock watering infrastructure.

  - **Strategy** – The existing livestock watering system consists of 1 windmill and an electric submersible pump with underground pipe to 2 tanks. Maintenance inspections will occur annually and repairs scheduled as needed.

    - **Methods** –N/A

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

  - **Timeline** – As needed.

  - **Costs** – Annual maintenance costs are expected to be on the order of $1,000.

  - **Responsibilities** – Program staff are responsible for initial inspection and oversight. Construction and maintenance activities will be performed by contractors.

- ***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 $10,000.

- **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-10.

  - **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. Species Habitat

➢ ***Goal 3 – Improve wet meadow/grassland habitat for WC and other species of concern.***

- ***Objective 3a*** – Create and maintain wet meadow/grassland that conforms (to the extent appropriate) to *Table 1. Target Habitat Complex Guidelines,* of the Land Plan and/or other criteria that will be developed by the Wet Meadow Working Group, a subgroup of the Technical Advisory Committee (TAC).

    - **Strategy –** Clear woody vegetation from wet meadow areas, including individual trees along boundaries and islands burned in the 2009 wildfire. All existing and created tree piles will be burned & buried or ground with a horizontal grinder and recycled, and reseeded with a local-ecotype seed mix.

    - **Area –** Areas are identified on Figure A-10.

    - **Timeline –** Removal of downed timber and tree piles will take place in 2015.

    - **Cost –** Woody vegetation removal costs on the order of $100,000.

    - **Responsibilities –** Design and oversight by Program staff. Construction activities will be bid.

- ***Objective 3b***– Manage existing grasslands in varying degrees of vegetative stature as of March 1 in any given year to provide habitat for whooping cranes and species of concern (sandhill cranes and grassland nesting birds).

    - **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 2050001 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 1-October 1) each year at a moderate stocking rate. Typical stocking rate will be 1 animal unit (one cow/calf pair or its equivalent in yearling cattle) per 5.5 acres. Each management unit will be evaluated annually and adjustments in stocking rate and timing will be made accordingly. Prescribed fire will be planned to suppress cool season, invasive vegetation under appropriate environmental conditions and fuel loading and conducted during late March to Mid-May. Prescribed fire will be implemented on each management unit on a 4 year return interval.

- **Area –** Grazing areas are presented on Figure A-11.
- **Timeline** – Annually.
- **Costs** – Prescribed fire costs are $50-60/ acre. Grazing income is estimated to be $24,500 for 5 month grazing season (May 1-October 1).
- **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.

o ***Objective 3c*** – Rehabilitate grassland area at old home site.

- **Strategy** – The old farmstead home and outbuildings were removed in 2015. Overhead electrical service to the site was buried to service a remaining livestock watering well. With the demolition debris cleared, the site will be reseeded and incorporated into the grazing management plans.
    - **Methods** – Site will be seeded with a native grassland mix similar to the surrounding grassland area. With 2-4 years, upon establishment of grassland, fence exclosure will be removed and the site will become part of the normal grazing management areas.
- **Area –** Farmstead site can be seen on Figure A-11.
- **Timeline** – Control efforts will be undertaken annually.
- **Costs** – Annual costs are expected to be less than $10,000.
- **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.

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

Platte River caddisfly surveys have not been conducted on the Speidell tract as no aquatic habitat deemed suitable for Platte River Caddisfly is present on the site.

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 2015001 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

