2010-2014 CONCEPTUAL RESTORATION AND MANAGEMENT PLAN

For

ELM CREEK COMPLEX

Prepared for:

Platte River Recovery Implementation Program
Land Advisory Committee

Completion Date:

1/29/2010

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I. HABITAT COMPLEX DESCRIPTION

A. Complex Location

The Elm Creek Complex (Complex) is located at the west end of the Elm Creek to Odessa bridge segment in Township 8 North, Range 18 West. Most of the Complex is located in Buffalo County with a portion of the complex extending south into Phelps County. Figure A-1 (located in Appendix A) provides an overview of the conceptual complex layout including Platte River Recovery Implementation Program (Program) property interests and proximity to other lands owned and leased by Program participants.

B. Land Interests

The Program owns two tracts totaling approximately 350 acres within the Complex extent shown on Figure A-1. The Platte River Whooping Crane Maintenance Trust (PRWCT), Nebraska Public Power District (NPPD), and Nebraska Game and Parks Commission (NGPC) collectively own or lease an additional 1,440 acres which could be incorporated into the Complex.

"Complex" as referenced in this document refers to the group of land tracts in close proximity that are managed together. Credit of lands towards the Program's First Increment "complex" or "non-complex" goal is a determination made by the Governance Committee independent of these management plans.

C. Existing Habitat

1. Complex Habitat

Table 1 provides the characteristics of land currently in conservation ownership with classifications based on *Table 1. Target Habitat Complex Guidelines,* of the Program's Land Plan. The characteristics in Table 1 below are based on existing land cover/use and may change as land classification definitions are refined and as restoration work is completed.

Table 1 – Elm Creek Complex Habitat Characteristics for Land in Conservation Ownership

Classification	Characteristics
Program Ownership	Approximately 350 acres
Other Conservation Ownership	Approximately 1,440 acres
Riverine Habitat	
Channel Length	4.0 Miles (1.5 miles upstream of Kearney Canal diversion)
Channel Width	500 – 700 Feet (channel consolidated)
Channel Ownership	Both Sides 40%, One Side 60% (approx. 250 acres total)
Wet Meadow Habitat	
Proximity	Contiguous to active channel (PRWCT Johns Tract)
Size	Approximately 450 acres (may not meet hydrology guidelines)
Buffer	
Size	Approximately 1,000 acres
Land Use/Cover	Cropland, managed sand pit, woodland, grassland, canal

2. Adjacent or Associated Non-Complex Habitat

NPPD's Johnson Sandpit leased property could be considered associated OCSW habitat. NPPD's managed Blue Hole sandpit has been classified as buffer complex habitat in Table 1 above, but while it has not been acquired by the Program or credited toward 1st increment objectives, it fits Program Land Plan Table 2 characteristics for sandpit habitat and could serve as off channel sand & water (OCSW) habitat for Adaptive Management paired design experiments.

D. Communication, Coordination, and Responsibilities

1. Program Lands

The Executive Director's Office (ED Office) is responsible for coordination and implementation of restoration and management actions on Program lands. Tract-specific habitat and adaptive management objectives and activities are incorporated into this Complex Restoration and Management Plan. Land steward activities are presented in the tract Operations and Maintenance Plans located in Appendix B.

2. Other Conservation Lands

The ED Office is responsible for communication and coordination with other conservation land owners. All interactions with property owners will be governed by the Program's Good Neighbor Policy. Prior to construction of Program activities in the Elm Creek Complex, the ED Office will have agreements and baseline monitoring in place. The agreement will present the actions to be taken, timeframe, responsibilities, mitigation measures, and other pertinent information.

3. Private Lands

The ED Office is responsible for communication and coordination with private land owners. All interactions with property owners will be governed by the Program's Good Neighbor Policy. If the Program wishes to implement specific management actions on private lands and does not desire (or is not able) to negotiate an easement, lease, or purchase, the ED Office will work to develop a management agreement with the land owner. The agreement will include the actions to be taken, timeframe, responsibilities and other pertinent information.

II. GOALS, OBJECTIVES AND IMPLEMENTATION STRATEGY

Program land goals and management objectives have been reproduced below. Complex-level goals are a function of these as well as Adaptive Management Plan research needs, target species habitat criteria, and adherence to the Program's Good Neighbor Policy. Goals and objectives will function as the benchmark for evaluation of ongoing land-related actions. Planning of Program actions to address goals and objectives is done primarily at the complex level; however, because of differences in ownership and the types of management agreements, implementation will take place at the tract level. This section addresses complex-level actions and which tracts they will be implemented on. While each objective is not repeated in the individual tract Operations and Maintenance Plans, it is intended that all objectives, actions, and evaluation will take place on identified individual tracts as soon as the Program assumes control – even if the Complex plan as a whole cannot be implemented.

1. Program Goals
    a. Improve and maintain migration habitat for whooping cranes and reproductive habitat for least terns and piping plovers.
    b. Reduce the likelihood of future listings of other species found in the area.
2. Program Objectives
    a. Protecting, restoring where appropriate, and maintaining 10,000 acres of habitat in the central Platte River area between Lexington and Chapman, Nebraska
3. Management Objectives
    a. Improve production of least terns and piping plovers from the central Platte River.
        i. Increase number of fledged tern and plover chicks
            1. Increase nesting pairs
            2. Increase fledge ratios and reduce chick mortality from causes such as flooding, predation, weather, inadequate forage.
        ii. Reduce adult mortality
    b. Improve survival of whooping cranes during migration.[1]
        i. Increase availability of whooping crane migration habitat along the central Platte River.
    c. Within the overall objectives 3.a & 3.b, provide benefits to non-target listed species and non-listed species of concern and reduce the likelihood of future listing.
        i. Increase availability of habitats for these species (Land Plan "other species of concern") along the central Platte River

This section also provides the strategies and methods for achieving the complex-level goals and objectives along with work areas and preliminary timelines and estimates of cost. Complex and tract-level implementation activities will be integrated in annual Complex Work Plans that will

[1] The Governance Committee has asked the TAC to consider modifying this objective, and the ISAC has been supportive of modification. The GC has not yet acted on a modification, but if such action is taken this objective will be updated without need for review or re-approval of the management plan.

be reviewed by the LAC, TAC and approved by the GC. Work Plans will be appended to Plan annually in Appendix C.

A. Complex-Level Goals and Objectives

1. General Goals and Objectives

- Ø ***Goal 1 – Obtain sufficient First-Increment Program land interest in Complex to be able to carry out activities to meet the remaining complex-level goals and objectives.***

  - o ***Objective 1a*** – Execute management agreements with conservation and private landowners that will allow the Program to implement necessary restoration, construction, maintenance and research/monitoring activities.

    - § **Strategy** – Identify needed scope and extent of management agreements based on conceptual design of restoration and research actions. Approach landowners with conceptual designs and gauge receptiveness. Proceed to final design and agreement negotiation/execution if landowner is receptive. Section C.2. on page 8 of the Program Land Plan provides baseline requirements for the content of these agreements.

    - § **Area –** Management agreements will be executed on the riverine portion of the Complex not under Program control. Off-channel nesting habitat and wet meadow/grassland areas may also be subject to management agreements if conservation owners request assistance in managing in accordance with Program goals and objectives.

    - § **Timeline** – Riverine management agreements executed by August 2010. Off-channel and wet meadow/grassland agreements as necessary.

    - § **Costs** – Program staff time. Agreement compensation is intended to be in the form of management/maintenance activities as opposed to direct compensation. If direct compensation is necessary, the Program will alternatively pursue lease or easement arrangements with the landowner.

    - § **Responsibilities** – The Program's Land Specialist will be responsible for initiating coordination with landowners and drafting and execution of management agreements. Conceptual management actions and areas to be included in the agreements are included within this Complex plan.

2. Adaptive Management Goals and Objectives

This section contains objectives related to the experimental design of implementation of the Program's Adaptive Management Plan and experiments to be conducted through that plan. The following summarizes major AM experimental design components that may be conducted completely or in part within this complex:

1. *Bird Response (LETE, PIPL, WC).*
   a. The objective of this experiment is to reduce uncertainty around key factors that influence habitat selection, nest success, and survival for the target species, including (but not limited to): island size, island elevation above water, and unobstructed view distances.

2. *"Paired Design" – River nesting vs. OCSW nesting (LETE, PIPL).*
   a. The objective of this experiment is to determine differences in nest success and productivity, as well as species preference and use, between river nesting and OCSW nesting of the target species by offering both types of available habitats in close proximity.

3. *Flow-Sediment-Mechanical (FSM) "Proof of Concept."*
   a. The objective of this experiment is to assess the ability of Program flow and sediment management to create or maintain least tern and piping plover nesting habitat and whooping crane roosting habitat, as well as maintain wide, mobile, braided river channel area.

4. *Conservation Monitoring and Directed Research*
   a. System-wide Program conservation monitoring protocols (tern and plover, whooping crane, geomorphology/in-channel vegetation, water quality) and directed research projects (tern and plover foraging habits study, vegetation scour research) may occur at this complex based on monitoring and research priorities and schedules.

- ***Goal 2 – Utilize Complex to refine Program's understanding of interior least tern (LETE), piping plover (PIPL), and whooping crane (WC) riverine habitat requirements***

  - ***Objective 2a*** – Test Program System, LETE and PIPL hypotheses related to amount and physical characteristics of riverine nesting habitat and its relationship to LETE and PIPL occurrence, use and productivity by providing bare sand substrate at a range of sizes and heights. (Priority hypotheses S1b,T1, P1, TP4d, TP5)

§ **Strategy –** Design and implement LETE and PIPL riverine habitat selection experiment. The experiment will include design, construction and maintenance of opportunistic in-channel nesting islands of various heights, sizes and locations within the channel as well as target tree clearing to increase distance to visual obstructions and predator roost habitat. Experimental and engineering design is being developed by Program staff and contractors under the guidance of the TAC, AMWG, and GC. Final experimental design documents will be attached to this management plan when completed. LETE and PIPL presence, use, and productivity will be monitored per the Program's annual system-wide LETE and PIPL monitoring protocol. Annual monitoring data will be used to address priority hypotheses.

- **Methods –** Construction and maintenance of nesting islands will be accomplished using methods from *Habitat Management Methods for Least Terns, Piping Plovers, and Whooping Cranes* including use of heavy equipment for construction and annual application of pre-emergent herbicide and mechanical removal for vegetation control. Monitoring methods are presented in the Program's LETE and PIPL monitoring protocol.

§ **Area –** Construction of riverine LETE and PIPL habitat will occur on Program Tracts 2009002 and 2009005, PRWCT Johns and Sullwold Tracts, and NGPC Blue Hole East properties, all of which are located downstream of the Kearney Canal diversion (Diversion). In addition, the existing NPPD riverine nesting island upstream of the Diversion will be modified so that it meets at least the hypothesized minimums of habitat as described by the Program. The extents of various activities are presented on Figure A-2.

§ **Timeline –** Design and permitting will be accomplished in the spring and summer of 2010. Construction will occur during the winter of 2010. Monitoring and maintenance will occur annually until at least 2014, at which time this Complex plan will be revisited.

§ **Costs –** A detailed cost estimate for all riverine activities will be developed in the spring of 2010 as part of the experimental design. Construction costs are expected to be on the order of $140,000. Annual maintenance costs are expected to be on the order of $20,000.

§ **Responsibilities –**Program staff or contractors under the supervision of Program staff (in conjunction with the appropriate advisory committees) are responsible for design, permitting and monitoring. Construction and maintenance activities will be bid.

- ***Objective 2b*** – Provide a range of unobstructed views from 500 feet to 1,200 feet and wetted channel widths at 2,400 cfs of 500 to 1,200 feet to insure a test of Program System and WC hypotheses related to amount and physical characteristics of riverine roosting habitat and its relationship to WC use. (Priority hypotheses S1b, WC1, WC3)

  - **Strategy –** Design and implement WC riverine habitat selection experiment. The experiment will include vegetation clearing to provide a range of unobstructed view widths above the Programs minimums. WC use will be monitored per the Program's annual system-wide WC monitoring protocol. Annual monitoring data will be used to address priority hypotheses.

    - **Methods –** Construction and maintenance of unobstructed view widths will be accomplished using methods from *Habitat Management Methods for Least Terns, Piping Plovers, and Whooping Cranes* including use of heavy equipment for construction and annual application of pre-emergent herbicide and mechanical removal for vegetation control. Monitoring methods are presented in the Program's WC monitoring protocol.

  - **Area –** In-channel vegetation removal will occur on all tracts identified within the complex extent on Figure A-1, and additional private lands within the Complex extent if agreements are reached. Implementation of this action requires management agreements over the entire area of implementation on at least one side of the channel. Mechanical vegetation maintenance will occur when needed below the Diversion (see Goal 4). The extents of various activities are presented on Figure A-2. Activities will take place on Program Tracts 2009002 and 2009005, PRWCT Johns and Sullwold Tracts, NGPC Blue Hole East property, and NPPD Kearney Canal Diversion property, as well as private lands.

  - **Timeline –** Design and permitting for activities will be accomplished in the spring and summer of 2010. Construction will occur during the winter of 2010. Monitoring and maintenance will occur annually.

  - **Cost –** See costs for Objective 2a.

  - **Responsibilities –** Program staff or contractors under the supervision of Program staff (in conjunction with the appropriate advisory committees) are responsible for design, permitting and monitoring. Construction and maintenance activities will be bid.

Ø ***Goal 3 – Refine Program' understanding of interaction between LETE and PIPL riverine and off-channel sand and water (OCSW) nesting habitat.***

- ***Objective 3a*** – Test Program System, LETE and PIPL hypotheses related to bird response to habitat development, habitat preference for and productivity on riverine versus OCSW nesting habitat. (Priority hypotheses S1b, T1, P1, TP1)

  - **Strategy** – Monitor LETE and PIPL use and productivity on Program riverine habitat and adjacent NPPD Blue Hole and Johnson Sandpit OCSW nesting habitat. Occurrence, use and productivity will be monitored per the Program's LETE and PIPL monitoring protocol.

    - **Methods** – NPPD will maintain OCSW habitat per their FERC license articles. Past maintenance has included using mechanical methods and/or annual application of pre-emergent herbicide to control vegetation. Riverine habitat creation and maintenance methods are presented under Objective 2a. Monitoring methods are presented in the Program's LETE and PIPL monitoring protocol.

