BUREAU OF RECLAMATION

Final Environmental Assessment for the North Delta Canal Salinity Control Project – Phase 2

Basinwide Salinity Control Program

Upper Colorado Basin: Interior Region 7

Western Colorado Area Office

Mission Statements

The mission of the Department of the Interior is to protect and manage the Nation's natural resources and cultural heritage; provide scientific and other information about those resources; and honor its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

The Bureau of Land Management's mission is to sustain the health, diversity, and productivity of public lands for the use and enjoyment of present and future generations.

August 2025

FINDING OF NO SIGNIFICANT IMPACT

United States Department of the Interior
Bureau of Reclamation
Interior Region 7: Upper Colorado Basin
Western Colorado Area Office
Grand Junction, Colorado

North Delta Canal Salinity Control Project – Phase 2 Project

Introduction

In compliance with the National Environmental Policy Act of 1969[1] and the Department of the Interior's NEPA regulations at 43 C.F.R. §§ 46.10-46.450, the Bureau of Reclamation (Reclamation) has completed an environmental assessment (EA) for the Proposed Action of canal improvements in the southwestern part of Delta County, Colorado, to reduce salinity in the Colorado River basin. The proposed canal improvements include the placement of piping and shotcrete lining in two sections of existing, open canal; using siphons to allow sections of open canal to be abandoned, backfilled, and restored; and habitat replacement on land owned by Colorado Parks and Wildlife west of Rogers Mesa and north of Colorado State Highway 92. See 42 U.S.C. § 4336 ("An agency shall prepare an environmental assessment with respect to a proposed agency action that does not have a reasonably foreseeable significant effect on the quality of the human environment, … Such environmental assessment shall be a concise public document prepared by a Federal agency to set forth the basis of such agency's finding of no significant impact or determination that an environmental impact statement is necessary."); see also 43 C.F.R. § 46.300. Under the legislative authority of the Colorado River Basin Salinity Control Act of 1974 (43 U.S. Code [U.S.C.] §§ 1571, et seq., as amended, Reclamation will place piping and shotcrete lining in areas of existing, open canals, use siphons to allow sections of open canal to be abandoned, backfilled, and restored and is the lead agency for purposes of compliance with the NEPA for this Proposed Action.

The EA was prepared by Reclamation to address the potential impacts to the human environment due to implementation of the Proposed Action. The EA is attached to this Finding of No Significant Impact (FONSI) and is incorporated by reference.

Alternatives

The EA analyzes the No Action Alternative and the Proposed Action Alternative to implement the North Delta Canal Salinity Control Project – Phase 2 Project.

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[1] Executive Order 14154, *Unleashing American Energy* (Jan. 20, 2025), and a Presidential Memorandum, *Ending Illegal Discrimination and Restoring Merit-Based Opportunity* (Jan. 21, 2025), require the Department to strictly adhere to the National Environmental Policy Act (NEPA), 42 U.S.C. §§ 4321 et seq. Further, such Order and Memorandum repeal Executive Orders 12898 (Feb. 11, 1994) and 14096 (Apr. 21, 2023). Because Executive Orders 12898 and 14096 have been repealed, complying with such Orders is a legal impossibility. Reclamation verifies that it has complied with the requirements of NEPA, including the Department's regulations and procedures implementing NEPA at 43 C.F.R. Part 46 and Part 516 of the Departmental Manual, consistent with the President's January 2025 Order and Memorandum. Reclamation has also voluntarily considered the Council on Environmental Quality's rescinded regulations implementing NEPA, previously found at 40 C.F.R. Parts 1500–1508, as guidance to the extent appropriate and consistent with the requirements of NEPA and Executive Order 14154.

Decision and Finding of No Significant Impact
Reclamation's decision is to implement the Proposed Action Alternative. Based upon a review of the EA, Reclamation has determined that implementing the Proposed Action will not significantly affect the quality of the human environment. Therefore, an environmental impact statement is not required for this proposed action. This finding is based on consideration of the degree of effects of the Proposed Action on the potentially affected environment, as analyzed in the EA.

Potentially Affected Environment
The project is located in the southwestern part of Delta County, Colorado, near the city of Delta, the town of Austin, and a habitat replacement site approximately 5 miles west of the town of Hotchkiss. The affected localities are the city of Delta, the town of Austin, and the town of Hotchkiss. Affected interests include Reclamation, the North Delta Irrigation Company, and adjacent landowners. The EA evaluates the effects on the potentially affected environment, which includes physical, ecological, and socioeconomic factors.

Summary of Effects
Table 8 provides a summary of environmental impacts for each of the resources evaluated in this EA.

Resource	Impacts: No Action Alternative	Impacts: Proposed Action Alternative
Water Rights and Use	No Effect; the water system would continue to function as it has in the past.	The improved system would provide efficiencies in water delivery, eliminate water seepage, and enable full shares to be delivered to the farm turnouts, benefiting shareholders on the system. Piping the canal in areas of steep topography along Section 1 would mitigate and help protect against the risk of failure from geological hazards.
Water Quality	The high salt levels contributed to the Colorado River Basin from this system would continue at a rate of 3,432 tons of salt per year (Applegate Group Inc., 2023), along with current levels of selenium loading.	Estimated reduction of 3,432 tons of salt per year and an unquantified amount of selenium. Improved water quality downstream, with benefits to aquatic species through reduced salt and selenium loading in the Gunnison and Colorado rivers. The Project would affect waters under the jurisdiction of CWA Section 404 (the ditches themselves) and disturb irrigation-induced wetland and riparian vegetation associated with the ditches. There would be no significant short- or long-term adverse impacts to water quality. The Project would result in overall beneficial, long-term impacts to water quality in the Lower Gunnison and Colorado River basins.

Resource	Impacts: No Action Alternative	Impacts: Proposed Action Alternative
Air Quality	No Effect; continued routine maintenance and operation with minimal dust or emissions from vehicles/equipment.	Temporary vehicle and equipment exhaust and dust from construction activities. BMPs such as dust control and minimized idling reduce air quality impacts to short-term and minor. No long-term and no significant impact.
Access, Transportation and Safety	No Effect; existing conditions for access, public safety, and transportation remain unchanged.	The use of heavy machinery and vehicles for habitat improvements (vegetation removal, planting and watering), pipeline installation, ditch backfilling, shotcrete lining, and other canal improvements would generate emissions of nitrogen oxides (NO_x), CO, and PM. Additionally, fugitive dust would be generated from soil disturbance activities such as excavation, grading, and movement of construction materials. There would be no long-term significant impacts to air quality from the Project, as air quality would return to its baseline level and Delta County would remain in attainment for all criteria pollutants.
Noise	No Effect; continued maintenance activities with negligible noise impacts.	The Project would cause temporary noise sources associated with construction activities, including the operation of heavy machinery, such as trackhoes, bulldozers, loaders, and concrete mixers. Blasting may be necessary to bed the pipe in the canyon area along Section 1. These activities would produce intermittent, short-term noise levels that may be audible in nearby areas. No significant short-term or long-term noise impacts are anticipated would occur because noise associated with construction of the Project would be short-term and would not raise the noise level of the area above the moderate noise baseline.
Public Recreation	No Effect; continued access to dispersed recreation without Project-related disruptions.	Temporary interruptions to recreational quality due to construction noise, traffic, and equipment presence. No long-term and no significant impacts on recreational activities, as disruptions cease post-construction.

Resource	Impacts: No Action Alternative	Impacts: Proposed Action Alternative
Visual Resources	No Effect; visual landscape remains with open earthen ditches and agricultural/rural character intact.	Minor temporary visual disruption due to construction. Changes to visual resources are consistent with the character of the surrounding landforms and the rural and agricultural character in the vicinity of the Project. Long-term benefit through stabilization of canal banks and minimized erosion. Enhanced landscape aesthetics with reduction in open ditch visibility. No significant impacts.
Vegetative Resources	No Effect; vegetation resources would remain in their current state.	Temporary new disturbance of 8.5 acres resulting in a temporary impact of an estimated 8.5 acres of upland native vegetation until revegetation efforts post-construction take off. Minor and temporary effects from dust due to construction. Loss and replacement of habitat value associated with 4.4 acres of riparian vegetation. There would be no significant impacts.
Noxious Weeds	Existing invasive species remain unaddressed with potential spread in disturbed areas.	Long term reduction in weed spread due to reduction in soil disturbance associated with annual maintenance of earthen ditch, reduction in open water flow and weed seed transport, and drying of seeps that currently support noxious weeds. Control measures for invasive species implemented, including use of sterile soil, use of certified weed-free materials and monitoring for successful native regrowth. Assuming weed control measures are not effective (as a worst case) the Project would result in an increase of 0.5% in weed cover across the 12,600-acre evaluation area from construction due to soil disturbance and vehicle use. Reduction in cover of noxious weeds at Habitat Replacement site. There would be no significant impacts.
Wildlife Resources	No Effect; wildlife would continue to use the area as in the past, and salt and selenium loading would continue to affect aquatic dependent	Minimal and temporary impacts to wildlife due to construction activities, which would temporarily disrupt and displace common wildlife. Adjacent wildlife habitat is abundant in the surrounding valley, and construction

Resource	Impacts: No Action Alternative	Impacts: Proposed Action Alternative
	species.	would be timed to avoid nesting birds during sensitive periods; therefore, impacts would be minor. Loss of vegetation habitat for foraging, bedding or cover would occur, and loss of wetland and riparian vegetation would impact wildlife, with value to wildlife fully maintained with the implementation of the Habitat Replacement Plan. Impacts to mule deer or elk at the Habitat Replacement Site, a winter concentration area, would be avoided by construction timing. Impacts to mule deer wintering along Section 1 would be minor and localized. A wildlife escape structure would be installed in Section 1 to allow elk and mule deer to easily exit the open canal. Minor impacts due to loss of access to open water. Construction impacts would be temporary and relatively small in comparison with the surrounding available habitat. No significant impact to wildlife or wildlife resources.
Special Status Species; Migratory Birds, Threatened and Endangered Species and Their Critical Habitats, and BLM Sensitive Species	No Effect; sensitive species would continue. Continued salinity and selenium loading.	Noise and habitat clearing would disrupt or displace wintering and migrating songbirds and raptors. Loss of tall trees would impact raptor nesting habitat but impacts would be minor and not significant relative to the extent of tall trees in the surrounding area. All clearing and grubbing would occur outside the breeding season for migratory birds; if that period cannot be avoided, nesting bird surveys would be conducted and all active nests avoided until the nest fledges. The habitat replacement site would create new nesting habitat for migratory birds and raptors. Construction timing would avoid the nesting season for raptors other than bald eagles and golden eagles; impacts to these raptors would not occur as the Project is outside buffer distance of ½ mile for a nearby bald eagle roost and golden eagle nest. BMPs would be followed if a new raptor nest is located within ½ mile of the Project. The Proposed Action would have No Effect on listed or proposed listed

Resource	Impacts: No Action Alternative	Impacts: Proposed Action Alternative
		species or critical habitats for the monarch butterfly, silverspot butterfly, gray wolf, yellow-billed cuckoo, Colorado hookless cactus, or clay-loving wild buckwheat, and no new effect to the four listed Colorado River fish species since the previous consultation with the USFWS in 2018 (Appendix B). Reduced salt and selenium loading would improve habitat for the four listed Colorado River fish downstream of the Project Area. Impacts to BLM Sensitive Species include incidental loss of individual leopard frogs burrowing in the mud along the canal and loss of leopard frog habitat. Impacts would be minor and would not cause population-level effects. The Project would create the loss of a small amount of tree habitat for roosting bats, but the amount is minor relative to existing trees in the surrounding area. There would be a very low likelihood of impacts to the North American river otter and midget faded rattlesnake from construction disturbance, and impacts would be incidental and minor. No significant adverse impacts to migratory birds, raptors, federally listed species, or BLM-sensitive species.