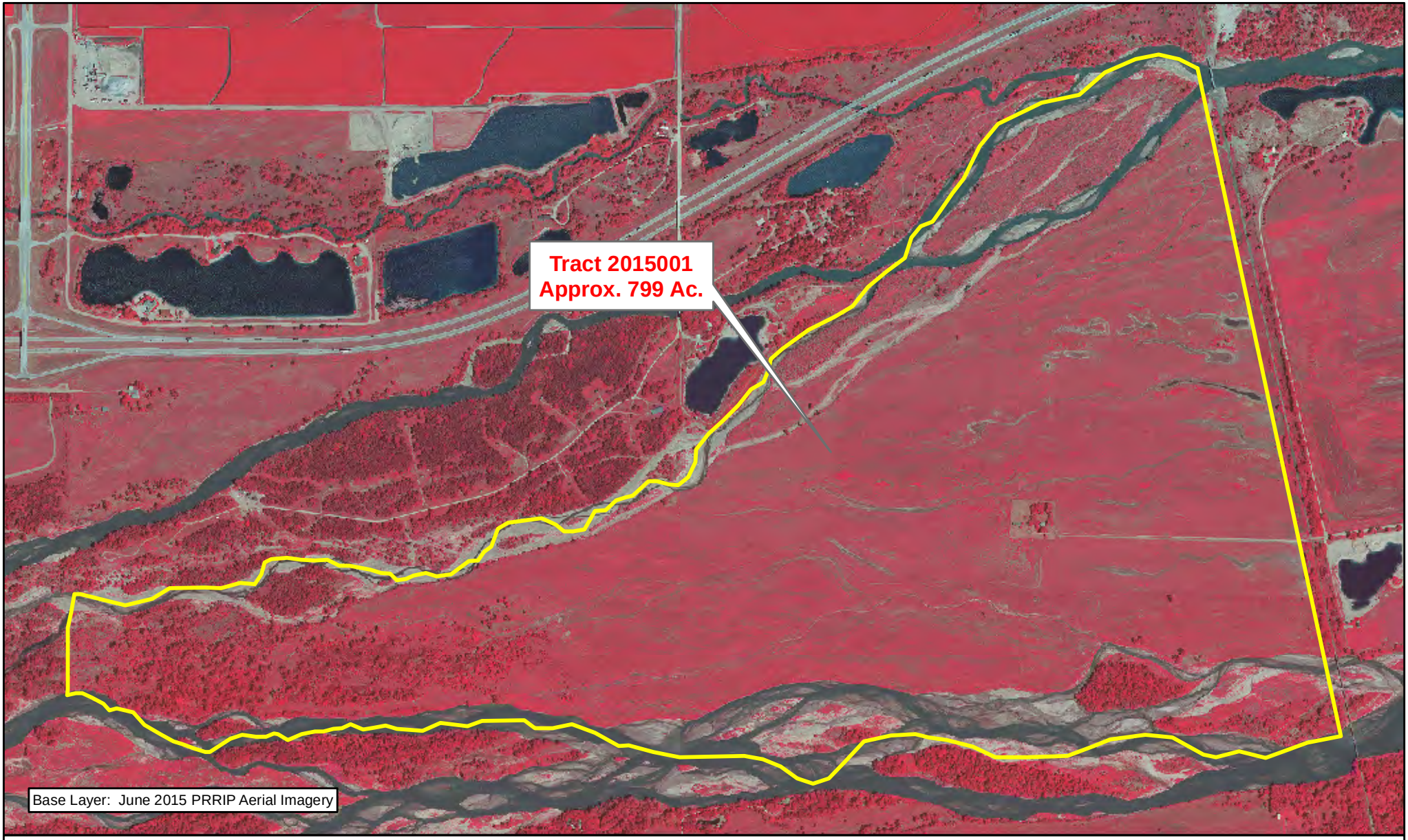
A. Education

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 this tract was decided by the Public Access Subcommittee and approved by the LAC and GC to close the property for the 2015 hunting season and to allow time to complete the needed preparation for future years use by the public consistent with Program policy in force. A decision will be made in the spring of 2016 about possible public use and will go through the normal process to recommend uses and approval by the needed committees.