  - **Area** – See Objective 2a for location of mechanically created islands. Nesting habitat may also occur as a result of Objective 4a. The location of NPPD's Blue Hole OCSW nesting habitat is shown on Figure A-3. NPPD's Johnson Sandpit is not directly adjacent to the channel, but can be seen on Figure A-1.

  - **Timeline** – Maintenance and monitoring will occur annually.

  - **Cost** – None

  - **Responsibilities** – NPPD is responsible for maintaining OCSW nesting habitat at the Blue Hole and Johnson sandpits. Program staff or contractors under the supervision of Program staff are responsible for monitoring.

Ø ***Goal 4 – Evaluate the effects of the flow-sediment-mechanical (FSM) management strategy on physical processes and channel characteristics.***

- ***Objective 4a*** – Determine if FSM will create areas utilized by least terns, piping plovers, and whooping cranes by maintaining a braided river with higher vegetation-free sandbars. (Priority hypotheses Flow1, Flow3, Flow4, Flow5)

  - **Strategy –** Commence experimental and engineering design, followed by implementation, for a FSM "proof-of-concept" experiment. Experimental design has not yet been developed but will occur under the guidance of the

TAC, AMWG, and GC. Vegetation will be removed per Objective 2b. 2-D hydraulic and sediment transport modeling and vegetation scour research will also be initiated in this reach (in addition to monitoring) to address priority hypotheses.

- **Methods –** Vegetation will be removed per Objective 2b. Construction will be accomplished using methods from *Habitat Management Methods for Least Terns, Piping Plovers, and Whooping Cranes* including use of heavy equipment for channel clearing and leveling (if necessary based on experimental and engineering design). Monitoring protocols, modeling methods and vegetation research plan will be developed prior to implementation.

§ **Area –** River channel from the Elm Creek bridge to approximately river mile 230 as shown on Figure A-3. This section of the river meets the need for consolidated flows and has been identified in past investigations (Fothersby, L.M. 2009, Valley confinement as a factor of braided river pattern for the Platte River, Geomorphology 103, 562-576).

§ **Timeline –** Design, modeling, and vegetation research will be initiated in the summer of 2010. Clearing and leveling will occur during the winter of 2010. An operations plan, created as a part of the experimental design, will define milestones and/or deadlines to assess success or failure, or requirements for further mechanical modification within the duration of the experiment.

§ **Cost –** Construction costs are expected to be on the order of $110,000. Annual maintenance costs will vary depending on the ability to implement FSM as well as the ability of FSM to scour vegetation. If in-channel vegetation removal becomes necessary, annual costs are expected to be on the order of $18,000. If only overbank vegetation height control is necessary, maintenance costs should be on the order of $4,000. Other costs not accounted for within the management plan include costs associated with flow releases and sediment augmentation activities.

§ **Responsibilities -** Program staff or contractors under the supervision of Program staff (in conjunction with the appropriate advisory committees) are responsible for design, permitting and monitoring. Construction and maintenance activities will be bid.

3. Species Habitat Goals and Objectives

- ***Goal 5 – Improve sand and water (riverine and OCSW) habitat for LETE, PIPL and WC.***
  - ***Objective 5a –*** Create and maintain a complex with riverine and OSCW target bird species habitat that approximates *Table 1. Target Habitat Complex Guideline*s of the Program Land Plan, to the degree appropriate, and approximates at least the Program's minimum habitat guidelines.
    - **Strategy –** Development and maintenance of sand and water LETE, PIPL and WC habitat will be accomplished as part of design and implementation of the experiments presented under Goals 2 and 3. Methods, area, timeline, costs and responsibilities can be found in the same location.

- ***Goal 6 – Improve wet meadow/grassland habitat for WC and other species of concern.***
  - ***Objective 6a*** – Create or 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 Technical Advisory Committee (TAC) and Adaptive Management Working Group (AMWG).
    - **Strategy –** An information review on wet meadows will be completed in 2010. No action will be taken on wet meadow/grassland creation or maintenance at this complex until TAC provides additional guidance on priorities and habitat criteria. A full implementation strategy and methods will be developed based on that guidance. Methods, area, timeline, costs and responsibilities will all be developed as part of the implementation strategy.
  - ***Objective 6b –*** Investigate options for conversion of cropland to grassland or wetland on complex buffer parcels.
    - **Strategy –** Work with USFWS and NGPC to identify target "other" species for grassland/wetland restorations. Identify necessary components of habitat for "other" species and potential Program tracts that could be restored. Present options and conceptual costs to Governance Committee for approval.
    - **Area –** All Program cropland buffer properties within complex. Specific tracts or parts of tracts to be designated as part of the conceptual design once species and habitat requirements are identified.

- **Timeline –** Identification of target "other" species and habitat requirements to take place in Summer/Fall 2010. Identification of Program tracts, conceptual design and costs to be developed in 2011. Construction timelines subject to Governance Committee approval, but not likely to commence prior to Fall/Winter 2011-2012.

- **Cost –** Costs are subject to specific habitat guidelines and species goals and will be developed as part of the conceptual design in 2011.

- **Responsibilities -** Program staff will coordinate with USFWS and NGPC. Conceptual design and costs to be developed by Program staff. Construction activities will be bid.

Ø ***Goal 7 – Provide benefits to other species of concern without compromising ability to accomplish target species goals and objectives***

o ***Objective 7a –*** Evaluate habitat protection for other species of concern.

- **Strategy –** The Program will utilize the tract management planning and consultation process as the mechanism for identification of opportunities to benefit other species of concern. Following acquisition of a parcel, the Program request 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.

  - **Methods –** Will be determined in consultation with USFWS and NGPC.

- **Area –** Program tracts.

- **Timeline –** Surveys and consultation will be conducted as tracts are acquired by the Program.

- **Cost –** Will be determined on tract-by-tract basis.

- **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 planning process. Program staff will be responsible for habitat protection planning, with technical assistance from these agencies.

4. Operations and Maintenance Goals and Objectives

- ***Goal 8 – Conduct all activities in adherence with the Program's Good Neighbor Policy.***

  - ***Objective 8a*** – Emphasize the prevention, as opposed to the correction of actions that cause adverse effects on adjacent landowners or others.

    - **Strategy –** Prevention efforts will rely on early coordination with Complex landowners to identify and address potential negative effects. Conceptual design documents will be used as a baseline for discussion of actions and identification of potential effects.

  - ***Objective 8b*** – Quickly identify any problems and ensure needed corrective actions can be taken in a timely manner.

    - **Strategy –** Timely identification of existing or potential problems will accomplished through robust monitoring of Program actions. Complex-specific monitoring protocols will be developed as part of the AM experimental designs. Monitoring protocols will include "trigger" values or conditions that will serve as indicators of potential problems.

  - ***Objective 8c*** – Provide means to cover documented damage claims resulting from the actions of the Program or contractors acting on the Program's behalf.

    - **Strategy** – The Program and all consultants and contractors planning and/or implementing actions will be required to carry appropriate levels of liability insurance. The Program may request that contractors name the Program as an additional insured on contractor insurance policies.

  - ***Objective 8d*** – Demonstrate good land stewardship by managing Program lands in accordance with sound wildlife management and agricultural practices.

    - **Strategy –** The Program will identify and include wildlife and agricultural management practices in tract-level management plans. Management practices will be selected based on their ability to provide benefits to species habitat, while being as compatible as possible with agricultural/farm management, and with other compatible uses in mind.

III. MONITORING AND RESEARCH

A. Baseline Monitoring

A variety of monitoring activities will be conducted in the Complex area (and nearby non-complex area) as part of the system-wide investigations conducted under the Integrated Monitoring and Research Plan (IMRP). Baseline monitoring efforts include:

1. Land Cover Analysis

- **Objectives –** Document pre-Program land cover conditions. Land cover analysis will be performed again near the end of the First Increment to document changes in land cover.
- **Hypotheses Links** – S1, S1a
- **Timeline –** Pre-Program completed in 2007. Next analysis in 2018.
- **Responsibilities –** ED Office

2. Channel LiDAR Project

- **Objectives –** Document channel topography at beginning of First Increment. LiDAR will be collected again near the end of the First Increment to document changes in channel topography.
- **Hypotheses Links** – S1, S1a, Flow1, Sediment1-4
- **Timeline –** LiDAR collection completed in March of 2009. Next collection in 2018.
- **Responsibilities –** Collection and analysis by contractor under supervision of ED Office.

3. Aerial Photography

- **Purpose –** Document annual channel features and vegetation.
- **Hypotheses Links** - TP 5, Sediment 3, WC3
- **Timeline –** Annual during First Increment per protocol.
- **Responsibilities –** Data collection performed by contractors under supervision ED Office. Analysis by ED Office.

4. In-Channel Geomorphology and Vegetation Monitoring

- **Purpose –** System-wide analysis of changes/trends in geomorphology and in-channel vegetation over time. Correlate Program actions with changes/trends. Rotating panel point 30 is located near the center of the complex.
- **Hypotheses Links** – Flow1-5, Sediment1-4
- **Timeline –** Annual during First Increment.
- **Responsibilities –** Monitoring performed by contractors under supervision ED Office.

5. Least Tern, Piping Plover and Whooping Crane Monitoring

- **Purpose -** Document WC use, document LETE and PIPL use, nesting pairs, and fledging success.
- **Hypotheses Links** – T1, P1, TP1-5, WC1 & 3
- **Timeline –** Annual during First Increment.

- **Responsibilities –** Monitoring performed by contractors or cooperators under supervision ED Office.

6. Species of Interest Surveys

- **Purpose -** Document habitat for and use of Program properties by "species of concern" or other species of interest.
- **Hypotheses Links** – S2
- **Timeline –** Following acquisition and later, as appropriate, after restoration.
- **Responsibilities –** Coordination by ED Office. Surveys by contractors or agency personnel.

B. Research

Research efforts to be conducted in full or part on this complex under the IMRP include:

1. LETE, PIPL and WC riverine habitat selection experiment (Goal 2, Objectives 2a & 2b)

- **Purpose -** Refine Program's understanding of interior LETE, PIPL and WC riverine habitat needs and test associated AMP priority hypotheses for each species.
- **Hypotheses Links** - S1b,T1, P1, TP4d, TP5, WC1, WC3
- **Timeline –** Design and construction in 2010. Monitoring annually.
- **Responsibilities –** Program staff or contractors under the supervision of Program staff (in conjunction with the appropriate advisory committees) are responsible for design, permitting and monitoring. Construction and maintenance activities will be bid.

2. LETE and PIPL riverine versus OCSW experiment (Goal 3, Objective 3a)

- **Purpose -** Determine LETE and PIPL preference for and productivity on riverine versus OCSW nesting habitat.
- **Hypotheses Links** - S1b, TP1
- **Timeline –** Design and construction in 2010. Monitoring annually.
- **Responsibilities –** Program staff or contractors under the supervision of Program staff (in conjunction with the appropriate advisory committees) are responsible for design, permitting and monitoring. Construction and maintenance activities will be bid.

3. FSM experiment (Goal 4, Objective 4a)

- **Purpose -** Evaluate the ability of the FSM management strategy to maintain acceptable riverine habitat for the target bird species.
- **Hypotheses Links** - Flow1, Flow3, Flow4, Flow5
- **Timeline –** Design and construction in 2011. Monitoring annually.
- **Responsibilities –** Program staff or contractors under the supervision of Program staff (in conjunction with the appropriate advisory committees) are responsible for design, permitting and monitoring. Construction and maintenance activities will be bid.

4. Vegetation scour research (Goal 4, Objective 4a)

- **Purpose –** Evaluate the potential for flows to scour vegetation of differing species and age classes. Results will be used in a larger investigation of ability for managed flows to maintain an active channel free of vegetation.
- **Hypotheses Links** - Flow1, Flow3, Flow4, Flow5
- **Timeline –** Contractor selection in 2010. Research 2010 – 2011.

5. Wet Meadow Information Review and Related Experiments (Goal 6, Objective 6a)

- **Purpose –** Refine Program's understanding of interaction between target species and wet meadow habitat. Information review on wet meadows scheduled for 2010. Specific experiments and locations will be identified pending advisory committee and Program staff review of wet meadow information.
- **Hypotheses Links** - S1b, S1c, S2, WC-1, WC-4, WM-2, WM-3, WM-4, WM-8a
- **Timeline –** Information review completed in 2010. Planning in 2010.
- **Responsibilities –** Information review to be completed by contractors under the supervision of Program staff. Program staff or contractors under the supervision of Program staff (in conjunction with the appropriate advisory committees) are responsible for design, permitting and monitoring. Construction and maintenance activities will be bid.

IV. ENVIRONMENTAL LAWS, PERMITTING AND COMPLIANCE

A. Section 7 Consultation

1. Measures to Minimize or Eliminate Take of Least Tern and Piping Plover

Habitat improvement activities occurring on river channel or sandpits between April 15 and August 15 will only be conducted in the absence of nesting least terns and piping plovers. Program Staff will insure that a survey for these species is conducted by qualified individuals (e.g. by Program staff, contractor, conservation owner) in the area that will be disturbed within three days prior to the initiation of activities.

If least terns or piping plovers nest on the off-channel nesting complex, appropriate measures will be taken to control predation. At a minimum, any land connection to the nesting area for maintenance will be protected by electrified predator fencing. Other measures may be warranted and Service concurrence will be obtained before implementing additional measures.

2. Measures to Minimize or Eliminate Take of Whooping Crane

For habitat restoration and land management activities in or within 0.25 miles of the Platte River channel occurring between March 23 and May 10, or October 1 and November 15, construction shall only take place from one hour following sunrise to two hours prior to sunset unless otherwise approved by the Service's Coordinator of the Whooping Crane Migration Tracking Program. Program staff will notify the Service when Program habitat restoration work will be conducted during the above dates from the Highway #283 and Interstate 80 intersection near Lexington, Nebraska downstream to Chapman, Nebraska.

Construction or other work crews working in or within 0.25 miles of the channel during the above dates will check channel areas for the presence of whooping cranes prior to starting work each day, and report the presence of whooping cranes to Program staff. When whooping cranes are discovered in the Platte River valley, either by the Program monitoring crew or the above required check by construction or work crews, or are known to be in the valley through other sources, including via notification from the Service's Coordinator, Program staff will confer with the Service and will notify construction crews if it is necessary to temporarily halt construction activities.

Construction work should be completed as quickly as possible. Earth moving equipment will be moved from the river channel to an upland site located behind a tree line at the end of each work day if such features are available on the property. In the instance that such features are unavailable, equipment should be moved to a position at least 0.25 miles away from the channel.