Resource	Impacts: No Action Alternative	Impacts: Proposed Action Alternative
Cultural Resources	No Effect; cultural resources continue in existing condition.	Adverse impacts to historical resources include two segments of the North Delta Canal, and two sites identified as NRHP-eligible: Smith's Ferry, and a prehistoric site. Impacts to the two sites would be avoided due to the Project location (Smith's Ferry) and due to BMP's to ensure the prehistoric site is protected during construction. Impacts to the canal would be protected under the existing Programmatic Agreement and through a PA Agreement that would ensure the Project would not result in the loss of knowledge of early irrigation systems, their design, or reduce the ability to gain knowledge of early irrigation systems into the future (Appendix C). In addition, impacts would be managed through adherence to preservation stipulations. No significant impacts.
Soils and Farmlands of Agricultural Significance	No Effect; continued salinity loading from seepage impacting soil productivity.	Temporary impacts due to construction activities to soil structure, quality and fertility. New disturbance would be limited to 8.5 acres, minor, and not significant. Revegetation efforts promote soil stability post-construction. Beneficial impacts to soil from reduced soil erosion, decreased sediment transport and soil degradation in irrigated fields. Beneficial impact to soils and farming due to NDIC's improved ability to manage irrigation water. No adverse impact to farmlands, and no significant impact to farmlands or soils.
Paleontological Resources	No Effect; Paleontological Resources continue to exist undisturbed.	Potential impacts associated with bedrock disturbance in a 500 to 1000 linear feet area, where bedrock would need to be removed down to a depth of 1 to 2 feet. Permit stipulations requiring a pre-construction paleontological survey and monitoring during bedrock removal by a certified paleontologist would minimize impacts to Paleontological Resources.

Degree of the Effects
In determining the degree of effects of the Proposed Action, Reclamation has considered the following criteria. These criteria were incorporated into the resource issues and analyses described in the EA. See 43 C.F.R. § 46.310 ("The level of detail and depth of impact analysis should normally be limited to the minimum needed to determine whether there would be significant environmental effects.").

1. **Short- and Long-Term Effects.** The Proposed Action would have minor impacts on resources as described in the EA section 3.2. Environmental commitments were incorporated into the design of the Proposed Action to reduce impacts. The predicted short-term and long-term effects of the Proposed Action are fully analyzed in Section 3.2 and are incorporated by reference here.

2. **Beneficial and Adverse Effects.** The Proposed Action would have a minor impact on resources as described and analyzed in the EA. Environmental commitments were incorporated into the design of the Proposed Action to reduce impacts. The beneficial and adverse effects of the Proposed Action are fully analyzed in Section 3.2 and incorporated by reference here.

3. **Effects on Public Health and Safety.** The Proposed Action will have minimal impacts on public health or safety. A full analysis can be found in section 3.2.4 Public Access, Transportation, and Safety of the EA, and is incorporated by reference.

4. **Effects that would violate Federal, State, Tribal, and local law protecting the environment.** The Proposed Action does not violate any federal, state, local, or tribal law, regulation, or policy imposed for the protection of the environment. In addition, the Proposed Action is consistent with applicable land management plans, policies, and programs. Federal, State, and local agencies and stakeholders were provided an opportunity to comment on the environmental analysis.

Environmental Commitments
The environmental commitments located in Chapter 4 of the Final EA will be implemented to further reduce the insignificant effects of the Proposed Action. Chapter 4 also states the authority for any environmental commitments adopted and any applicable monitoring or enforcement provisions. Chapter 4 of the Final EA is incorporated by reference.

Approved by:

Digitally signed by BART DEMING
Date: 2025.09.23 17:32:06 -06'00'

Bart Deming
Acting Area Manager, Western Colorado Area Office

Final Environmental Assessment for the North Delta Canal Salinity Control Project – Phase 2

Basinwide Salinity Control Program
Upper Colorado Basin: Interior Region 7
Western Colorado Area Office

Prepared for the Bureau of Reclamation by

Sundance Consultants, LLC

August 2025

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CHAPTER 1 – INTRODUCTION

This Environmental Assessment (EA) evaluates the potential environmental effects of the North Delta Irrigation Company's (NDIC or "Applicant") proposed Phase 2 Salinity Control Project ("Project") and assesses its compliance with the National Environmental Policy Act (NEPA). The EA determines whether the Bureau of Reclamation (Reclamation), under the Colorado River Basin Salinity Control Program, should provide funding assistance for this Project, which aims to improve salinity control within the Colorado River Basin.

As the lead federal agency, Reclamation prepared this EA in compliance with NEPA, 42 U.S.C. §§ 4321 et seq. The Project transects lands managed by the U.S. Department of Interior Bureau of Land Management (BLM), and the BLM is a cooperating agency for authorization of the Project. Following the public review period, Reclamation decided on a Finding of No Significant Impact (FONSI) for the proposed Project.

1.1 Project Location and Legal Description

The Project would take place in the southwestern part of Delta County, Colorado, near the city of Delta and the town of Austin (Figure 1). The Project consists of two components: salinity control and habitat replacement.

The salinity control component consists of placement of piping and/or shotcrete lining in two sections of existing, open canal and using siphons to allow sections of open canal to be abandoned, backfilled, and restored. Salinity control components would be implemented along two sections of the canal. Section 1 (upstream) is east of the town of Austin, Colorado, and traverses the Gunnison River and irrigated pasture east of the town of Austin. Section 2 (downstream) is north of the city of Delta, Colorado. The two sections are separated by about 5 miles, and improve 4.70 miles of existing, open earthen canal. Section 1 would include the addition of 1.21 miles of shotcrete lining and 1.01 mile of gravity piping. Section 2 includes about 0.15 mile of large diameter pipe and 1.11 miles of shotcrete lining, as well as three new siphons (0.62-mile total) allowing three horseshoe bends to be abandoned and decommissioned (1.22 miles of canal).

The habitat replacement component includes an approximately 7.1-acre site where invasive Russian olives would be removed and native riparian vegetation would be established to maintain the value of riparian and wetland habitat which would be lost as a result of the salinity control improvements. The Habitat Replacement Site is on land owned by Colorado Parks and Wildlife west of Rogers Mesa and north of Colorado State Highway 92 (Figure 1).

The general physical locations of the Project are depicted on Figure 1 and listed in Table 1.

Figure 1A. Project Overview ***North Delta Salinity Control Project-Phase 2***

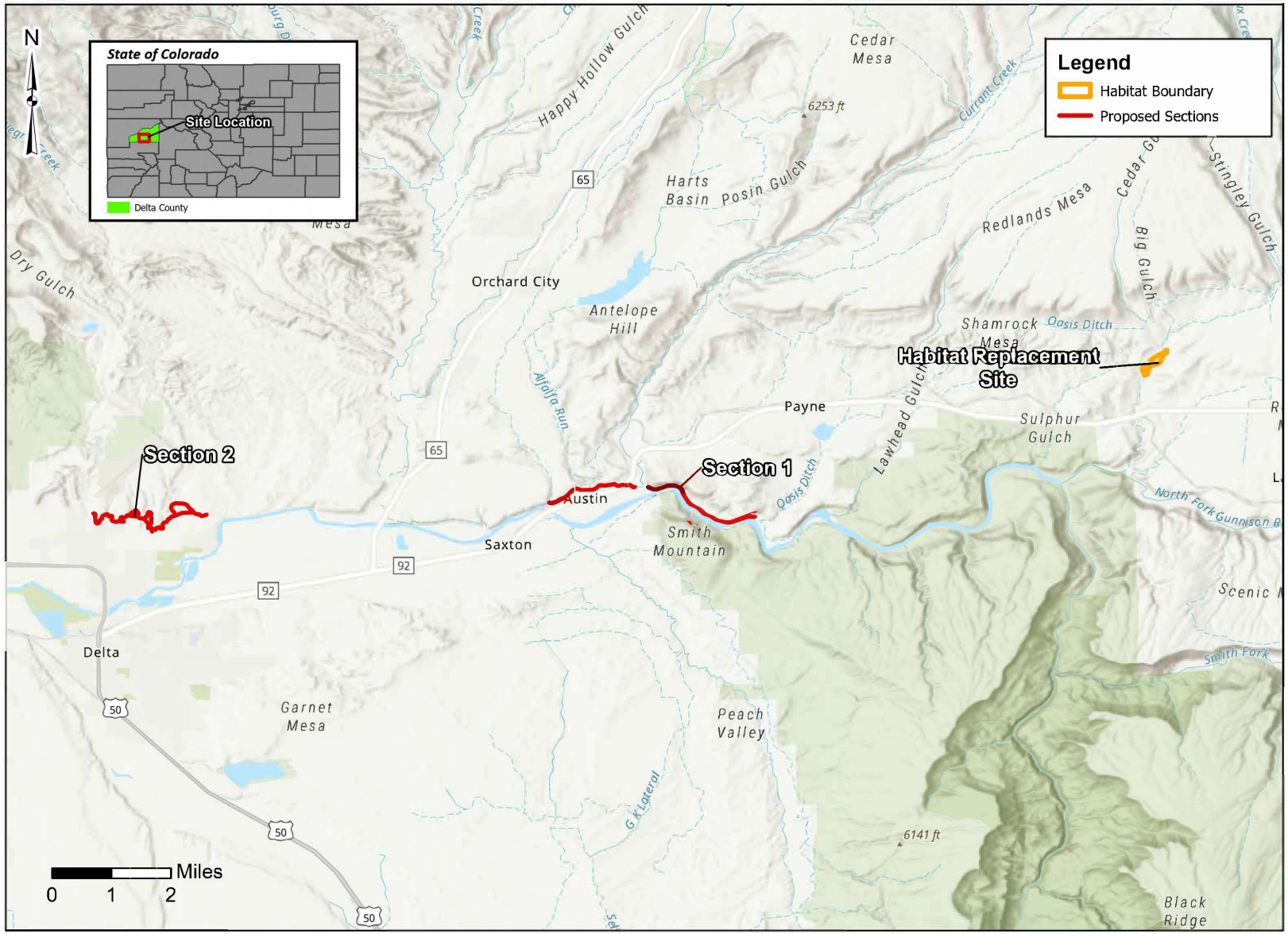


Table 1. Areas Involved in the Project

Project Area	Main Project Elements	General Physical Location
Section 1	The construction of 1.21 miles of shotcrete lining and 1.01 miles of gravity piping. Includes existing access and two staging areas. A portion of canal improvements within Section 1 would be constructed within a historical prescriptive easement on BLM-managed lands; 0.43 mile (2,280 linear feet) of canal improvements and 1,230 feet of construction access.	Sections 04, 05, and 06; Township 15 South, Range 94 West of the 6th Prime Meridian in Delta County, Colorado. The latitude/longitude coordinates of the approximate center of Section 1 are 38.7782847, -107.9275552.
Section 2	Installation of 1.11 miles of shotcrete lining and 0.15 mile of gravity piping. Three new siphons would be installed (0.62 mile) allowing three horseshoe bends to be abandoned (1.22 miles of canal). Includes existing access and staging areas.	Sections 01 and 06; Township 15 South, Range 96 West of the 6th Prime Meridian in Delta County, Colorado. The latitude/longitude coordinates of the approximate center of Section 2 are 38.7719572, -108.0564983.
Habitat Replacement Site	Removal of Russian olive trees and replacement with native mid and over story.	Section 29, Township 14 South, Range 92 West of the 6th Prime Meridian in Delta County, Colorado. The latitude/longitude coordinates of the approximate center are 38.812577°, -107.814445°

The BLM land that would be affected by the Project lies within an area managed by the BLM Uncompahgre Field Office (UFO).

1.2 Need for and Purpose of the Proposed Action

The need and purpose of the Proposed Action is to improve water quality and efficiency by reducing salinity loading in the Colorado River basin, in compliance with the Colorado River Basin Salinity Control Act of 1974 (43 U.S.C. §§ 1571, et seq., as amended). The need and purpose for BLM's connected action would be to respond to the Applicant's request to acknowledge existing historical prescriptive rights-of-way (ROWs) and/or grant a new ROW on BLM land to comply with the Federal Land Policy and Management Act of 1976 (BLM's federal nexus).

1.3 Decisions to be Made

Reclamation would decide whether to provide funding to the Applicant to implement the Project. Since parts of the Project would take place on BLM land, BLM would make a related decision. In the related decision, BLM would decide whether to acknowledge historical prescriptive ROWs and

(if needed) whether to grant new ROWs on BLM land to the Applicant to allow for implementation of the Project.

1.4 Background

1.4.1 Salinity Control Program

The salinity levels in the Colorado River Basin have steadily increased over recent decades, largely driven by agricultural irrigation practices that contribute to salt and selenium loading. High salinity affects water quality, agricultural productivity, and the health of riparian ecosystems.