APPENDIX A – MAPS



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

Tract 1227

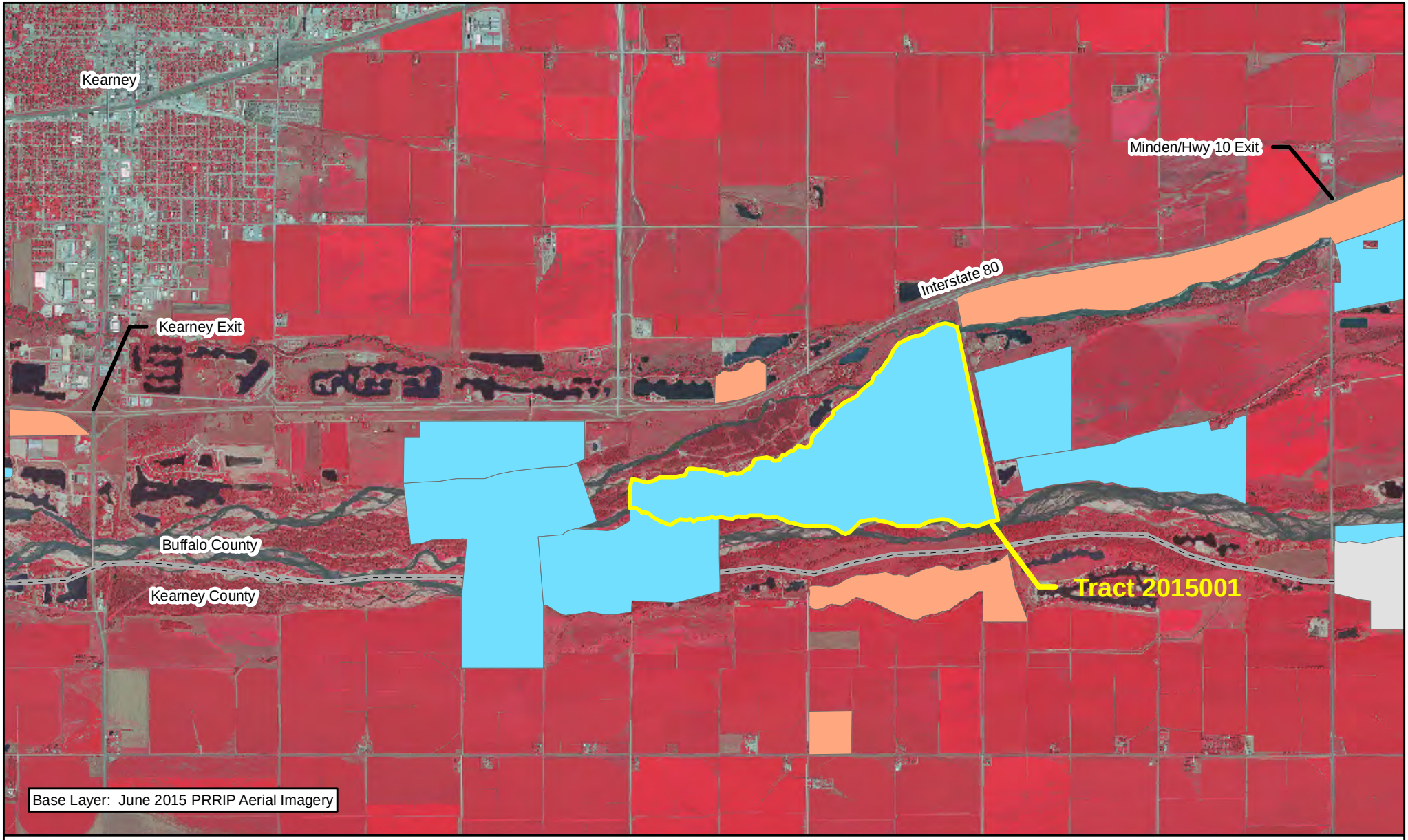
N

0.25 Miles

TRACT 2015001
BOUNDARY MAP

Date: 11/04/15
By: TRT

Figure A-1



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

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

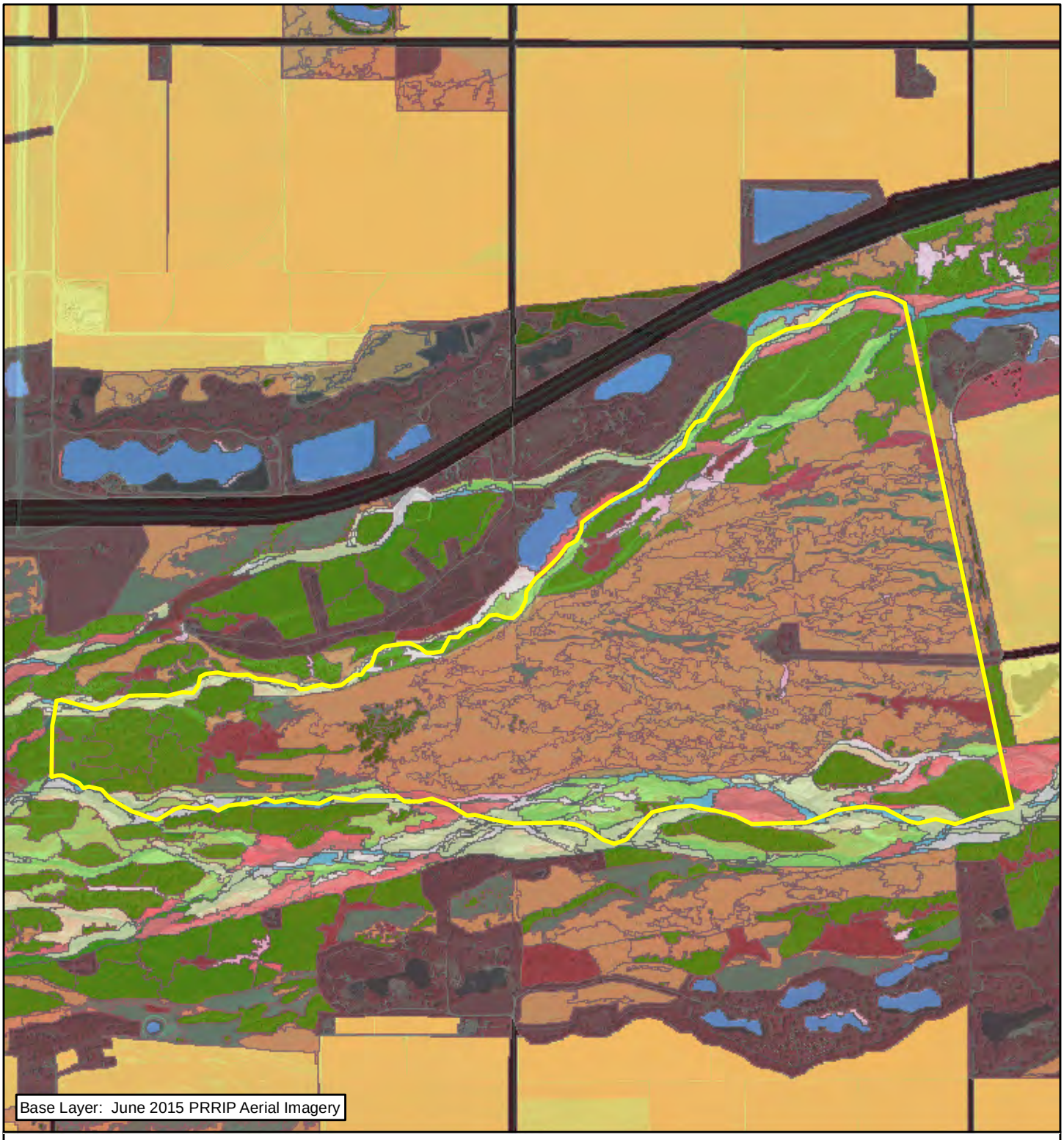
N

1 Miles

TRACT 2015001
LOCATION MAP

Date: 11/04/15
By: TRT

Figure A-2



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

- Tract 1227
- 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
- Urban/Suburban
- Warmwater Slough
- Xeric Wet Meadow

