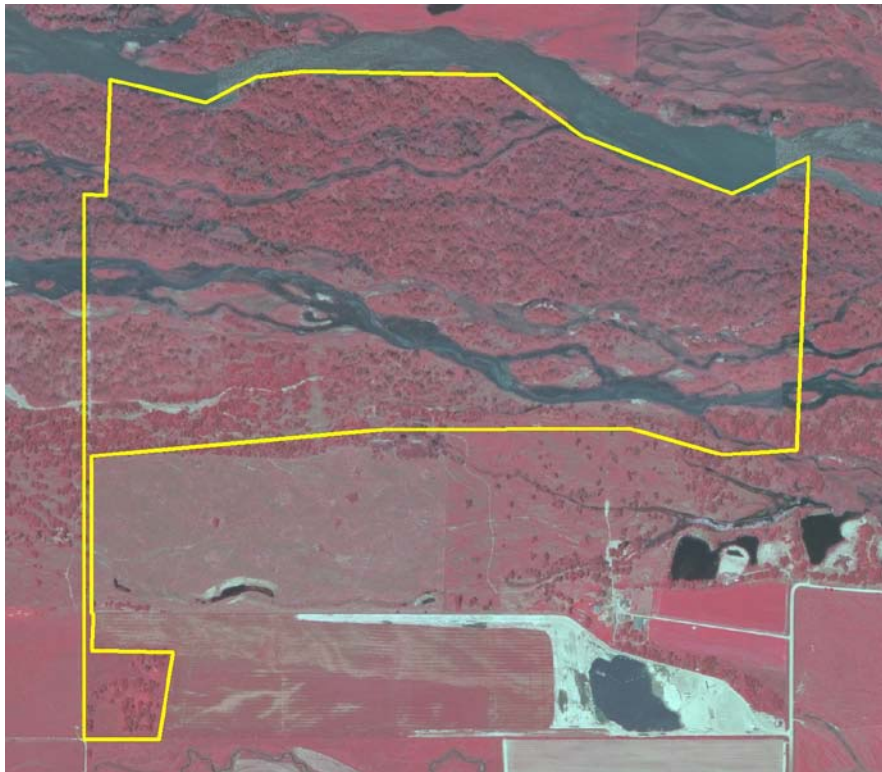




2011–2014 OPERATIONS AND MAINTENANCE PLAN

For

TRACT 2009006



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 2009006 (Evaluation Tract Number 0903) 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. Tract 2009006 was acquired with an expectation that flow consolidation in this reach would be examined. Flow consolidation studies are underway, with construction tentatively planned for the winter of 2012-2013. As a result, expected restoration efforts discussed in this plan (i.e. at this time) are fairly limited. Should flow consolidation efforts not occur, multiple options are available; habitat creation and restoration efforts could be expanded, or the tract could be reviewed to determine if it still meets Program purposes and should be disposed as surplus and replaced with other land. Work activities will be addressed in annual work plans. Operations and maintenance goals for this property include:

1. General
 - Goal 1- Facilitate flow consolidation operations.
2. Property Maintenance
 - Goal 2- Fulfill basic property ownership obligations.
 - Goal 3- Minimize impacts due to invasive vegetation.
3. Species Habitat
 - Goal 4- Improve sand and water (riverine) habitat for interior least terns (LETE), piping plovers (PIPL) and whooping cranes (WC).
 - Goal 5- Provide benefits to other species of concern without compromising ability to accomplish target species goals and objectives.

B. Tract Location and Size

Tract 2009006 is approximately 337 acres in size and is located in Section 12 T-8N, R-19W. Figure A-1 (located in Appendix A) delineates the property boundary. This boundary and final acreage is subject to permanent establishment of the in-channel boundary with the landowner(s) to the south. The tract is located in the Overton to Elm Creek bridge segment. The tract bounds the east property line of Program Tract 2008002. 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 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 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 2009006 Habitat Complex Acres

Land Classification*	Acres
Riverine	
Channel	25
Buffer	
Woodland	271
Side Channel	39

* 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 2009006 2005 Land Cover/Use Summary

Land Cover Classification	Acres	Percent of Tract
Bareground/Sparse Veg	14.42	4.31%
Phragmites	5.23	1.56%
Riparian Shrubland	18.01	5.39%
Riparian Woodland	211.68	63.33%
River Channel	7.71	2.31%
River Early Successional	20.95	6.27%
River Shrubland	35.57	10.64%
Unvegetated Sandbar	1.31	0.39%
Upland Woodland	7.11	2.13%
Xeric Wet Meadow	12.29	3.68%
	334.26	100.00%

C. Existing Land Features of Interest

1. Non-Riverine Surface Water

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

2. River Frontage and Active Channel Widths

The tract contains approximately 5,600 feet of Platte River frontage on the south side of the main channel. The property also contains a small southern channel that crosses through the center of the tract for approximately 6,000 feet.

Channel width measurement protocols define active channel width as the width of the channel that is unvegetated. Channel widths were measured at ¼ mile intervals utilizing color infrared aerial photography flown in June of 2008 after the natural high flow event. Channel width information is presented in Table 3.

