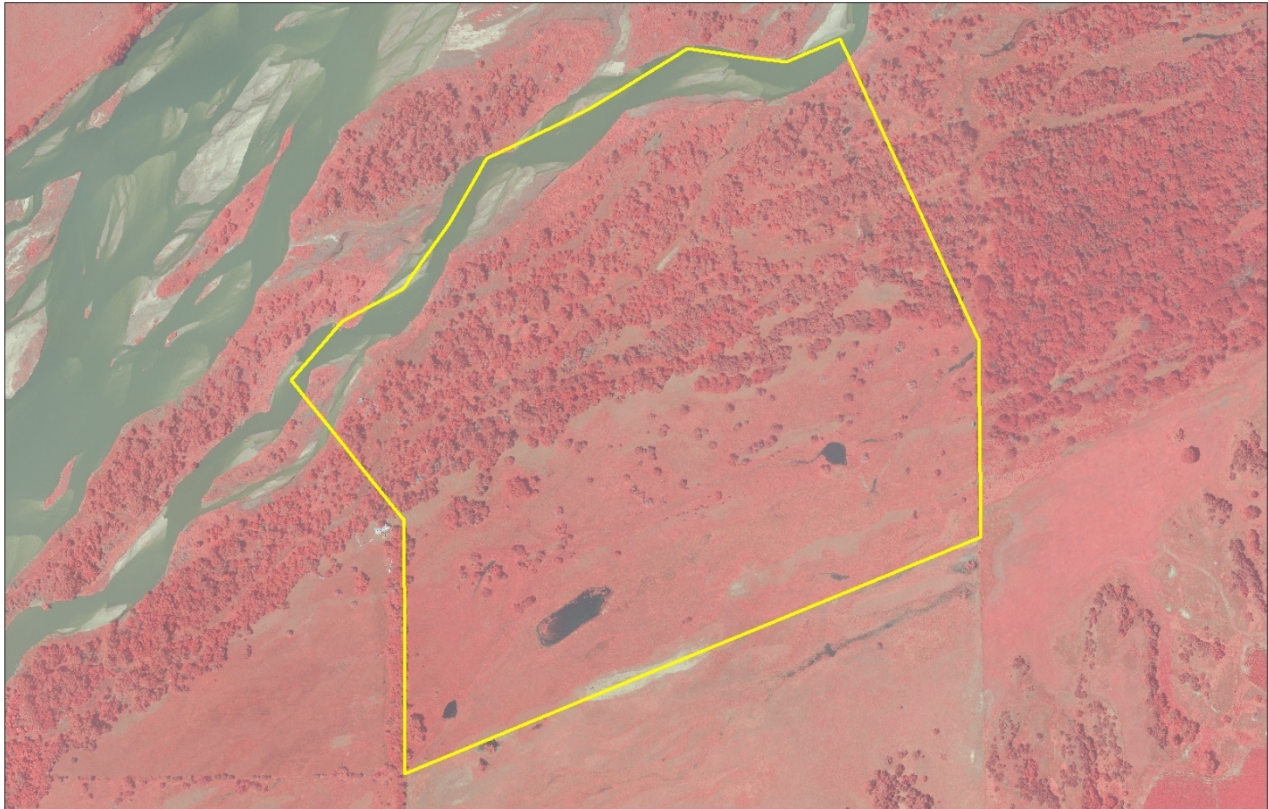


2020-2032 RESTORATION AND MAINTENANCE PLAN

For

TRACT 2019001 (1804)



Prepared for:
**Platte River Recovery Implementation
Program Land Advisory Committee**

Completion Date:
11/16/2020

GC Approved Date:
12/2/2020

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1. PROPERTY DESCRIPTION AND BACKGROUND

A. Purpose

The purpose of this plan is to outline the restoration, operations and maintenance activities, as well as species habitat and adaptive management research and monitoring activities that will occur on Tract 2019001 (Evaluation Tract Number 1804) during the period of 2020-2032. Species habitat and Adaptive Management research and monitoring actions associated with this tract are addressed in the “Restoration and Management Framework for PRRIP Habitat Complexes - September 2018” 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 2019001 is approximately 146 acres in size and is located in portions of Southeast 1/4 Section 10, T-11N, R-008W and in portions of the West 1/2 Section 11 T-11N R-008 W. Figure A-1 (located in Appendix A) delineates the property boundary. The tract is in the Highway 34 to Chapman bridge segment also referred to as the Chapman Complex. Figure A-2 shows the parcel location within the Program land acquisition area between the Chapman and Highway 34 bridge segments. It should be noted that there are no other existing leased or owned conservation lands within this area other than Program owned land. Tract 2019001 will be counted towards the 1,500 acre Plus-up goal for the Extension period of 2020-2032 as agreed to by the Governance Committee on December 5, 2017.

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.

2. RESPONSIBILITIES

A. Management Responsibilities

1. Planning

Annual Work Plans for this property are to 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.

The Restoration and Maintenance Plan will go through a major revision process where the goals, objectives, and activities will be reevaluated, as necessary. Plan updates will be subject to the same comment and approval process as the original Plan.

3. 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 2019001 Complex Habitat Acres Land

| Land Classification* | Acres |
|-----------------------------|--------------|
| Grassland | 66 |
| Channel | 10 |
| Woodland | 70 |
| Total | 146 |

* 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.

1. Associated Complex Habitat

The nearby Tract 2020001 managed habitats can function as associated complex habitats.

B. Land Cover

Existing land cover/use on and adjacent to this Tract was evaluated utilizing the updated 2005 land cover overlay developed in cooperation with the Whooping Crane Maintenance Trust Inc. (Crane Trust) and the United States Fish and Wildlife Service (USFWS). The land cover classifications from the overlay were compared to the most recent United States Department of Agriculture (USDA) Farm Service Agency (FSA) and Program aerial photography in order to identify any land use changes that have occurred since the development of that dataset. The 2005 land cover/use for this Tract is summarized in Table 1. Several additional land cover/use related maps are in Appendix

A including:

- Figure A-3 – 2005 Land Cover/Use
- Figure A-4 – National Wetland Inventory
- Figure A-5 – 1998 CIR Aerial Photography
- Figure A-6 – 2019 CIR Aerial Photography
- Figure A-7 – Complex Habitat
- Figure A-8 – Riverine / Wet Meadow Activities
- Figure A-9 – Grassland Activities

Table 2 – Tract 2019001 2005 Land Cover/Use Summary

| Land Cover Classification | Acres | Percent of Total |
|----------------------------------|---------------|-------------------------|
| Ag | 0.02 | 0.01% |
| Bare ground/ Sparse Veg | 0.08 | 0.05% |
| Mesic Wet Meadow | 15.99 | 10.95% |
| Phragmites | 1.40 | 0.96% |
| Riparian Shrubland | 16.07 | 11.00% |
| Riparian Woodland | 53.05 | 36.32% |
| River Early Successional | 0.92 | 0.63% |
| River Shrubland | 3.51 | 2.40% |
| Rural Developed | 0.01 | 0.00% |
| Sandpit | 0.08 | 0.05% |
| Unvegetated Sandbar | 4.13 | 2.83% |
| Upland Woodland | 2.02 | 1.38% |
| Xeric Wet Meadow | 48.76 | 33.39% |
| | 146.04 | 100.00% |

C. Existing Land Features of Interest

1. *Non-Riverine Surface Water*

The southern wet meadow has 3 ponds varying in size from 0.1 to 1 acre in size.