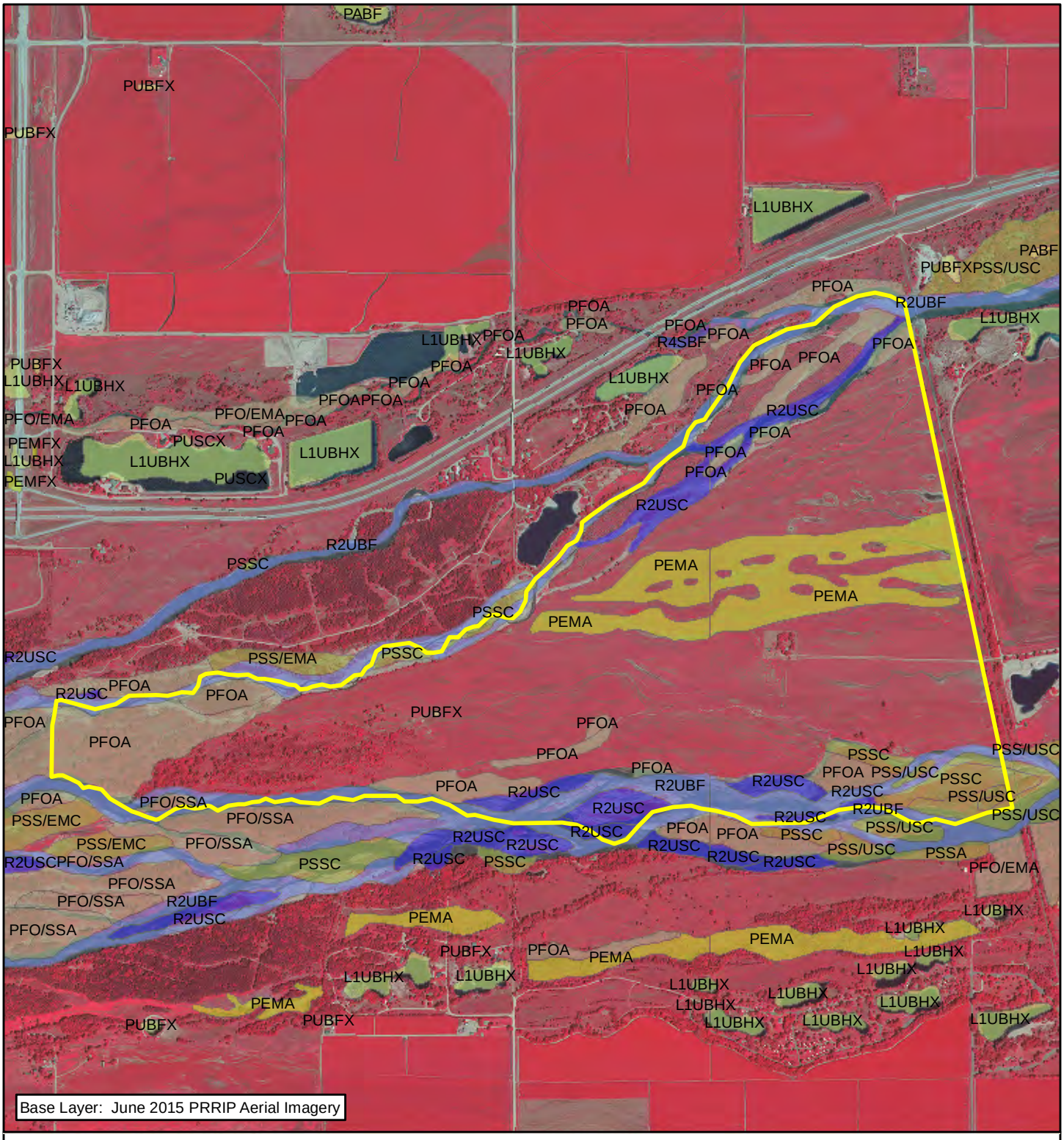
N

0.25 Miles

TRACT 2015001
2005 LAND COVER/USE

Date: 11/04/15
By: TRT

Figure A-3



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

- Tract 1227
- Lacustrine Unconsolidated Bottom (LUB)
- Palustrine Aquatic Bed (PAB)
- Palustrine Emergent (PE)
- Palustrine Forested (PF)
- Palustrine Scrub-Shrub (PSS)
- Palustrine Unconsolidated Bottom Excavated (PUBx)
- Palustrine Unconsolidated Shore
- Riverine Unconsolidated Bottom (RUB)
- Riverine Unconsolidated Shore (RUS)
- Riverine Streambed (RS)