Table 3 – Tract 2009006 Channel Widths

Measurement	Width (ft)
Minimum Channel Width	210
Maximum Channel Width	380
Median Channel Width	285
Mean Channel Width	292



3. Contiguous Sand Substrates

There are approximately 4 acres of contiguous sand substrate, mostly confined to one large island in the main channel.

4. Island and Channel Bank Height

Channel bank height is on the order of zero to five feet above water surface under typical summer flow conditions. Islands in the channel are mostly vegetated and range from zero to three feet above water surface.

5. Groundwater

NDNR well logs for wells just south of Tract 2009006 indicate a ground water level of five to eight feet below the surface.

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 lines on this tract.

D. Incompatible Uses and Environmental Concerns

Tract 2009006 does not currently have land uses that are incompatible with target species habitat. No environmental concerns have been identified.

E. Certified Irrigated Acres

Tract 2009006 includes no 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. General

- **Goal 1** – Facilitate flow consolidation operations.
 - **Objective 1a** – Conform operations and maintenance planning to flow consolidation implementation design.
 - **Strategy** – Flow consolidation conceptual design will be developed during the first half of 2011. This tract is downstream of an adaptive management test site in Cottonwood Ranch and includes approximately one mile of the south channel of the Platte River, which may be needed for consolidation/unconsolidation facilities. As such, the general strategy for this tract will be to limit Program actions to basic operations and maintenance requirements until the flow consolidation implementation design is complete. (*NOTE: Implementation of a flow consolidation management experiment would not commence without formal approval of experiment and facility design by the Governance Committee and NPPD*)
 - **Methods** – N/A.
 - **Area** – Entire property.
 - **Timeline** – Flow consolidation conceptual design will be completed by May 2011. At that time, the Governance Committee will determine whether or not to undertake a full implementation design leading to construction of a flow consolidation management experiment. If approved, the timeline for permitting and construction is expected to be the winter of 2012-2013.
 - **Costs** – N/A



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

2. Property Maintenance

➤ *Goal 1 – Fulfill basic property ownership obligations and needs.*

- **Objective 1a** – Replace and maintain property boundary fencing and signage.
 - **Strategy** – The existing perimeter fence is in very poor condition due to growth of woody vegetation in the fence line and damage from falling tree limbs. The overall strategy will be to clear woody vegetation as necessary for access and fence reconstruction, and repairing or rebuilding fencing as necessary.
 - **Methods** – Trees will be cleared using heavy equipment. They will be stacked into piles, burned, and buried. Perimeter 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.
 - **Area** – Entire perimeter fence. Area is displayed on Figure A-8
 - **Timeline** – Late summer / early Fall 2010, Spring 2011
 - **Costs** – Tree clearing cost is estimated to be \$43,500 and new fence construction is estimated be \$37,500. Boundary signage is expected to cost on the order of \$500 and annual maintenance costs are expected to be \$3,000.
 - **Responsibilities** – Program staff are responsible for design and permitting. Construction and maintenance activities will be bid.
- **Objective 1b** – 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 \$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 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.



- **Timeline** – Control efforts will be undertaken as necessary.
- **Costs** – To be determined annually.
- **Responsibilities** – Program staff will be responsible for identifying infestations. Control activities will be carried out by contractors.

3. *Species Habitat*

➤ **Goal 3 – Improve sand and water (riverine) habitat for interior least terns (LETE), piping plovers (PIPL) and whooping cranes (WC).**

- **Objective 3a** – Create and maintain riverine sand and water habitat for target bird species that approximates *Table 1. Target Habitat Complex Guidelines* of the Program Land Plan, to the degree appropriate, and approximates at least the Program’s minimum habitat guidelines.
 - **Strategy** – Clear all woody vegetation 100’ south of main channel along north side of the property.
 - **Methods** – The area will be cleared using heavy equipment. Cleared material will be burned and buried on site. Cleared areas, other than the immediate river bank, will be seeded with native grass and forb species and managed with grazing and prescribed burns. The immediate river bank will not be seeded so that lateral erosion and associated channel widening is accommodated.
 - **Area** – Clearing area is south of the main channel, approximately 42 acres, shown on Figure A-8.
 - **Timeline** – Clearing will take place in fall/winter of 2011. Seeding will be completed in winter/spring of 2012.
 - **Costs** – The clearing/seeding is expected to cost on the order of \$42,000.
 - **Responsibilities** – Program staff are responsible for design and permitting. Construction and maintenance activities will be bid.

➤ **Goal 4 – Provide benefits to other species of concern without compromising ability to accomplish target species goals and objectives**

- **Objective 4a** – Evaluate habitat protection for other species of concern as need or opportunity is brought forward by the United States Fish and Wildlife Service (USFWS) or Nebraska Game and Parks Commission (NGPC).



