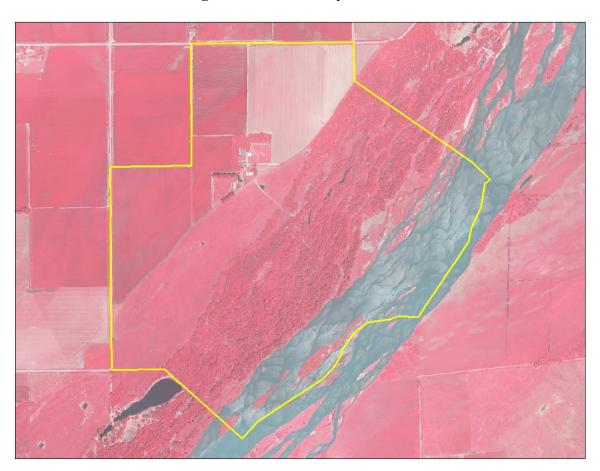


2022-2032 RESTORATION AND MAINTENANCE PLAN

For

TRACT 2021001

Prepared for: Platte River Recovery Implementation Program Land Advisory Committee



Completion Date: 10/12/2022

GC Approved Date: 3/8/2023





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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 2021001 (Evaluation Tract Number 2101) during the period of 2022-2032. 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 2021001 is approximately 580 acres in size and is in portions of Section 6, T-11N, R-16W. Figure A-1 (located in Appendix A) delineates the property boundary. The tract is in the Grand Island to Chapman bridge segment also referred to as the Chapman Complex. 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. Tract 2021001 includes 580 acres that have been 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.

3/8/2023

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 2021001 Habitat Complex Acres

Land	Acres
Classification*	
Riverine	114.44
Buffer	380.50
Wet Meadow	85.53
Total	580.03

^{*} 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 Tracts 2019001 and 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 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:



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- 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 2022 CIR Aerial Photography
- Figure A-8 Complex Habitat
- Figure A-9 Riverine Activities
- Figure A-10 Grassland Activities
- Figure A-11 Fence, Livestock Water & Bridges
- Figure A-12 Inholding Buildings
- Figure A-13 Cropland Units

Table 2 - Tract 2021001 2005 Land Cover/Use Summary

Land Cover Classification	Acres	Percent of Total
Agriculture Field	153.15	26.39 %
Bare ground/Sparse Vegetation	6.13	1.06 %
Mesic Wet Meadow	34.92	6.02 %
Phragmites	41.49	7.15 %
Riparian Shrubland	46.74	8.05 %
Riparian Woodland	150.97	26.01 %
River Channel	6.71	1.16 %
River Early Successional	17.07	2.94 %
River Shrubland	19.15	3.30 %
Roads	2.51	0.43 %
Rural Developed	13.60	2.34 %
Sand Pit	0.10	0.02 %
Unvegetated Sandbar	32.51	5.60 %
Upland Woodland	0.42	0.07 %
Xeric Wet Meadow	54.92	9.46 %
	580.40	100.00%

C. Existing Land Features of Interest

1. Non-Riverine Surface Water

In linear features through the wet meadow, there are semi-permanent and permanent wetlands that are often ponded. In the riparian woodland buffer, remnant channels may contain surface water but these channels are not connected to the river except at extremely high flows. Total non-riverine surface water is approximately 2 acres.

2. River Frontage and Active Channel Widths

The tract contains approximately 5,840 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 ½ mile intervals utilizing color infrared aerial photography flown in June 2021 under high flow conditions. Measured main channel widths are presented in Table 3.

Table 3- Tract 2021001 Channel Widths

Measurement	Width (ft)	
Minimum Channel Width	589	
Maximum Channel Width	1130	
Median Channel Width	804.5	
Mean Channel Width	842	

3. Contiguous Sand Substrates

At the time of the review, and as evidenced by current aerial photography, Tract 2021001 contains no substantial areas of contiguous sand substrate.

4. Island and Channel Bank Height

From LiDAR, bank heights are estimated to be 1-4 ft above water.

5. Groundwater

Based on the river level and the wooded wetlands areas, groundwater is estimated to be zero to four feet below ground surface. The riparian wooded area and wet meadow has many areas of exposed groundwater/sloughs under current high-water conditions.

6. Flooding in Non-Wetland Areas

There was no evidence of temporary inundation of non-wetland areas at the time of the site evaluation. There was water standing in wet meadow swales.

7. Power/Transmission Lines

There are overhead transmission power lines crossing within the meadow north of the riparian forest. There is a buried phone line running to the residence.

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 2021001 includes 151.79 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** Improve sand and water (riverine) habitat for interior least terns (LETE), piping plovers (PIPL), and whooping cranes (WC).
 - Objective 1 Create and maintain riverine sand and water habitat for target bird species as specified in the "Restoration & Management Framework for PRRIP Habitat Complexes."
 - Strategy Clear all vegetation on in channel islands. Maintain area with herbicide control and disking.
 - Methods The area will be cleared using heavy equipment. Cleared material will be burned and buried on site if possible. Pre-emergent herbicide will be ground applied to water's edge annually during late March early April to prevent germination of vegetation and glyphosate herbicide will be ground applied to water's edge applied annually in late August early September to control any vegetation that established during the growing season. In-channel disking in late summer, early fall will be done when river conditions allow. Subject to flows and access to island, methods and schedule may be adjusted. Further details will be determined during project design.
 - Area Approximate area for in-channel disking and island clearing is identified on Figure A-9 (110 acres in-channel disking and 15 acres of island clearing).
 - **Timeline** Project planning will take place in 2023. Clearing, island construction/leveling will take place in late 2023.
 - Costs Annual in-channel disking when flow allows is expected to cost \$375/ hour. Annual herbicide treatments are expected to cost \$275/ hour. Subject to flows and access to island, methods and schedule may be adjusted.
 - Responsibilities Program staff are responsible for design and permitting.
 Construction and maintenance activities will be bid.
- ► Goal 2 Manage wet meadow/grassland habitat as buffer.
 - o *Objective 2* Manage existing grassland in varying degrees of vegetative stature as of March 1 in any given year.
 - Strategy Use livestock grazing to provide a diverse mixture of vegetative structure and species composition as of March 1 in all years.