3. Measures to Minimize or Eliminate Take of Pallid Sturgeon

Land management activities will not result in incidental take of pallid sturgeon.

B. Fish and Wildlife Coordination Act and Nebraska Non-game and Endangered Species Conservation Act

The Program will work with the USFWS and NGPC to identify potential impacts to state and federal species of concern and address them as part of this document. Program actions to avoid or mitigate potential species impacts not addressed in other portions of Section IV are presented below.

1. Raptors

The Program will conduct raptor surveys for management activities that may affect active raptor nests during the period of February 1 through July 15th. If a nest is discovered, that tree will not be removed.

2. Northern River Otter

The Program will conduct natal den surveys when performing restoration or management actions during the period of February 15 to June 15 that may impact river channel or slough banks where natal dens may be present. If natal dens are discovered, the Program will coordinate with the NGPC to design appropriate buffers.

3. Western Prairie Fringed Orchid

Projects that will result in the disturbance of native prairies or wet meadows will be surveyed for the presence of Western Prairie Fringed Orchid during the flowering period of June 15 through July 7th. If this species is present, activities will be modified to prevent destruction of existing plants.

4. Platte River Caddis Fly

Surveys for Platte River Caddis Fly potential habitat and populations will be conducted on all Program properties at the time of acquisition, or during the soonest recommended survey period after acquisition. If a population is present on the property and restoration or management actions may negatively impact the population, the Program will coordinate with USFWS and NGPC to determine appropriate methods to avoid or mitigate impacts.

5. Vegetation Communities of Conservation Importance

Surveys for Northern Cordgrass Wet Prairie, Northern Sedge Wet Meadow, and Wet Mesic Tallgrass Prairie will be conducted on all Program properties during the soonest recommended period after acquisition. If occurrences are found, the Program will coordinate with the USFWS and NGPC to determine appropriate methods to avoid or mitigate negative impacts from Program management actions. Additionally, the Program will investigate opportunities to re-establish these communities if suitable locations are present.

6. Regal Fritillary

The Program will coordinate with the USFWS and NGPC to investigate opportunities to establish native violet species (*Viola spp.*) in native grasslands or grassland restorations to provide a host species for the regal fritillary and promote its conservation.

C. Migratory Bird Treaty Act

Land management that involves burning, cutting or mechanical removal of vegetation (with the exception of restoration activities on ground that was previously in agricultural crops) will not occur between April 30 and July 15 without first doing surveys to insure that no occupied migratory bird nest will be destroyed.

D. Bald Eagle Act

Eagle nests will not be disturbed and a quarter mile buffer will be maintained while occupied by adults or young. Known eagle roost trees will be left in place.

E. United States Army Corps of Engineers Section 404 Permitting and Nebraska Department of Environmental Quality Section 401 Water Quality Certification

Prior to commencement of construction work to be accomplished in wetlands or waters of the United States, including dredging or placement of fill material, the Program will obtain a 404 permit and 401 water quality certification. Work in wetlands or waters of the State that are not jurisdictional under the Federal Clean Water Act will still need to comply with the Nebraska Department of Environmental Quality's Title 117.

F. National Pollutant Discharge Elimination System Construction Stormwater Discharge Permit

All construction work that will disturb an area exceeding 1 acre in size will be required to meet the requirements of the Environmental Protection Agency NPDES Construction General Permit. This permit includes the development of a Stormwater Pollution Prevention Plan. The Program will submit a Notice of Intent a minimum of seven days before commencement of construction activities.

G. County Floodplain Development Permit

All fill placed within the 100-year floodplain will require a floodplain development permit from the county where the work is undertaken. In order to obtain a permit, a project must have No-Rise certification meaning that it will raise the 100-Year Base Flood Elevation (BFE) by less than one foot.

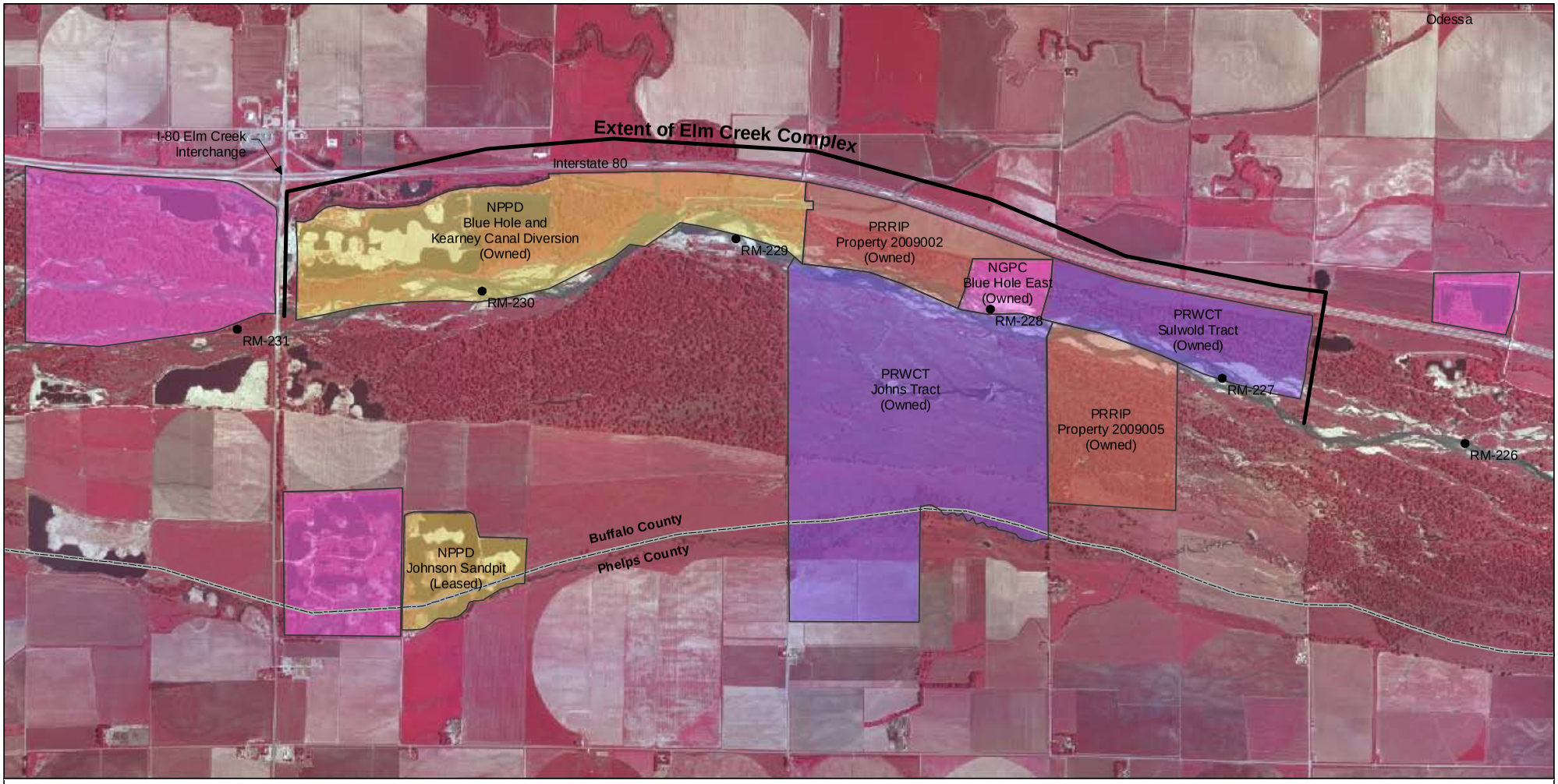
H. State Historic Preservation Office Clearance

Projects will require screening for impacts to cultural resources including historic properties. Program properties will be submitted to the State Historic Preservation Office for a cultural resources screening at the time of acquisition.

I. Good Neighbor Policy

The Program will comply with local, state, and federal laws, and to the extent permitted by such laws will be responsible for its actions to the same extent as a private individual under like circumstances.

APPENDIX A - FIGURES



Legend

- River Mile
- County Boundary

Conservation Ownership

- Nebraska Game and Parks Commission
- Nebraska Public Power District
- Platte River Recovery Implementation Program
- Platte River Whooping Crane Trust
- The Nature Conservancy

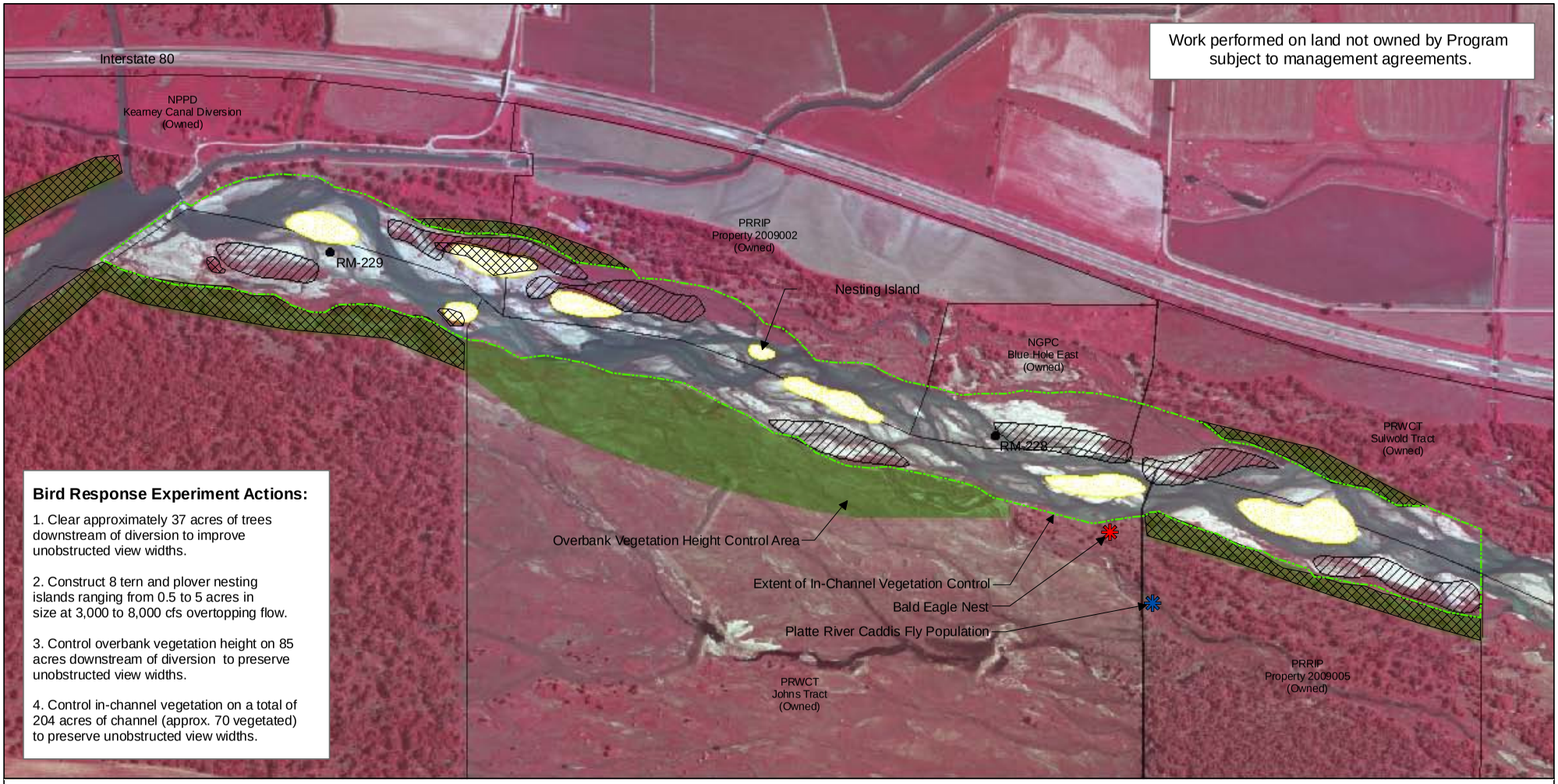
N

0.5 Miles

ELM CREEK COMPLEX
OVERVIEW MAP

Date: 10/01/09
By: JMF

Figure A-1



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

- Tree Clearing
- Constructed Nesting Islands
- Nesting Island Borrow Areas
- In-Channel Vegetation Control
- Overbank Vegetation Control (Height)
- Conservation Ownership
- Bald Eagle Nest
- Platte River Caddis Fly Population
- River Mile