- **Strategy** – The Program will utilize the tract management planning and consultation process as the mechanism for identifying opportunities to benefit other species of concern. Following acquisition of a parcel, the Program requests that the USFWS and NGPC provide guidance on species of concern that may be present and benefit from management measures. The Program will survey all tracts to determine presence of those species. The Program will then consult with the USFWS and NGPC to determine appropriate measures for protecting, preserving and enhancing populations of those species while accomplishing Program goals.
 - **Responsibilities** – Program staff are responsible for initiating coordination and consultation. USFWS and NGPC are responsible for bringing forward species of concern that need to be addressed in the planning process. Program staff will be responsible for habitat protection planning, with technical assistance from these agencies.
- **Objective 4b** – Utilize livestock grazing and prescribed fire as tools to manage vegetation.
 - **Strategy** – Work with prescribed burn contractor and grazing tenant to implement Season Long (SL) or Intensive Early Stocking (IES) grazing strategy to achieve this objective.
 - **Methods** – Grazing in combination with prescribed fire will be used to manage existing grasslands. SL grazing will typically be for a 5 month grazing period (May-October) of each year at a moderate rate or IES grazing will be for a 2.5 month grazing period (May-July) at twice the recommended stocking rate. Prescribed fire will be planned to suppress cool season, invasive vegetation under appropriate environmental conditions and fuel loading during late April- early May. Prescribed fire will be implemented every 3-4 years.
 - **Area** –Entire property.
 - **Timeline** – Grazing annually and prescribed burning every 3-4 years.
 - **Costs** –Prescribed fire cost is \$10-15/ acre and estimated income from grazing is \$7,500 for 50 pair grazing for 5 months at a cost of \$150/pair.
 - **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 prescribed



burn. Opportunities to work with local NRD burn teams will also be pursued when available.



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 survey performed by USFWS personnel.

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 2009006 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.