- Methods Grazing will be used to manage existing grassland. Grazing will typically be for a 5-month grazing period (May 1-October 1) each year at a moderate stocking rate. Typical stocking rate will be 1 animal unit (one cow/calf pair or its equivalent in yearling cattle) per 5 acres.
- Area Grazing areas are presented on Figure A-10.
- **Timeline** Annually.
- Costs Estimated income from grazing is \$8,750 for 35 pair grazing for 5 months at a cost of \$50/AUM.
- 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.

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

- o *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. The Program will survey all tracts to determine presence of those species. The Program will then consult with the USFWS and NGPC to determine appropriate measures for protecting, preserving and enhancing populations of those species while accomplishing Program goals.
 - Responsibilities 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.
 - o *Objective 4a* Rehabilitate and maintain property boundary fencing and signage.
 - Strategy The existing fence is in average to good condition (14,950 LF or 2.85 miles). The overall strategy will be to clear woody vegetation as necessary for access and fence reconstruction and rebuilding or replacing the boundary fence (with signage) as necessary. Fence maintenance strategy will be a combination of minimizing maintenance needs and scheduled maintenance.
 - Methods Where necessary, trees will be cleared using heavy equipment. They will be stacked into piles and burned and buried. Boundary fencing will be four wire livestock



fencing and will be constructed per Natural Resources Conservation Service (NRCS) design criteria. The fence will include Program ownership and contact signage at regular intervals. Maintenance methods may include mowing or spraying of woody species in the cleared area as well as routine fence upkeep.

- Area Segments of fence are displayed on Figure A-11.
- **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 \$3.00 per linear foot and \$0.50 per linear foot for removal.
- **Responsibilities** Program staff are responsible for design and permitting. Construction and maintenance activities will be bid.
- o *Objective 4b* Rehabilitate and maintain livestock watering infrastructure.
 - Strategy The existing livestock watering system consists of 1 domestic well with underground pipe to a tank at the entrance to the wet meadow. To provide more centrally located livestock water, a livestock well and solar pump will be supplied in the center of the wet meadow. The overall strategy will be to perform an inspection of the existing facilities and replace as necessary.
 - Methods N/A
 - Area Livestock watering infrastructures are displayed on Figure A-11.
 - **Timeline** Early spring.
 - Costs Drilling livestock well, installing solar pump and tank will cost on the order of \$10,000. 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.
- o *Objective 4c* Rehabilitate and maintain bridge and low water crossings.
 - Strategy There are 3 low water crossing areas on the tract, two of which have aging infrastructure (i.e., bridge, culverts) to be evaluated for replacement or upgrade and one site that should be evaluated for new culverts or other improvements.
 - **Methods** Install appropriate culverts or fix existing bridge.
 - Area Bridges/ Low Water Crossing are presented on Figure A-11.
 - **Timeline** Evaluate crossings in late winter 2022 or early spring 2023, bid and construct new installations or maintenance activities in 2023 and 2024.





- Costs Bridge/ Low Water Crossing upgrades are expected to cost on the order of \$20,000.
- Responsibilities Program staff are responsible for design and permitting.
 Construction and maintenance will be bid.
- o *Objective 4d* Remove unneeded and dilapidated structures on the property.
 - Strategy Facility Workgroups recommendation was to not dispose of the acreage/ homesite but to keep it and remove/ demolish all structures except for the machine shop and hay shed, which are included in annual crop lease with existing tenant. GC decision will be solicited in December 2022.
 - **Methods** Offer the house detached garage and the milking barn to family member at no cost if they are willing to move the structures off site within one year (or other negotiated timeframe) at their expense. If they are not interested, solicit bids to move structures off property at buyer's expense. If no bids are received, EDO will solicit bids to demolish those structures along with the granary and other small structures.
 - **Area** Farmstead area presented on Figure A-12.
 - **Timeline** Late winter 2022 or early spring 2023.
 - Costs Farmstead demolition and removal is expected to cost on the order of \$50,000.
 - Responsibilities Program staff are responsible for design and permitting.
 Demolition will be bid.
- o *Objective 4e* 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.
 - Costs Annual costs are expected to be less than \$10,000.



 Responsibilities – Program Staff are responsible for identifying infestations and planning/coordinating control efforts. Control activities will be carried out by contractors.

► 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. Agricultural Operations

► Goal 6 – Manage cropland responsibly.

 Objective 6 – 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) as specified in the "Restoration & Management Framework for PRRIP Habitat Complexes."



- Strategy The Program will make entry into a rental agreement subject to agreement to coordination and approval of the above-mentioned items. Make improvements to irrigation wells as needed.
- Methods Methods will be determined annually by Program staff and/or farm management contractors in association with the renter.
- Area All cropland areas. Figure A-13 shows irrigated cropland.
- **Timeline** Annual.
- Costs Cropland management activities are expected to cost on the order of \$500 annually. Estimated income is \$37,750.
- Responsibilities Program staff or a farm management contractor acting on behalf of the Program will be responsible for annual planning and coordination.

4. 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 will 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 2021001 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.



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B. Research

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

5. 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

This tract has been entered into the Program's public access policy and is available for public use subject to the restrictions in the policy. Public access may be revisited as needed if there are any issues that need to be addressed.



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APPENDIX A – FIGURES