2. *River Frontage and Active Channel Widths*

The tract contains approximately 3,081 feet of Platte River frontage on the main channel. 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 2019 under high flow conditions. Measured main channel widths are presented in Table 3.

Table 3– Tract 2019001 Channel Widths

| Measurement | Width (ft) |
|-----------------------|------------|
| Minimum Channel Width | 103 |
| Maximum Channel Width | 340 |
| Median Channel Width | 190.5 |
| Mean Channel Width | 189 |

3. *Contiguous Sand Substrates*

At the time of the review, and as evidenced by current aerial photography, Tract 2019001 contains no substantial areas of contiguous sand substrate.

4. *Island and Channel Bank Height*

Channel bank height estimated from 2017 LiDAR is on the order of three to six feet above water. Under typical summer flow conditions, this is likely one to four feet above water.

5. *Groundwater*

Depth to groundwater on this tract was estimated from a few small ponds on the lowland area of the site. Groundwater depths appear to be one to three feet.

6. *Flooding in Non-Wetland Areas*

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

7. *Power/Transmission Lines*

There are no power lines on 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 2019001 does not include any NRD certified irrigated acres.

4. RESTORATION 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.

1. Species Habitat

- **Goal 1 – Convert 65-acre mature cottonwood riparian forest to wet meadow/grassland habitat and improve existing wet meadow habitat for WC and other species of concern.**
 - **Objective 1** – Create and maintain wet meadow/grassland that will add acres of mesic and xeric wet meadow that conforms to the land cover classifications in Table 2, Target Habitat Complex Guidelines of the Land Plan and/or other criteria that may be developed by the Adaptive Management Working Group in regards to their development of a plan for wet meadows into the Extension.
 - **Strategy** – Use prescribed fire as a method to enhance (and preserve) existing understory vegetation by minimizing mechanical disturbance and soil turnover disturbance of seedbank. Mechanically clear firebreaks on east, west and northern boundaries, implementing prescribed fires annually, to the extent possible under safe prescribed fire conditions, to eliminate understory brushy vegetation and small trees while top-killing larger trees for a period of 10 years. At the end of 10 years, use aboveground mechanical clearing of tree skeletons killed through years of prescribed fire.
 - **Methods** – The riverbank and property boundaries will be cleared using heavy equipment. Cleared material will be burned and buried on site. Prescribed fire will be conducted by trained burn crew following NWCG (National Wildfire Coordinating Group) standards. Prescribed fire may be conducted in spring, summer, or fall.
 - **Area** – Approximate area for firebreak tree clearing and prescribed fire are identified on Figure A-8 – (Approximately 65 acres of riparian forest to transition to wet meadow/grassland and 20 acres tree clearing area).
 - **Timeline** – Project planning will take place in 2020. Tree clearing on riverbank and property boundaries will take place in late 2020 - early 2021 and prescribed fire will take place annually thereafter. Aboveground clearing of the standing dead tree skeletons will take place after 5-10 years of prescribed fire and/or as needed.
 - **Costs** – The firebreak clearing is expected to cost on the order of \$38,000, prescribed fire is expected to be \$6,500 annually, and aboveground tree clearing is expected to cost \$27,000.
 - **Responsibilities** – Program staff are responsible for design and permitting. Prescribed burning, construction and maintenance activities will be bid.

➤ **Goal 2 – Manage existing 68-acre wet meadow and grasslands in varying degrees of vegetative stature as of March 1 in any given year to provide habitat for whooping cranes and species of concern (sandhill cranes and grassland nesting birds) as specified in the “Restoration & Management Framework for PRRIP Habitat Complexes.”**

- **Objective 2** – Manage vegetation structure and composition to provide habitat for whooping cranes during migration, while at the same time a diverse and taller vegetation structure for grassland nesting birds.
 - **Strategy** – Use a combination of livestock grazing, haying, mowing, and prescribed fire to provide a diverse mixture of vegetative structure and species composition as of March 1 in all years.
 - **Methods** – Grazing in combination with prescribed fire will be used to manage existing grasslands. Grazing will typically be for a 5-month grazing period (May 1-October 1) each year at a light to moderate stocking rate. Typical stocking rate will be 1 animal unit (one cow/calf pair or its equivalent in yearling cattle) per 5.5 acres. Each management unit will be evaluated annually and adjustments in stocking rate and timing will be made accordingly. Prescribed fire will be planned to suppress cool season, invasive vegetation under appropriate environmental conditions and fuel loading and conducted during late March to Mid-May. Prescribed fire will be implemented on each management unit on a 4-year return interval.
 - **Area** – Grazing area of 68 acres as illustrated on Figure A-9.
 - **Timeline** – Annually.
 - **Costs** – Prescribed fire cost is a minimum of \$41/ acre and estimated income from grazing is \$3,640 for 14 pair grazing for 5 months out of the year.
 - **Responsibilities** – Program staff in coordination with the appropriate Program committees will be responsible for planning, design and permitting. Contractors, hired by the Program, will perform the construction and maintenance work. Contractors, hired by the Program, will perform the prescribed burn.

➤ **Goal 3 – Provide benefits to other species of concern without compromising ability to accomplish target species goals and objectives**

- **Objective 3** – Evaluate habitat protection for other species of concern as need or opportunity is brought forward by USFWS or NGPC.
 - **Strategy** – The USFWS and NGPC may provide guidance on species of concern that could be present and benefit from management measures. Upon request by the USFWS and NGPC, the Program will survey specified tracts to determine presence of those species. The Program will then consult with the USFWS and NGPC to determine appropriate measures for protecting, preserving, and enhancing populations of those species while accomplishing Program goals.

- **Responsibilities** – USFWS and NGPC are responsible for bringing forward species of concern that need to be addressed in the planning process. Program staff will be responsible for habitat protection planning, with technical assistance from these agencies.

