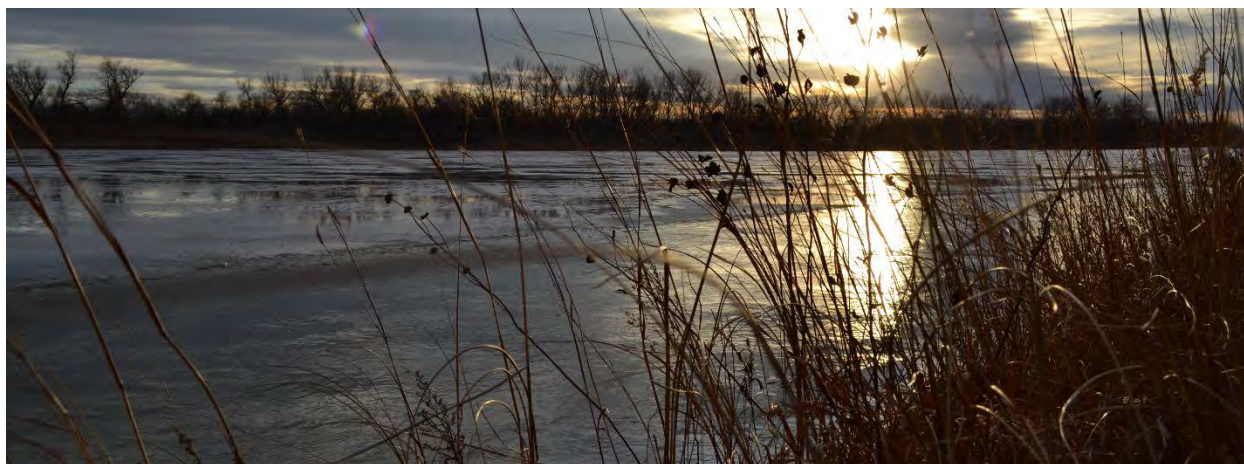




**RESTORATION & MANAGEMENT FRAMEWORK
FOR
PRRIP HABITAT COMPLEXES
2023 REVISION**



Prepared for:

**Platte River Recovery Implementation Program
Governance, Technical, and Land Advisory Committees**

Version	Completion/ Revision Date:	GC Approved Date:
Version 1	July 16, 2018	September 11, 2018
Version 2	February 7, 2024	

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I. List of Acronyms

AHR – Associated Habitat Reach

CNPPID – Central Nebraska Public Power and Irrigation District

DOR – Department of Roads

EDO – Executive Director’s Office

GC – Governance Committee

LAC – Land Advisory Committee

MCA – Moving Complex Approach

NF – Nearest Forest

NGPC – Nebraska Game and Parks Commission

NPDES – National Pollutant Discharge Elimination System

NPPD – Nebraska Public Power District

OCSW – Off Channel Sand and Water

PRWCT – Platte River Whooping Crane Trust

PVWMA – Platte Valley Weed Management Area

PRRIP or Program – Platte River Recovery Implementation Program

SDHF – Short Duration High Flow

SDM – Structured Decision Making

TAC – Technical Advisory Committee

TNC – The Nature Conservancy

UOCW – Unobstructed Channel Width

USFWS – U.S. Fish and Wildlife Service

WCWMA – West Central Weed Management Area

II. Introduction

A. Program Overview

The Platte River Recovery Implementation Program (PRRIP or Program) provides Endangered Species Act compliance for water-related activities within Colorado, Nebraska, and Wyoming, while working to recover four threatened and endangered target species including the whooping crane, interior least tern¹, piping plover and pallid sturgeon. The Program was authorized for a 13-year First Increment, which began in 2007, and estimated to cost roughly \$320 million in 2005 dollars with the monetary portion of that being \$187 million. The total cost of the program in terms of cash, water, and land is shared equally between the federal government and the states.

During the First Increment, Endangered Species Act compliance was measured through progress in achieving ten Program Milestones. Those milestones include, among others, protection, and restoration of 10,000 acres of habitat, reducing deficits to United States Fish and Wildlife Service (USFWS) target flows by 130,000 to 150,000 acre-feet annually, and implementation of an adaptive management plan to reduce critical uncertainties associated with Program actions. The First Increment land objective and associated milestone have been achieved. Likewise, the Program has successfully implemented its adaptive management plan.

The First Increment water objective was not achieved. The Program currently provides approximately 90,000 acre-feet towards the First Increment objective of 130,000 to 150,000 acre-feet. Additional water projects in the planning and/or design phase are expected to provide an additional 40,000 acre-feet of water. However, they were not operational prior to the end of the First Increment in 2019 and will require more funding than what is currently available during the First Increment. As such, Milestone 4 was not achieved by the end of 2019. Therefore, Program Signatories proposed a 13-year Extension of the First Increment.

The Extension did not change First Increment objectives or the implementation framework. It modified the milestones slightly through acquisition of an additional 1,500 acres (“Plus-up Acres”) to create a new habitat complex. The Program currently protects over 13,800 acres in the Associated Habitat Reach (AHR; Appendix A). The Extension also provides additional time to complete and operate Program water projects and to conduct the monitoring and research necessary to determine whether 120,000 acre-feet of water is sufficient and the best use of Program water and habitat resources to benefit the target species.

¹ In 2021 the USFWS officially delisted the interior least tern, however, the species remains protected under the Migratory Bird Treaty Act and the Nebraska Non-game and Endangered Species Conservation Act. The USFWS is in the process of developing a post-delisting monitoring plan to guide voluntary efforts to track species recovery. The Program will continue to manage for the interior least tern in a manner consistent with ongoing piping plover management on habitat used by both species during the First Increment Extension.