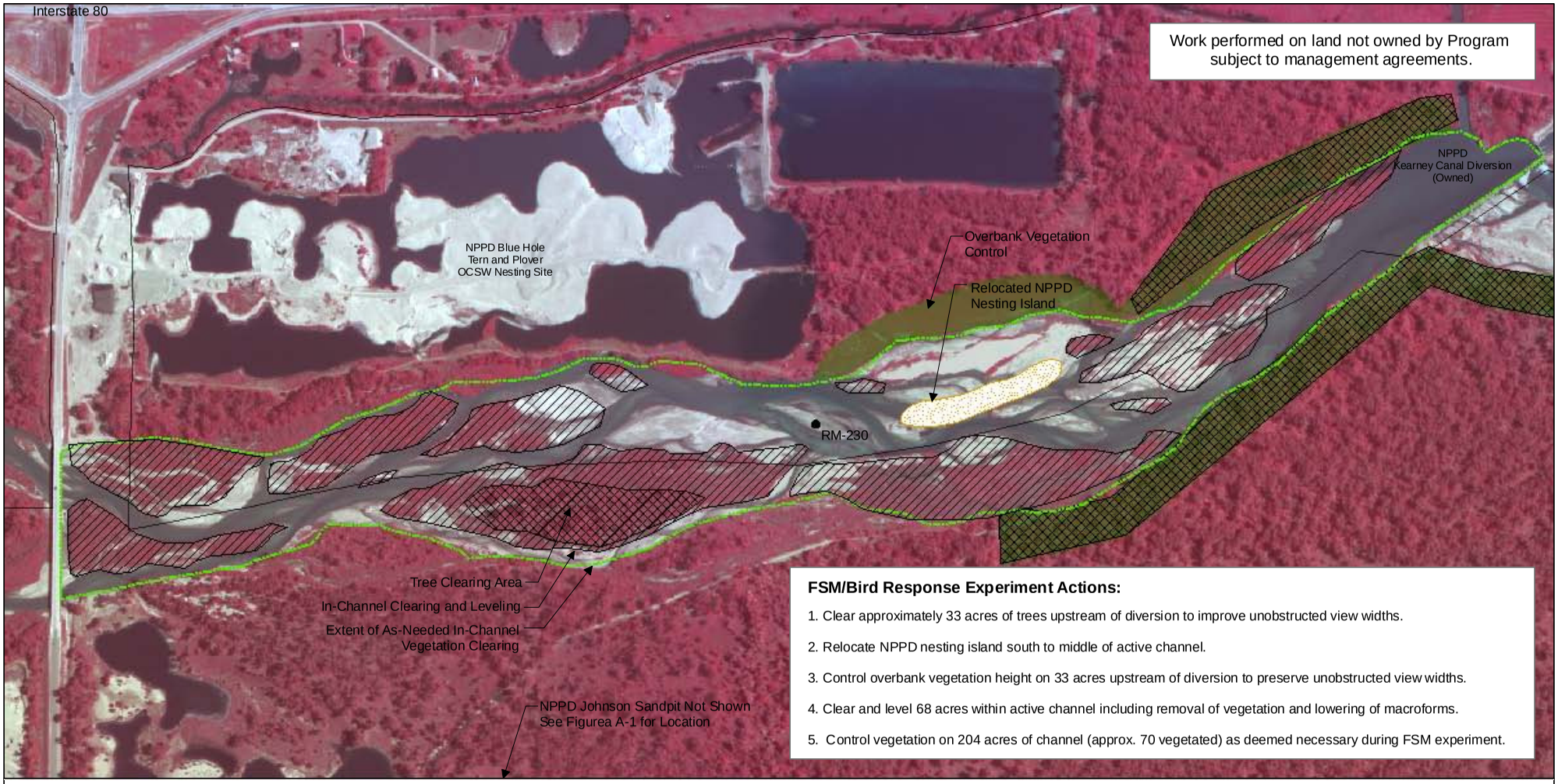
N

1,000 Feet

ELM CREEK COMPLEX
AM EXPERIMENT ACTIONS
BELOW DIVERSION

Date: 10/01/09
By: JMF

Figure A-2



PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM

Legend

- Tree Clearing
- In-Channel Clearing and Leveling
- Relocated NPPD Nesting Island
- Extent of As-Needed In-Channel Vegetation Control
- Overbank Vegetation Control (Height)
- Conservation Ownership
- River Mile

N

1,000 Feet

ELM CREEK COMPLEX
AM EXPERIMENT ACTIONS
ABOVE DIVERSION

Date: 10/01/09
By: JMF

Figure A-3

APPENDIX B – TRACT OPERATIONS AND MAINTENANCE PLANS

2010–2014 OPERATIONS AND MAINTENANCE PLAN

For

TRACT 2009002

Prepared for:
Platte River Recovery Implementation Program
Land Advisory Committee

Completion Date:
1/29/2010

Table of Contents

I. PROPERTY DESCRIPTION AND BACKGROUND

A. Purpose

The purpose of this plan is to outline the operations and maintenance activities that will occur on Tract 2009002 (Evaluation Tract Number 0803) during the period of 2010-2014. Species habitat and Adaptive Management research and monitoring actions associated with this tract are addressed in the Restoration and Management Plan for the Elm Creek 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 2009002 is approximately 140 acres in size and is located in portions of Sections 2 and 11, T-8N, R-18W. Figure A-1 (located in Appendix A) delineates the property boundary. The tract is located in the Elm Creek to Odessa bridge segment. The tract is located approximately ½ mile downstream of the Nebraska Public Power District's (NPPD) Kearney Canal Diversion. Tract 2009002 is bounded on the south by the Platte River Whooping Crane Maintenance Trust (PRT) Johns property and on the southeast by Nebraska Game and Parks Commission's (NGPC) Blue Hole East Wildlife Management Area. Also in the area east and southeast of Tract 2009002 is the PRT Sullwold property and Platte River Recovery Implementation Program (Program) Tract 2009005. Figure A-2 shows the parcel location within the bridge segment and its proximity to existing leased and owned conservation lands.

C. Land Interest

A fee simple absolute title is held in trust by the Platte River Recovery Implementation Foundation (PRRIF) on behalf of the Program. The prior owner retains a lifetime right to hunt and reside on the property in the building during hunting season. The right terminates at the time of his death.

D. Communication and Coordination

The Executive Director's Office (ED Office) is responsible for communication and coordination with the prior owner as well as 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. Public access will not be considered until the hunting agreement with the prior owner is terminated.

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 2009002 Habitat Complex Acres

Land Classification*	Acres
Riverine	
Channel	35
Buffer	
Woodland	42
Cropland	59
Canal	3

* 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 (USFW). 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 2009002 2005 Land Cover/Use Summary

Land Cover Classification	Acres	Percent of Tract
Agricultural	57.07	40.85%
Bareground/Sparse Veg	0.80	0.57%
Canal/Drainage	4.00	2.86%
Mesic Wet Meadow	4.03	2.88%
Phragmites	13.56	9.70%
Riparian Shrubland	12.37	8.85%
Riparian Woodland	27.61	19.76%
River Channel	3.41	2.44%
River Early Successional	9.93	7.11%
Roads	0.57	0.41%
Rural Developed	0.01	0.01%
Unvegetated Sandbar	1.74	1.25%
Xeric Wet Meadow	4.59	3.29%
Total	**139.71**	**100.00%**

C. Existing Land Features of Interest

1. Non-Riverine Surface Water

The Kearney Canal passes through this property. The canal encompasses an area of approximately 3 acres. It is approximately 80 feet wide and travels through the cropland portion of the property a distance of about 1,800 feet. There is a small man-made pond (<1 acre) in the trees near the west boundary of the property. At the time of the visit, the surface was nearly completely covered in algae and can be seen as a red smooth surface surrounded by white banks and trees in Figure A-7. This pond provides no habitat value for the target species.

2. River Frontage and Active Channel Widths

The Tract contains approximately 3,400 feet of Platte River frontage on the north side of the channel. The Crane Trust owns the river frontage to the south across from this tract.

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. The measured channel widths are presented below in Table 3.

Table 3 – Tract 2009002 Channel Widths

Measurement	Width (ft)
Minimum Channel Width	510
Maximum Channel Width	690
Median Channel Width	595
Mean Channel Width	597.5

3. Contiguous Sand Substrates

This Tract contains approximately 3 acres of sand substrate with less than 25% vegetative cover. The river channel on and around this property has been maintained by USFWS/PRT through disking and/or spraying.

4. Island and Channel Bank Height

The north bank of the channel was approximately 5 feet above water level at the time of the visit. River flow at the Kearney gage at the time of the site visit was 850 cfs. Island bank heights ranged from zero to 3 feet above water at the time of the evaluation.

5. Groundwater

Static depth to groundwater was reported at 9 feet on the Nebraska Department of Natural Resources well log for a domestic well near the structure on the west side of the property.

6. Flooding in Non-Wetland Areas

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

7. Power/Transmission Lines

There is a transmission line that crosses the cropland portion of the property from east to west. The poles can be seen along the southern boundary of the crop field in Figure A-7.

D. Incompatible Uses and Environmental Concerns

This Tract has one wood frame structure located on the western boundary of the cultivated cropland portion of the parcel. The building is a Morton building designed to be a hunting lodge and is in good condition. The presence of this structure does not necessarily raise potential whooping crane use concerns due to its location away from the channel. The structure is separated from the river channel by at least 300 feet of mature trees and shrubs.

E. Certified Irrigated Acres

Tract 2009002 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 Elm Creek 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*** – Establish and maintain property boundary fencing and signage.
    - § **Strategy** – Existing boundary fence is only present on the north and part of the east property boundaries. The Program is actively pursuing acquisition of the NGPC Blue Hole East WMA which adjoins this property to the southeast as part of a land trade. Neither tract is grazed. As such, the strategy will be to wait until acquisition efforts are complete and then develop a fencing plan based on the results of that effort. Signage on other boundaries will be conducted independently.
      - **Methods** –Boundary fencing will be four wire livestock fencing and will be constructed per Natural Resources Conservation Service (NRCS) and Nebraska Game and Parks Commission (NGPC) design criteria. Boundary fence will include Program ownership and contact signage at regular intervals. Maintenance methods may include mowing or spraying of woody species in the cleared area as well as routine fence upkeep.
    - § **Area –** To be determined.
    - § **Timeline** – Boundary signage will be installed on existing boundary fences in 2010. Additional fence planning and design will be accomplished at the conclusion of acquisition efforts for adjacent tract. Tree clearing and fence construction would begin no earlier than July 15, 2010.
    - § **Costs** – Boundary signage is expected to cost on the order of $500. Fence construction costs are not known at this time. Annual maintenance costs are expected to be on the order of $3,000.

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

- ***Objective 1b*** – Maintain existing building (and associated infrastructure) as the Elm Creek Complex operations center and equipment storage site.

  - **Strategy** – The prior owner retains a right to use the building during the hunting season. The Program's strategy will be to provide the owner with sufficient storage/access to meet that obligation while retaining enough control to allow for permanent storage of equipment and supplies. The Program may also decide to base summer workers or contractors out of the building. If that happens, rights and responsibilities will be discussed with the prior owner in order to minimize potential for conflicts.

  - **Timeline** – Annual.

  - **Costs** – Annual building utilities and maintenance are expected to cost on the order of $3,000.

  - **Responsibilities** – Program staff are responsible for coordinating building maintenance and paying utilities.

- ***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 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.***

- ***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** – Existing stands of invasive vegetation will be eliminated (to the extent possible) in year one (i.e. 2010) of Management Plan implementation. An integrated management approach to control will be used to the extent possible and specific control methods will be updated as new information becomes available. Ongoing management/control needs will be assessed annually and incorporated into Work Plans.

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

  - **Area –** Invasive vegetation will be controlled on the entire property.

  - **Timeline** – To the extent feasible, removal of existing infestations will occur in 2010 and maintenance/control efforts will continue annually.

  - **Costs** – Removal costs are expected to be on the order of $6,000. Annual maintenance costs will vary depending on control method.

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

2. Agricultural Operations

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

o ***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 cash rent 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.

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

V. TRACT-LEVEL SURVEYS, MONITORING AND RESEARCH

A. Baseline Surveys and Monitoring

1. Bald Eagle

An active Bald Eagle nest is present on PRT property south and east of Tract 2009002. The nest distance exceeds one quarter mile from the property boundary.

2. Platte River Caddis Fly

The Tract was surveyed for presence of Platte River Caddis Fly (PRCF) in September of 2009. No acceptable habitat was observed on the property.

3. Northern River Otter

No otters have been observed on this Tract but they have been known to use the general area. Natal den surveys will be conducted if Program activities will disturb Platte River channel banks.

4. Cultural Resources

The legal description of Tract 2009002 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

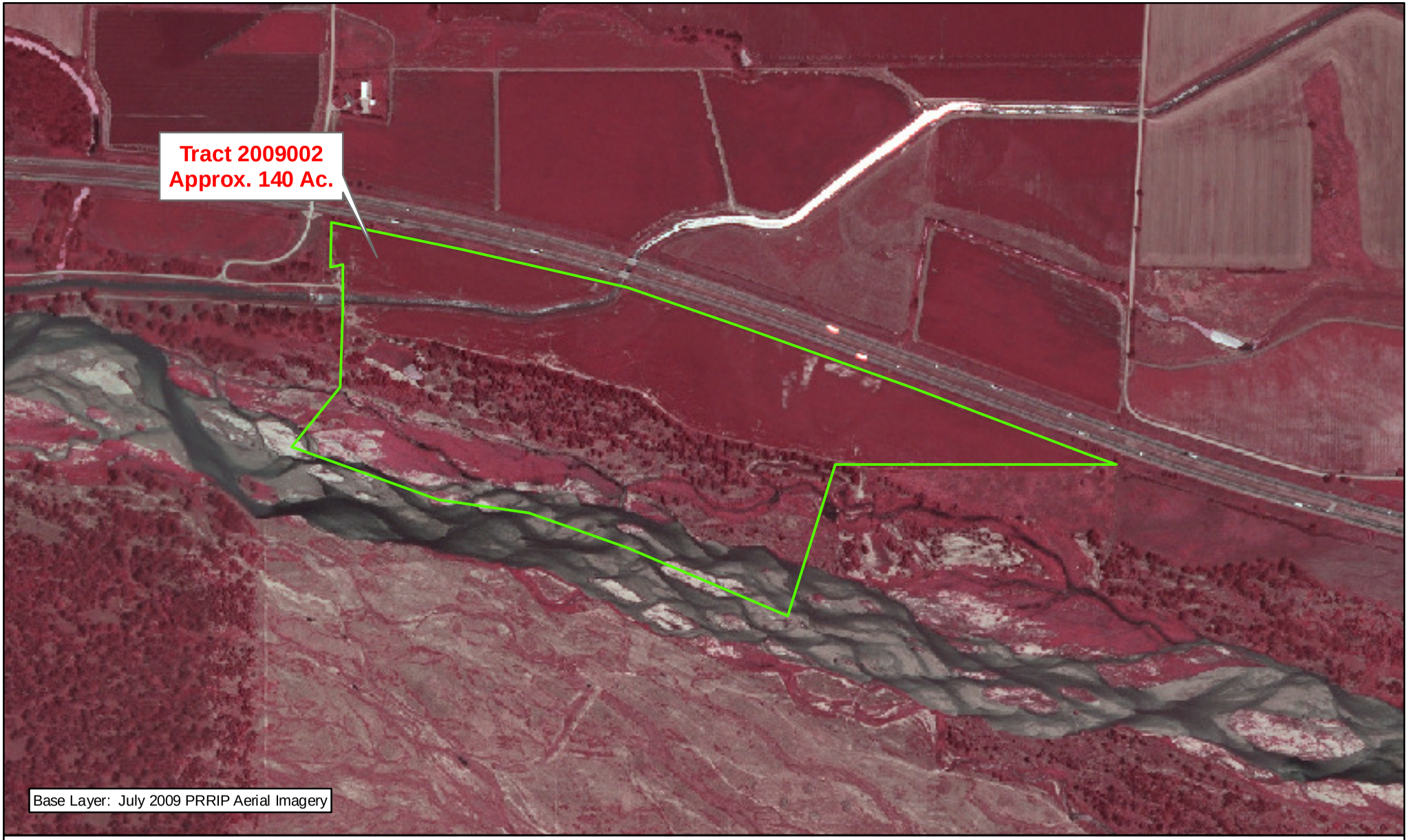
A. Education

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

Access for recreation is currently limited to an existing hunting agreement with the previous owner. Development of a more comprehensive recreation and hunting policy will be addressed in 2010 but will not apply to this property until the existing agreement is terminated.