2. *Property Maintenance*

➤ *Goal 4 – Fulfill basic property ownership obligations and needs.*

- **Objective 4a** – Rehabilitate and maintain property boundary fencing and signage.
 - **Strategy** – The existing fence is in average to good condition (9,739 LF or 1.8 miles). The overall strategy will be to clear woody vegetation as necessary for access and fence reconstruction and rebuilding or replacing the boundary fence (with signage and on surveyed boundary line) as necessary. Fence maintenance strategy will be a combination of minimizing maintenance needs and scheduled maintenance. In addition, 6,811 of new fencing will be installed and 3,187 LF of fence will be removed as illustrated on Figure A-9.
 - **Methods** – Where necessary, trees will be cleared using heavy equipment. They will be stacked into piles and burned and buried. Boundary fencing will be four wire livestock fencing and will be constructed per Natural Resources Conservation Service (NRCS) design criteria. The fence will include Program ownership and contact signage at regular intervals. Maintenance methods may include mowing or spraying of woody species in the cleared area as well as routine fence upkeep.
 - **Area** – Segments of fence are displayed on Figure A-9.
 - **Timeline** – Fence reconstruction and associated vegetation removal will begin when necessary.
 - **Costs** – Annual maintenance costs are expected to be on the order of \$2,000. New fence construction is expected to be \$17,030 (\$2.50 per linear foot) and \$956 (\$0.30 per linear foot) for removal.
 - **Responsibilities** – Program staff are responsible for design and permitting. Construction and maintenance activities will be bid.
- **Objective 4b** – Control noxious weeds on property.
 - **Strategy** – Infestations of noxious weeds will be eliminated (to the extent possible) annually as specified in the “Restoration & Management Framework for PRRIP Habitat Complexes.” An integrated management approach to control noxious weeds will be used to the extent possible and specific control methods will be updated as new information becomes available. Ongoing management/control needs will be assessed annually and incorporated into Work Plans.

- **Methods** – Herbicide application will be the primary method for control of noxious weeds. Biological controls will be considered, but only used if deemed effective enough to result in effective control within three growing seasons.
- **Area** – Noxious weeds will be controlled on the entire property.
- **Timeline** – Control efforts will be undertaken annually according to a timeline that avoids potential interaction with target species and other species of concern.
- **Costs** – Annual costs are expected to be less than \$3,000.
- **Responsibilities** – Program Staff are responsible for identifying infestations and planning/coordinating control efforts. Control activities will be carried out by contractors. The contractor will typically be the county weed authority.

➤ ***Goal 5 – Minimize habitat impacts due to invasive vegetation.***

- ***Objective 5*** – Eliminate existing and control future infestations of invasive vegetation not listed as noxious weeds as specified in the “Restoration & Management Framework for PRRIP Habitat Complexes.”
 - **Strategy** – Existing stands of invasive vegetation will be eliminated (to the extent possible) in phases. 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 while other species may 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 done as needed according to a timeline that avoids potential interaction with target species and other species of concern.
 - **Costs** – Annual costs will be identified in the annual Work Plans as needed and are expected to be less than \$5,000.
 - **Responsibilities** – Program staff will be responsible for identifying infestations. Control activities will be carried out by contractors.

3. TRACT-LEVEL SURVEYS, MONITORING AND RESEARCH

A. Baseline Surveys and Monitoring

1. *Bald Eagle*

No bald eagle nests have been identified on this property.

2. *Platte River Caddisfly*

Surveys for Platte River caddisfly may be conducted on this tract to identify potential habitat areas and populations. If populations are present where management actions may cause negative impacts, the Program will coordinate with USFWS and NGPC to determine appropriate methods of avoidance or mitigation.

3. *Northern River Otter*

No otters have been observed on this tract, but they have been known to use the general area. Surveys will be conducted prior to commencement of activities that may negatively impact natal dens when undertaken during the period when otters are utilizing dens (February 15 – June 15).

4. *Northern Long-eared Bat*

No long-eared bats have been observed on this tract, but they have been known to use the general area. The Program will not remove trees between 1 June and 31 July to avoid impacts to northern long-eared bats during the summer and will coordinate with USFWS and NGPC if the species is found on Program properties.

5. *Cultural Resources*

The legal description of Tract 2019001 will be provided to the State Historic Preservation Office (SHPO) to facilitate the early identification of potential cultural resources related issues. If Program actions uncover potential artifacts or human remains, work will cease until such time that the Program can consult with SHPO to determine the appropriate course of action.

B. Research

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

4. PUBLIC ACCESS

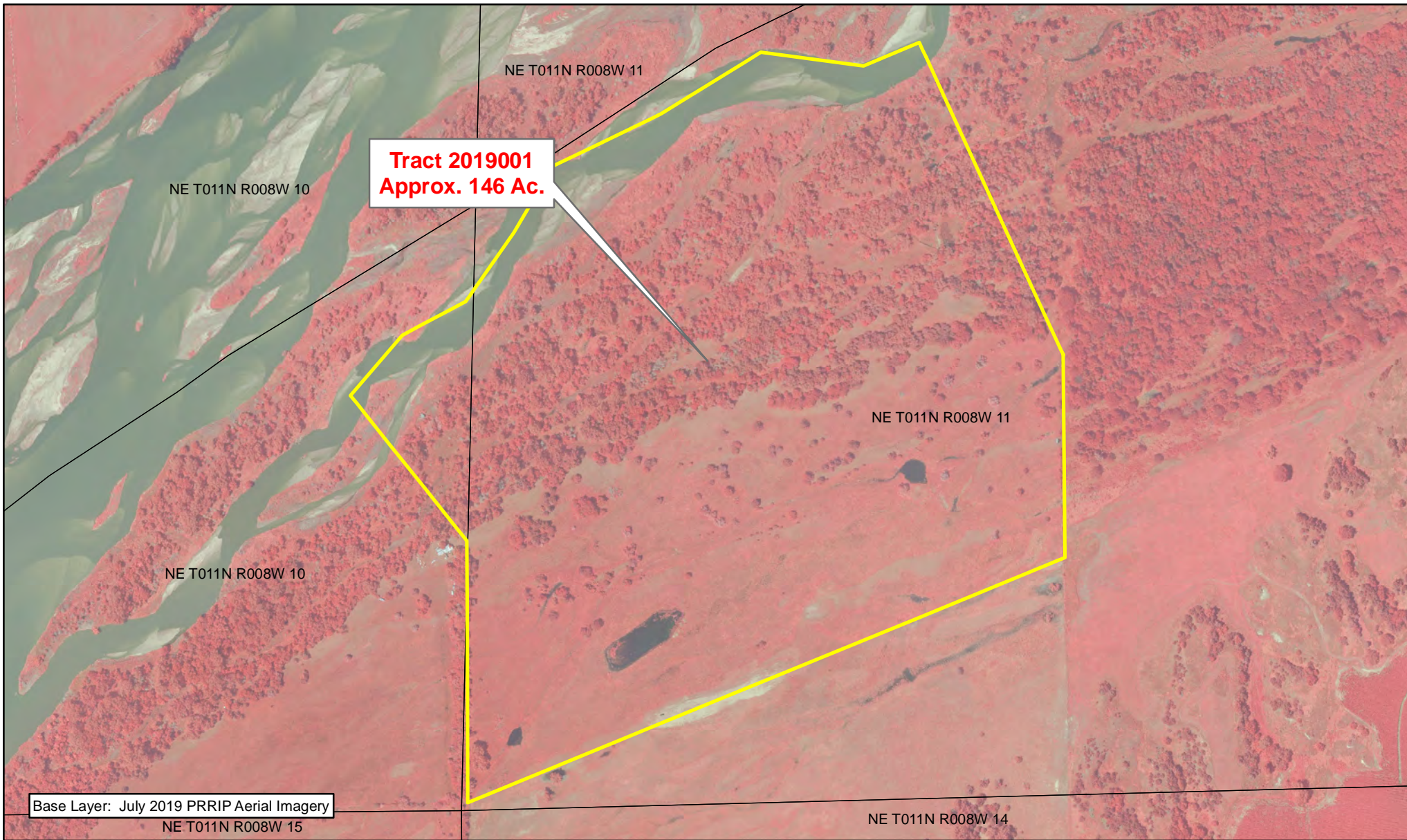
A. Education

Access for education, including non-Program research, will be allowed on a case-by-case basis if 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 not allowed due to an existing hunting agreement. Recreation and hunting will not apply to this property until the existing agreement is terminated.