B. Land Goals and Management Objectives

Program land goals and management objectives for the First Increment have been reproduced below.

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 within the Associated Habitat Reach (AHR).
2. Program Objectives
 - a. Protect, restore where appropriate, and maintain 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 least tern and piping 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.
 - 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.
 - d. “Do no Harm” to pallid sturgeon
 - i. Program participants approved a 3-step plan² for addressing potential effects of Program flow management for whooping cranes, piping plover, and interior least tern on the central Platte River on pallid sturgeon in the lower Platte River in June 2021.

C. Land Plan Implementation 2007-2023

The Program has invested 16 years in acquisition and management of habitat lands to achieve target species goals and the First Increment land objective and First Increment Extension of acquiring 1,500 acres of “plus-up” acres. To date, the Program has acquired an interest in nearly 14,000 acres of habitat. These lands are identified as complex or non-complex lands. Complex lands are acquired in blocks of riverine habitat and associated wet meadow and buffer and are referred to as habitat complexes. Non-complex lands are individual tracts located away from the river. Non-complex habitat can take the form of palustrine wetland roosting habitat for whooping cranes or off-channel sand and water (OCSW) nesting sites for least terns and piping plovers. The Program has also

² See [PRRIP 2021](#) for the latest update on the Program’s position regarding pallid sturgeon.

invested substantial resources in implementation of research and monitoring to reduce critical management uncertainties.

1. Land Acquisition

- a) *Complex Habitat*

The Program's Land Plan has guided land acquisition efforts, placing special emphasis on developing habitat complexes near the upstream end of the AHR in bridge segments with little or no protected habitat. To date, the Program has acquired an interest in over 13,000 acres of complex habitat within the AHR which extends from Lexington, NE downstream to Chapman, NE

(Table 1). These lands are organized into seven habitat complexes with individual parcels in two additional bridge segments. The eighth complex has been added since the First Increment Extension began in 2019 (Figure 1).

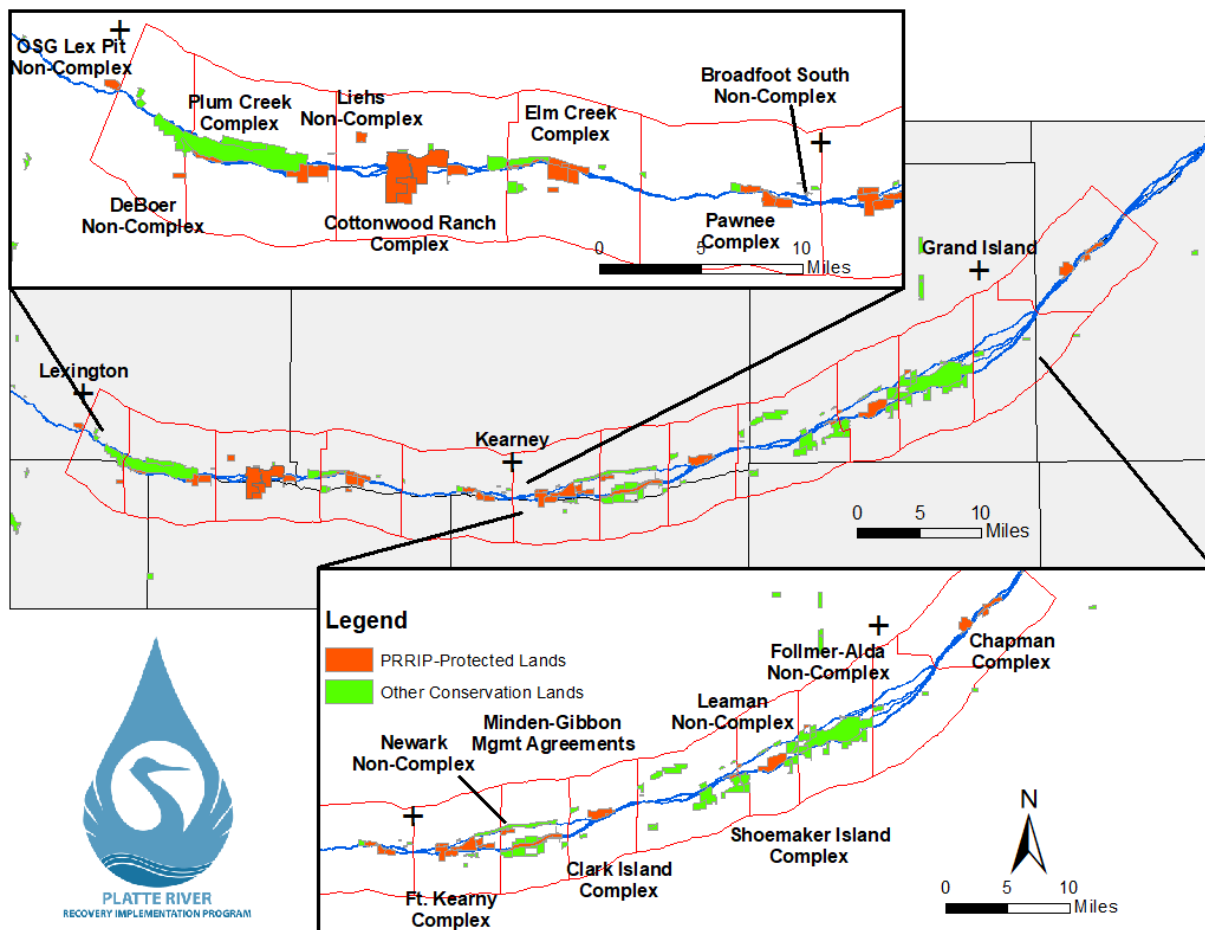


Figure 1. PRRIP Habitat Complexes distributed within the AHR. See Appendix A (Land Atlas) for additional details.