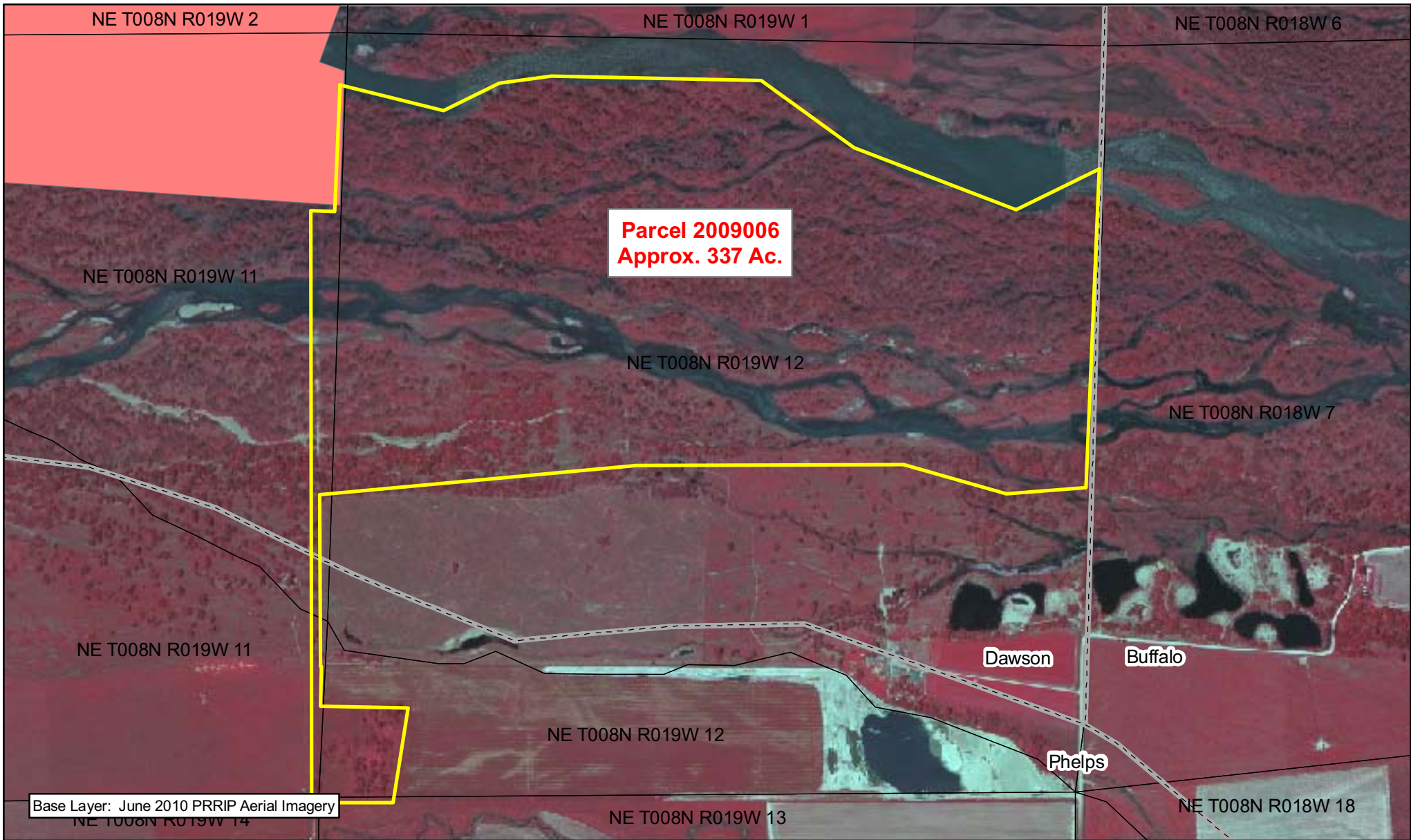
B. Recreation

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



Legend

2009006	Audubon	PRWCT
County	CNPPID	TNC
Section	NGPC	USFWS
	NPPD	Wyoming



0.25 Miles

TRACT 2009006 BOUNDARY MAP

Date: 11/22/10
By: JDB

Figure A-1



Legend

2009006	Audubon	PRWCT
County	CNPPID	TNC
NGPC	USFWS	
NPPD	Wyoming	
PRRIP		

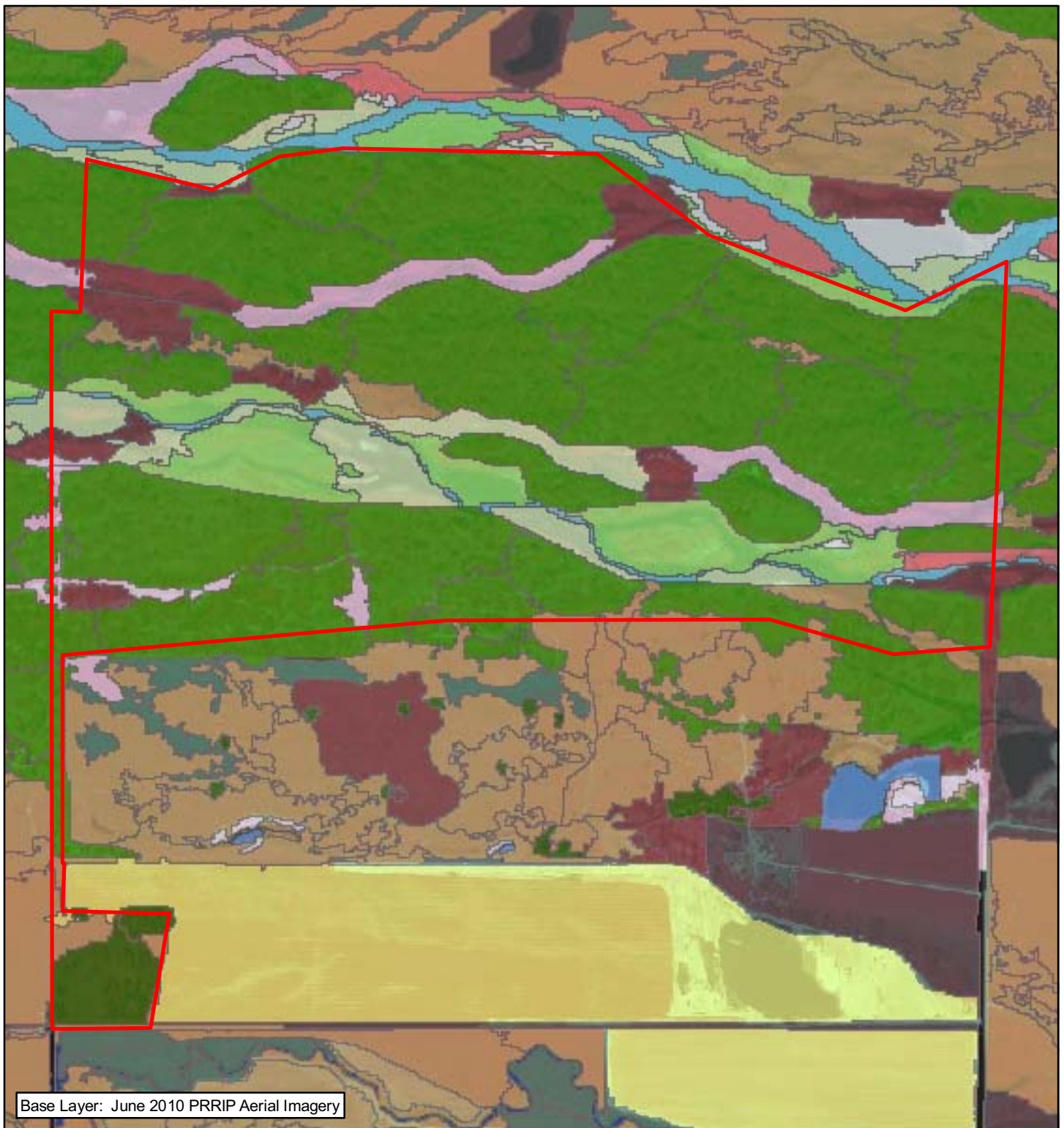


Miles
2

TRACT 2009006 LOCATION MAP

Date: 11/22/10
By: JDB

Figure A-2



Legend

- | | |
|--|---|
| 2009006 | River Early Successional |
| Ag | River Shrubland |
| Bareground/Sparse Veg | Roads |
| Canal/Drainage | Rural Developed |
| Mesic Wet Meadow | Sand Pit |
| Phragmites | Unvegetated Sandbar |
| Riparian Shrubland | Upland Woodland |
| Riparian Woodland | Warmwater Slough |
| River Channel | Xeric Wet Meadow |