5. APPENDIX A – FIGURES




PLATTE RIVER
RECOVERY IMPLEMENTATION PROGRAM

Legend

-  Conservation_Lands
-  Sections

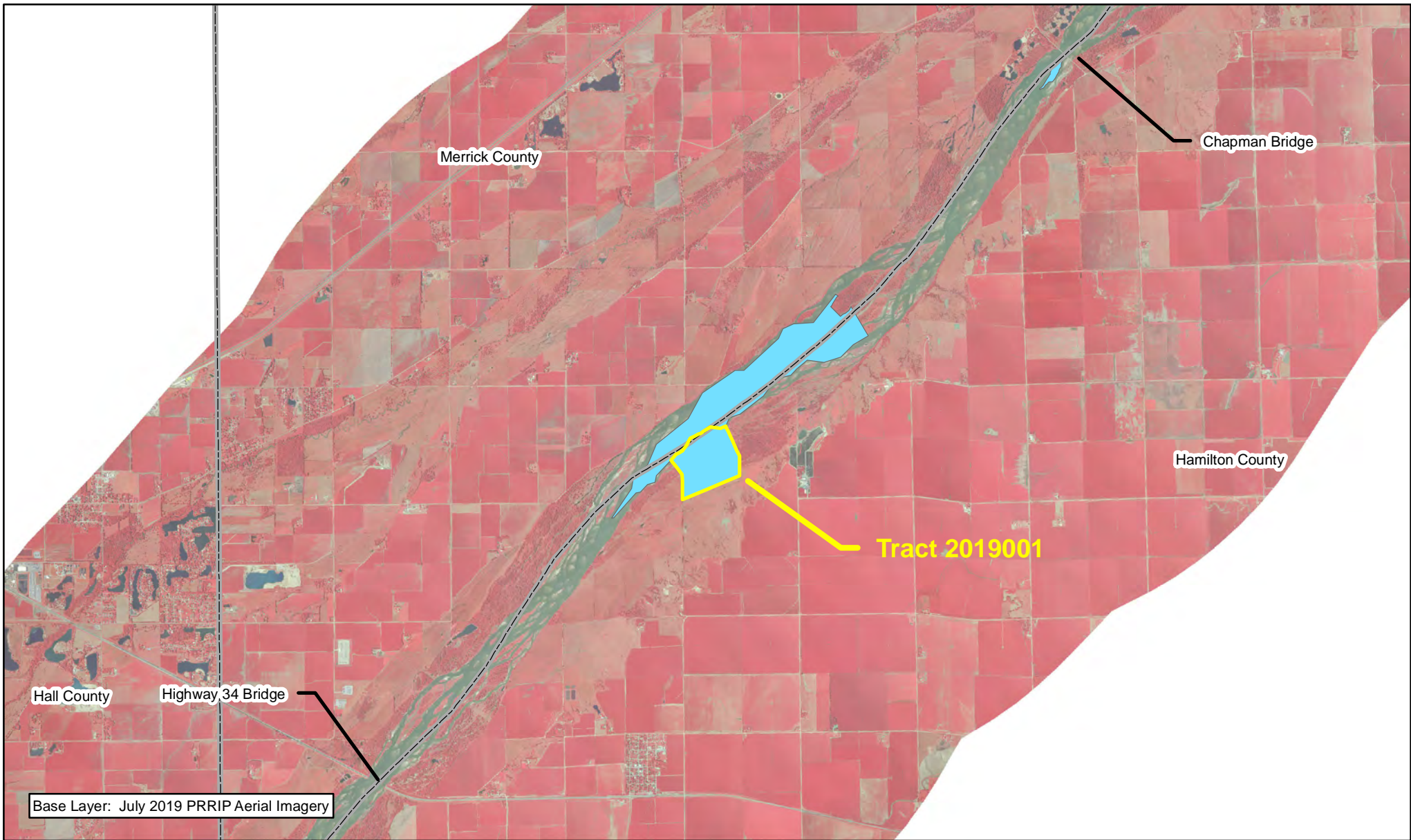


 Miles
0.1

TRACT 2019001
BOUNDARY MAP

Date: 4/16/20
By: TRT

Figure A-1



Legend

| PRRIPTractNum | | | |
|---------------|---------|-------|---------|
| 2019001 | Audubon | PRRIP | PRWCT |
| County | CNPPID | TNC | Wyoming |
| | NGPC | | |
| | NPPD | | |