In 1974, the U.S. Congress passed the Colorado River Basin Salinity Control Act, establishing a framework for managing and reducing salinity to protect the basin's resources. Acting through Reclamation, the Secretary of the Interior is authorized through Public Law 104-20 of July 28, 1995, to implement a Colorado River basin-wide Salinity Control Program. The Salinity Control Program provides funds for salinity control projects though a one-time grant that is limited to the applicant's competitive bid. The Basinwide Salinity Control Program funds salinity control projects with a one-time grant that is limited to an applicant's competitive bid. Salinity control projects are awarded based on applications received in response to a Notice of Funding Opportunity (NOFO) (formerly called Funding Opportunity Announcement [FOA]) issued by Reclamation. As part of the NOFO, applicants are evaluated individually according to the following criteria: cost effectiveness, ability to enable on-farm salinity control features, risk assessment, detailed project plan, costs & capability to implement the project, future operation & maintenance and management capabilities for the project, past performance, and Department of the Interior goals. Applications are ranked by an Application Review Committee made up of multiple disciplines, and high-ranking projects are recommended to the Salinity Control Program Manager for consideration. The Salinity Control Program Manager then provides recommendations to the Grants Officer for award. Facilities constructed using funds are owned, operated, maintained, and replaced by the applicant at their own expense.

The cost effectiveness value of a proposed project is quantified as the estimated total annual salt load (in tons) reduced in the Colorado River basin divided by the project cost amortized over 50 years. Estimated salinity reduction is calculated based on measured total dissolved solids loads in basin streams, GIS-based model calculations to determine subbasin loads, and ditch mapping data that include average flows, ditch lengths, and average annual days of use. Richards et al. (2014), Schaffrath (2012), and Linard (2013) provide more detailed information on salt loading estimate methodology.

Earthen irrigation ditch water seepage and the resultant deep percolation through saline soils is one way that salts are mobilized and transported into regional streams and rivers. Piping such ditches removes a source of deep percolation and salt mobilization to regional streams and rivers from the system. The Project would eliminate water seepage from approximately 4.70 miles of earthen ditches, reducing salinity loading by 3,432 tons per year (Applegate Group Inc. 2023) in the Lower Gunnison Basin and the Colorado River Basin.

While the Project is not a selenium reduction project, it is anticipated that an unquantified reduction in selenium loading in the Colorado River basin would also be associated with the Project. The U.S. Geological Survey (USGS) monitors dissolved selenium loads in rivers and tributaries immediately downstream of the Project Area. There has been a 47.7 percent decrease in selenium levels in the Gunnison River near Whitewater between 1986 and 2020 (Henneberg 2021). The Gunnison Basin

Selenium Management Program (SMP), a private/public partnership of concerned parties working together to identify and implement solutions to reduce selenium concentrations in the Gunnison and Colorado rivers, attributes a portion of the reduction in selenium throughout the area to the reduction of deep percolation from seeping irrigation ditches due to the implementation of salinity control projects (Reclamation 2024a).

In the years following the passage of the Salinity Control Act, multiple salinity control projects have been implemented throughout the basin, modernizing infrastructure, improving water conveyance, and reducing salt seepage into groundwater and river systems. The North Delta Canal Phase 1 Salinity Control Project, completed in a previous funding cycle, set a foundation for the Phase 2 improvements outlined in this EA. Phase 1 included canal lining, installation of piping, and habitat replacement initiatives. The proposed Phase 2 Project aims to build on the success of Phase 1 by extending canal upgrades to additional areas of high salinity loading. This action supports federal and state initiatives to achieve long-term salinity reductions across the Colorado River basin.

1.4.2 The Applicant

The Applicant (NDIC) would implement the Project, manage approximately 18 miles of canal, and deliver irrigation water to acreage located in Austin, Orchard City, and Delta, Colorado. NDIC formed prior to 1901 (the earliest appropriation date for water rights decreed to NDIC) and filed as a non-profit corporation in 1992 (Applegate Group, Inc., 2023).

1.5 Relationship to Other Projects

1.5.1 Salinity Control Program

Under the authority of the Colorado River Basin Salinity Control Act, Public Law 93-320, as amended, Reclamation provides funding through the Basinwide Salinity Control Program and the Basin States Program to implement salinity control projects in the Colorado River Basin. The following list of salinity control projects in the vicinity of the Project have been funded through Reclamation's Western Colorado Area Office:

1. Bostwick Park Siphon Lateral and Waterdog and Shinn Park Laterals Piping Projects
2. C Ditch/Needle Rock Piping Project
3. Cattleman's Ditches Piping Project Phases I and II
4. Crawford Clipper Center Lateral Piping Project
5. Crawford Clipper Jerdon, West, Hamilton Piping Project
6. Crawford Clipper Spurlin Mesa (Clipper 4) and Zanni Lateral
7. Eastside Laterals Piping Projects, Phases 1 through 10, including GE, DK Laterals, Phase 9 Mod
8. Fire Mountain Canal Piping Project
9. Forked Tongue/Holman Ditch Piping Project
10. Gould Canal Improvement Projects A and B
11. Grandview Canal Upper, Middle and Lower Piping Projects
12. Minnesota Canal Piping Project Phase I and II, and Minnesota L75 Piping Project
13. Needle Rock/Lone Rock Piping Project
14. North Delta Canal Piping Project – Phase I and Phase I Extension
15. Orchard Ranch Ditch Piping Project
16. Pilot Rock Ditch Piping Project
17. Rogers Mesa Slack and Patterson Lateral Piping Project

18. Short Ditch Extension Piping Project
19. Stewart Ditch – Upper, Middle, and Lower Piping Projects

1.5.2 CRSP Basin Funds

Reclamation's Western Colorado Area Office recently utilized Colorado River Storage Project (CRSP) Basin Funds to implement the following projects**:**

1. Aspen Canal Piping Project
2. GK Lateral Piping Project

1.5.3 RCPP Funds

The U.S. Dept. of Agriculture Natural Resources Conservation Service (NRCS) issued a Regional Conservation Partnership Program (RCPP) grant administered by the Colorado River Water Conservation District under the Lower Gunnison Watershed Plan. RCPP irrigation infrastructure improvement projects planned in the vicinity of the Project include:

1. Needle Rock Diversion Project
2. Grandview Canal Piping Project
3. Crawford Clipper Ditch Upper West Lateral Master Plan Projects (various)

1.6 Scoping

During the planning stages of the Project, Reclamation performed scoping in consultation with the following agencies to identify potential environmental and human environment issues and concerns associated with the Proposed Action and No Action alternatives:

- BLM, UFO, Montrose, CO
- Colorado State Historic Preservation Office (SHPO), Denver, CO
- U.S. Army Corps of Engineers (USACE), Northwestern Colorado Branch, Grand Junction, CO
- Southern Ute Tribe, Ute Mountain Ute Tribe, and Ute Indian Tribe (Uintah and Ouray Reservation)
- U.S. Fish and Wildlife Service (USFWS), Ecological Services, Grand Junction, CO
- Colorado Parks and Wildlife (CPW), Grand Junction, CO

Resources analyzed in this EA are discussed in Chapter 3. The following resources or potential issues were identified as not present or not affected, and are eliminated from further analysis[2]:

[2] Executive Order 14154, Unleashing American Energy (Jan. 20, 2025), and a Presidential Memorandum, Ending Illegal Discrimination and Restoring Merit-Based Opportunity (Jan. 21, 2025), require the Department to strictly adhere to the National Environmental Policy Act (NEPA), 42 U.S.C. §§ 4321 et seq. Further, such Order and Memorandum repeal Executive Orders 12898 (Feb. 11, 1994) and 14096 (Apr. 21, 2023). Because Executive Orders 12898 and 14096 have been repealed, complying with such Orders is a legal impossibility. Reclamation verifies that it has complied with the requirements of NEPA, including the Department's regulations and procedures implementing NEPA at 43 C.F.R. Part 46 and Part 516 of the Departmental Manual, consistent with the President's January 2025 Order and Memorandum.

Table 2. Resources or Potential Issues Eliminated from Further Analysis

Resource or Potential Issue	Rationale for Elimination from Further Analysis
Indian Trust Assets and Native American Religious Concerns	The Project Area does not contain any identified Indian trust assets or Native American sacred sites. Neither the Proposed Action or No Action Alternative would affect Indian trust assets or Native American sacred sites. Reclamation will provide the Ute Mountain Ute Tribe, the Ute Indian Tribe (Uintah and Ouray Reservation), and the Southern Ute Indian Tribe on with a description of the Project and a written request for comments regarding any potential effects on Indian trust assets or Native American sacred sites as a result of the Proposed Action Alternative. Results of this consultation will be included in the Final EA.
Wild and Scenic Rivers, Lands with Wilderness Characteristics, or Wilderness Study Areas	No Wild and Scenic Rivers, land with wilderness characteristics, or Wilderness Study Areas exist in the Project Area. Neither the No Action Alternative nor the Proposed Action would impact these designated areas.

1.7 Alternatives Considered but Not Carried Forward

Several alternative approaches to salinity control were considered during the Project's planning phase. These alternatives included treating the entire length of the canal in Section 2, rather than installing siphons in three locations and abandoning the three "horse-shoe bends", as well as piping the entire extent of Section 1 and 2 and lining the entire extent of Section 1 and 2. These alternatives were evaluated for feasibility, cost-effectiveness, and environmental benefits. The Project was selected as the preferred option due to its comprehensive approach to reducing salinity loading, and its practicality for the NDIC's operational structure.

CHAPTER 2 – PROPOSED ACTIONS AND ALTERNATIVES

This chapter describes the alternatives analyzed in this EA, including the No Action Alternative and the Proposed Action Alternative. The Proposed Action Alternative was developed based on the project's purpose and need, as discussed in Chapter 1, to reduce salinity loading in the Colorado River Basin. Environmental impacts of each alternative are discussed in detail in Chapter 3.

2.1 No Action Alternative

Under the No Action Alternative, the Project would not be funded and implemented. The existing irrigation infrastructure would continue to operate in its current state, utilizing unlined, earthen ditches for water conveyance. Consequently, salinity and selenium would continue to seep from these unlined sections into the surrounding soils and waterways, contributing to the ongoing degradation of water quality within the Gunnison and Colorado river basins. The BLM's formal acknowledgement process to verify historical ditch ROWs would not be necessary and no new ROW would be granted on BLM land.

2.2 Proposed Action Alternative

The Proposed Action Alternative involves the installation of canal piping, shotcrete lining, and other infrastructure upgrades along the North Delta Canal, supported by Reclamation funding. These improvements are designed to reduce water seepage, thereby minimizing salinity and selenium loading into the Gunnison and Colorado River Basins. The Project would be implemented in two main sections, each comprising different treatment measures based on the unique characteristics of each area.

In addition to the physical improvements, the Project includes best management practices (BMPs) to mitigate environmental impacts during construction, including erosion control measures, dust suppression, and noise management. The BLM would acknowledge historical ROWs or issue a new ROW, if necessary, to authorize the Project's implementation on BLM-managed lands. The Project would also establish a Habitat Replacement Site to compensate for any ecological disruptions caused by canal modifications, thereby aligning with state and federal conservation standards.

The following sections provide an overview of each component of the Proposed Action, including planned improvements and anticipated environmental benefits.