Table 1 provides additional information for each habitat complex. Per Land Plan guidance, the Program has placed special emphasis on the upstream portion of the AHR, establishing or building upon existing habitat complexes in each of the five upstream-most bridge segments (Plum Creek, Cottonwood Ranch, Elm Creek, Pawnee, and Fort Kearny). The remaining two complexes were established because of the Program acquiring large parcels that were to be sold out of conservation ownership (Dippel and Shoemaker Island). The remaining two parcels are comprised of a management agreement with the Audubon Society for the channel portion of Rowe Sanctuary in the Minden to Gibbon bridge segment and a conservation easement on a single property (Martin Meadows) in the Alda to Grand Island bridge segment. The Chapman Complex was a priority for the First Increment Extension and contains the majority of the 1,500 “plus-up” acres (Table 1).

Table 1. PRRIP Habitat Complexes and Individual Parcels

Complex Name	Bridge Segment	Complex Size (ac)	Complex Status
Plum Creek	Lexington – Overton	716	Partial – Focus on Sediment Augmentation
Cottonwood Ranch	Overton – Elm Creek	902	Complete
Elm Creek	Elm Creek – Odessa	1,171	Complete
Pawnee	Odessa – Kearney	474	Partial – May Expand to West
Fort Kearny	Kearney – Minden	2,190	Complete
Younkin	Minden – Gibbon	51	PRRIP Ownership
Clark Island	Gibbon – Shelton	784	Partial – New Complex
N/A	Shelton – Wood River	54	Partial
Shoemaker Island	Wood River – Alda	1,064	Complete
Chapman	Grand Island – Chapman	1,146	Partial – May Expand?
	Sub Total	8,552	
Individual Complex Habitat Parcels			
Robb Management Agreement	Lexington – Overton	150	Sediment Augmentation Management Agreement
NPPD	Overton – Elm Creek	2,650	Sponsorship Agreement
Private Ownership	Elm Creek – Odessa	135	Management Agreement
DOR Agreement and Private Ownership	Odessa – Kearney	268	Management Agreement
Audubon Management Agreement	Minden – Gibbon	783	Management Agreement
Private Ownership	Gibbon- Shelton	14	Management Agreement
TNC Management Agreement	Shelton – Wood River	84	Management Agreement
Martin Meadows	Alda – Grand Island	286	Conservation Easement
Private Ownership	Grand Island – Chapman	47	Management Agreement
	Sub Total	4,417	
	Total³	12,969	

³ Reported total is reflective of the 2018 sale of excess lands at Tracts 2010004, 2011001, and 2012002.

b) Non-Complex Habitat

The Program Document makes provision for acquisition of up to 800 acres of non-complex habitat including 400 acres of palustrine wetland habitat and 400 acres of OCSW. During the First Increment, the Program acquired an interest in 645 acres of non-complex habitat including 254 acres of palustrine wetlands and 391 acres of OCSW (Table 2). The Program's inability to acquire 400 acres of palustrine wetlands has largely been due to the paucity of this kind of habitat in the AHR, and the Land Advisory Committee's general reluctance to purchase upland and convert to palustrine wetland habitat.

In 2016, the Program entered a structured decision making (SDM) process related to least tern and piping plover habitat that resulted in a directive from the Governance Committee (GC) to acquire and/or create an additional 60 acres of OCSW habitat.⁴ In March of 2017, the GC discussed the remaining OCSW acres and paucity of palustrine wetland acres with shortfall and directed the Executive Director's Office (EDO) to use the remaining, or a portion of the remaining, non-complex acres to make progress towards the development of the additional 60 acres of off-channel least tern and piping plover nesting habitat, but do not preclude the evaluation and acquisition of palustrine wetland habitat. An additional OCSW site was added with the acquisition of the OSG Lex pit located at the upper end of the AHR in 2020. The EDO continues to pursue opportunities to acquire an interest in non-complex habitat parcels.

Table 2. PRRIP Non-Complex Parcels

Parcel Name	Bridge Segment	Parcel Size (ac)	Parcel Type
Broadfoot Kearney	Odessa – Kearney	15	OCSW – Lease (Expires in 2024)
Broadfoot Newark	Kearney – Minden	216	OCSW – Fee Title
Leaman East	Wood River – Alda	85	OCSW – Fee Title
Follmer Alda Pit	Alda – Grand Island	75	OCSW – Fee Title
OSG Lex Pit	Upstream Lexington	196	OCSW – Fee Title
Sub Total		587	
DeBore	Lexington – Overton	101	Palustrine – Fee Title
Liehs	Overton – Elm Creek	153	Palustrine – Fee Title
Sub Total		254	
Total		723	

2. Habitat Restoration

First Increment restoration activities at Program habitat complexes included channel widening, clearing of woody vegetation to increase unobstructed sight distances for whooping cranes, wet meadow and grassland restoration, construction of water-control structures to increase wetlands for

⁴ 60 acres of bare sand nesting habitat. It is not known how many total acres will need to be acquired to achieve this objective.

whooping cranes, and mechanical creation of in-channel nesting islands for least terns and piping plovers. Restoration activities were generally implemented as part of large-scale adaptive management experiments designed to improve the Program's understanding of habitat selection by whooping cranes and, in the case of least terns and piping plovers, reproductive success. For example, in-channel least tern and piping plover nesting islands were constructed as part of a paired experimental design to test least tern and piping plover selection of combinations of big and small, high, and low islands as well as on- versus off-channel nesting habitat.