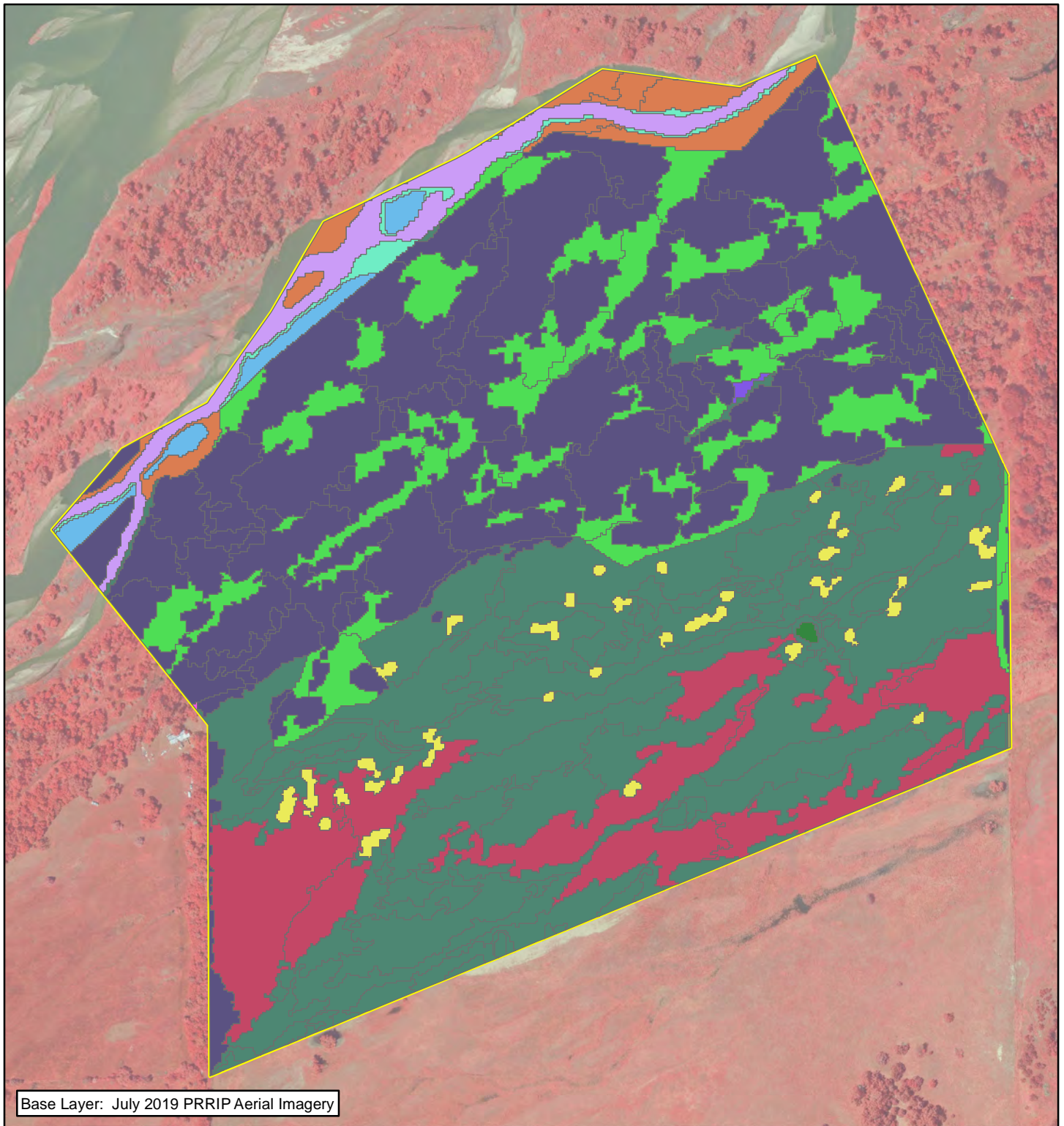


1 Miles

TRACT 2019001 LOCATION MAP

Date: 4/16/20
By: TRT

Figure A-2



Legend

2019001

LCLU_Class

- | | |
|-----------------------|--------------------------|
| Ag | River Early Successional |
| Bareground/Sparse Veg | River Shrubland |
| Mesic Wet Meadow | Rural Developed |
| Phragmites | Sand Pit |
| Riparian Shrubland | Unvegetated Sandbar |
| Riparian Woodland | Upland Woodland |
| | Xeric Wet Meadow |



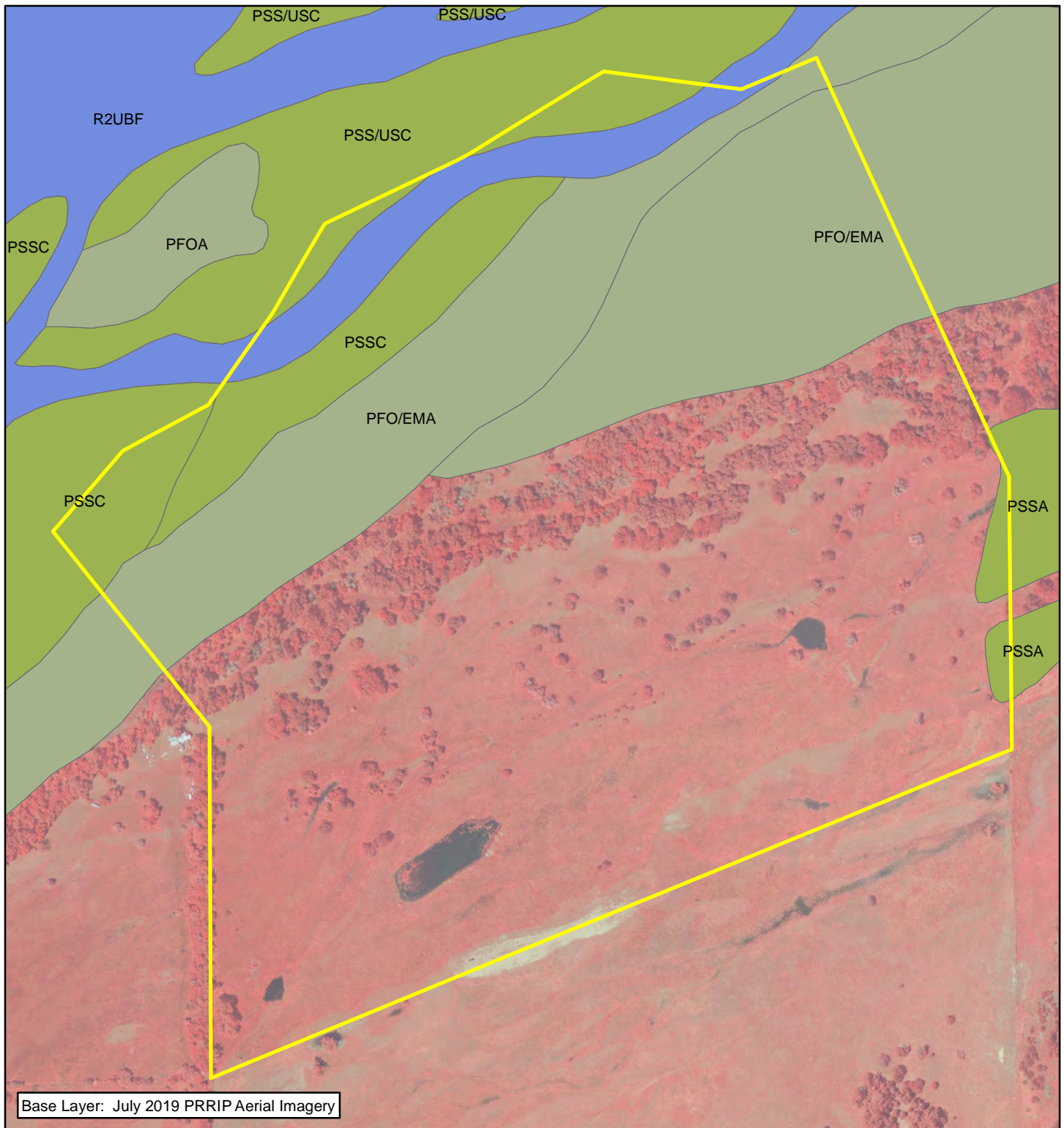
0.1 Miles

TRACT 2019001
2005 LAND COVER/USE

Date: 5/14/20

By: TRT

Figure A-3



Legend

PRRIPTractNum

- 2019001
- Lacustrine Unconsolidated Bottom (LUB)
- Palustrine Aquatic Bed (PAB)
- Palustrine Emergent (PE)
- Palustrine Forested (PF)
- Palustrine Scrub-Shrub (PSS)
- Palustrine Unconsolidated Bottom Excavated (PUBx)
- Palustrine Unconsolidated Shore
- Riverine Unconsolidated Bottom (RUB)
- Riverine Unconsolidated Shore (RUS)
- Riverine Streambed (RS)