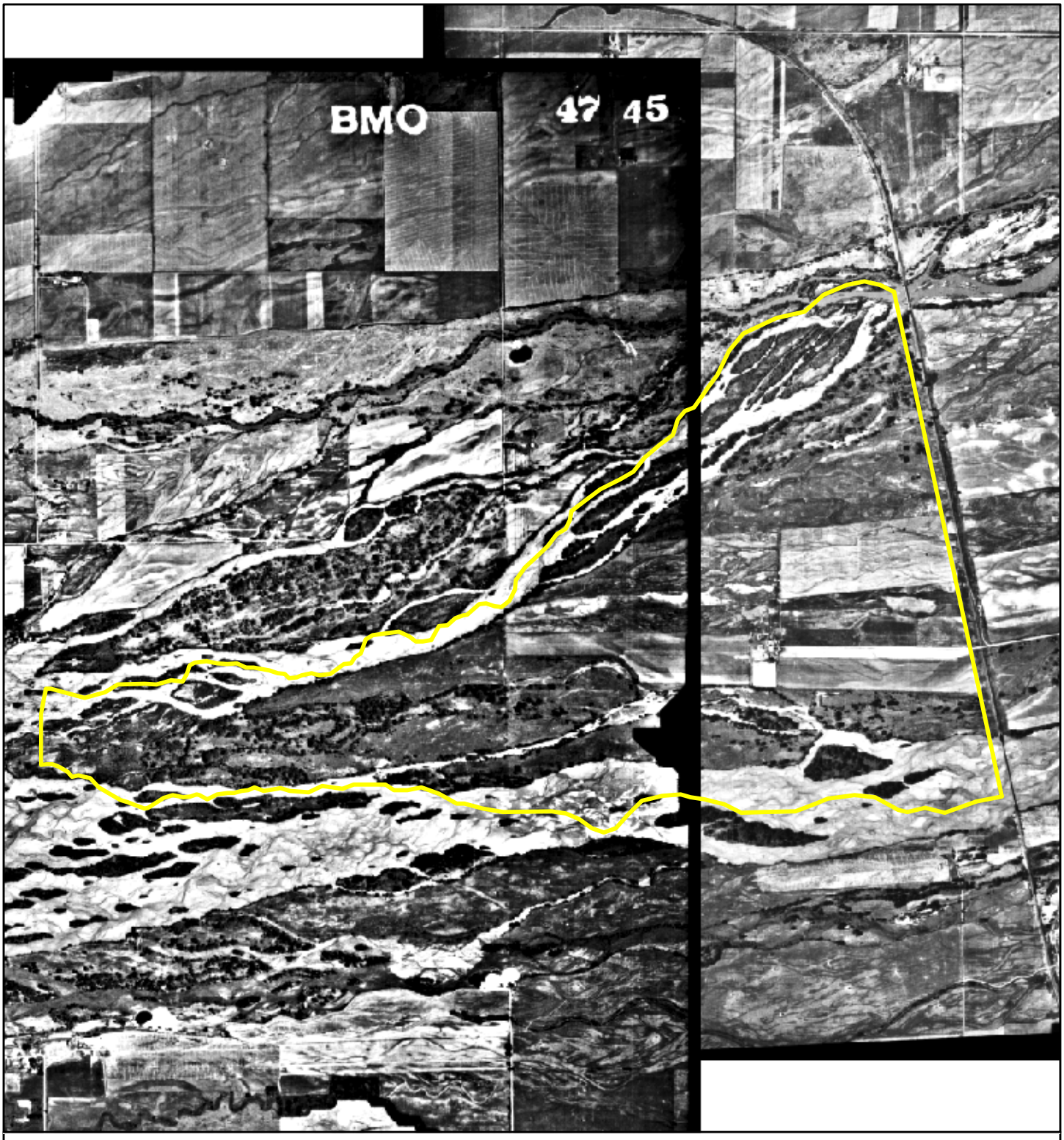
N

0.25 Miles

TRACT 2015001
NWI MAP

Date: 11/04/15
By:TRT

Figure A-4



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

Tract 1227

N

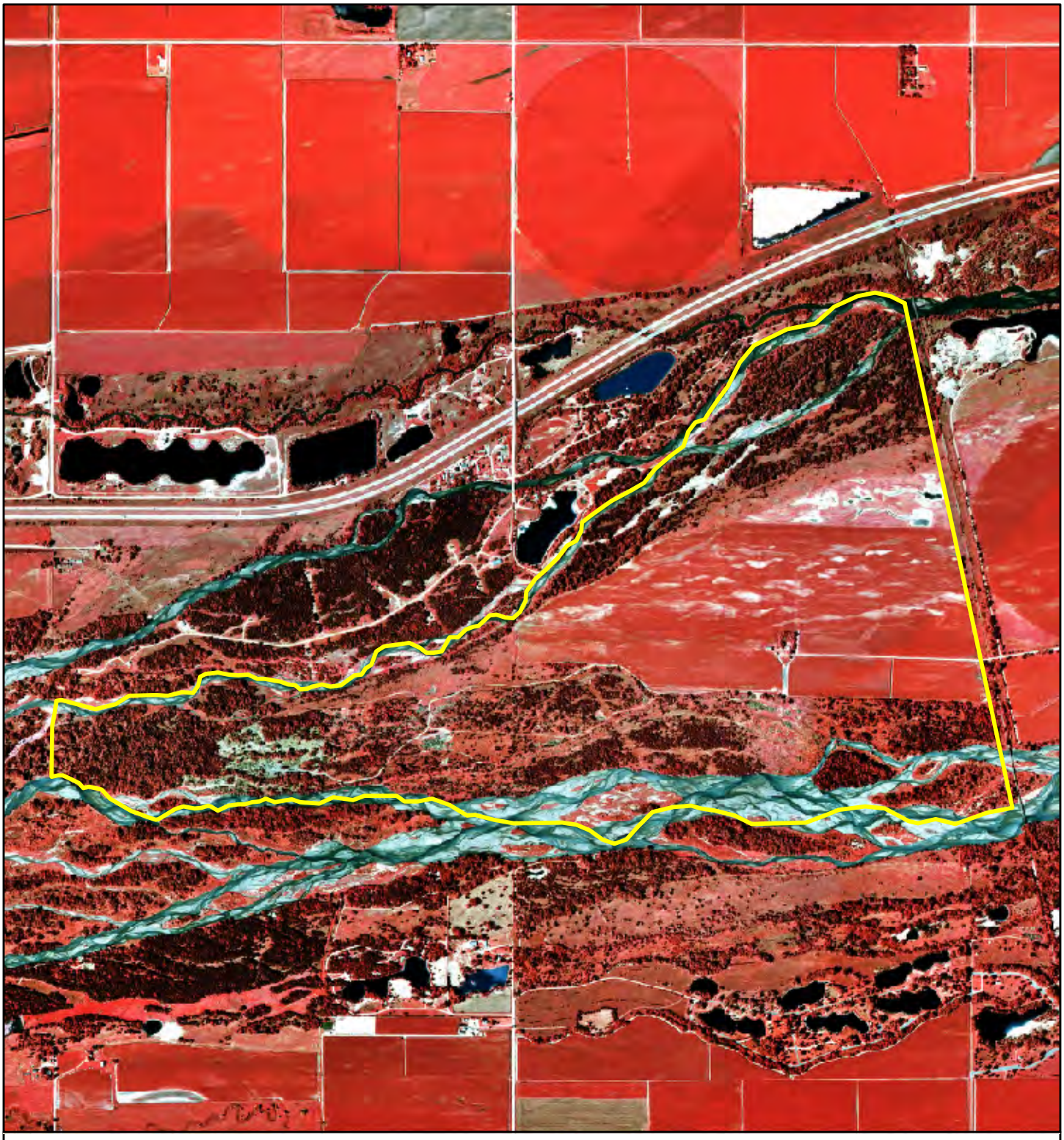
Miles

0.25

TRACT 2015001
1938 IMAGERY

Date: 11/04/13
By: TRT

Figure A-5



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

Tract 1227