Large-scale adaptive management experiments/restoration projects at existing Program complexes have largely been completed. The Program has now shifted toward maintenance of highly suitable target species habitat based on learning from those experiments. Adaptive management-related learning is described below.

3. Adaptive Management

During the period of 2007-2023, the Program has focused on implementation and monitoring of species response to habitat restoration and management actions on Program lands. As a result, the Program has learned a great deal about 1) the characteristics of highly suitable target species habitat, and 2) our ability to create and/or maintain those habitats on Program lands.

a) Least Tern and Piping Plover Habitat

During the period of 2008-2015, the Program constructed and maintained mechanical on- and off-channel nesting habitat for least terns and piping plovers and evaluated the Program's ability to create and maintain suitable on-channel nesting habitat through short-duration high flow (SDHF) releases. Implementation and effectiveness monitoring and research associated with those efforts resulted in a series of peer reviewed least tern and piping plover habitat synthesis chapters (PRRIP 2015), nest site selection and productivity publications (Baasch et al. 2017a, Baasch et al. 2017b, Farrell et al. 2017), and ultimately culminated in an SDM process to adjust Program management actions (Compass 2016).

As a result of the SDM process, the Program shifted away from mechanical creation and maintenance of new on-channel nesting islands at Program habitat complexes. This includes termination of ongoing island creation at the Elm Creek and Shoemaker Island habitat complexes. The GC did agree to attempt to create and maintain approximately 10 acres of moving complex approach (MCA) nesting island habitat on an annual basis. This includes removal of vegetation from existing bar/island footprints but no grading to increase island height. This was initiated in the Chapman Complex. As a result of the SDM process, the Program placed an increased emphasis on the creation and maintenance of OCSW habitat for least tern and piping plover nesting. Specifically, the Program will continue to maintain existing OCSW habitat and acquired an additional 60 acres of bare sand nesting habitat at the OSG Lex Pit.

b) Whooping Crane Habitat

During the period of 2007 – 2017, the Program managed habitat lands to provide a range of unobstructed view widths, conducted systematic monitoring of whooping crane roosting in the AHR, participated in a large-scale satellite telemetry tracking project and implemented a large-scale stopover habitat study. Implementation and effectiveness monitoring associated with these activities resulted in a peer reviewed set of whooping crane synthesis chapters as well as an analysis and

summary of data collected via the Program’s systematic monitoring protocol (Howlin and Nasman 2017, PRRIP 2017, Baasch et al. 2019a, Baasch et al. 2019b). Habitat selection analyses completed as part of that effort indicated that the relative probability of whooping crane use increases with increasing distance to nearest forest and increasing width of channel unobstructed by dense vegetation (UOCW) with probability of use maximized when unforested width exceeds 1,100 ft and UOCW exceeds 650 ft. As a check-in on First Increment learning during the Extension, the Program has added five more years of systematically collected whooping crane roost site data (fall 2017 – spring 2022) and is currently reiterating the previous analysis to evaluate the importance of both on- and off-channel variables for predicting whooping crane roost site selection. Implications of the recent analysis for land management are currently being evaluated.

The Program did not undertake an SDM process for whooping cranes. Instead, the GC directed the EDO to manage on-channel roosting habitat per the following guidelines:

- In areas where unforested widths are narrower than 1,100 ft, increase the unforested width to 1,100 ft.
- In cases where unobstructed channel width is narrower than 650 ft, the unobstructed channel width will be widened to at least 650 ft.
- In cases where the channel is wider than 650 ft, the entire width of channel will be managed free of vegetation. This will result in a range of UOCWs on Program lands from approximately 650 ft up to 1,200 ft.

III. Habitat Restoration and Management Framework

A. System-Scale Actions

Although most Program management actions are site-specific, three activities are intended to provide system-scale benefits. The first is large, scale sediment (sand) augmentation to offset the sediment deficit due to clear-water hydropower returns via Central Nebraska Public and Power and Irrigation District’s (CNPPID) J-2 Return near Lexington. The second activity is flow management, specifically flow releases from the Environmental Account or other Program water projects for the purpose of benefiting Program target species. The third system-scale management activity the Program contributes to is *Phragmites* control. Each of these activities is described in more detail below.

1. Sediment Augmentation

In 2017, the Program began full-scale sediment augmentation operations in the south channel of the Platte River downstream of the J-2 Return. Augmentation included annual mechanical introduction of 60,000 – 80,000 tons of sediment in the reach immediately downstream of the Return. The sediment supply in this reach is on the order of 1,000,000 tons and we anticipate that this volume of sediment is enough to supply augmentation in this area for approximately 10 years. At that point, we will need to progress further downstream or move operations to the Plum Creek complex. The Program’s initial evaluation of effectiveness of this management action after 5 years of implementation is scheduled for independent peer review in 2024. Alternative sediment augmentation management actions, including passive alternatives for sediment augmentation, are being technically evaluated for feasibility, cost, and benefits.