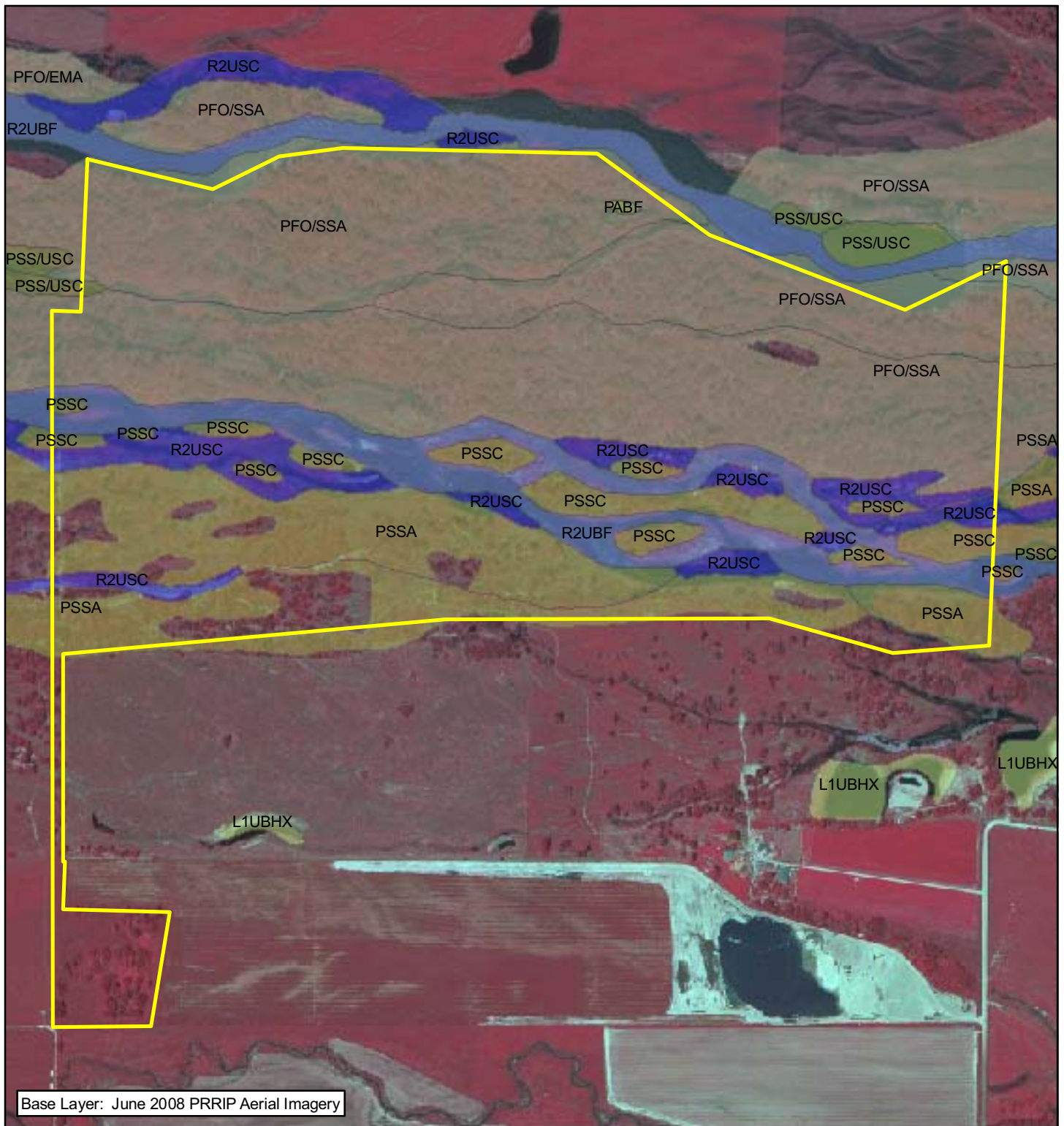


Miles
0.1

TRACT 2009006
2005 LAND COVER/USE

Date: 11/22/10
By: JDB

Figure A-3



Legend

- 2009006
- 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)