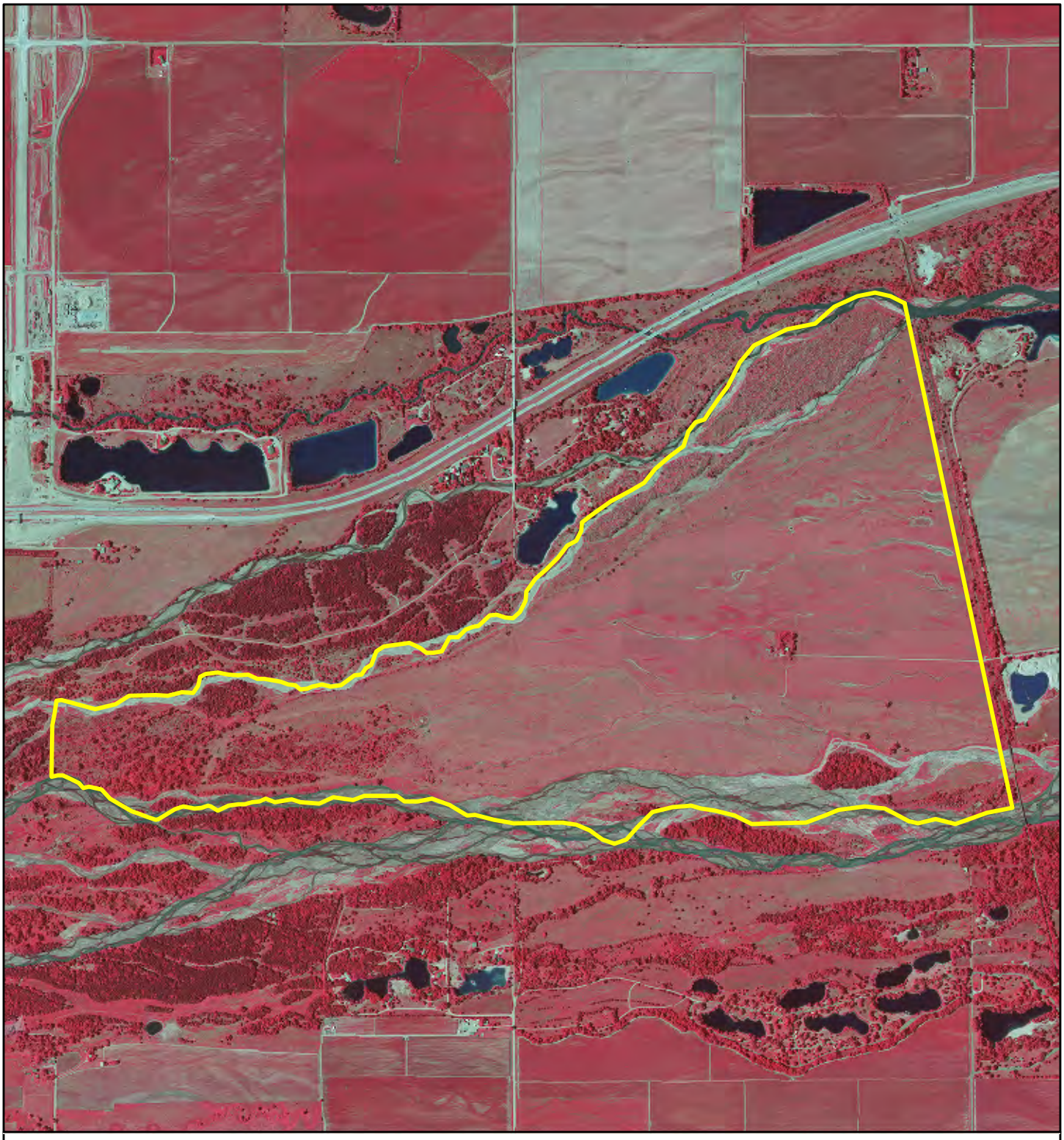
N

0.25 Miles

TRACT 2015001
1998 CIR IMAGERY

Date: 11/04/15
By: TRT

Figure A-6



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

Tract 1227

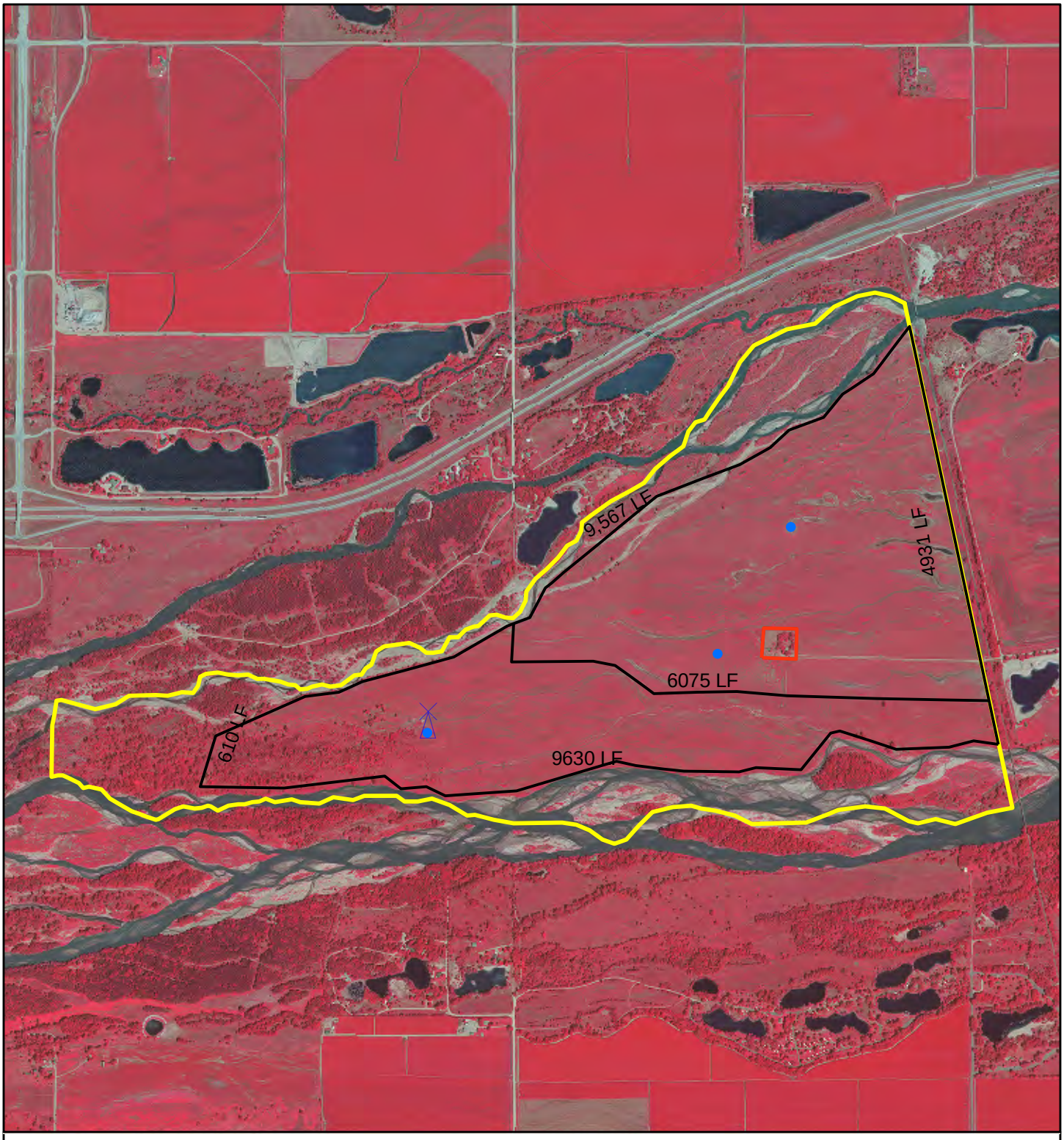
N

0.25 Miles

TRACT 2015001
JUNE 2012
CIR IMAGERY

Date: 11/04/15
By: TRT

Figure A-7



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

- 2015001