APPENDIX A – MAPS



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

2009002

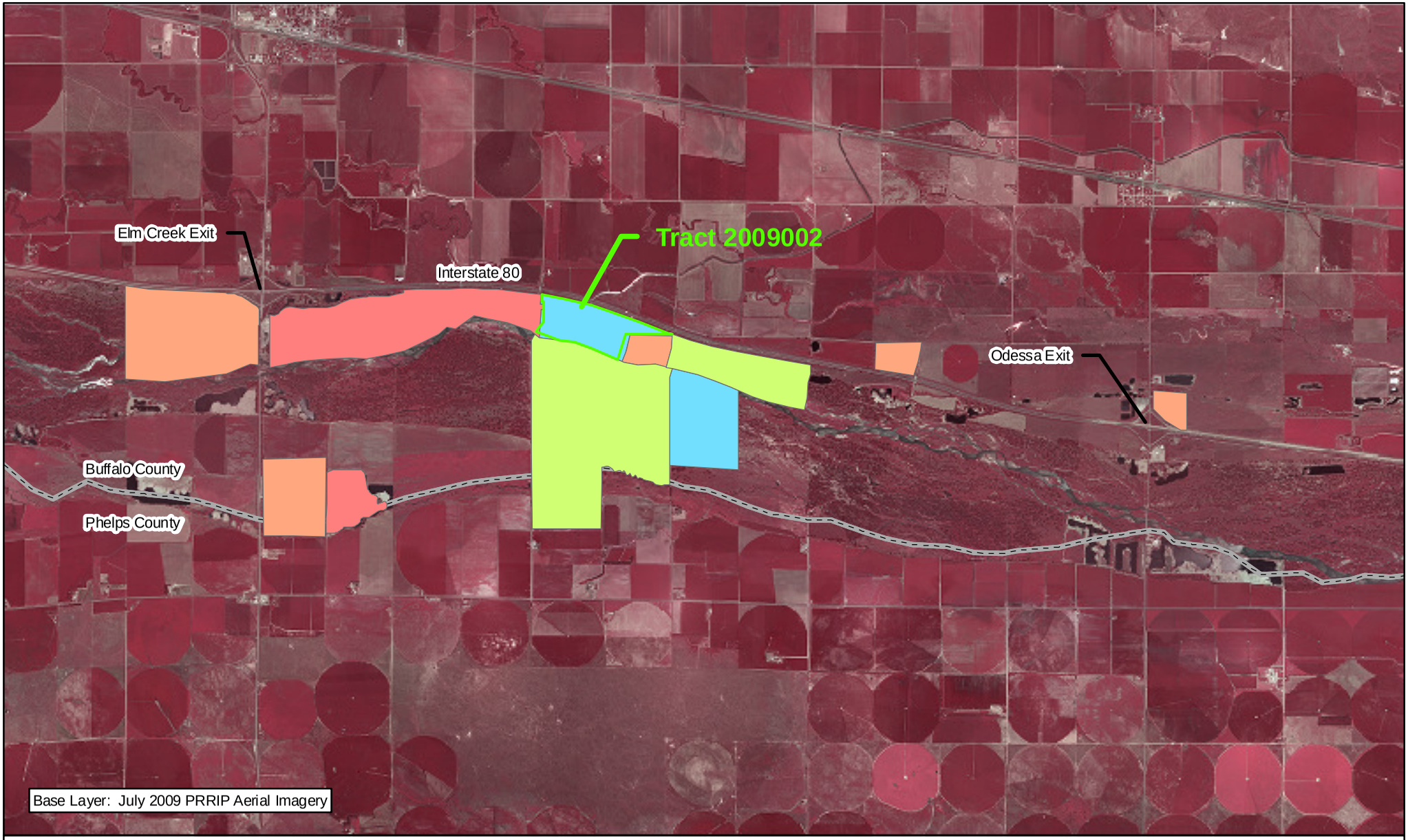
N

0.2 Miles

TRACT 2009002
BOUNDARY MAP

Date: 01/29/10
By: JDB

Figure A-1



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

- 2009002
- County
- Audubon
- CNPPID
- NGPC
- NPPD
- PRRIP
- PRWCT
- TNC
- Wyoming

N

Miles
1

TRACT 2009002
LOCATION MAP

Date: 01/29/10
By: JDB

Figure A-2

PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

- Evaluation Tract
- 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

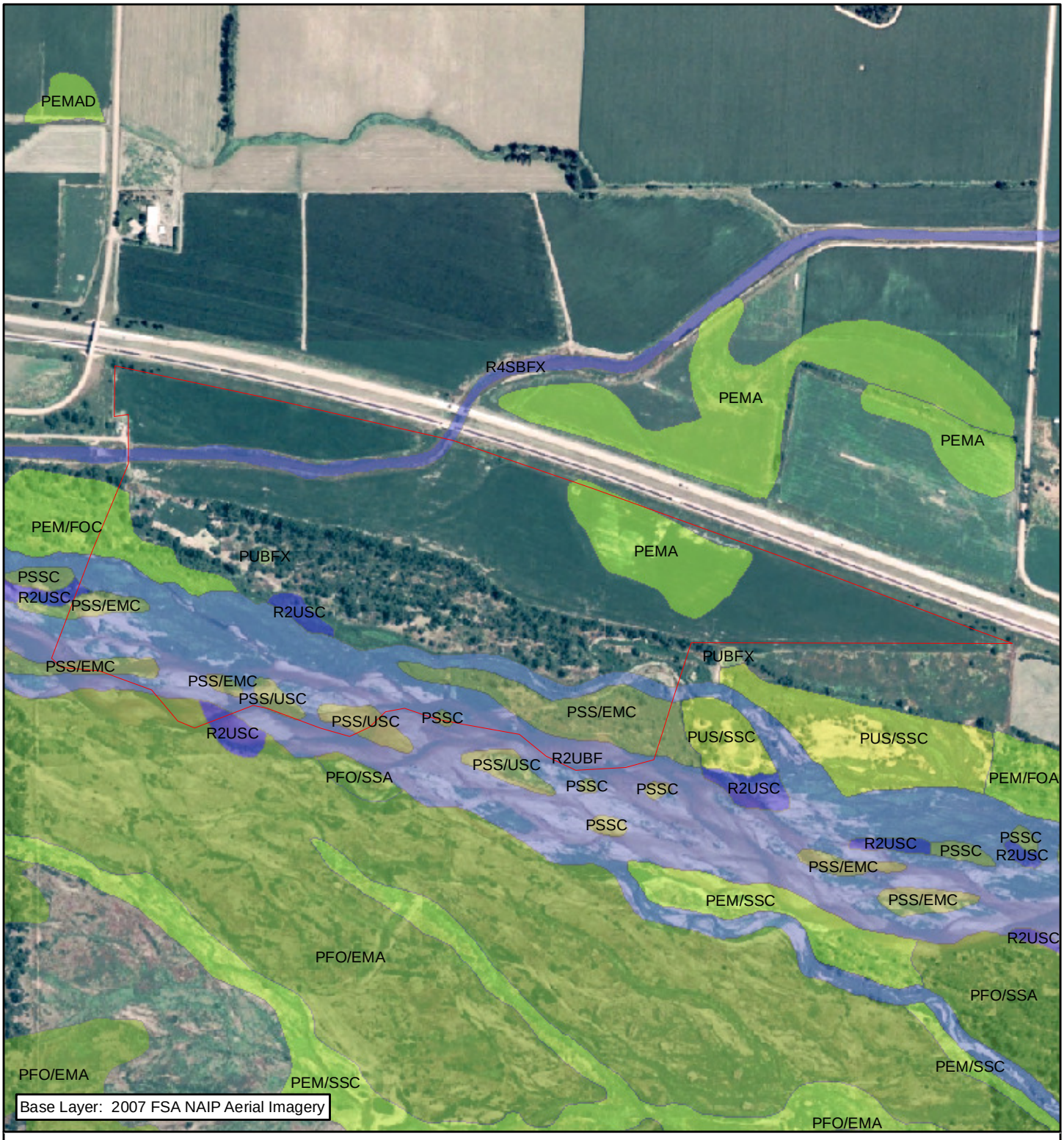
N

0.2 Miles

TRACT 0803
2005 LAND COVER/USE

Parcel Evaluation
Date: 07/15/08
By: JDB

Figure A-3



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

- Evaluation Tract
- Lacustrine Unconsolidated Bottom (LUB)
- Palustrine Aquatic Bed (PAB)
- Palustrine Emergent (PE)
- Palustrine Forested (PF)
- Palustrine Scrub-Shrub (PSS)
- Palustrine Unconsolidated Bottom (PUB)
- Palustrine Unconsolidated Shore (PUS)
- Riverine Unconsolidated Bottom (PUB)
- Riverine Unconsolidated Shore (RUS)
- Riverine Streambed (RS)

N

0.2 Miles

TRACT 0803
NWI MAP

Parcel Evaluation
Date: 07/15/08
By: JDB

Figure A-4

PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

Evaluation Tract

N

0.2 Miles

TRACT 0803
1938 IMAGERY

Parcel Evaluation
Date: 07/16/08
By: JDB

Figure A-5

PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

Evaluation Tract

N

0.2 Miles

TRACT 0803
1998 CIR IMAGERY

Parcel Evaluation
Date: 07/16/08
By: JDB

Figure A-6

PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

Evaluation Tract

N

TRACT 0803
2008 CIR IMAGERY

Parcel Evaluation
Date: 07/16/08
By: JDB

0.2 Miles

Figure A-7

2010–2014 OPERATIONS AND MAINTENANCE PLAN

For

TRACT 2009005

Prepared for:
Platte River Recovery Implementation Program
Land Advisory Committee

Completion Date:
1/29/2010

Table of Contents

I. PROPERTY DESCRIPTION AND BACKGROUND

A. Purpose

The purpose of this plan is to outline the restoration, operations and maintenance activities that will occur on Tract 2009005 (Evaluation Tract Number 0850) during the period of 2010-2014. Species habitat and Adaptive Management research and monitoring actions associated with this tract are addressed in the Restoration and Management Plan for the Elm Creek 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 2009005 is approximately 212 acres in size and is located in Section 12, T-8N, R-18W. Figure A-1 (located in Appendix A) delineates the property boundary. The tract is located in the Elm Creek to Odessa 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 2009005 Habitat Complex Acres

Land Classification*	Acres
Riverine	
Channel	28
Buffer	
Woodland	171
Grassland	13

* 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 (USFW). 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 2009005 2005 Land Cover/Use Summary

Land Cover Classification	Acres	Percent of Tract
Bareground/Sparse Veg	2.07	0.97%
Mesic Wet Meadow	0.01	0.01%
Phragmites	10.33	4.88%
Riparian Shrubland	13.75	6.49%
Riparian Woodland	143.78	67.87%
River Channel	2.57	1.22%
River Early Successional	5.97	2.82%
River Shrubland	4.88	2.30%
Roads	0.29	0.14%
Rural Developed	6.15	2.90%
Sand Pit	0.62	0.29%
Unvegetated Sandbar	2.96	1.40%
Xeric Wet Meadow	18.48	8.72%
	211.86	**100.00%**

C. Existing Land Features of Interest

1. Non-Riverine Surface Water

There is a small pond of less than 0.5 acres on the south central portion of the property. There is also a natural slough running through the property south of the main channel of the Platte River. The slough was an active channel as recently as 2001 but several years of drought combined with beaver activity have produced backwater habitat. Platte River caddis flies have been documented on this slough near the tract's western boundary, in fall 2009.

2. River Frontage and Active Channel Widths

The Tract contains approximately 2,150 feet of Platte River frontage on the south side of the channel. The river frontage across the channel is owned by the Nebraska Game and Parks Commission (NGPC) and the Crane Trust.

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. The measured channel widths are presented below in Table 3.

Table 3 – Tract 2009005 Channel Widths

Measurement	Width (ft)
Minimum Channel Width	290
Maximum Channel Width	675
Median Channel Width	610
Mean Channel Width	525

3. Contiguous Sand Substrates

In June of 2008, when the CIR imagery was flown following the natural high flow event, there were approximately 7 acres of contiguous sand substrate. The channel on this property is occasionally disked, mowed, or sprayed by the USFWS to control in-channel vegetation.

4. Island and Channel Bank Height

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

5. Groundwater

Well logs for the adjacent Crane Trust land indicate a ground water level of 2 to 8 feet below the surface.

6. Flooding in Non-Wetland Areas

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

7. Power/Transmission Lines

There are no above ground power lines crossing the 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

Tract 2009005 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 Elm Creek 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 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 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 –** Entire perimeter fence. Area is 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 $45,000. Annual maintenance costs are expected to be on the order of $3,000.

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

- ***Objective 1b*** – Control identified hazards on the property.
  - **Strategy** – Demolish abandoned buildings, clean up debris and remove wire from unmaintained interior fencing.
    - **Methods** – Asbestos is present in farmstead so all buildings will be demolished and buried on-site without burning. Contractor will be given rights to scrap metal and will be allowed to remove those materials from the property and market them.
  - **Area –** Farmstead area and abandoned interior fences are presented on Figure A-8.
  - **Timeline** – Late winter or early spring 2010.
  - **Costs** – Farmstead demolition and fence removal are expected to cost on the order of $15,000.
  - **Responsibilities** – Program staff are responsible for design and permitting. Demolition 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 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, 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. Removal of existing invasive woody vegetation is discussed under the agricultural objectives for this property.

§ **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

Ø ***Goal 3 – Manage buffer acres to increase wildlife value and increase grazing as a tool to manage vegetation.***

- ***Objective 3a*** – Rehabilitate and maintain interior livestock fencing.

  - **Strategy** – The existing interior 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 and burned and buried. Interior fencing will be three wire livestock fencing and will be constructed per Natural Resources Conservation Service (NRCS) and Nebraska Game and Parks Commission (NGPC) design criteria. Maintenance methods will be the same as for boundary fencing.

  - **Area –** Interior fence construction will take place within the understory clearing area identified on Figure A-8. Actual placement will be determined as a grazing plan is developed.

  - **Timeline** – Understory tree clearing will occur in late 2010 as a part of Objective 3b. Interior fence design and construction will take place in 2011.

  - **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 $1,000.

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

- ***Objective 3b*** – Clear invasive trees/brush from riparian forest area.