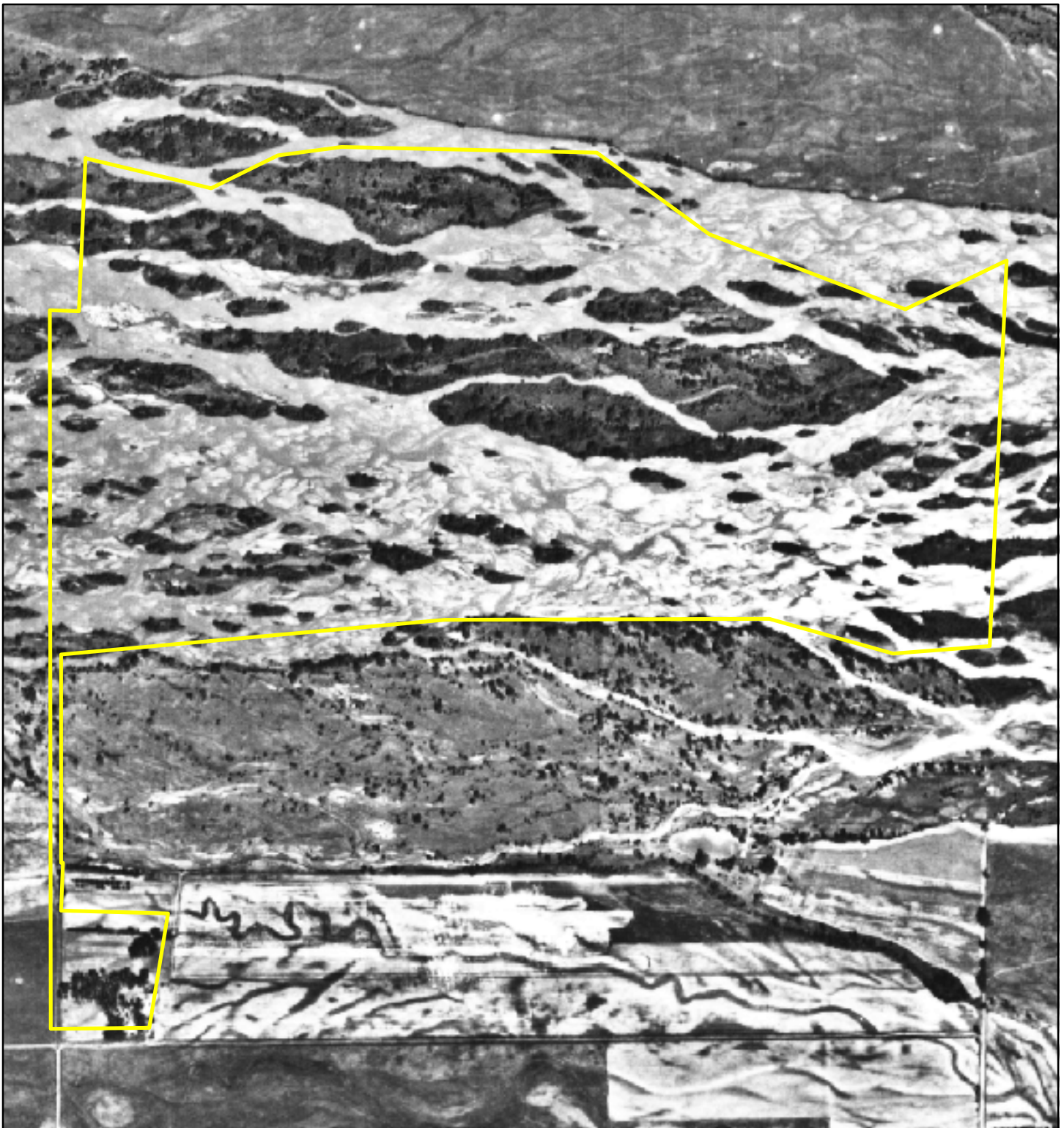


Miles
0.1

TRACT 2009006
NWI MAP

Date: 11/22/10
By: JDB

Figure A-4



Legend
2009006



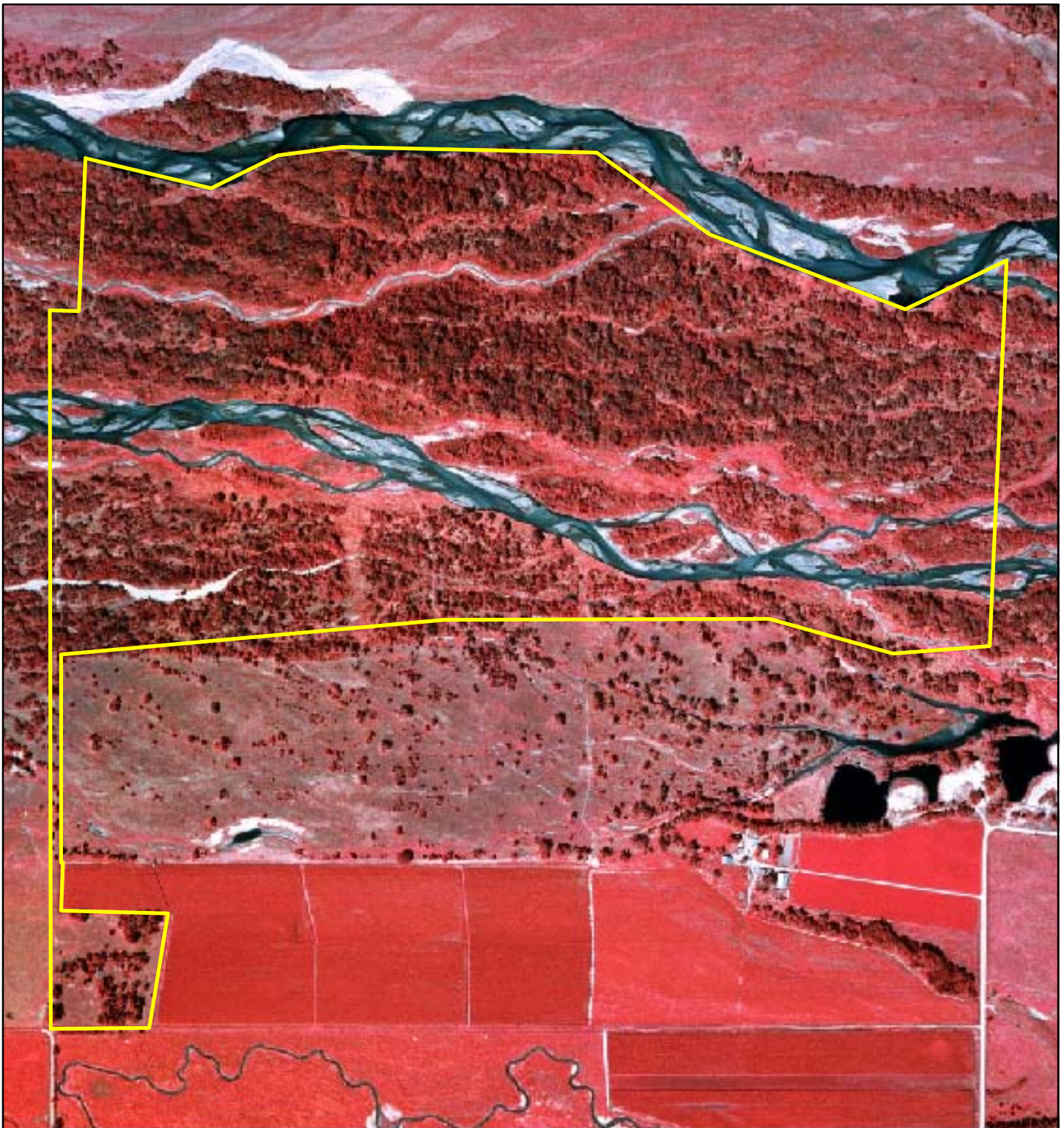
0.1 Miles

TRACT 2009006
1938 IMAGERY

Date: 11/22/10
By: JDB