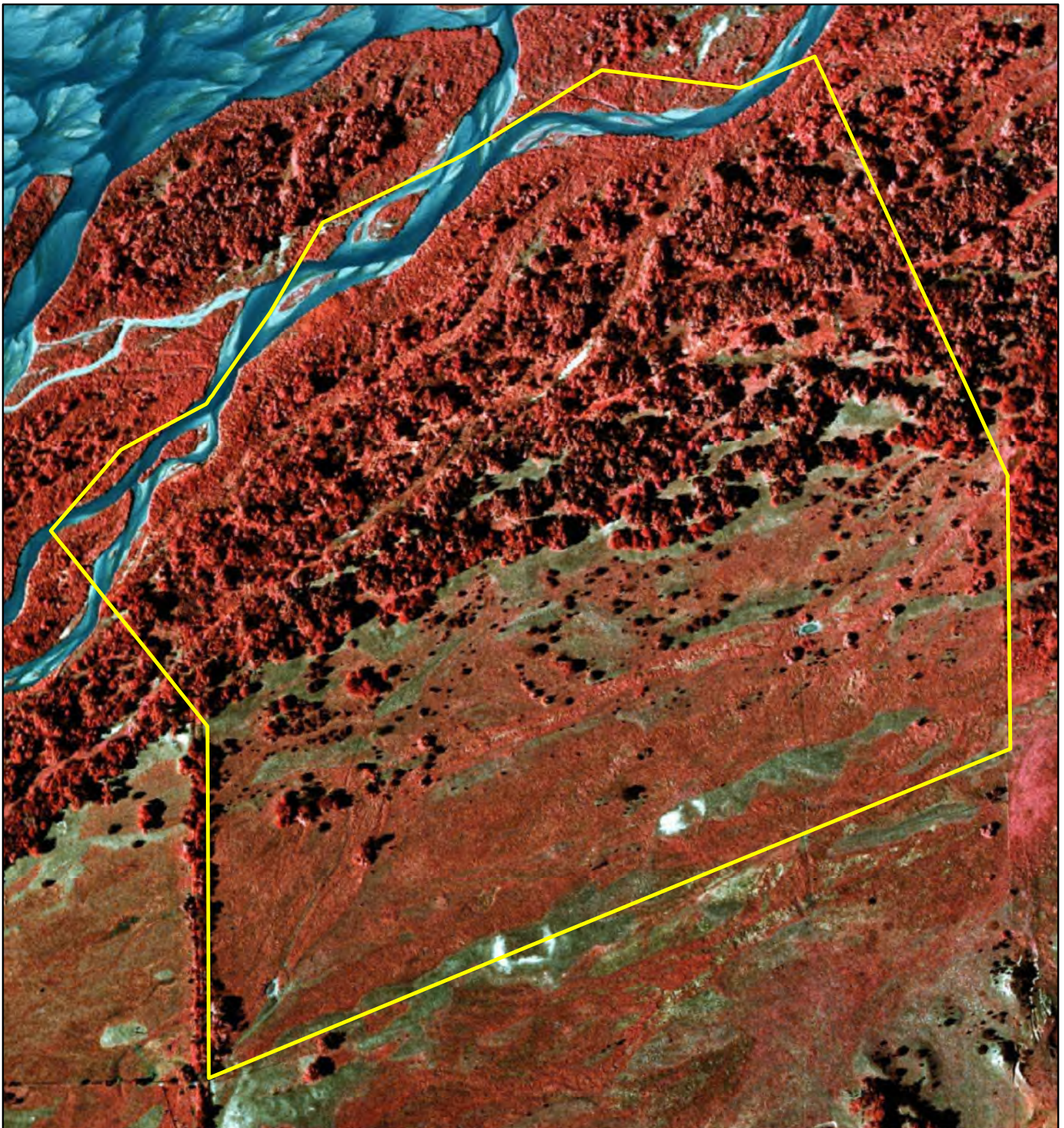
0.1 Miles

TRACT 2018001 NWI MAP

Date: 4/16/20

By: TRT

Figure A-4



Legend
PRRIPTractNum
2019001

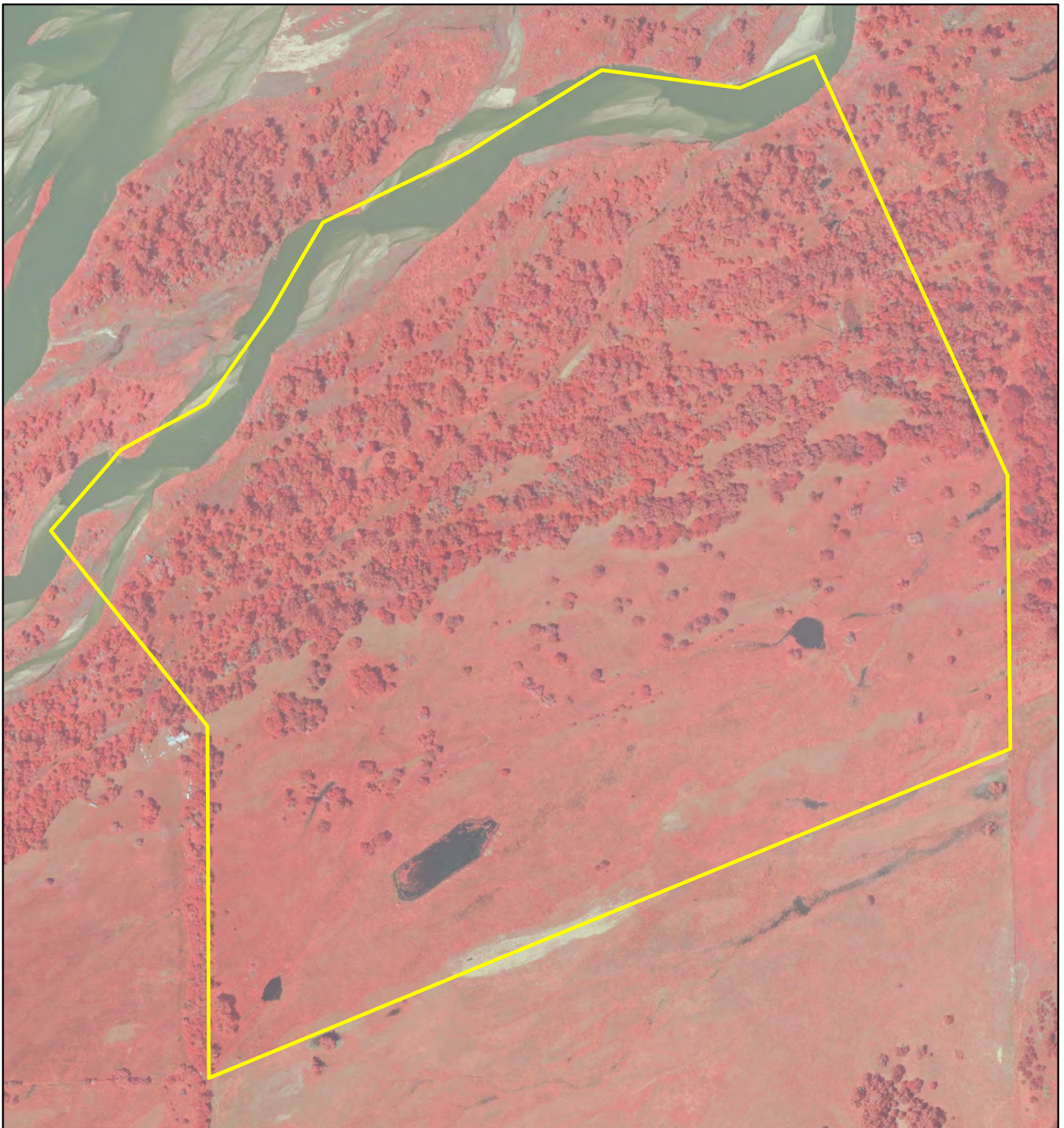


0.1 Miles

TRACT 2019001
1998 CIR IMAGERY

Date: 4/16/20
By: TRT

Figure A-5



Legend
PRRIPTractNum
2019001

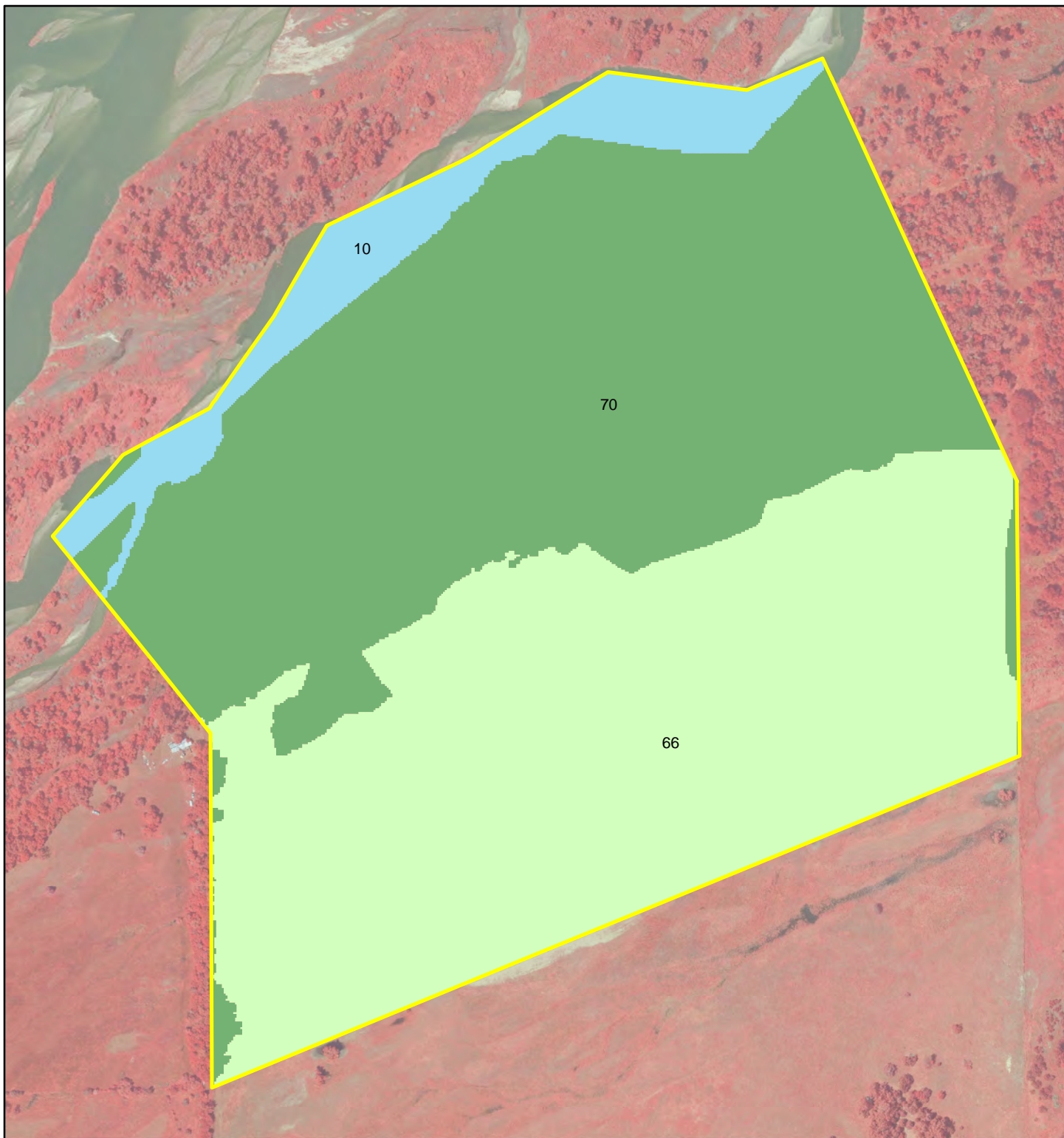


0.1 Miles

TRACT 2019001
JULY 2019
CIR IMAGERY

Date: 4/16/20
By: TRT