  - **Strategy** – Tree removal will target invasive trees/ shrubs such as eastern red cedar and Russian olive. All deciduous, sprouting species will be treated with appropriate herbicide where appropriate and the other species will either be mulched or placed in piles for burning - depending on capability of contractor used. Existing grasslands will be managed to provide a diverse mixture of vegetative structure and species composition.

- **Methods** – Grazing in combination with prescribed fire will be used to manage existing grasslands. Tree removal may occur via above-ground or heavy equipment methods. Grazing will typically be for a 5 month grazing period (May-October) of each year at a moderate rate. Prescribed fire will be planned to suppress cool season, invasive vegetation under appropriate environmental conditions and fuel loading during late April-May. Prescribed fire will be implemented every 4 years.

§ **Area –** Understory/ invasive tree clearing will be accomplished over the entire woodland area south of the slough. Clearing areas are presented on Figure A-8.

§ **Timeline** – Clearing will be conducted in winter 2010-2011.

§ **Costs** – Clearing is expected to cost on the order of $10,000.

§ **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.

3. Species Habitat Goals and Objectives

Ø ***Goal 4 – Expand unobstructed view in channel by clearing riparian forest.***

o ***Objective 4a*** – Clear all woody vegetation between main channel and slough.

§ **Strategy** – Woody vegetation will be cleared and grubbed using heavy equipment. Cleared material will be burned and buried on site. Cleared areas will be seeded with native grass and forb species and managed with grazing and prescribed burns.

§ **Area –** Clearing area is north of the slough and south of the main channel, approximately 48 acres, shown on Figure A-8.

§ **Timeline** – Clearing will take place in winter of 2011. Seeding will be completed in winter/spring of 2011.

§ **Costs** – The clearing/seeding is expected to cost on the order of $70,000.

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

V. TRACT-LEVEL SURVEYS, MONITORING AND RESEARCH

A. Baseline Surveys and Monitoring

1. Bald Eagle

An active Bald Eagle nest is present on Crane Trust property west of Tract 2009005. The approximate location of the nest is presented on Figure A-9.

2. Platte River Caddis Fly

The Tract was surveyed for presence of Platte River Caddis Fly (PRCF) in September of 2009. A population was discovered in existing slough habitat on the northern portion of the property south of the existing active channel. The location of the PRCF population is presented on Figure A-9. The Program will coordinate with the USFWS and NGPC to determine specific activities necessary to avoid impacting this population and to potentially enhance habitat.

3. Northern River Otter

Representatives from TNC have reported finding otter slides and scat piles on the slough that currently supports the PRCF population. Natal den surveys will be conducted if Program activities will disturb the slough or adjacent Platte River channel banks.

4. Cultural Resources

The legal description of Tract 2009005 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

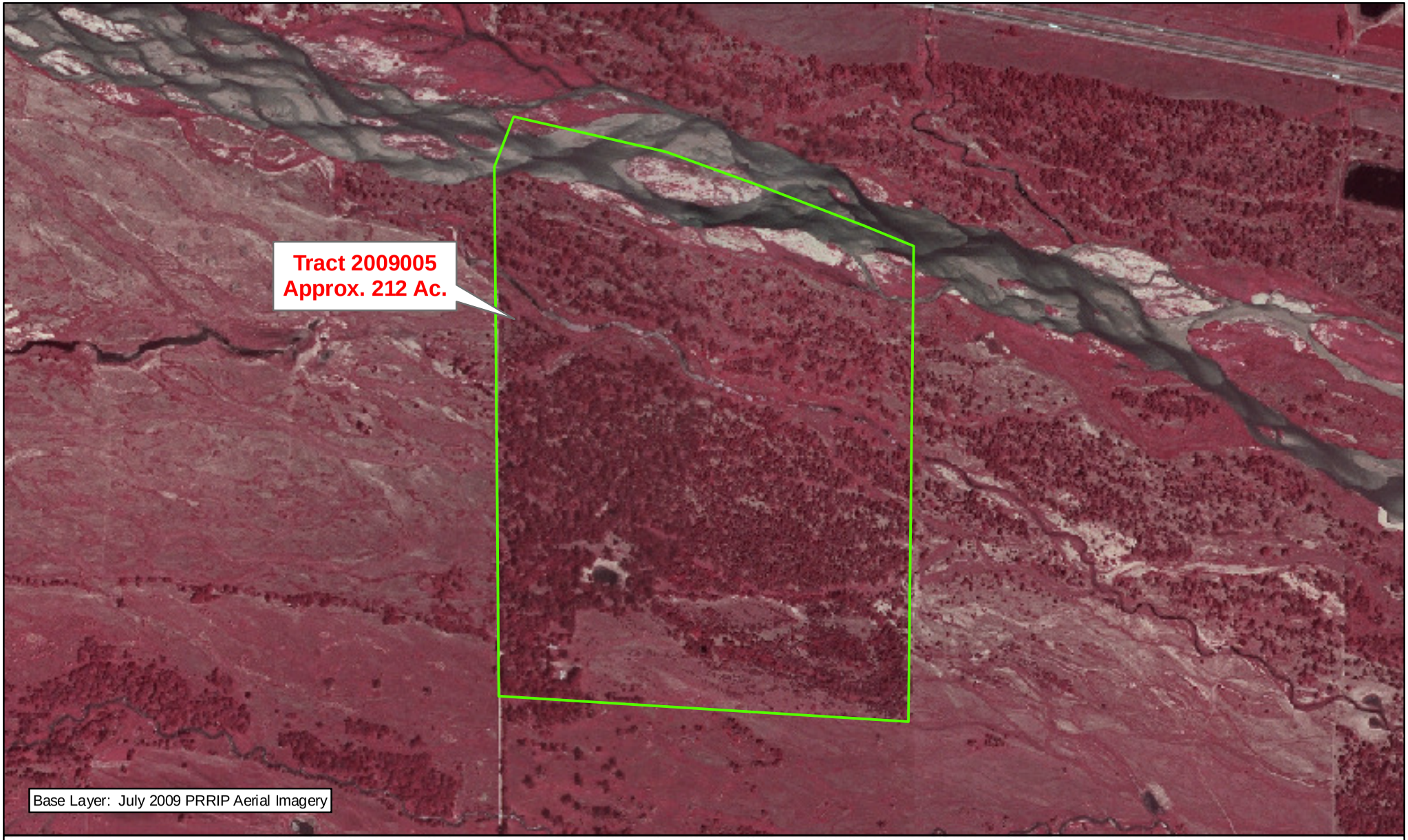
A. Education

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 recreation is currently being managed by ED Staff using a combination of Good Neighbor consideration, honoring existing hunting agreements, wildlife management needs as well as available options to control access and minimize conflicts. Development of a more comprehensive recreation and hunting policy will be addressed in 2010.

APPENDIX A – MAPS



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

2009005

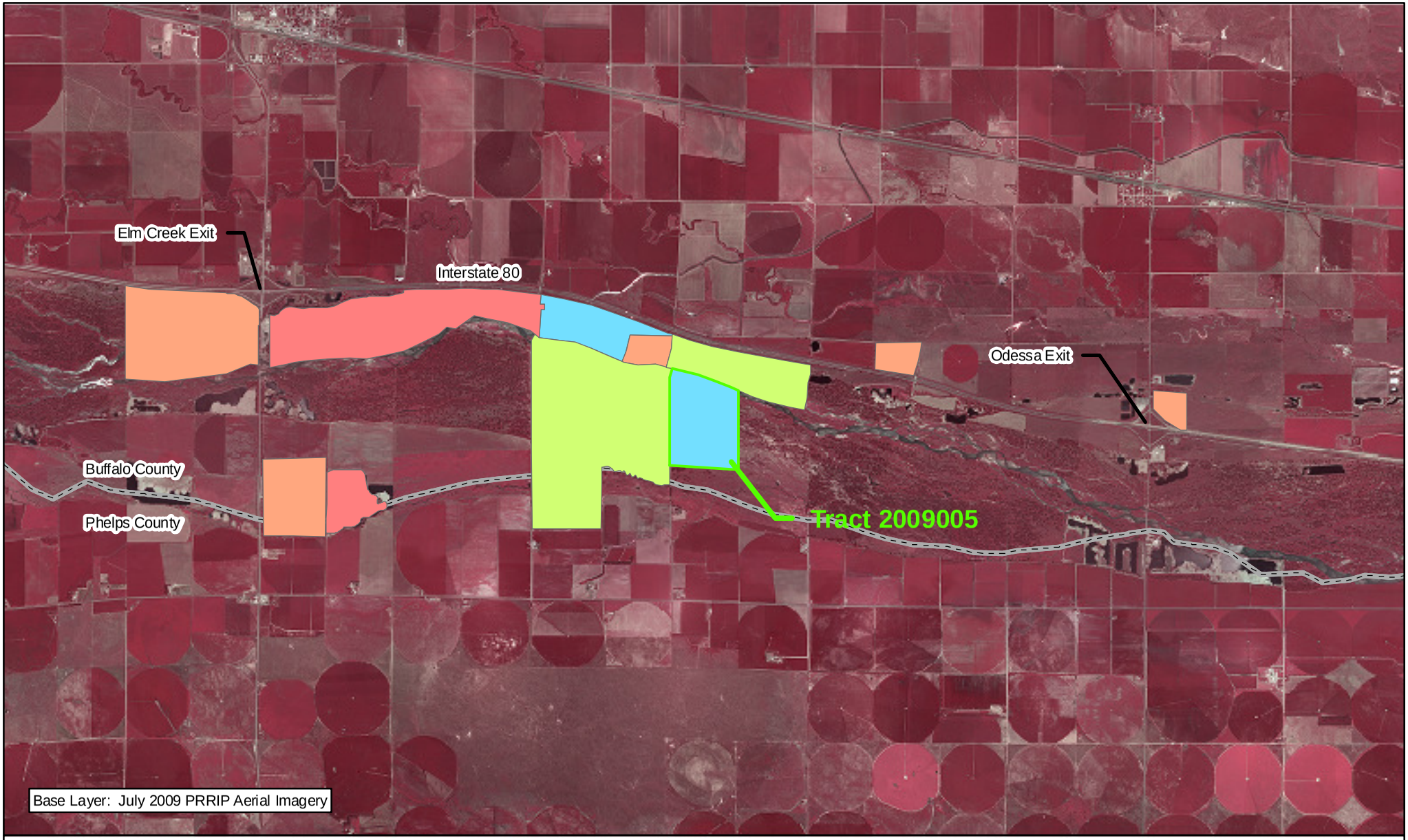
N

0.2 Miles

TRACT 2009005
BOUNDARY MAP

Date: 01/29/10
By: JDB

Figure A-1



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

- 2009005
- County
- Audubon
- CNPPID
- NGPC
- NPPD
- PRRIP
- PRWCT
- TNC
- Wyoming