2.2.1 Project Overview

The Project includes targeted salinity control measures in two key areas: Section 1 (the eastern upper section of the canal) and Section 2 (the western lower section) (Figures 2A through 2E). Measures to protect the soils from direct contact with irrigation water for both sections include piping and lining. Three locations within the piped sections involve deviations from the current canal alignment to allow for the abandonment of horseshoe bends in the open canal (Table 3). Additionally, the Project would establish an approximately 9.5-acre Habitat Replacement site to reestablish adequate habitat to maintain the value of the riparian and wetland habitat impacted by the piping component of the Project. Project extents are summarized in the table below:

Table 3. Summary of NDIC Phase 2 Salinity Control Improvements[1]

Section	Treatment	Linear Feet (Private Land)	Linear Feet (BLM Land)	Total Linear Feet	Total Miles
1	Shotcrete lining existing canal prism	6,370		6,370	1.21
	Gravity piping existing canal prism	3,048	2,280	5,328	1.01
	Total Section 1 Improvements	**9,418**	**2,280**	**11,698**	**2.22**
2	Shotcrete lining existing canal prism	5,842		5,842	1.11
	Gravity piping existing canal prism	802		802	0.15
	Abandoned canal (three horseshoe bends)	6,479		6,479	1.22
	New siphon (pressure piping)	2,880		2,880	0.62
	Total Section 2 Improvements	**16,003**		**16,003**	**3.10**

[1]Improvements to existing earthen ditches total 4.70 miles: 2.22 for Section 1 and 2.48 for Section 2

Figure 2A. Proposed Project Components, Section 1-West

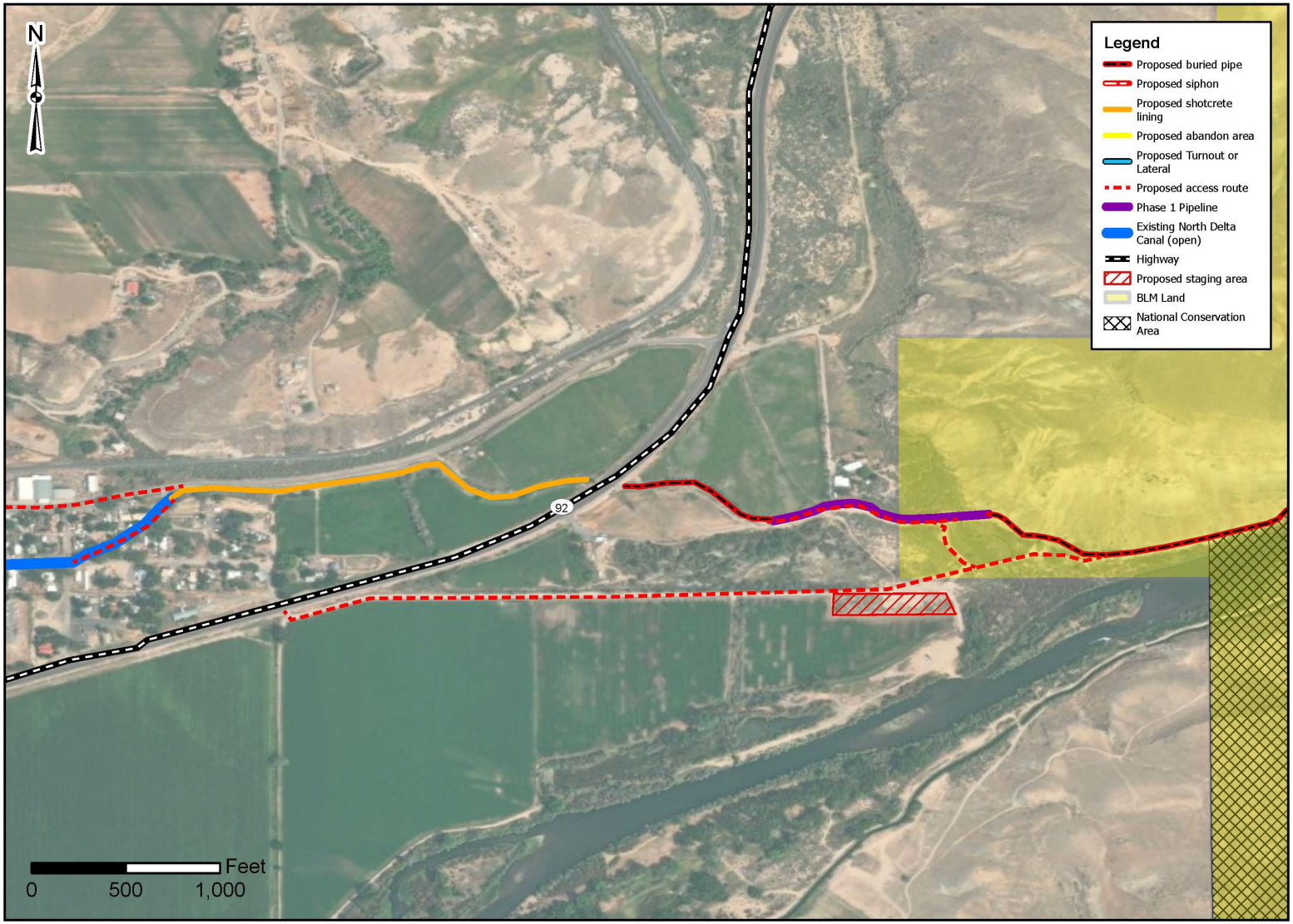


Figure 2B. Proposed Project Components, Section 1- East

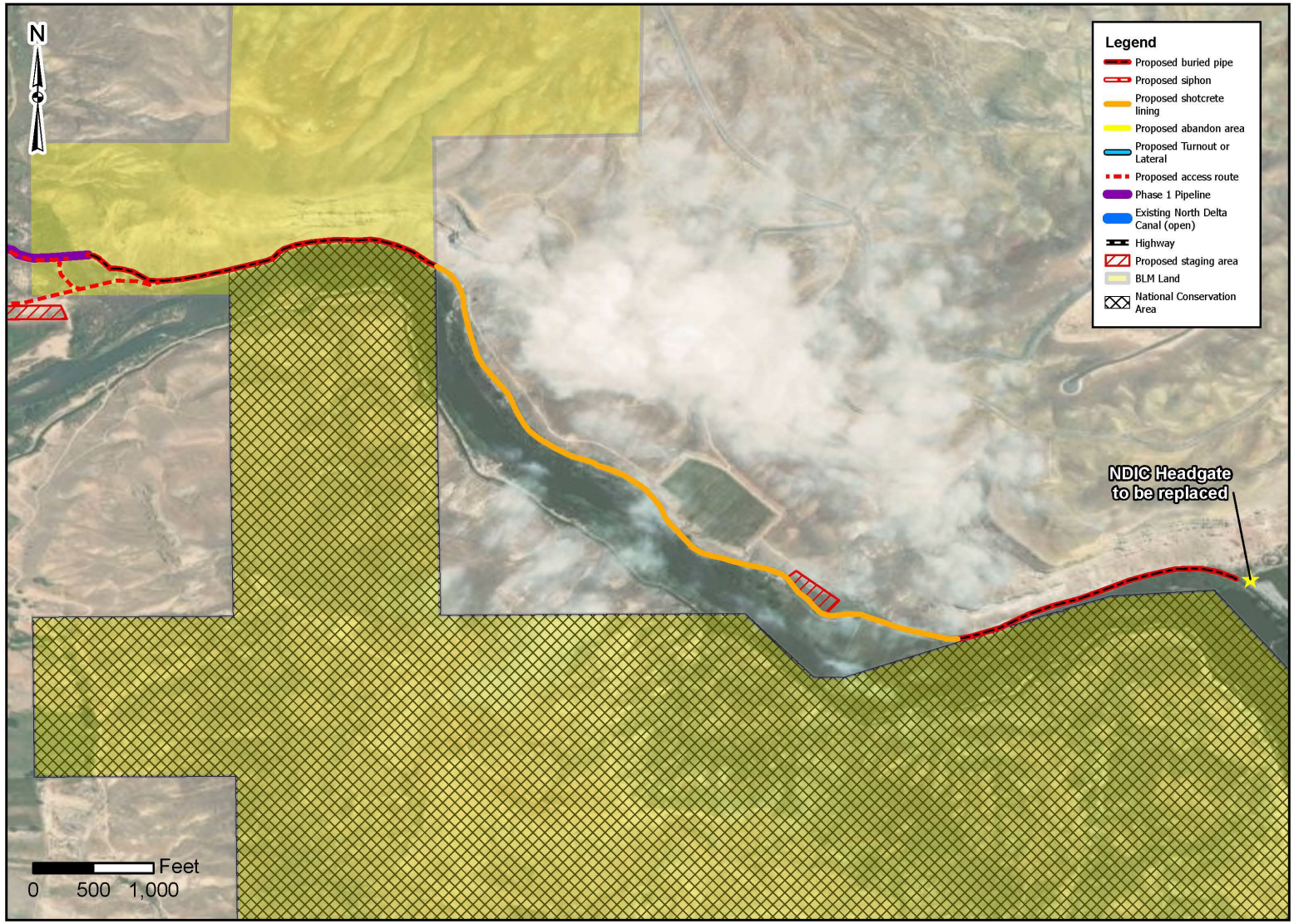


Figure 2C. Proposed Project Components, Section 2- West

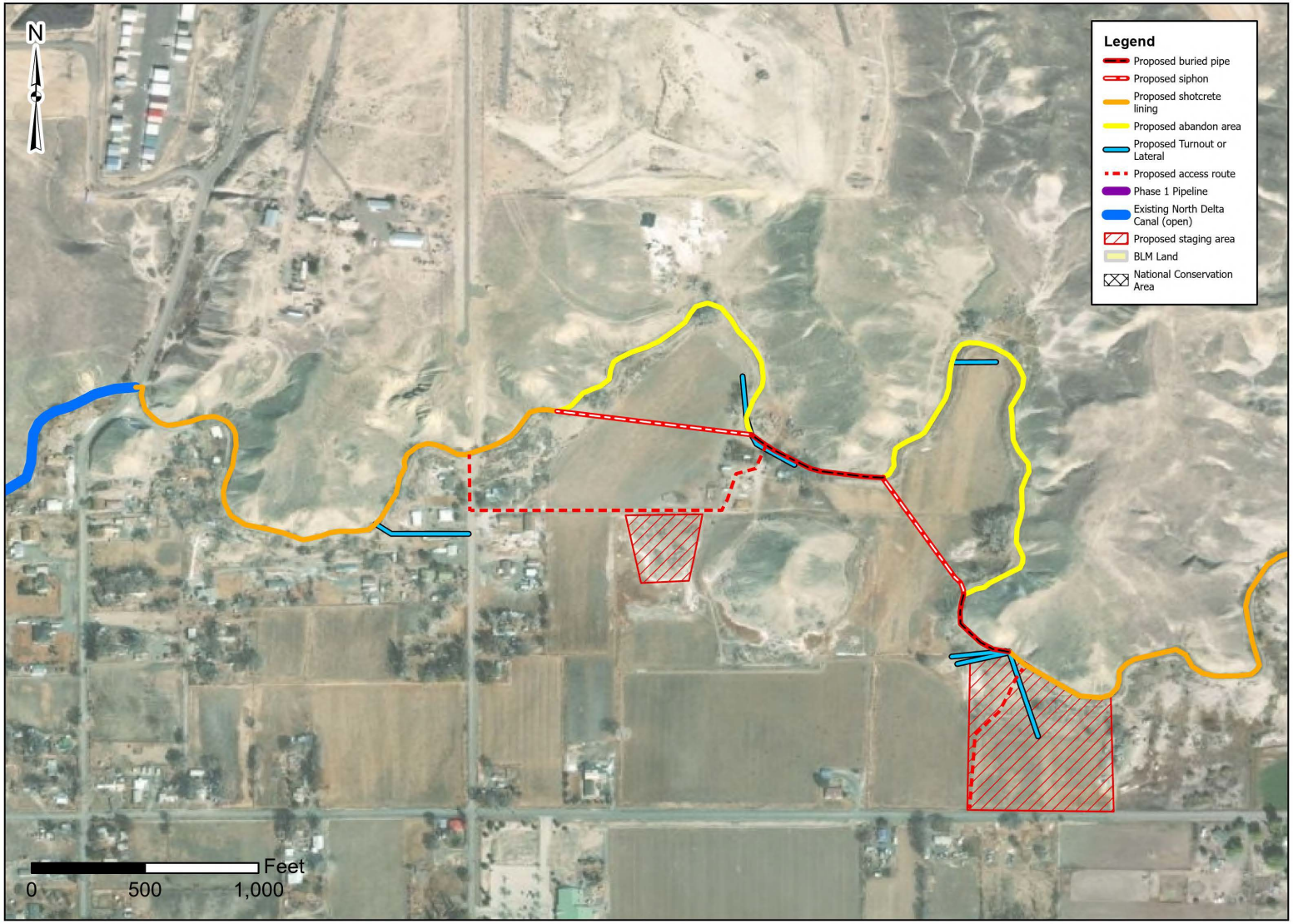
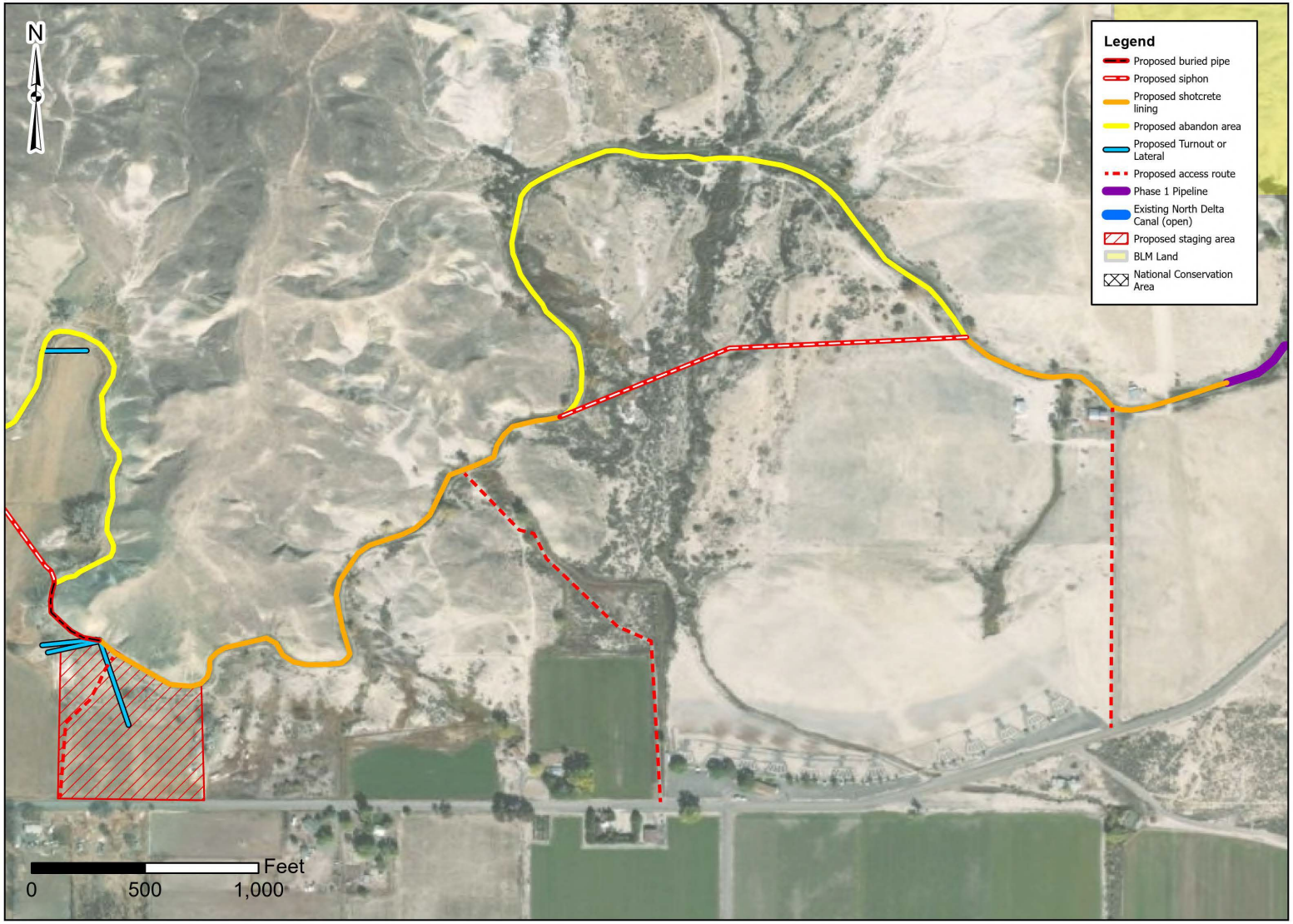