Figure A-6



Legend

PRRIPTractNum

2019001

Hab_Class

Complex - Buffer - Woodland

Complex - Riverine-Channel

Complex - Wet Meadow - Grassland



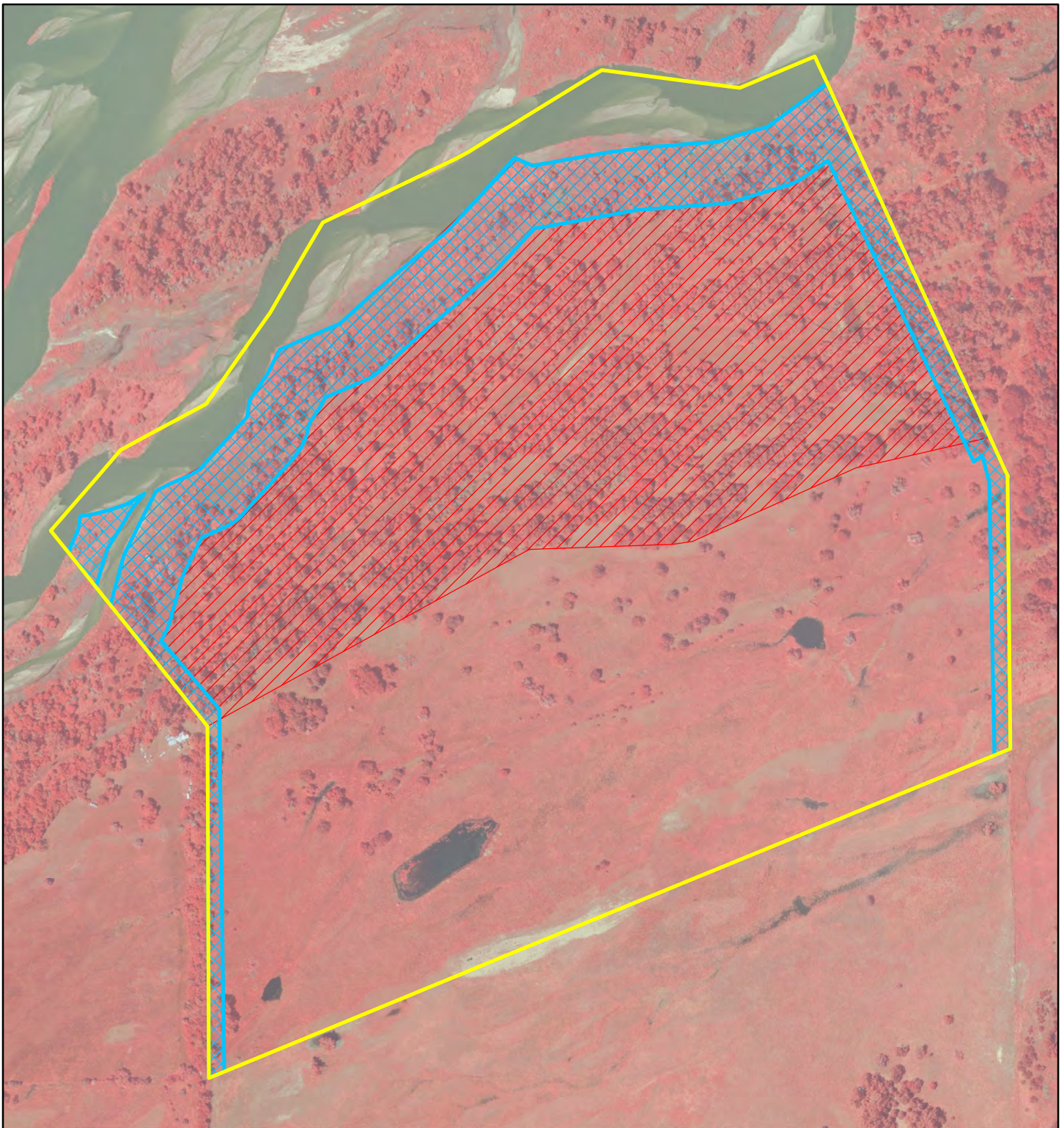
0.1 Miles

TRACT 2019001
Complex Acres

Date: 4/16/20

By: TRT

Figure A-7



Legend

PRRIPTractNum

2019001

Clear & Grub- 20 acres

Prescribed Fire Unit- 65 acres



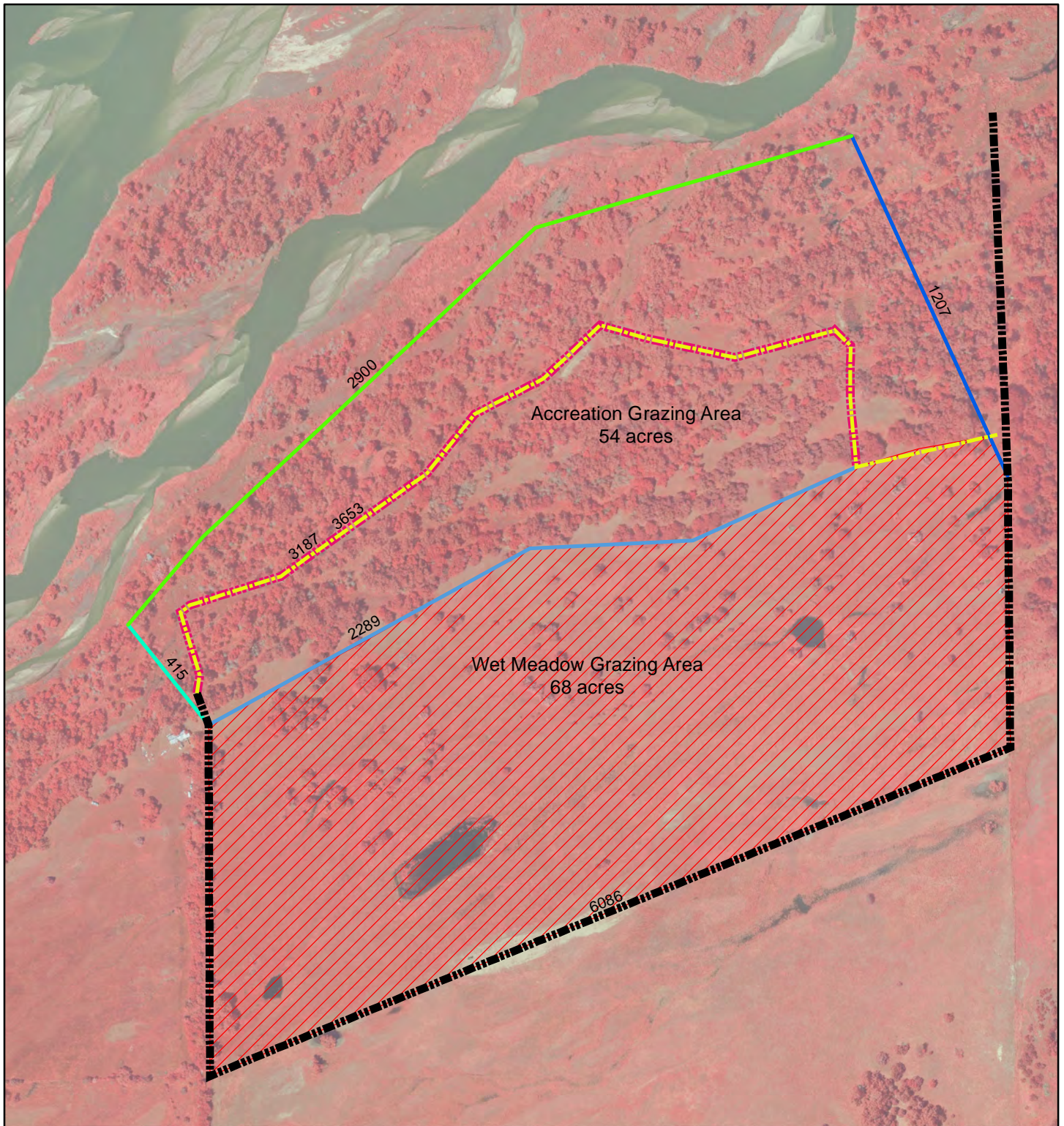
0.1 Miles

TRACT 2019001
Riverine/ Wet Meadow
Activities

Date: 11/4/20

By: TRT

Figure A-8



Legend

- Prescribed Fire Unit- 68 acres
- Existing Cross Fence
- Existing Fence Removal
- Existing Boundary Fence
- New Cross Fence
- East Boundary Line Fence Replacement
- West Boundary Line Fence Replacement
- Future North Fence For Grazing



0.1 Miles

**TRACT 2019001
Grassland Activities**

Date: 11/5/20
By: TRT

Figure A-9