2. Flow Releases

The sole flow management action described in the First Increment Adaptive Management plan was the short duration high flow (SDHF) releases. As was identified through Adaptive Management experiments, SDHF is unlikely to create and/or maintain suitable target species habitat and was not able to be fully tested through a directed flow release. While the Program has committed to improving channel capacity at the North Platte choke point to allow for release of a full SDHF event, Program science during the First Increment Extension prioritizes gathering information on how much water is needed to provide target species benefits. As a first step toward gathering this information, the Program has implemented longer duration lower magnitude flow releases during the vegetation growing season (germination suppression flow releases) since 2020 to evaluate the effectiveness of Program water to suppress vegetation encroachment into the active river channel and maintain unobstructed channel widths suitable for whooping crane roosting.

3. *Phragmites* Control

The Program continues to participate in the efforts of the Platte Valley Weed Management Area (PVWMA) and West Central Weed Management Area (WCWMA) efforts to control *Phragmites* on Program Complexes and throughout the Platte River Valley. In 2020, the counties that made up the two WMAs agreed to combine into one. The WCWMA was dissolved, and those counties joined the efforts of the PVWMA. The Program has been a significant financial contributor to this effort and has encouraged the PVWMA to seek state, local, and private partner funds to further this effort. In 2022 the Program began a field study to evaluate the response of *Phragmites* to Program flow management actions and system-scale herbicide applications. Field research focuses on evaluating any incremental benefits Program flow releases may provide in terms of slowing *Phragmites* expansion into the active river channel.

B. Complex Habitat

1. Least Terns and Piping Plovers

The Program no longer constructs on-channel least tern and piping plover nesting habitat at Program habitat complexes. Instead, the GC agreed to manage and maintain approximately 10 acres of MCA habitat within the AHR annually. MCA habitat is defined as existing vegetated bar/island area that is cleared, disked, and sprayed to prevent revegetation. It is anticipated that MCA areas will erode over the course of one to several years, at which time it will not be rebuilt. As noted during the SDM process, MCA habitat will likely not meet the Program's minimum habitat suitability requirements for tern and plover nesting habitat but may still be used by the species. MCA habitat is also expected to improve unobstructed channel widths for whooping cranes and contribute to the maintenance of braided channel morphology.

2. Whooping Cranes

The Program's 2017 whooping crane resource selection analyses (Howlin and Nasman 2017, PRRIP 2017b, Baasch et al. 2019a, Baasch et al. 2019b) and updated 2023 whooping crane riverine roost selection analysis will guide management actions at habitat complexes. Results of these analyses continue to support that nearest forest (NF) and unobstructed channel width (UOCW) are the best predictors of whooping crane use locations. The three analyses have all indicated that cranes use channels with UOCW greater than 550 feet in greater proportion than they are available. Peak relative selection of UOCW has increased from 550 feet (Howlin and Nasman 2017) to 1100 feet in the most recent analysis; however, due to a high degree of overlap in confidence intervals as UOCW

increases past 514 ft, the predicted benefit to wider channels past this point is highly uncertain. Relative selection of roosts was maximized when NF=550 ft in all analyses. Therefore, in cases where unforested widths were narrower than 1,100 ft (NF X 2), forest clearing has been utilized to increase unforested width to 1,100 ft. In cases where the channel width was narrower than 650 ft (based upon results from Baasch et al. 2019a), tree clearing, overbank disking, and/or mechanically pushing in banks/islands to widen the channel were utilized to encourage channel widening to at least 650 ft. In response to updated results from 2023 analyses, the Program is currently examining opportunities for and limitations to creating and maintaining wider unobstructed channel widths where they exist at Program on-channel habitat complexes. Results from updated analyses together with opportunities for and limitations to channel management for providing wider unobstructed widths will be presented to the Program's Governance Committee to make management decisions.

Channel disking will also be used to remove in-channel vegetation to maintain suitable UOCWs. In all cases, vegetation will be managed across the width of the active channel. More specifically, in reaches where UOCWS exceed 650 ft, they will continue to be maintained at existing widths and not allowed to narrow. This will result in a range of UOCWs at Program complexes from approximately 650 ft up to 1,200 ft.

The Program has the capacity to augment wetland hydrology via well pumping at two sites (Morse and Fox tracts). The wetlands will be pumped as necessary during the migration periods to ensure the availability of shallow roosting habitat (<12 inches). The Morse tract and a portion of the Cottonwood Ranch tracts were converted to a Groundwater Recharge site that may provide benefits to whooping cranes.

3. Grasslands and Associated Wetlands

The Program currently manages lowland grasslands (wet meadows) and other grassland buffer habitat for whooping crane and species of concern (e.g., sandhill cranes). Program grassland sites and wetlands within them will be managed through the use of combining livestock grazing, haying, mowing, and prescribed fire to provide a diverse mixture of vegetative structure and species composition. This will include short vegetative structure for whooping cranes on approximately 1/4 of total grassland area and the remaining 3/4 of the total grassland area in a taller, heterogeneous vegetation structure for grassland nesting birds and other species. Grazing, haying, and fire application are currently being reviewed by the Program's Grassland Working Group to refine and modify management, with GC approval. A focus on shifting from a season long 5-month grazing period (May 1-October 1) annually at a moderate stocking rate toward a heterogeneous application of management aimed at reducing cool season, exotic plant communities while increasing diverse, native grassland communities is desired. Each management unit will be evaluated annually and adjustments in stocking rate, timing, and duration will be made accordingly. Prescribed fire will be used to suppress cool season grasses, invasive vegetation, cedar trees and brushy species during the spring and fall. Prescribed fire will be implemented on each management unit on a 4-year return interval (if possible, pending fire crew availability and proper conditions). Program staff, in coordination with the appropriate Program committees, will be responsible for identifying management units for prescribed burns. Contractors, hired by the Program, will acquire burn permits, and perform prescribed burns. Contractor oversight will be provided by Program staff. Haying and mowing, where planned or needed, will occur as needed.