Figure A-5





Legend
2009006

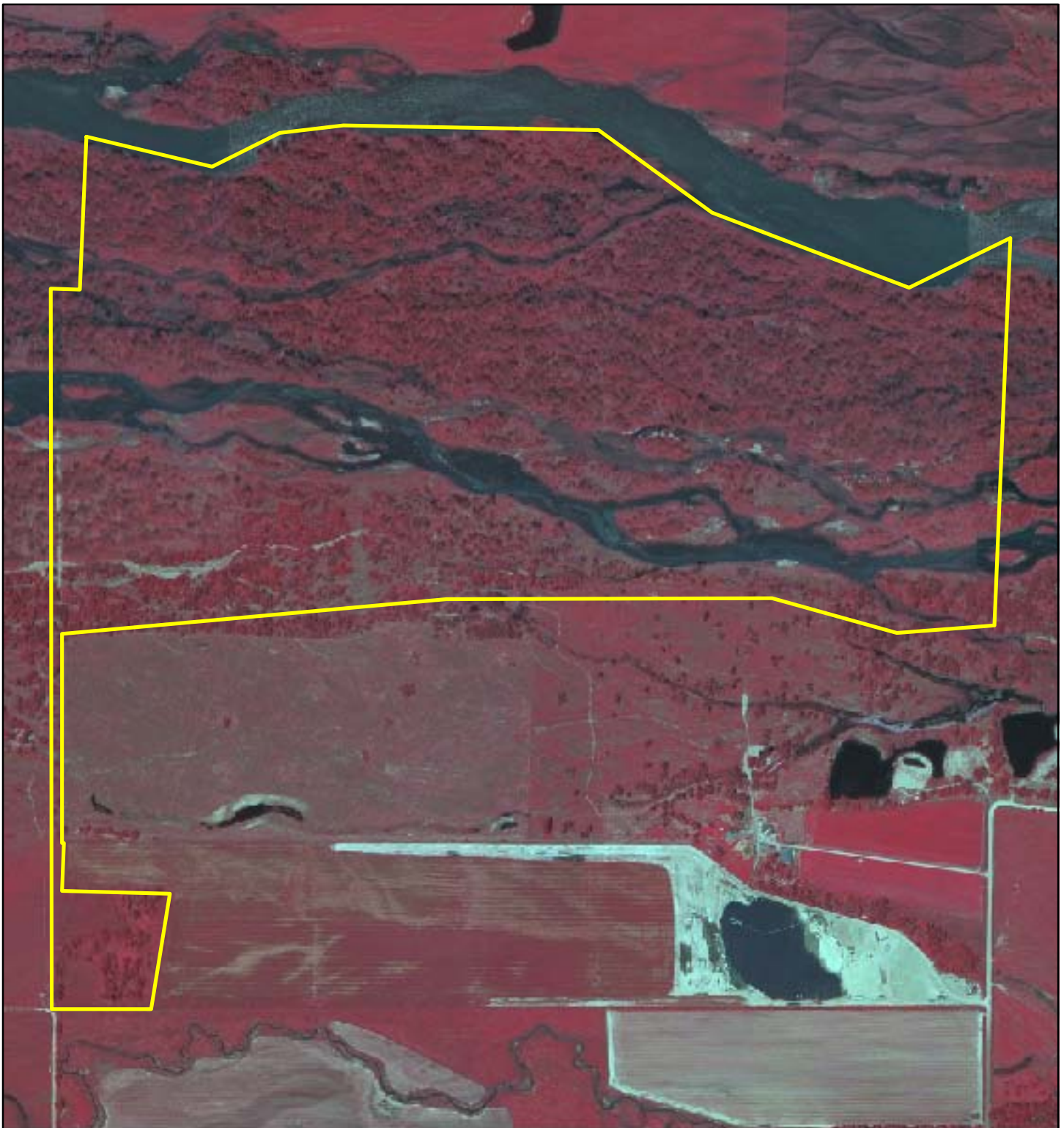


0.1 Miles

TRACT 2009006
1998 CIR IMAGERY

Date: 11/22/10
By: JDB

Figure A-6



Legend
2009006

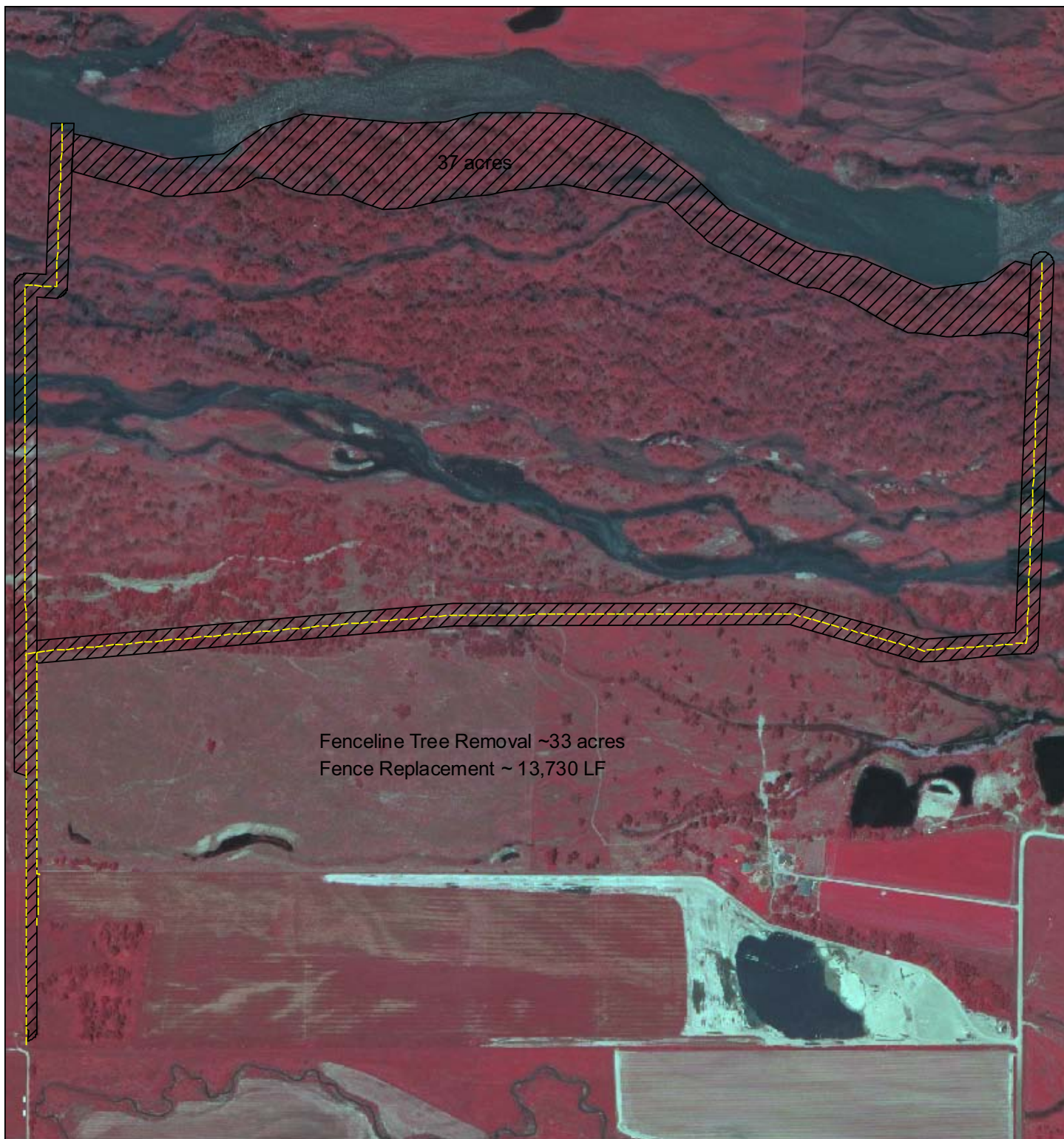


0.1 Miles

TRACT 2009006
2010 CIR IMAGERY

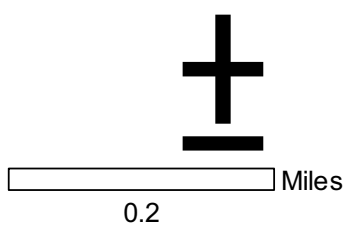
Date: 11/22/10
By: JDB

Figure A-7



Legend

- Fence Replacement
- Tree Removal



TRACT 2009006
Tree Removal &
Fence Replacement

Date: 08/09/10
By: TRT

Figure A-8