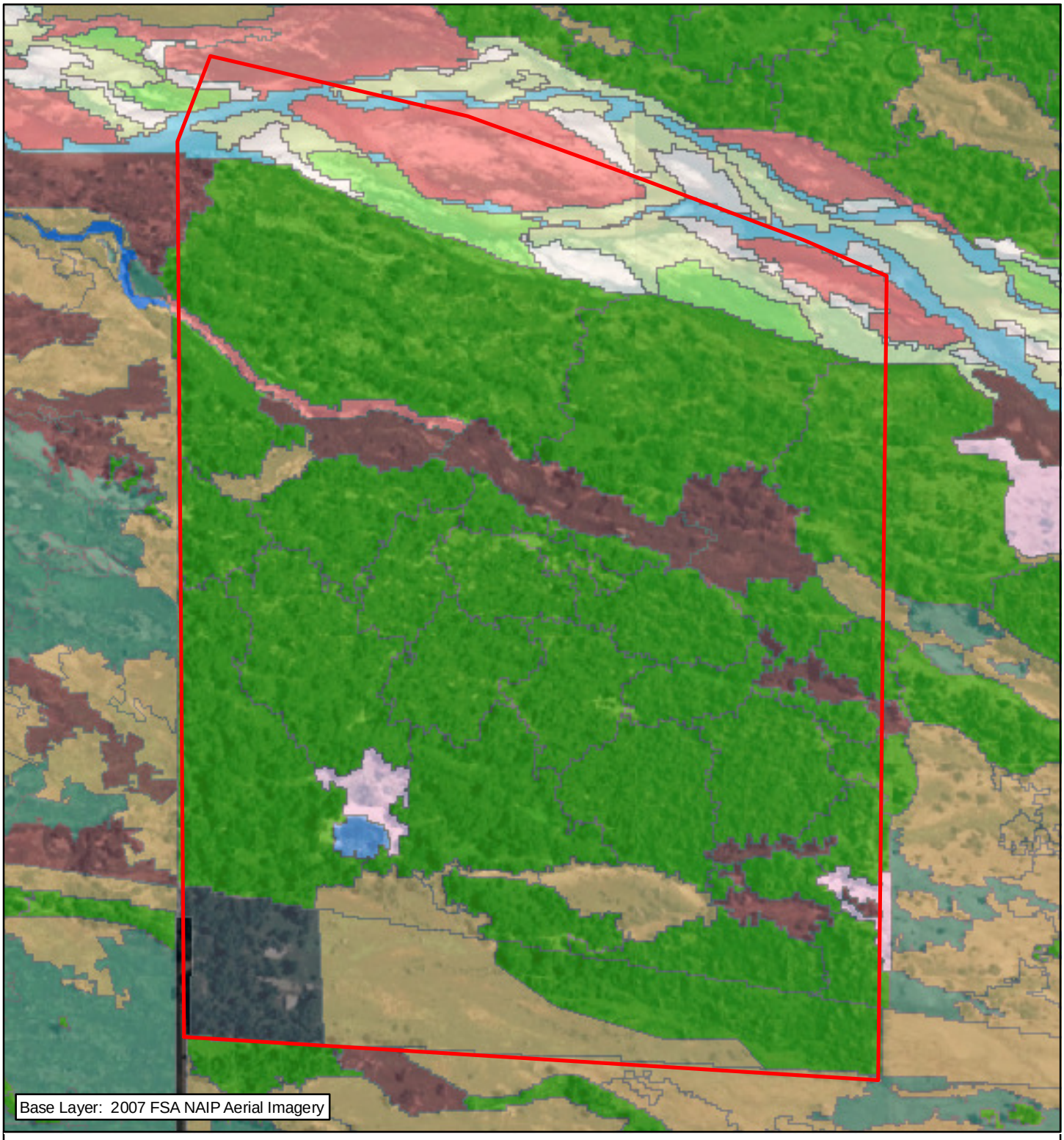
N

Miles
1

TRACT 2009005
LOCATION MAP

Date: 01/29/10
By: JDB

Figure A-2



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

- Evaluation Tract
- 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

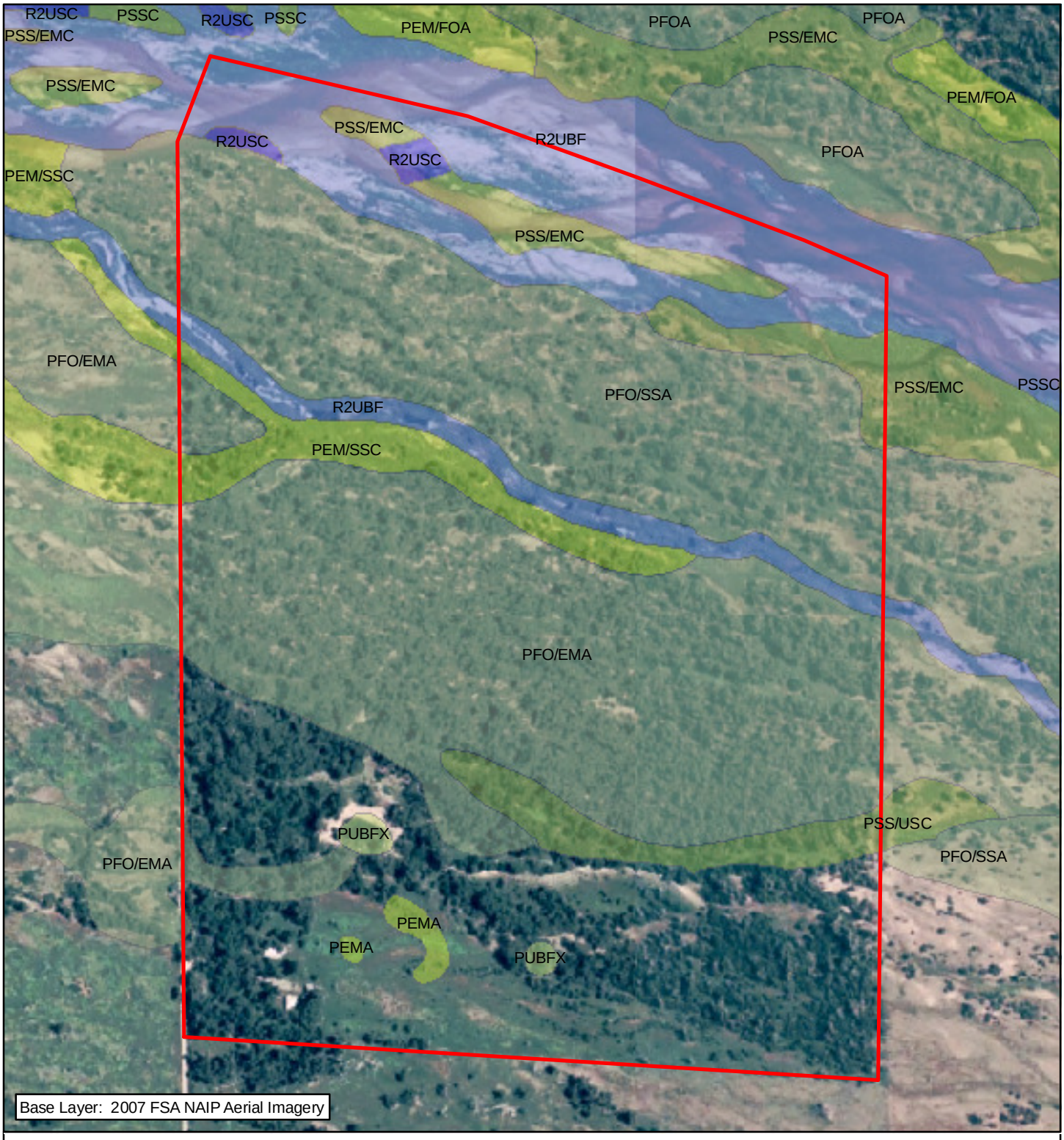
N

0.1 Miles

TRACT 0850
2005 LAND COVER/USE

Parcel Evaluation
Date: 12/17/08
By: JDB

Figure A-3



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

- Evaluation Tract
- 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)