4. Invasive Vegetation and Noxious Weeds

Control of existing and future infestations of invasive vegetation and/or noxious weeds is accomplished through a variety of methods including herbicide application, prescribed fire, mechanical disturbance/removal, and grazing. Examples of species with the potential to be invasive in certain situations include eastern red cedar, salt cedar, Russian olive, willow, false indigo, intermediate wheatgrass, tall wheatgrass, *Phragmites*, purple loosestrife, reed canary grass, yellow flag iris, etc. An integrated management approach of control is used to the extent possible and specific control methods will be updated as new information becomes available. Ongoing management needs are assessed annually and incorporated into Annual Work Plans.⁵ Program staff, tenants, and Contractors are responsible for identifying infestations and control activities will be implemented by Program Contractors.

C. Non-Complex Habitat

1. Least Terns and Piping Plovers (OCSW)

The creation and maintenance of OCSW is the Program's primary strategy to achieve least tern and piping plover management objectives. Existing OCSW sites are maintained free of vegetation through spraying and mechanical removal. Predation is controlled through the maintenance of predator fencing and trapping which is currently performed by the USDA-APHIS. Permanent predator fencing is used on all off-channel nesting areas to minimize land access to the nesting areas by predators. Permanent fencing typically includes a woven wire fence with electrified wires that are placed a minimum of 12 inches above ground level and near the middle and top of the woven wire fence. The 12-inch minimum height of bottom, off-set electrified fence is checked prior to and periodically during the nesting season annually and adjusted to meet this standard as necessary.

New OCSW sites are designed by the EDO in accordance with findings of the Program off-channel nest site selection research (Baasch et al. 2017a). Appropriate habitat creation/restoration construction techniques are based on site conditions and the Technical Advisory Committee (TAC)/GC will be asked to approve designs prior to bid letting.

2. Whooping Cranes (Palustrine Wetlands)

The Program currently manages two palustrine wetland sites (DeBoer and Liehs) and given the paucity of these types of wetlands in the AHR, it is unlikely that additional sites will be acquired or restored in the future. The existing sites are managed to provide supplemental hydrology through groundwater pumping (where available) and a diversity of vegetative structure during the whooping crane migration period through use of prescribed fire, grazing, and mechanical disturbance. The Program has the capacity to augment wetland hydrology via well pumping at one site (Liehs tract). The wetland, and associated croplands, are pumped as necessary during the migration periods to ensure the availability of shallow roosting habitat (<12 inches).

D. Providing Benefits to Other Species of Concern

When implementing land management actions, the Program will, where practical, select restoration, maintenance and other management measures for the target species that do not harm or may benefit

⁵ Annual Work Plans are described in Section IV.

other “species of concern,” when such activities are consistent with the needs of the target species and are within the Program budget. An initial list of “species of concern” related to land management is found in Section VI B. In 2021, a workgroup convened to update non-target listed and non-listed species of concern for the Program Extension. This list of at-risk species looked to prioritize those on federal and/or state endangered/threatened lists or at high risk for future listing, those with a nexus to Program water management and/or target species, those with distributions that overlap with the Program’s AHR, and those for which Program actions may provide “big bang for little buck”. The regal fritillary butterfly, monarch butterfly, plains topminnow, and the Platte River caddisfly were prioritized as “other species of concern” for the Program based on meeting at least three of the four criteria above. Directly relevant to land management, the Program planted native violets at the Speidel tract in the fall of 2022 in support of regal fritillary larvae. Moving forward, the Program will remain mindful of these species in a good faith effort to manage its grasslands consistent with the intent of preventing future listings of other species.

IV. Agricultural Operations and Maintenance Framework

A. Agricultural Activities

The EDO develop parcel-specific agricultural operations plans and, where practical, will work with existing tenants once tracts are acquired until a change in land use (i.e., cropland conversion, OCSW habitat creation, etc.) or a violation of the terms of a lease agreement occurs. Farm managers contracted by the Program develop lease agreements and negotiate a fair market value with tenants, using guidance from EDO, on cropping and grazing strategies on each tract annually.

B. Mining Operations

The EDO develop site-specific mining operations plans and, where practical, will work with existing sand and gravel mining operators to negotiate an agreed upon amount of royalties the Program will receive from the sale of mined material. The EDO develop site-design plans as well as a schedule for project completion and ensure the OCSW habitat meets or exceeds the agreed upon site-design plans.

C. Maintenance of Habitat Lands

The EDO develop Annual Work Plans for all Program lands with input from the Program’s Land Advisory Committee (LAC) and TAC. EDO staff conduct or retain contractors to conduct, plan, design, and permit specific activities carried out on habitat lands and EDO staff provide oversight for all land management activities performed by contractors.

V. Communication, Coordination and Responsibilities

A. Program Lands

The EDO 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 Annual Work Plans that are developed by the EDO, reviewed by the LAC and TAC, integrated into the PRRIP Work Plan, and ultimately approved by the GC as part of the annual budget approval process.