Figure 2D. Proposed Project Components, Section 2- East



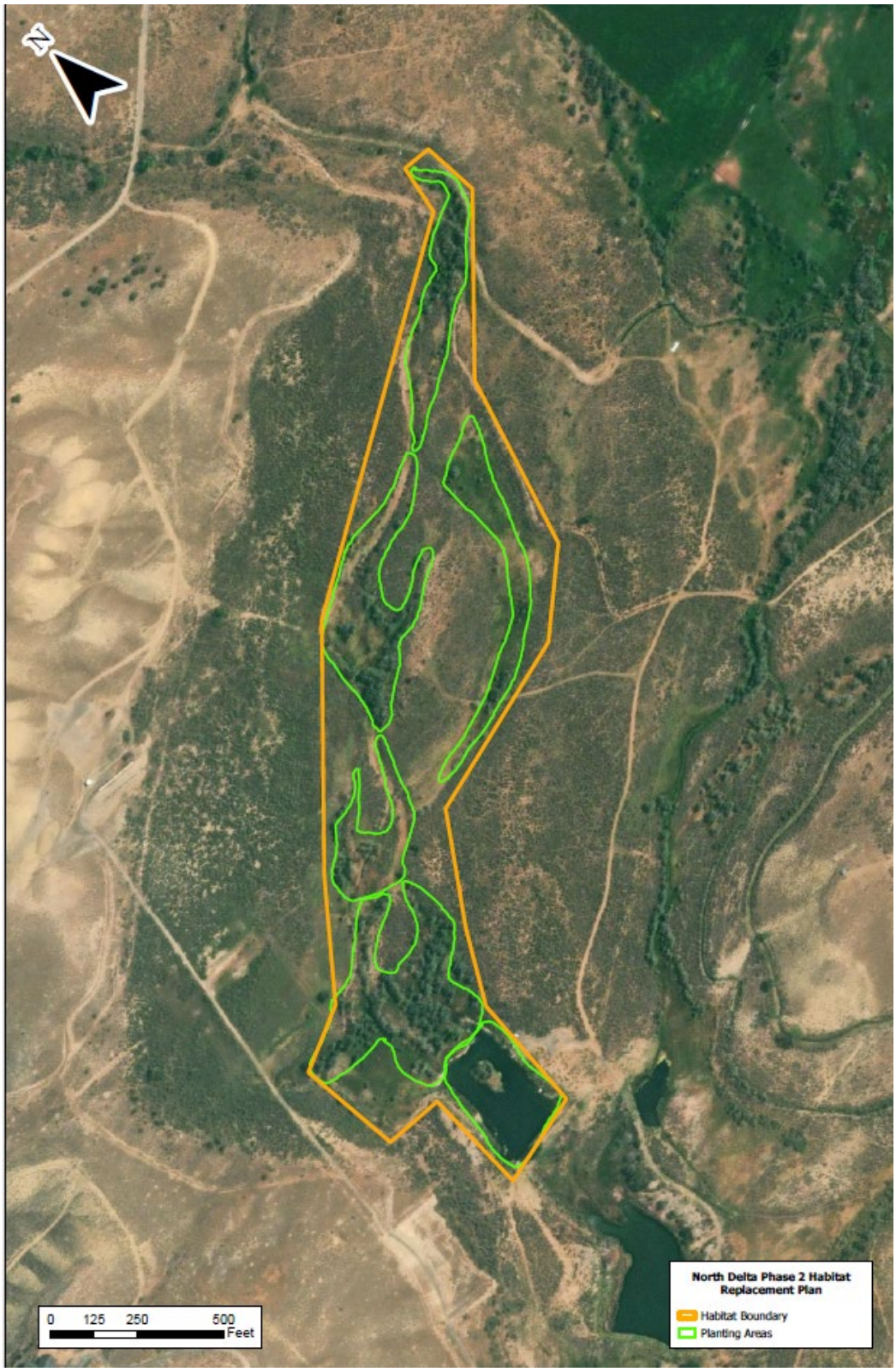


Figure 2E. Habitat Replacement Site

2.2.2 Pipeline, Siphon, and Shotcrete Liner Installation

Section 1 includes a total of 6,370 feet (1.21 miles) of shotcrete lining and 5,328 feet (1.01 miles) of gravity piping improvements to an existing, open canal. To prepare for piping, siphon and liner installation, construction sites would initially be cleared of vegetation to the minimum extent needed (the authorized construction width would not be mechanically cleared of vegetation to its maximum outer limits unless needed).

An average width of 40 to 50 feet would be required to accommodate pipeline installation, siphon installation, and shotcrete lining; a smaller extent (30-40 feet) would be required for abandonment/decommissioning. The actual width would vary depending on site conditions such as slope/ability to operate safely and nearby infrastructure or sensitive resources. Width could be as narrow as 30 feet and as wide as 60 feet in some places. The authorized construction area widths would be adjustable to site conditions in order to complete the work safely and with the smallest possible disturbance footprint. Construction footprints would be limited to only those necessary to safely implement the Project. A widened, gently sloping ramp would be installed in Section 1 as a wildlife escape structure approximately 0.7 miles east of the beginning of the proposed open canal. All disturbed areas would be recontoured following construction to match the surrounding natural topography, restore drainage patterns and prevent erosion.

The upstream section of the open canal traverses a canyon area just above the northern bank of the Gunnison River. Starting at the eastern end of the Project Area and moving downstream to the west, the existing headgate would be replaced with a new gate inside an existing concrete structure. Downstream of the headgate, the canal would be piped in 54 or 60-inch, profile wall plastic pipe made of high-density polyethylene (HDPE) or Polypropylene (PPE) for 1,995 feet, then transition to shotcrete lining for 4,475 feet. Shotcrete lining would transition to 54 or 60-inch profile wall plastic pipe (HDPE or PPE) where the Project transects BLM-managed land and continue for 2,646 feet to the point where the canal exits the canyon area, where it would be connected to a 0.20-mile section of existing pipeline installed during Phase I. A portion of this section of pipe (2,280 feet) would be constructed within a prescriptive historic easement on BLM-managed land. All other Project extents are on private property.

West of the existing pipeline, a third section of 60-inch profile wall plastic pipe would be installed for 687 feet to the existing concrete culvert that carries the canal under Highway 92. After crossing Highway 92, the canal would be lined with shotcrete lining for 1,895 feet transecting several parcels of irrigated pasture. The lining would transition back to open canal on the east side of the town of Austin.

Section 2 traverses dry adobe badlands along the northern edge of farmland north of Delta, Colorado. Section 2 includes a total of 802 feet of 48-inch diameter gravity pipe, 5,842 feet total of shotcrete liner, as well as a total of 2,880 feet of 42-inch pressure piping for three new siphons allowing three horseshoe bends to be abandoned (a total of 6,479 linear feet of canal).

At the upstream end of Section 2, 970 feet of shotcrete lining would be installed up to the point where the canal would transition into the easternmost siphon. The eastern siphon pipe consists of 1,600 feet of 42-inch pressure pipe and would allow for 3,020 feet of open canal to be abandoned, backfilled, and resurfaced. On the other side of the siphon, shotcrete liner would be installed for 2,550 feet leading to a 300-foot section of 48-inch gravity pipe. The gravity pipe would transition to the middle siphon pipe, consisting of 593 feet of 42-inch pressure pipe, allowing 2,045 feet of open

canal to be abandoned/backfilled. After the middle siphon, another 502 feet of 48-inch gravity pipe would be installed to the western siphon, consisting of 687 feet of 42-inch pressure pipe and allowing 1,400 feet of open canal to be abandoned/backfilled. At the western end of the western siphon, 2,322 feet of shotcrete liner would be installed, terminating at the Project end where the canal crosses under 1575 Road. Several thousand feet of smaller pipe and turnouts would be installed to convey water to fields along Section 2.

Pipe and siphon installation. Heavy equipment, including trackhoes, loaders, haul trucks and bulldozers, would be used to bed, install pipe, fill, and regrade the surface. Pipe would be bedded in the existing canal, and if necessary, excavated an additional 3 to 5 feet beneath the canal bed as required based on pipe diameter size and elevation gradient needed for water flow. Pipe would be placed in the trench and clean, native fill acquired from the Project Area would be placed around the pipe. The pipe would be buried and the surface graded to match the surrounding land contours and restore natural drainage patterns.

Trenching and laying pipe for the siphons would progress across each drainage or swale. A bulldozer would be used to clear the surface and a trench would be excavated with a trackhoe. Pipe would be placed in the trench on the sloped sides of the drainage and joined to gravity pipe sections through concrete structures or custom pipe fittings. The disturbance width for siphon construction would be less than 60 feet.

Bedrock removal. Bedrock may be encountered in the pipe trench within a 500 to 1,000 LF portion of Section 1 that would be installed in the canyon area on BLM-managed land. An additional one to two feet in depth is required in this area through bedrock. Options for removing bedrock include blasting, using expanding grout, or using an excavator with an appropriate tool such as a ripper, rock hammer, or drum cutter attachment. If blasting is used, all blasting would be performed by a BLM-certified, licensed blasting contractor, with a blasting and safety plan approved by BLM. To blast, holes would be drilled into the rock, a charge and detonator placed in the drill hole, and then detonated. All blasting activity would occur below grade, muffling the noise associated with the blasting to resemble a firearm discharge. The purpose of any blasting would be to fracture and loosen rock so that it could then be excavated from the trench with a trackhoe. Blasting operations would last between one to two weeks and blasting would occur about two times per day. Another alternative to blasting is use of an expanding cementitious grout to fracture the bedrock. This process would involve drilling 1.25-inch diameter holes up to 3 feet deep and filling the holes with an expanding grout known as DEXPAN. Over a period of 24-48 hours, the DEXPAN would expand and slowly fracture the bedrock. An excavator would then be used to remove the fractured rock.

Shotcrete liner. Equipment required for canal lining may include trackhoes, an excavator, conventional loaders, a skid steer loader, a tamper, a grader, an end dump, haul trucks to transport bedding fill material, a concrete truck, and a pneumatic concrete pump for placing shotcrete.