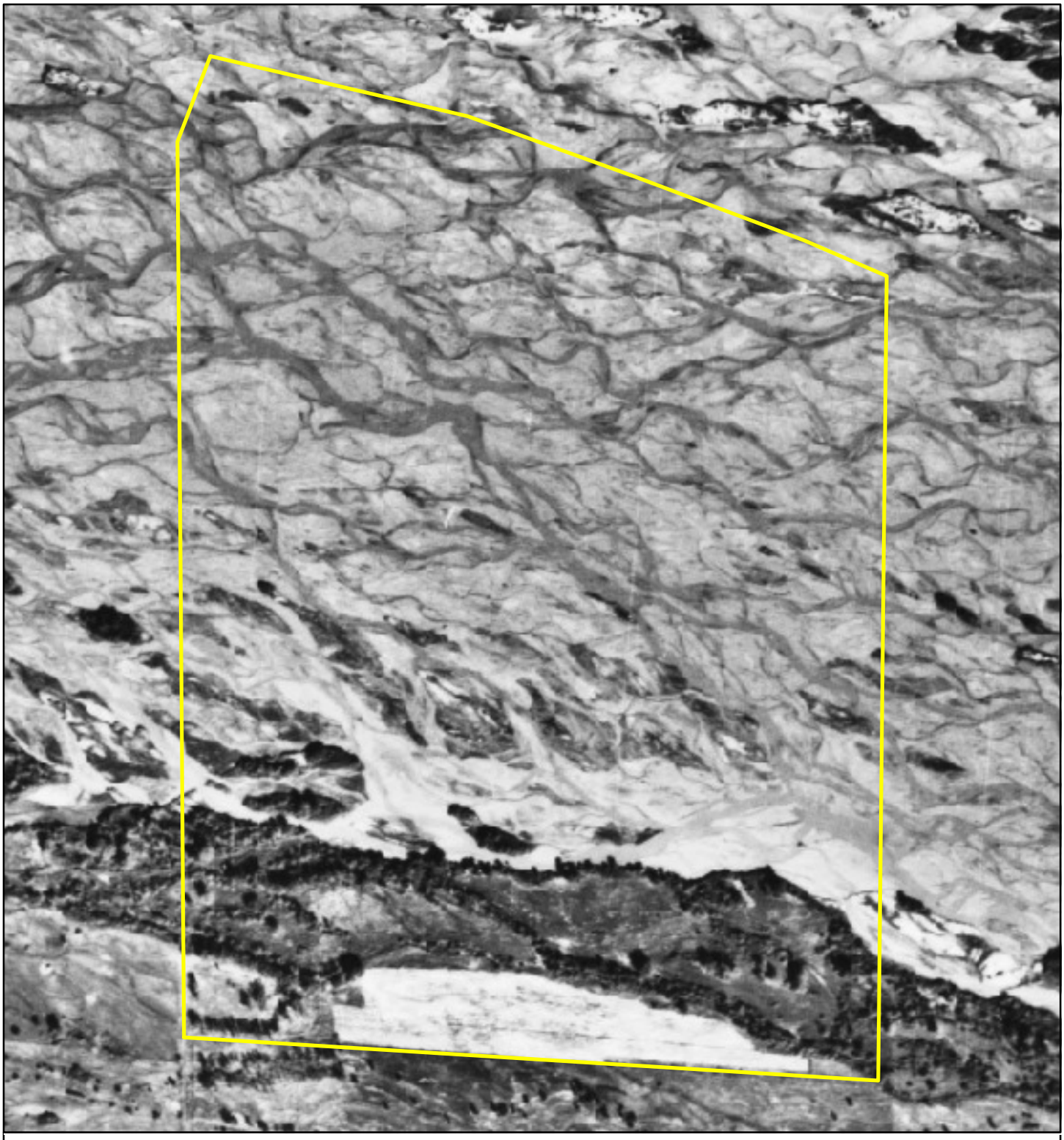
N

0.1 Miles

TRACT 0850
NWI MAP

Parcel Evaluation
Date: 12/16/08
By: JDB

Figure A-4



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

Evaluation Tract

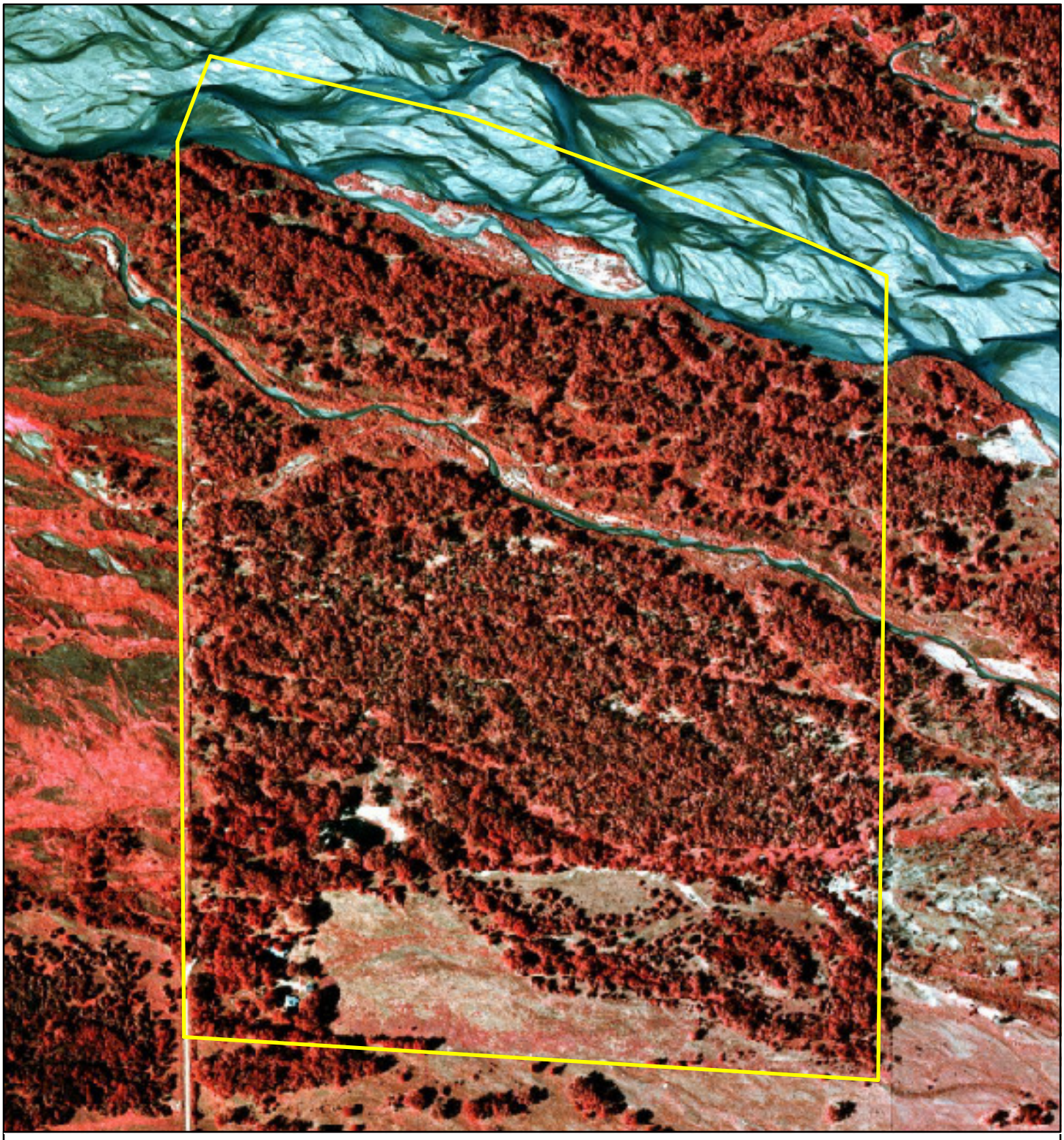
N

0.1 Miles

TRACT 0850
1938 IMAGERY

Parcel Evaluation
Date: 12/23/08
By: JDB

Figure A-5



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

Evaluation Tract

N

Miles

0.1

TRACT 0850
1998 CIR IMAGERY

Parcel Evaluation
Date: 12/23/08
By: JDB

Figure A-6

PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

Evaluation Tract

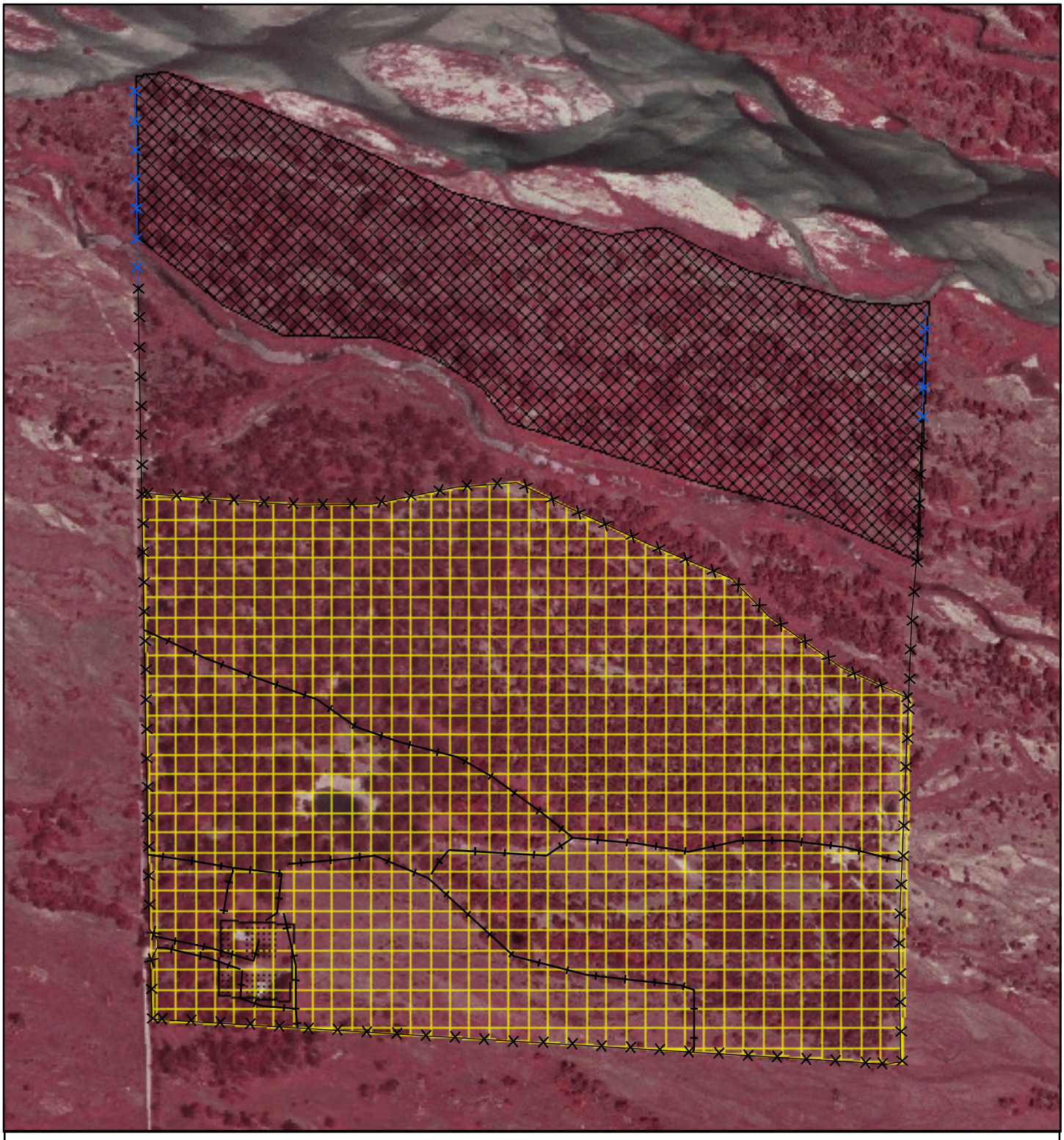
N

0.1 Miles

TRACT 0850
2008 CIR IMAGERY

Parcel Evaluation
Date: 12/23/08
By: JDB

Figure A-7



PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

- Fence to be Rebuilt
- Future Boundary Fence
- Unmaintained Fence (to be removed)
- Farmstead Removal
- Understory Invasive Clearing
- Tree Clearing

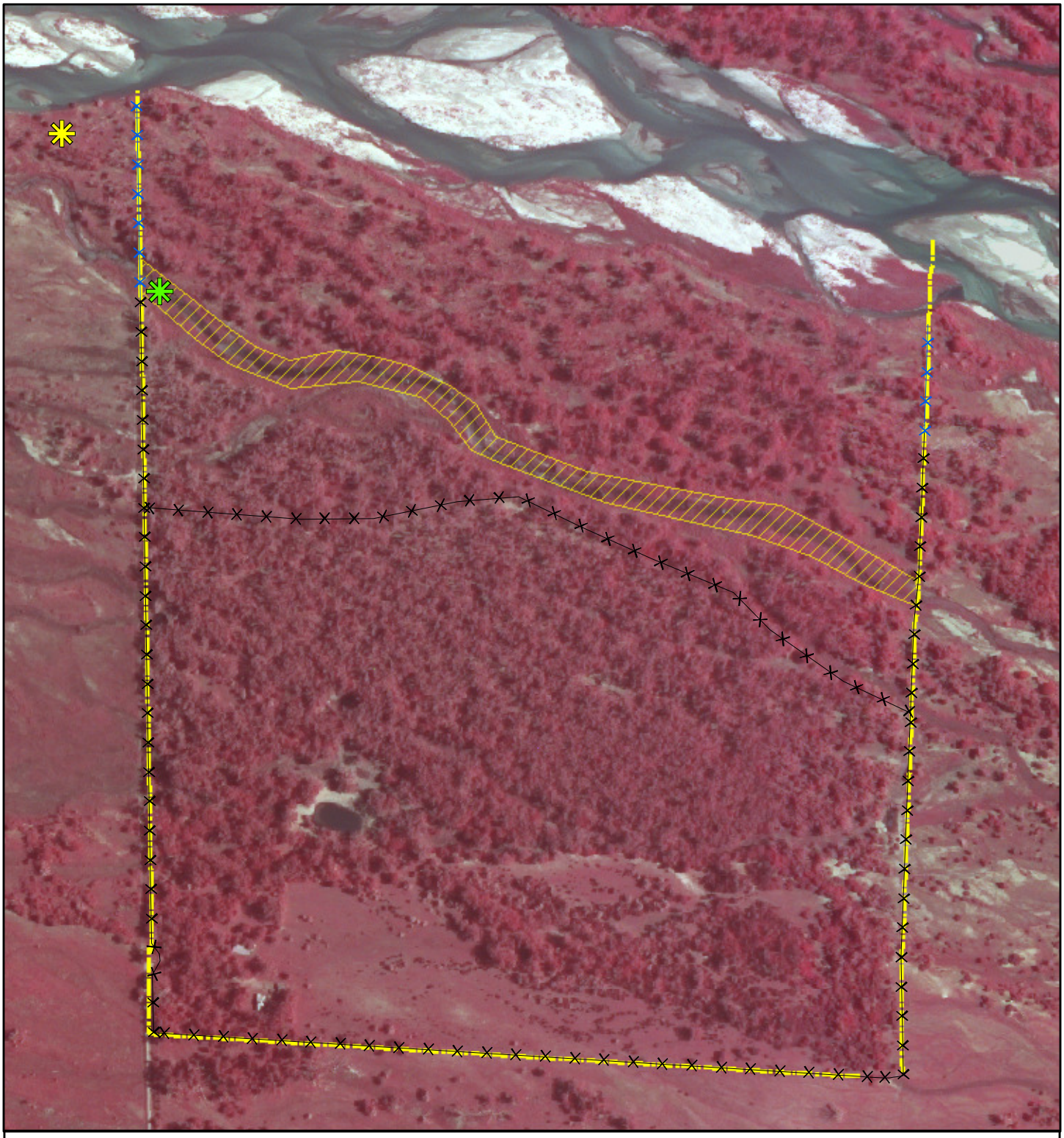
TRACT 2009005
OPERATIONS &
MAINTENANCE ACTIVITIES

2010-2014 O&M Plan

Date:1/29/10

By: JDB

Figure A-8



Legend

- Bald Eagle Nest
- Platte River Caddis Fly Population
- Future Boundary Fence
- Existing Fence
- Property Boundary
- Potential Caddis Fly Habitat

PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

TRACT 2009005
SPECIES OF INTEREST
2010-2014 O&M Plan
Date:10/19/09
By: JMF

Figure A-9

APPENDIX C – COMPLEX ANNUAL WORK PLANS

2010 Elm Creek Complex Annual Work Plan

Platte River Recovery Implementation Program

For More Information Contact: Jerry F. Kenny, kennyj@headwaterscorp.com, (308) 237-5728

General Priorities

- ***Complex Land Interest*** *- Execute management agreements with conservation and private landowners that will allow the Program to implement necessary construction, maintenance and research/monitoring activities.*
- ***Good Neighbor Policy*** *– Conduct all actions in accordance with Program's good neighbor policy.*

Adaptive Management Priorities

- ***Tern and Plover Riverine Habitat Experiment*** *– Design and construction of in-channel nesting islands and targeted tree clearing to increase distance to visual obstructions and predator roost habitat.*
- ***Whooping Crane Riverine Habitat Experiment*** *– Design and implement vegetation clearing to provide a range of unobstructed view widths above the Programs minimums.*
- ***Riverine versus Off-Channel Tern and Plover Nesting*** *– Monitor tern and plover use and productivity on Program riverine habitat and nearby off-channel sand & water nesting habitat (potential OCSW sites include NPPD's Blue Hole sandpit and Johnson Sandpit).*
- ***Flow-Sediment-Mechanical (FSM) Experiment*** *– Design and construction of channel clearing and leveling upstream of the Kearney Canal diversion.*

Species Habitat Priorities

- ***Improve Target Species Sand and Water Habitat*** *– Increase available sand and water habitat for species through design and construction of tern and plover, whooping crane and FSM experiments, which will create habitat that meets Program criteria.*
- ***Protecting Other Species of Concern*** *– Identify presence of and determine methods to protect and/or benefit other species of concern while implementing land-related activities.*

Operations and Maintenance Priorities

- ***Basic Property Maintenance Obligations and Needs*** *– Fulfill basic property ownership obligations and needs on Tracts 2009002 and 2009005.*
- ***Agricultural Operations*** *– Perform grazing improvements and cropland management on Tracts 2009002 and 2009005.*

Priority Area: *General*
Item(s): *Complex Land Interest and Good Neighbor Policy*

Activities for 2010	Target Dates	Person Responsible	Cost (Estimated)	Budget Line Item
Execution of management agreements w/ other conservation and private landowners for in-channel research and habitat construction activities	1/1/10 – 6/30/10	BS	N/A	N/A
Coordination of Program land actions with neighboring landowners	1/1/10 – 12/31/10	BS	N/A	N/A

Priority Area: *Adaptive Management*
Item(s): *Tern, Plover and Whooping Crane Riverine Habitat Experiments*

Activities for 2010	Target Dates	Person Responsible	Cost (Estimated)	Budget Line Item
Experimental and Engineering design, permitting and bidding (budget for permitting)	1/1/10 – 9/30/10	JF	$10,000	PD-15
Construction for habitat selection experiments including tree and vegetation clearing and nesting island construction	10/1/10 – 4/01/11	TT	$140,000	LP-2

Priority Area: *Adaptive Management*
Item(s): *Flow-Sediment-Mechanical Experiment*

Activities for 2010	Target Dates	Person Responsible	Cost (Estimated)	Budget Line Item
Experimental and Engineering design, permitting and bidding (budget for permitting)	1/1/10 – 9/30/10	JF	$10,000	PD-15
Construction for FSM experiment including vegetation clearing and channel leveling	10/1/10 – 4/01/11	TT	$110,000	LP-2

Priority Area: *Species Habitat*
Item(s): *Other Species of Concern*

Activities for 2010	Target Dates	Person Responsible	Cost (Estimated)	Budget Line Item
Habitat and species surveys on properties where work will occur	As Needed	DB	N/A	N/A
Coordination with USFWS and NGPC to identify and mitigate potential impacts associated with 2010 land activities	1/1/10 – 4/1/10	JF	N/A	N/A

Priority Area: *Operations and Maintenance*
Item(s): *Basic Property Maintenance Obligations and Needs*

Activities for 2010	Target Dates	Person Responsible	Cost (Estimated)	Budget Line Item
Tract 2009002 boundary signage	4/1/10 – 5/1/10	TT	$500	LP-4
Tract 2009002 fence and road maintenance	4/1/10 – 10/1/10	TT	$1,000	LP-4
Tract 2009002 building utilities and maintenance	1/1/10 – 12/31/10	TT	$3,000	LP-4
Tract 2009002 invasive tree and brush removal	4/1/10 – 10/1/10	TT	$6,000	LP-4
Tract 2009002 noxious weed control	6/1/10 – 8/31/10	TT	$5,000	LP-4
Tract 2009005 boundary tree clearing, fence reconstruction and signage	4/1/10 – 10/1/10	TT	$45,000	LP-4
Tract 2009005 farmstead demolition and burial	1/1/10 – 2/1/10	TT	$15,000	LP-4
Tract 2009005 noxious weed control	6/1/10 – 8/31/10	TT	$5,000	LP-4

Priority Area: *Operations and Maintenance*
Item(s): *Agricultural Operations*

Activities for 2010	Target Dates	Person Responsible	Cost (Estimated)	Budget Line Item
Tract 2009002 cropland management	5/1/10 – 10/31/10	BS	$500	LP-4
Tract 2009005 interior livestock fence removal/reconstruction and tree clearing	12/1/10 – 4/1/10	TT	$20,000	LP-4
Tract 2009005 invasive tree/understory clearing in grazing areas	12/1/10 – 3/1/11	TT	$10,000	LP-4

Personnel Responsibility Key:

BS – Bruce Sackett (Land Specialist)
DB – David Baasch (Wildlife Biologist)
TT – Tim Tunnell (Land Manager)
JF – Jason Farnsworth (Technical Support Services)

2010 Elm Creek Complex Budget Summary

Estimated 2010 Expenditures by Program Budget Line Item

Priority Area	Item	Budget Line Item	Estimated Expenditure
Adaptive Management	Tern, Plover and Whooping Crane Experiment Permitting	PD-15	$10,000
Adaptive Management	Flow-Sediment-Mechanical Experiment Permitting	PD-15	$10,000
		Subtotal	***$20,000***
Adaptive Management	Tern, Plover and Whooping Crane Experiments	LP-2	$140,000
Adaptive Management	Flow-Sediment-Mechanical Experiment	LP-2	$110,000
		Subtotal	***$250,000***
Operations and Maintenance	Property Maintenance Obligations and Needs	LP-4	$80,500
Operations and Maintenance	Agricultural Operations	LP-4	$30,500
		Subtotal	***$111,000***
		Total	**$381,000**

Estimated 2010 Revenues

Priority Area	Item	Estimated Income
Operations and Maintenance	Tract 2009002 Cropland Rent	$3,900
Operations and Maintenance	Tract 2009005 Grazing Lease Income	$3,000

APPENDIX B – TRACT OPERATIONS AND MAINTENANCE PLANS

2010 Elm Creek Complex Budget Summary

Estimated 2010 Expenditures by Program Budget Line Item

Priority Area	Item	Budget Line Item	Estimated Expenditure
Adaptive Management	Tern, Plover and Whooping Crane Experiment Permitting	PD-15	$10,000
Adaptive Management	Flow-Sediment-Mechanical Experiment Permitting	PD-15	$10,000
		Subtotal	***$20,000***
Adaptive Management	Tern, Plover and Whooping Crane Experiments	LP-2	$140,000
Adaptive Management	Flow-Sediment-Mechanical Experiment	LP-2	$110,000
		Subtotal	***$250,000***
Operations and Maintenance	Property Maintenance Obligations and Needs	LP-4	$80,500
Operations and Maintenance	Agricultural Operations	LP-4	$30,500
		Subtotal	***$111,000***
		Total	**$381,000**

Estimated 2010 Revenues

Priority Area	Item	Estimated Income
Operations and Maintenance	Tract 2009002 Cropland Rent	$3,900
Operations and Maintenance	Tract 2009005 Grazing Lease Income	$3,000