B. Neighboring Lands

The EDO is responsible for communication and coordination with neighboring landowners. 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 non-Program lands and does not desire (or is not able) to negotiate an easement, lease, or purchase, the EDO will work to develop a management agreement with the landowner. The agreement will include the actions to be taken, timeframe, responsibilities, and other pertinent information.

VI. 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 ensure that a survey for these species is conducted in the area that will be disturbed within three days prior to the initiation of activities by qualified individuals (e.g., by Program staff, contractors, or conservation owners).

If least terns or piping plovers' nest on off-channel nesting habitat, 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. Mammalian trapping will occur at all off-channel sites owned or managed by the Program to reduce the risk of predation. Other measures may be warranted, and U.S. Fish and Wildlife Service (USFWS) concurrence will be obtained before implementing additional measures.

2. Measures to Minimize or Eliminate Take of Whooping Crane

For habitat restoration and mechanical land management activities in or within 0.5 miles of Platte River channels occurring between March 6 and April 29 or October 9 and November 15 shall only take place from one hour following sunrise to two hours prior to sunset unless otherwise approved by the USFWS's Nebraska Field Office Whooping Crane Coordinator or Project Leader. Program staff will notify the USFWS when Program habitat restoration work will be conducted during the above dates from the Highway #283 and Interstate 80 intersection near Lexington downstream to Chapman, Nebraska.

Construction or other work crews working in or within 0.5 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 USFWS's Whooping Crane Coordinator, Program staff will confer with the USFWS and will notify construction crews if it is necessary to temporarily halt construction activities.

Construction work will 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 workday if such features are available on the property. In the instance that such features are unavailable, equipment will be moved to a position at least 0.5 miles away from the channel.

Section 7 Consultation with the USFWS will be conducted initially using this complex management planning document for the suite of Program management described within this plan on existing or future acquired lands. The USFWS will review Annual Work Plans in combination with individual tract operations and maintenance plans and notify the Program through the appropriate technical committees if any proposed site-specific projects or activities may require further consultation for potential effects to federally threatened or endangered species. Unless notified by the USFWS, the Program may proceed implementing activities as described within this plan and consulted on.

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 the Nebraska Game and Parks Commission (NGPC) to identify potential impacts to state and/or federally listed endangered or threatened species and species of concern and will address them as part of this document. Program actions to avoid or mitigate potential species impacts not addressed in other portions of Section V 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. 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 7. If this species is present, activities will be modified to prevent destruction of existing plants.

3. 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.

4. 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.

5. 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. In March of 2022, the Program approved planting of native violets in support of regal fritillary butterfly larvae on the Speidel tract. Violets were planted in the fall of 2022.

6. Northern Long-eared Bat

The Program will not remove trees between April 1 and October 31 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. Further consultation with USFWS will be completed if tree clearing cannot avoid the active season (April 1-October 31). All tree clearing activities will be reviewed through the USFWS Information and Planning and Conservation (IPaC) website using the established NLEB Determination Key prior to initiation of the project.

7. Sandhill crane

The Crane Trust conducts annual surveys to document the abundance and distribution of sandhill cranes throughout the Associated Habitat Reach. The Program will continue to work with the Crane Trust in evaluations of their data to ensure Program management activities do not adversely impact sandhill cranes.

C. Migratory Bird Treaty Act

Prior to summer 2023, USFWS guidance to land management activities that involved burning, cutting or mechanical removal of vegetation (except for restoration activities on ground that was previously in agricultural crops) could not occur between April 30 and July 15 without first doing surveys to document species-specific densities of occupied migratory bird nests within the area to be affected. The USFWS now views prescribed fire and certain other beneficial mechanical vegetation removal application as having long term conservation benefits and will not take a restrictive view of burning and haying during the April 30 and July 15 bird nesting season. As such, USFWS is placing no restriction on prescribed fire or haying (as related to potential take under the MBTA) and is not requiring nesting bird surveys prior to burning or haying activity that is timed for invasive, cool-season grass suppression. The Program acknowledges a few grassland nesting birds may experience short-term setbacks, but the benefits of providing heterogeneity within the landscape will provide long-term benefits for many grassland nesting species.

D. Bald Eagle Act

Eagle nests will not be disturbed, a quarter-mile buffer will be maintained while occupied by adults or young, and management activities will not occur within 600 feet. Known eagle roost trees will be

left in place. The Program, in collaboration with NGPC, conducts on-channel surveys for bald eagle presence and nests concurrently with river surveys of interior least tern and piping plover twice a month from May 1 through the first week of August each year. The data collected provide information to guide Program land management and avoid eagle disturbance.

E. USACE Section 404 Permitting and NDEQ Section 401 Water Quality Certification

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

F. NPDES 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 National Pollutant Discharge Elimination System 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. 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.

VII. 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 allowed when and where it does not interfere with other Program priorities. The Program's recreation access program is governed by the Program's [Public Access Policy](#), which is updated annually by the Governance Committee. The Platte River Recreation Access Subcommittee reviews the Program annually and provides recommendations to the LAC and

GC for consideration. The NGPC currently administers the access program, which includes maintenance of an access reservation website (www.platteaccess.org) and physical monitoring of parcels enrolled in the program to ensure that users are adhering to access policies.