- Fence Removal
- Fence

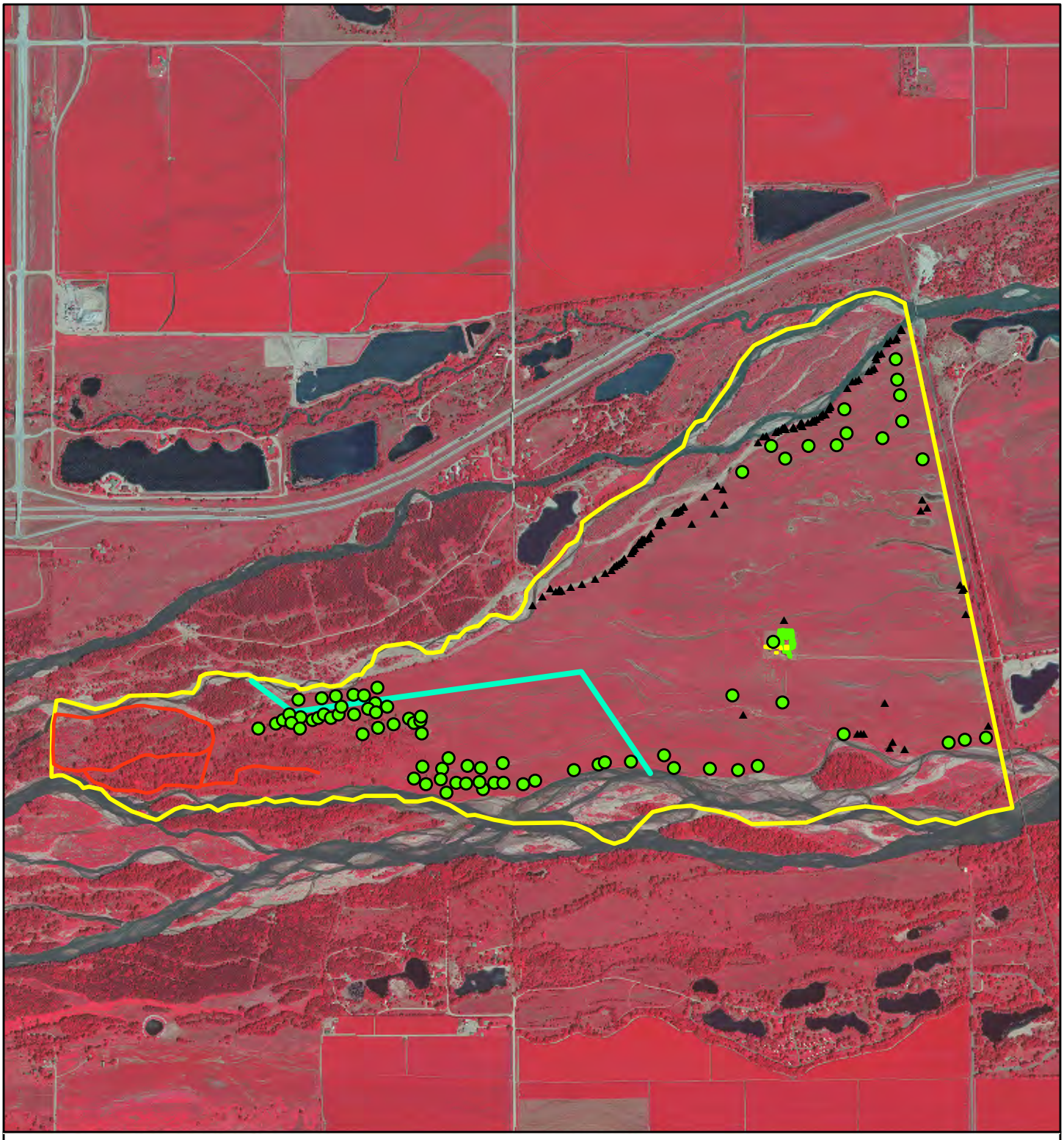
N

0.25 Miles

TRACT 2015001
Fence Work and
Livestock Water

Date: 11/04/15
By: TRT

Figure A-8



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

- 2015001
- Home site Building Removal
- Home site Tree Removal
- Individual Tree Removal
- Tree Pile Removal
- Transmission Line Marking
- West Access Road Clearing