Areas of the canal to be lined with shotcrete liner would be cleared of sharp rocks and vegetation would be cleared from the canal banks. The canal would be shaped to design dimensions and compacted to specifications. This may involve the compaction of small amounts of backfill in the existing canal or a complete backfill and re-excavation of the canal to provide a firm subgrade for the liner. Blasting or rock removal may be required along approximately 300 ft

of liner in section 1 to remove large overhanging rocks that would present a safety hazard during construction and a future risk to the installed liner. A synthetic liner system would be placed in the prepared canal, consisting of several layers of material, including a non-woven geotextile material followed by an impermeable membrane and finished with another layer of non-woven geotextile to provide a bonding surface for the shotcrete. Fiber reinforced shotcrete would be sprayed on top of the liner to a depth of 3 inches. The synthetic liner system would be horizontally anchored into the canal banks a minimum of 2 feet and the edges of the liner fabric buried.

Temporary disturbance extents. For the purposes of calculating the disturbance extent for the Project, disturbance width is assumed to be 50 feet throughout the canal construction area and siphon installation area, outside the canyon area (eastern portion of Section 1). Due to the narrow conditions within the canyon area along the eastern portion of Section 1, construction disturbance width would average 30 feet. Backfilling the abandoned section would require a 40-foot construction width. The total disturbance footprint associated with the canal construction (not including staging) would be 21.5 acres (2.5 acres on BLM-managed land).

Turnouts and laterals. An estimated 1,709 feet of smaller pipe would be installed to convey water to irrigated fields (Figure 2C). Irrigation turnouts would be replaced as part of the Project.

Project components are summarized below:

Section 1 (East of Austin):

- **Piping**: Approximately 5,328 feet of 54 or 60-inch, profile wall plastic (HDPE or PPE) pipe would be installed.
- **Shotcrete Lining**: 6,370 feet of shotcrete lining would be applied.
- **Culvert Improvements**: An existing concrete culvert under Highway 92 would be retained, with surrounding infrastructure reinforced to support the new canal lining. An existing bridge for the access road over Currant Creek would be replaced due to the deteriorating condition of the existing bridge.

Section 2 (North of Delta):

- **Piping and Siphons**: Three siphons (totaling 2,880 feet) would allow for bypassing and abandoning 6,479 feet of unlined canal. The siphons would be installed using 42-inch plastic pressure piping. Two sections of gravity pipe would be installed totaling 802 feet.
- **Shotcrete Lining**: 5,842 feet of shotcrete lining would be applied, stabilizing canal sections that traverse unstable or high-salinity soils.
- **Turnouts**: Irrigation turnouts would be upgraded to improve water flow efficiency and accurate flow measurements thereby allowing for better water distribution along the canal.

2.2.3 Abandoned Ditch Segments Decommissioning

Under the Proposed Action, approximately 6,479 linear feet of unlined canal would be decommissioned. This process would involve backfilling the canal with material sourced from along the canal or adjacent areas within the Project Area to minimize environmental disruption. These segments would be restored and revegetated to match the surrounding land's natural contours,

ensuring proper drainage and erosion control. The adjacent maintenance road would continue to be used to access the canal around the western and middle horseshoe bends where the siphon transects irrigated pasture. A new maintenance road would be constructed along the pipeline for the easternmost siphon that transects undeveloped land.

2.2.4 Access and Bridge Replacement

Access for construction activities would use existing roads and routes along the canal corridor, minimizing the need for new road construction. Key access points for Section 1 include Main Street east of Austin, Highway 92, and a private road that intersects BLM land. For Section 2, access would be provided from I Road/Trap Club Road, County Road 1600, and County Road 1575.

A small existing wooden bridge approximately 12-feet wide with a 12-foot span that crosses Current Creek for access to Section 1 (on BLM-managed land) is in a dilapidated condition. For safety, prior to construction along Section 1, the bridge would be replaced "like and kind". Wooden beams would be replaced with steel beams, and a new concrete abutment installed. A wooden deck (to visually simulate the existing bridge) would be placed on top of the beams. To accommodate a 100-yr flood the concrete abutment would span 16 feet (the current span is 12 feet). Construction is expected to take up to 2 weeks to complete depending on weather and would be timed to occur in the late fall/winter. During construction, Currant Creek flows (flows range from 2 to 4 cfs; Craig Ullman, pers. comm. Nov. 20, 2024) would be temporarily directed into a 24-inch viaduct using a plastic coffer dam to dewater the construction area. The existing concrete abutment and wooden material would be removed from the area and a new concrete abutment constructed in place. Footers on either side would be formed first, poured and cured, then the four walls for the concrete abutment would be formed, backfilled, completed with the steel beam and wooden decking. As soon as the abutment is finished, temporary materials would be removed (the pipe and fill removed) from Currant Creek, and the creek returned to its natural existing condition.

Temporary measures, including dust suppression and vehicle restrictions, would be implemented to limit disturbance to surrounding agricultural lands and prevent unnecessary impacts on local traffic. Signage would be placed along main access routes to alert the public to construction activities and ensure safety for residents and workers.

2.2.5 Staging

Four staging areas totaling 10.5 acres would be established to store construction materials and equipment, such as non-woven geotextiles, membrane liners, pipes, fittings, and heavy machinery. These areas are selected based on proximity to the Project sections and accessibility. Two staging areas would be located near Section 1 on private lands, and two staging areas would be located near Section 2 on private land (Table 4). No vegetation clearing would be performed to prepare staging areas for use.

Table 4. Designated Staging Areas

Staging Area	Acres	Lat	Long	Baseline Conditions/Landcover
Section 2 West	1.46	38.773389°	-108.062365°	Very sparse greasewood (*Sarcobatus vermiculatus*), disturbed/weedy
Section 2 Center	6.8	38.770644°	-108.057961°	1.8 acres of sparse greasewood/bare and

Staging Area	Acres	Lat	Long	Baseline Conditions/Landcover
				disturbed /weedy, 5 acres of fallow pasture
Section 1 West- disturbed area just west of BLM	1.24	38.780678°	-107.938672°	Very sparse greasewood, disturbed/weedy
Section 1 East- in canyon, along farmland area	1	38.774114°	-107.921000°	Sparse scrub-shrub vegetation

2.2.6 Fill Material

All fill material required for the Project would be obtained from within the Project Area. Fill material would be generated on-site using a screening bucket as needed. Topsoil would be set aside for any areas that are not within the existing disturbed footprint of the canal/maintenance road alignment and where seeding is proscribed (see Section 2.2.7). In areas where seeding is proscribed, segregated topsoil would be replaced following the recontouring of the ground surface. Undisturbed desert soils contain a native seedbank, and preserving the top layer is important for revegetation.

2.2.7 Weed Control and Post-Construction Revegetation

The Project includes measures to prevent the spread of weeds during and after construction. Prior to mobilizing to the site, all equipment and vehicles would be cleaned to prevent the spread of weeds. Slash from areas cleared of woody noxious weeds, including Russian olive and tamarisk, would be contained and removed from the site or stockpiled and burned at a staging area. Following construction, the Project Area would be recontoured to prevent erosion and the Applicant would follow county standards and public land permit stipulations to monitor and control noxious weeds. Prior to using pesticides on BLM-managed lands, the applicant would provide the BLM with a Pesticide Use Proposal.

Two options would be used for post-construction revegetation: 1) Sterile soil (subsoil without a seedbank) used as topsoil/natural revegetation, or 2) Conventional revegetation method. Project construction drawings would indicate which revegetation method would be used throughout the Project alignment, in coordination with the landowner.

Option 1 would be used where the pipe transects non-farmed areas and where adjacent vegetation is sparse. For these areas, a weed-free, sterile soil would be used to mitigate the spread of weeds and the topsoil would not be seeded. The soil would revegetate naturally over time. Examples include along the eastern piped and lined portions of Section 1 (Figure 2B) and the eastern horseshoe bend of Section 2 (Figure 2D).

Option 2 would be used where adjacent land is irrigated pasture or on the margins of irrigated pasture (along the western portion of Section 1 and middle and western horseshoe bends of Section 2; Figure 2A and Figure 2C). For these areas, a weed-free hay mix would be used in coordination with the landowner. Topsoil set aside during construction would be placed on the surface prior to reseeding.

Option 2 would also be used where disturbed areas are adjacent to upland native vegetation, or where the landowner requests seeding. For these areas, a weed-free seed mix would be used

including drought-tolerant and common native grass such as western wheatgrass. The seed mix used on public lands would be based on revegetation success during Phase I. The seed mix would be certified weed-free and approved by Reclamation and BLM (Appendix A).

2.2.8 Habitat Replacement

In accordance with the Colorado River Basin Salinity Control Act, a habitat replacement project would be required to maintain riparian and wetland habitat affected as a result of the Project (Sundance Consultants LLC, 2025). The plan addresses open wet meadow areas and patches infested with Russian olive along Big Gulch. Riparian areas along Big Gulch (a total of 7.1 acres) would be addressed by noxious weed removal and shrub and tree plantings to establish structure, connectivity and diversity. A total of approximately 650 tree and shrub plantings would be established in six designated riparian areas (Figure 2E). Open meadow areas would benefit from added structure and areas infested with Russian olive would be reduced from about 60 percent cover to 15 percent cover, replacing Russian olive with native species. Contractors with equipment and chainsaws would remove and stump-treat approximately 200 Russian olive trees. Branches would either be stacked to create habitat piles or hauled away and disposed of off-site. Planting areas would be flagged for each of the six designated riparian areas, and tree and shrub materials would be mobilized to the site and planted. Protective cages would be placed around the plantings. The site would be monitored and watered weekly during the spring, summer and fall (for about 16 weeks), for the initial 3 to 5 years, until plants are established. Approximately 800 gallons of water would be required weekly, totaling approximately 12,800 gallons used annually. Depending on the location within the site, water would be drawn from a nearby pond, from flows in Big Gulch, or from the Fleming Ditch. An ATV or truck with watering tank, pump, and hose attachment would be used to transport water to planted areas.

The Habitat Replacement Site along Big Gulch would provide suitable habitat for species affected by the canal improvements, focusing on enhancing riparian and wetland vegetation to support wildlife including mule deer (*Odocoileus hemionus*), elk (*Cervus canadensis*), amphibians, small mammal populations, and avian species, including raptors, migratory birds, and waterfowl (Sundance Consultants LLC, 2025). Ongoing coordination with CPW would ensure the habitat replacement efforts align with state conservation goals and provide long-term ecological benefits.

2.2.9 Schedule

The Project is scheduled to begin in fall 2025 and would be conducted over two or three winter seasons, pausing in April each year to allow for irrigation. Site preparation, which includes staging area setup and initial ground clearing, would commence in early October 2025. Section 2 construction would occur first, followed by Section 1 construction. The bridge replacement project (necessary for construction access along Section 1) would occur in September 2026. Pipeline and shotcrete installation would follow, with the goal of completing work before irrigation needs resume in April each year. Construction at the Habitat Replacement Site would not need to avoid the irrigation season and could occur during any time of the year, observing timing restrictions to protect wildlife (see table below). Project construction activities, including canal improvements and habitat replacement, are expected to conclude by 2028.

Table 5. Summary of Construction Timing Restrictions

Location	Activity	Timing Restriction	Reason
All Project Areas, including Habitat Replacement Site	Vegetation grubbing or clearing	Avoid April 1 – August 31	To protect migratory songbirds during their core nesting season
Habitat Replacement Site	Russian olive and tamarisk removal; heavy equipment use	Avoid December 1 – April 30	To protect big game on critical winter range
Eastern portion of Section 1	All construction activities	Avoid March 15-August 31	To protect peregrine falcons during nesting season, known to occupy the canyon area
Eastern portion of Section 1, in canyon area	All construction activities	Avoid March 15-October 15	To protect various bat species.
Eastern portion of Section 1, in canyon area where bedrock is to be removed.	Bedrock removal activities	Avoid after December 15 (Note that raptor nest construction monitoring is required for Section 1 from December 15 to March 31; See Chapter 4.0)	To protect golden eagles during breeding season (December 15 to July 15).

2.2.10 Permits and Authorizations

Permits and authorizations would be obtained from relevant agencies before construction.