VIII. Literature cited

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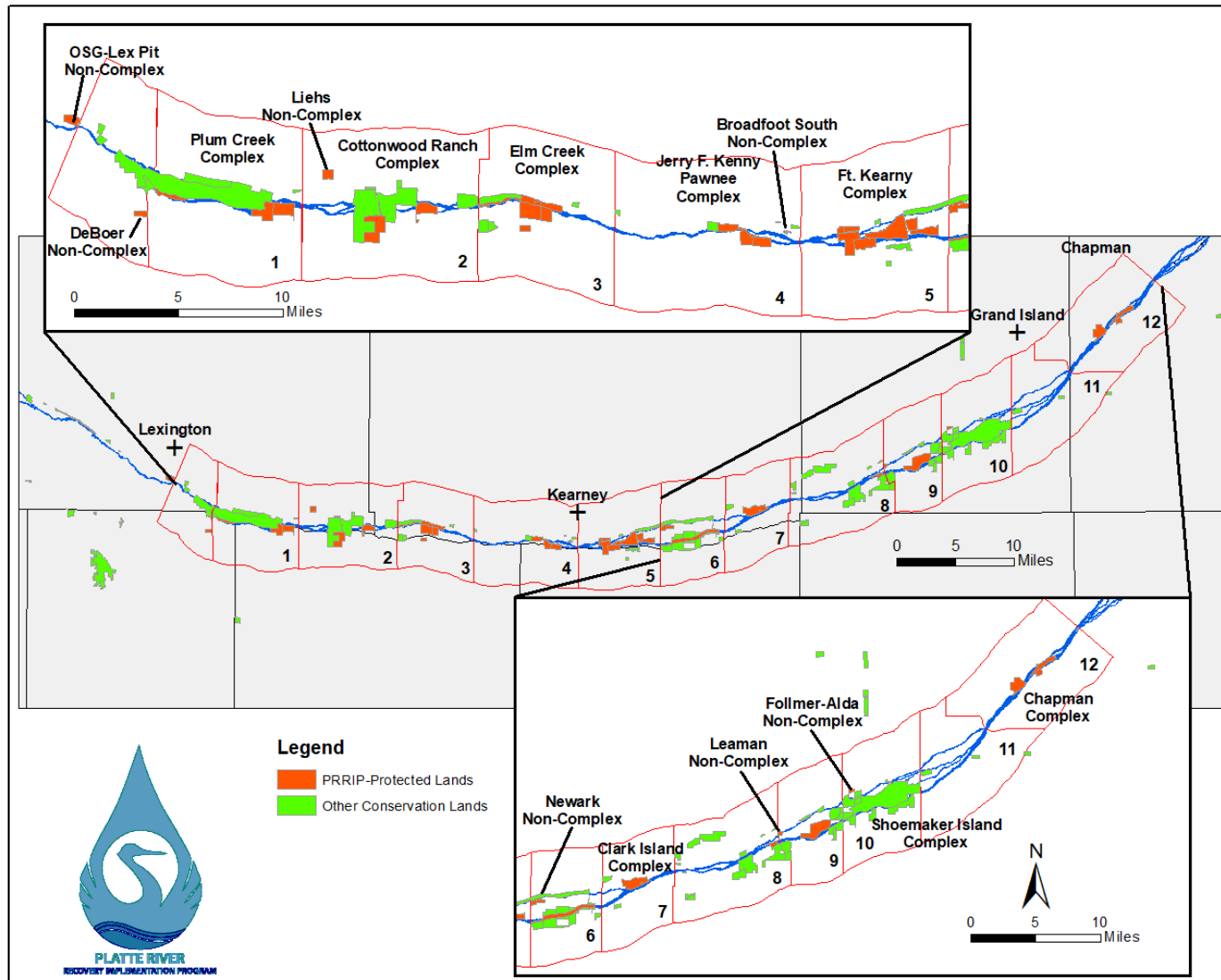


APPENDIX A

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM

LAND ATLAS

December 12, 2023



INDEX

Bridge Segments

Sheet # Name

1. Lexington to Overton
2. Overton to Elm Creek
3. Elm Creek to Odessa
4. Odessa to Kearney
5. Kearney to Minden
6. Minden to Gibbon
7. Gibbon to Shelton
8. Shelton to Wood River
9. Wood River to Alda
10. Alda to Grand Island
11. Grand Island to Hwy 34
12. Hwy 34 to Chapman

PRRIP Complexes

Sheet # Name

1. Plum Creek Complex
2. Cottonwood Ranch Complex
3. Elm Creek Complex
4. Jerry F. Kenny Pawnee Complex
5. Fort Kearny Complex
7. Clark Complex
9. Shoemaker Island Complex
12. Chapman Complex

PRRIP Non-Complex

Sheet # Name

1. DeBoer Wetland
1. OSG-Lex Pit
2. Liehs Wetland
4. Broadfoot South Sandpit
6. Newark Sandpit
9. Leaman East Sandpit
10. Follmer Alda Sandpit

A-Z PRRIP Tract Listing

Aten	3	Leaman West	8
Bartels	3	Liehs	2
BELF	4	Martin Meadows	10
Bergen	12	McCormick	3
Binfield	9	Meyers	12
Blessing	5	Morse	2
Blue Hole	3	NE DOR	4
Blue Hole East	3	Newark	6
Broadfoot	6	Penrose	12
Broadfoot South	4	Robb	1
Cook	1	Robinson	12
Cottonwood Ranch	2	Rowe	6
DeBoer	1	Sherrard	5
Doppel	7	Spedell	5
Dyer	1	Stall	2
Follmer Alda	10	Sullivan	3
Fox	5	TNC	8
Hostettler	5	Volentine	4
Johns	3	Wyoming	5
Leaman East	9	Young	6

Last Updated: December 12, 2023