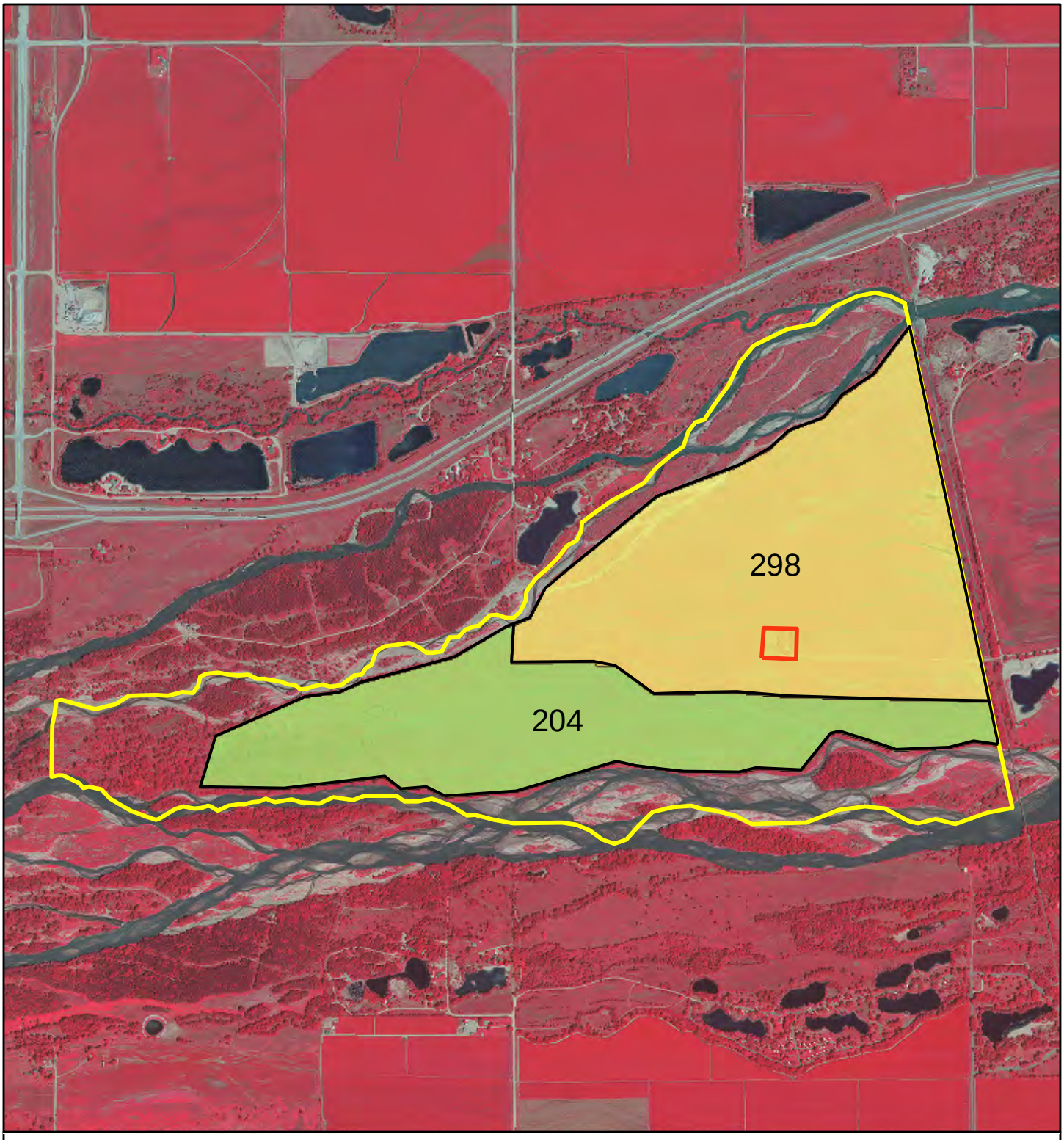
N

0.25 Miles

TRACT 2015001
Tree Clearing,Tree Pile Removal and Power Line Marking

Date: 11/04/15
By: TRT

Figure A-9



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

- 2015001
- Speidell-NE_Grazing Unit
- Speidell-SW_Grazing Unit
- Farmstead
- Fence

N

0.25 Mile

TRACT 2015001
Management Units

Date: 11/04/15

By: TRT

Figure A-10