Agreements and Authorizations

The following interagency agreements or permits would be required prior to Project implementation:)

- BLM historical prescriptive easement acknowledgment for construction in existing ditch alignments on BLM land and authorization pursuant to the Federal Land Policy and Management Act (FLPMA).
- Programmatic Agreement Proposal or Memorandum of Agreement executed between Reclamation and the Colorado SHPO.
- Clean Water Act (CWA) Section 404 Regional General Permit 5 for Ditch Related Activities in the State of Colorado: 30-Day Advance of Construction Submittal Package (to include "(1) the respective agency's documentation for compliance with the Endangered Species Act and National Historic Preservation Act and/or the lead Federal Agency NEPA document containing the same, (2) a project description, (3) project plans, and (4) a location map.").

- CWA Section 404(f) Exemption for maintenance activities would apply to the proposed replacement of the wooden bridge in Section 1, as proposed replacement would not include any modification that would change the character, scope, or size of the original fill design (C. Ullman, personal communication, July 24, 2025).

Construction Permits and Plans
The following construction permits and plans would be required prior to Project implementation:

- CWA Section 402 Storm Water Discharge Permit compliant with the National Pollutant Discharge Elimination System (NPDES), to be obtained from CDPHE by the construction contractor prior to construction disturbance (regardless of whether dewatering would take place during construction). This permit would include a Stormwater Management Plan, to be submitted to Colorado Department of Public Health and Environment (CDPHE) by the construction contractor prior to construction disturbance.
- Certification under CDPHE Water Quality Division Construction Dewatering Discharges Permit COG070000 (when dewatering is to take place during construction).
- Spill Response Plan, to be prepared in advance of construction by the contractor for areas of work where spilled contaminants could flow into water bodies.
- Utility clearances, to be obtained by the construction contractor prior to construction activities from local utilities in the area.
- Any construction, access, or use permits which may be required by the Delta County Planning Department, Delta County Road and Bridge District #3, or Colorado Department of Transportation.

Compliance with the following federal laws and EOs are required prior to and during Project implementation:

Natural Resource Protection Laws

- Clean Air Act (CAA) of 1963 (42 U.S. Code [U.S.C.] § 7401)
- Endangered Species Act of 1973 as amended (16 U.S.C. 1531-1544, 87 Stat. 884)
- CWA of 1972 as amended (33 U.S.C. 1251 et seq.)
- Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-712)
- Bald and Golden Eagle Protection Act of 1940 (16 U.S.C. 668- 668c)
- Federal Land Policy and Management Act of 1976 (FPMA) as amended (43 U.S.C. 1701-1785)

CHAPTER 3 – AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 Introduction

This chapter discusses resources potentially impacted by the Proposed Action and No Action alternatives. Each section defines the affected area, describes current conditions, and evaluates impacts from both alternatives. Environmental commitments are components of the Project and are considered in this analysis. A summary of impacts and environmental consequences of the Proposed Action is included at the end of this section.

3.2 Affected Environment and Environmental Consequences

3.2.1 Water Rights & Use

The geographic scope of the analysis is the Project Area shown on Figure 1, which covers the area of potential effect for this resource. The NDIC operates two diversions to supply its irrigation system: the main headgate diverts water from the Gunnison River on the eastern (upstream) point of the Project Area, and another diversion from Tongue Creek is used to supplement water flows when the full decree is not available during drought years. By decree, the NDIC is allowed to divert 49.675 cubic feet per second (cfs) out of the Gunnison River and 30 cfs from Tongue Creek (Applegate Group, Inc., 2023). The combined amount between the two points cannot exceed 49.675 cfs. The irrigation season for the NDIC typically begins in mid-April and continues to the end of October. An average of 20,000 acre-feet is diverted annually from both diversions, serving approximately 1,678 acres of hay, grass pastures, and other crops (Applegate Group, Inc., 2023).

No Action: Under the No Action Alternative, the water system would continue to function as it has in the past, and there would be no effect on water rights and uses within the Project Area.

Proposed Action: The Project would result in no change to existing, decreed water rights. The improved system would provide efficiencies in water delivery, eliminate water seepage, and enable full shares to be delivered to the farm turnouts, benefiting shareholders on the system. Piping the canal in areas of steep topography along Section 1 would help protect against the risk of failure from geological hazards. The timing of the Project would allow water delivery during the irrigation season, as construction would occur during the winter. The Project would not alter natural sources of groundwater or affect domestic well permits, which allows for natural sources of groundwater to be drawn. No new lands would be irrigated as a result of the Project and no storage would be added to the system. Plantings on the Habitat Replacement Site would be watered for the first three to five years to establish plants and trees using natural flows from Big Gulch, and if needed from existing shares in the Fleming Ditch. The total quantity used would be 0.04 AF annually (at a maximum), which is equal to 8.9×10^{-9} cfs. This amount, when compared to a minimum of 1 cfs flow in Big Gulch, is considered immeasurable (USFWSc 2024) and therefore impacts to downstream water users (e.g., to water rights) from use of water is not significant.

No adverse or significant impacts on water rights would occur as a result of the Proposed Action.

3.2.2 Water Quality

The geographic scope of the analysis for water quality is the lower Gunnison River (hydrological unit code (HUC) 14020005) and the greater Colorado River basin, due to regional influence of irrigation practices on downstream water quality. Irrigation practices in the region and in the Project Area are contributing to elevated downstream salinity and selenium levels, creating an adverse effect on the water quality of the Gunnison River and in the greater Colorado River Basin.

In the Project Area, water for irrigation is diverted from streams and rivers into constructed, unlined ditches and canals that traverse the gradient, flowing through soils derived from Mancos shale; this practice contributes elevated levels of salinity and selenium (often in the soluble form of selenate) in the Gunnison River and in the greater Colorado River basin. Salinity contributions to the Gunnison River and greater Colorado River basin within the Project area (along 4.7 miles of canal) are currently made at a rate of 3,432 tons of salt per year. In addition to salinity, elevated levels of selenium are caused by deep percolation beneath open, unlined canals where they flow through Mancos shale. Selenium has been determined to be toxic to living organisms when present beyond trace amounts (U.S. Environmental Protection Agency [EPA], 2016). The Salinity Control Program is a regional effort to improve water quality at a basinwide scale by reducing salinity in the Lower Gunnison and Colorado River watersheds (see Section 1.4.1). In addition, there are ongoing regional efforts to reduce selenium loading in the Lower Gunnison and Colorado River basins (Selenium Management Program Workgroup [SMPW], 2011; Reclamation, 2020). Perennial flows in Big Gulch transect the Habitat Replacement Site.

Most irrigation ditches are considered Waters of the U.S. (WOTUS) and are under the jurisdiction of the CWA. In 2021, USACE issued Regional General Permit 5 (RGP-5) for Ditch Related Activities in the state of Colorado, which authorizes construction, realignment, and relocation of existing ditches and conversion of such ditches into pipes.

No Action: Under the No Action Alternative, the high salt levels contributed to the Colorado River Basin from this system would continue at a rate of 3,432 tons of salt per year (Applegate Group Inc., 2023), along with current levels of selenium loading, leaving lasting, negative effects downstream. The Habitat Replacement Plan would not be implemented under the No Action Alternative.

Proposed Action: Project activities would result in a total of 4.70 linear miles of existing open canal to be lined, abandoned, or piped; as a result, the proposed Project would reduce salt loading into the Gunnison River by 3,432 tons of salt per year (Applegate Group Inc., 2023). The Project would reduce selenium loading into the Gunnison River basin, although the amount of selenium loading reduction that would result from the Project has not been quantified. Improved downstream water quality would benefit aquatic species and is of high importance for users and wildlife. The Habitat Replacement Plan would involve planting and tree removal at discrete locations close to open water flowing in Big Gulch. Erosion control logs would strategically be implemented to prevent sedimentation loading, and therefore no adverse impacts to water quality would occur as a result of the Habitat Replacement Plan.

BMPs are incorporated into the Project (Section 2.2 and Chapter 4) to further protect water quality from the effects of construction. The construction contractor would be required to operate under a Stormwater Management Plan, a Stormwater Discharge Permit, a Spill Response Plan, and a Dewatering Permit (when dewatering is conducted) (see Section 2.2.10 and Chapter 4).

The Project would affect waters under the jurisdiction of CWA Section 404 (the ditches themselves) and disturb irrigation-induced wetland and riparian vegetation associated with the ditches. As a "ditch related activity in the State of Colorado" that is "conducted under a binding agreement with the USBR" (Reclamation), the Project would be authorized under RGP-5, by submitting documentation required by RGP-5 to the Army Corps at least 30 days in advance of construction. The required documentation for the Project, as a salinity control project per a binding agreement with Reclamation, is as follows: "(1) the respective agency's documentation for compliance with the Endangered Species Act and National Historic Preservation Act and/or the lead Federal Agency NEPA document containing the same, (2) a project description, (3) project plans, and (4) a location map." RGP 5 includes terms and conditions with which project proponents must comply to ensure their proposed projects will have minimal individual or cumulative adverse effects on the aquatic environment. The USACE has the authority to determine if an activity complies with the terms and conditions of an RGP. By authorizing use of RGP 5 for the Proposed Action, the USACE has determined that the Project has minimal adverse effects on the aquatic environment. Therefore, there would be no significant impact to waters under the jurisdiction of CWA Section 404.

A 12-foot wide 12-foot span dilapidated wooden bride would be replaced to provide access to Section 1 across Currant Creek (on BLM-managed land). The replacement would be "like and kind," with 2 feet added to the span to accommodate concrete abutments that would withstand a 100-yr flood. Environmental commitments associated with bridge construction would include dust abatement and vehicle restrictions. Impacts to Currant Creek from construction of the new bridge, such as increased turbidity, sedimentation, and construction noise, would be temporary, and the creek would return to its natural condition upon completion of the structure because xxx. Because the impacts would be temporary and the creek would return to its natural conditions following construction, the impacts to Currant Creek do not rise to the level of significant. Sediment and erosion controls would be in place during construction, and after construction ends the increase in turbidity, sedimentation, and noise would cease. The footprint of the new bridge would be the same as the current bridge. Water flow would continue as normal and wildlife disturbed by the noise would return. The bridge replacement would not modify the character, scope, or size of the original fill design and would qualify for a CWA Section 404(f) maintenance exemption.

Piping and shotcrete lining Project materials are inert and water transport through or across the materials would not degrade water quality; the materials meet safety standards established by the NRCS and the American Water Works Association for use for irrigation and for stock water.

There would be no significant short- or long-term adverse impacts to water quality. While potential minor or negligible short-term adverse impacts to water quality may occur during construction, the Project would result in overall beneficial, long-term impacts to water quality in the Lower Gunnison and Colorado River basins.

3.2.3 Air Quality

The EPA under the CAA specifies National Ambient Air Quality Standards (NAAQS) for criteria pollutants. Standards for criteria pollutants include carbon monoxide (CO), particulate matter (PM_{10} and $PM_{2.5}$), ozone, sulfur dioxide, lead, and oxides of nitrogen (EPA, 2024). If the levels of a criteria pollutant in an area are higher than the NAAQS, the airshed is designated as a nonattainment area. Areas that meet the NAAQS for criteria pollutants are designated as attainment areas.

This analysis covers the airshed directly over the Project Area and nearby agricultural lands potentially affected by dust and machinery emissions. Ambient air quality in the Project Area is influenced by natural sources such as dust from soil erosion, as well as agricultural activities, emissions from vehicles, and residential wood burning. A primary air quality concern associated with construction activities is the temporary increase in PM; construction equipment, vehicles, and soil-disturbing activities can result in a short-term increase of local levels of PM_{10} and $PM_{2.5}$.

Delta County is classified as an attainment area for all criteria pollutants as defined by the EPA, indicating that pollutant levels do not exceed established air quality standards and air quality is generally good (EPA, 2024b).

No Action: Under the No Action Alternative, there would be no construction activities or soil disturbance, and existing air quality conditions in the Project Area would remain unchanged. Emissions associated with vehicle operations, soil erosion, and agricultural activities would continue at current levels, with no additional impacts to local air quality.

Proposed Action: Project related primary air quality impacts would be temporary and minor and would occur during construction activities required to implement the Project. The use of heavy machinery and vehicles for habitat improvements (vegetation removal, planting and watering), pipeline installation, ditch backfilling, shotcrete lining, and other canal improvements would generate emissions of nitrogen oxides (NO_x), CO, and PM. Additionally, fugitive dust would be generated from soil disturbance activities such as excavation, grading, and movement of construction materials. There would be no long-term significant impacts to air quality from the Project, as air quality would return to its baseline level and Delta County would remain in attainment for all criteria pollutants.

To further minimize air quality impacts, BMPs would be implemented, including regular watering of disturbed areas to control fugitive dust and minimize vehicle idling.

There would be no significant adverse impacts to air quality as a result of the Project, because construction activities are short-term and localized, and Delta County would remain in attainment for all criteria air pollutants.

3.2.4 Public Access, Transportation, and Safety

The Project Area is the geographical scope of the access, transportation, and safety analysis, where construction has the potential to affect these resources (Figure 1). The Project Area is situated within a combination of private lands and BLM lands in Delta County, Colorado. Residents traveling in and around the Project Area rely on U.S. Highway 50 and Colorado Highway 92 (Highway 92), as well as county and private roads, for access and mobility. The Project Area (Section 1) crosses Highway 92; otherwise, the Project does not intersect any public roads. There is no public access to BLM land across the Project Area.

Primary transportation routes providing access to Section 1 include the city of Austin Main Street, Highway 92, and existing private and BLM roads, which support local and agricultural traffic. A landowner has given permission to access the Project Area across private land south of Highway 92. This first 0.5 mile of access to Section 1 south of Highway 92 is shared with residents and limited recreation traffic accessing an informal boat ramp located on private land south of the Project Area. Access routes between private land and the Project Area across BLM-managed lands are on existing,

prescriptive easements. Section 2 is accessed by Gun Club Road/I-Road (a county road) that runs parallel and south, as well as County Road 1600 (accessing the middle of Section 2) and County Road 1575 (accessing the western portion of Section 2). A landowner has given permission to access the Project Area across private land from the largest, middle staging area. The Habitat Replacement Site is accessed off Highway 92 using a private road.

Various overhead or buried utilities may be present near some Project Areas. The utility entities include the City of Austin and City of Delta (domestic water and sewer), Delta Montrose Electric Association (electricity and fiber optic internet), TDS Telecom, and Black Hills Energy (natural gas).

No Action: Under the No Action Alternative**,** Project activities would not take place, and existing access routes and traffic patterns would remain unchanged, with no increase in vehicle or equipment use. Public access limitations within the Project Area would continue under current conditions, with no expected effects on transportation or safety.

Proposed Action: The Project would be accessed using established roadways, including the city of Austin Main Street, Highway 92, and other existing private and BLM roads. Construction activities would temporarily increase vehicle traffic and equipment movement along these access routes. Construction-related traffic would include heavy machinery, flatbed trucks, and other vehicles necessary for transporting materials. Hauling equipment and materials to the Project would cause short-term disruption of traffic in and near the Project Area, particularly during mobilization and staging (the first several weeks of construction), and during demobilization at the end of construction. If necessary, the Applicant or Applicant's contractor would coordinate with the county and sheriff department when traffic or access would be delayed or re-routed. Due to the temporary nature of the traffic disruptions and the traffic management provided by coordination with the county and sheriff department, the impacts on traffic would not rise to the level of significant.

All construction activities related to the Project would take place entirely in approved access routes and prescriptive ROWs. Temporary staging areas would be established to store materials, equipment, and pipe adjacent to the Project and generally within the Construction Area, minimizing transportation-related congestion on public roadways.

For safety, a wooden bridge crossing Currant Creek, accessing Section 1, would be replaced. The bridge is within a historic prescriptive easement for NDIC operations and is used by NDIC operators and BLM staff to access the canyon area. The bridge very rarely would be used for public access to BLM land, as permission across private land is required for any person to be in the vicinity of the bridge. There are no recreational amenities on BLM land in the Project Area that would attract the public (hiking is not possible due to topography, and fishing access would occur along the river on private land south of the construction area). Therefore, temporarily removing the bridge from service is would not adversely impact public access to BLM land and no significant impacts to public access would occur.

There is no public access to BLM land across the Project Area. In both Sections 1 and 2, access to the construction zones would be restricted to ensure safety and minimize disruptions. Signs and barriers would be placed as necessary to alert the public and prevent unauthorized entry into active construction areas. Safety protocols would be observed, including speed limits for construction vehicles on access roads, regular equipment maintenance, and personnel training on safety practices to minimize risks to workers and nearby residents (Colorado Department of Transportation

[CDOT], 2022). Private access for residents and visitors with permission to access an informal boat ramp located on private land south of the Project Area would experience delays periodically due to use of the road for construction; however, the number of construction trips would be limited to several a day, and disruptions would be minor, short-term, and would not rise to the level of significant.

No significant impacts to access, transportation, and public safety would occur as a result of the Project, because traffic and access disruptions would be short-term and coordinated with authorities, and public safety measures would be implemented in construction areas.

Prior to any construction activities in the Project Area, all utilities would be located, marked, and, relocated or raised if necessary. If relocation or raising of utilities is necessary during construction, a brief interruption of utility services would occur. Due to the temporary nature of the interruptions, the impacts on utilities would not rise to the level of significant.

3.2.5 Noise

Noise impacts are assessed within the geographic scope of the immediate Project Area with a focus on construction zones and nearby residential areas as well as the isolated canyon area (Figure 1).

The Project Area in Delta County, Colorado, is primarily rural and agricultural, with a moderate about of baseline noise for Section 2 and the western portion of Section 1. In these areas, noise in the Project Area is associated with Highway 92 and county road traffic, a nearby trap shooting range located along Section 2, nearby residential communities of Austin and North Delta, and farming activities including heavy equipment use. NDIC's operation and maintenance introduces noise from the use of heavy equipment for maintenance and routine use of light-duty trucks and off-highway vehicles (OHVs). This portion of the Project Area does not contain any sensitive noise receptors, such as wildlife conservation areas or nature preserves, recreational areas, hospitals, schools, or high-density residential zones.

Baseline ambient noise levels are low for the eastern-most 1.7 miles of the Project Area, where the North Delta Canal traverses the canyon area along the Gunnison River in Section 1. This portion of the Project Area is isolated from roads and residential areas, and the canyon itself is a natural sound barrier. Sensitive wildlife receptors in this area include nesting waterfowl and migratory birds, birds of prey, mule deer, and other wildlife occupying the riparian corridor along the river. The canyon area is also a popular destination for river-based recreation, including canoeing, rafting, and fishing. The canyon area is subject to low amounts of human-induced noise associated with recreation; the operation and maintenance of the North Delta Canal, including light duty truck and OHV use, and occasional heavy equipment use. Baseline noise levels are present at the Habitat Replacement Site due to an adjacent shooting range, vehicle use on the property, and nearby Highway 92.

No Action: Under the No Action Alternative, there would be no changes to existing noise levels in the Project Area. Current noise conditions for the majority of the Project Area, characterized by moderate ambient sound levels with occasional spikes due to agriculture and vehicular traffic, would remain unchanged. No construction-related noise impacts would occur, and the area's typical soundscape would be preserved.

Proposed Action: The Project would cause temporary noise sources associated with construction activities, including the operation of heavy machinery, such as trackhoes, bulldozers, loaders, and

concrete mixers. Blasting may be necessary to bed the pipe in the canyon area along Section 1. These activities would produce intermittent, short-term noise levels that may be audible in nearby areas. An increase in noise would be most noticeable in the eastern part of Section 1, where baseline noise related to recreational use of the river is intermittent and minor. The increase in noise in this area would be temporary and minor, and therefore would not rise to the level of significant. For the rest of the Project Area, noise increases would be a minor increase over baseline levels, and similar to tractor noise common in the Project Area. Noise associated with blasting would be muffled by occurring below the ground level.

BMPs would be employed to further reduce noise impacts, such as maintaining equipment to minimize excessive noise and establishing operational hours that avoid early morning or late evening construction (Sitemate, 2023).

Noise levels would return to baseline noise levels following the completion of construction for each localized portion of the Project Area. No significant short-term or long-term noise impacts would occur because noise associated with construction of the Project would be short-term and would not raise the noise level of the area above the moderate noise baseline. Improvements to the North Delta Canal would result in reduced operation and maintenance and associated noise, benefiting the area's soundscape, particularly in the canyon area of Section 1.

3.2.6 Recreation and Visual Resources

The geographic scope of analysis is the Project Area, public lands visible from and near the Project Area, and recreation amenities near the Project Area (Figure 1). Recreation opportunities on public lands in the vicinity of the Project Area include river-based recreation such as canoeing, rafting, and fishing along Section 1. An informal boat ramp/take out point is located on private land near the Project Area. There are no hiking trails within or near the Project Area.

Visual resources in the Project Area are defined by open agricultural land and intermittent views of natural features, such as the Gunnison River and surrounding canyon cliffs and dry adobe hills. There is a baseline level of visual disturbance associated with the Highway 92 corridor, residential development, local construction, and local ranching and farming activities. The canal itself is a modest, functional feature within this setting and is partially visible from Highway 92.

Public lands in the general vicinity of the Project are administered by BLM's UFO Resource Management Plan (RMP; BLM, 2020) and managed as part of the Gunnison Gorge National Conservation Area (NCA) planning area, and the Gunnison Gorge NCA RMP (BLM, 2004). The UFO RMP has assigned Visual Resource Management (VRM) Class II to BLM lands involved with the Proposed Action. The management objective of Class II is to retain the existing character of the landscape (BLM, 2020). NDIC facilities on public lands involved in the Project Area operate on previously disturbed land within a prescriptive historical easement acknowledged by the BLM.

No Action: Under the No Action Alternative, there would be no change to the existing visual environment or recreational resources in the vicinity of the Project Area. The canal would continue to function as an open, unlined ditch, and its current visual appearance would remain unchanged with no impact to the area's visual resources.

Proposed Action: The Project would cause minor temporary visual impacts to occur due to the presence of construction equipment, materials, and staging areas, which would be partially visible to

the public from Highway 92, the river, and surrounding lands. However, these impacts would be short-term and limited to the construction period, and therefore would not rise to the level of significant. All impacts to public land would occur within the boundaries of previously disturbed areas and within an existing prescriptive historical easement acknowledged by the BLM. The Proposed Action would not inhibit river-based recreational opportunities within the Project Area. Potential impacts to the experience of recreators due to noise, visibility of construction equipment, and staging would be temporary and minor. Access to a boat ramp/take out point on private land nearby the Project Area would not be affected by the Project. No significant impacts to recreation would occur as a result of the Project, because minor disruptions to recreational activities would cease immediately following construction, no long-term impacts would occur.

The replacement of open ditches with pipelines and lined canals would result in a low level of change to visual resources and would not attract a viewer's attention or contrast with existing landforms and the residential, rural, and agricultural nature of the surrounding landscape. The Project would create a long-term benefit to visual resources, through stabilization of canal banks and minimized erosion. Landscape aesthetics would be enhanced with a reduction in open ditch visibility. Where the Project Area transects public lands, the Proposed Action would be consistent with the designation by the BLM as Class II for VRM objectives. No significant impacts to visual resources would occur as a result of the Project, because construction impacts would be temporary and the visual characteristics of the landscape in and around the Project Area during and following construction would be minor and not out of character with the surrounding landforms or with the rural and agricultural character of the vicinity.

3.2.7 Vegetative Resources

The geographic scope of analysis for upland and riparian vegetation includes the construction alignment plus an approximate 1-mile buffer. This analysis focuses on the Project Area's vegetative cover, including riparian and upland vegetation along the canal alignment, and the context within which physical disturbance or changes to vegetation would take place because of the Proposed Action.

In general, landcover surrounding the Project Area consists of developed residential areas, irrigated pastures, disturbed ruderal areas, shrub riparian vegetation, and bare or sparsely vegetated landscapes due to disturbance, natural soil conditions, or steep canyon topography. The area supports a mix of native and non-native plants, including invasive weed species common in disturbed and agricultural landscapes. Natural upland vegetation is dominated by shadscale (*Atriplex confertifolia*), rabbitbrush (*Ericameria sp.*), greasewood, and various upland grasses. Weeds are addressed in Section 3.2.8.

Water flowing seasonally in the canal has created narrow margins of riparian habitat due to water seepage. This riparian habitat is vegetated with reed canary grass (*Phalaris arundinacea*) and intermittent occurrences of various rushes, Russian olive, tamarisk, and narrowleaf willow (*Salix exigua*). Along Section 1, the riparian corridor of the Gunnison River is directly adjacent and downgradient of the canal and is vegetated with wood's rose (*Rosa woodsii*), Russian olive, and stands of narrowleaf cottonwood (*Populus angustifolia*) and plains cottonwoods (*Populus deltoides*). Several dense patches of three-leaved sumac (*Rhus triolobata*) are common around the margins of the riparian vegetation and beneath the cottonwood stands. Riparian vegetation is similar along Section 2, with weedy areas especially thick with spotted knapweed. Downgradient from Section 2, canal seepage is suspected to support several patches of willow and tamarisk, and several herbaceous swales

dominated by desert saltgrass (*Distichlis spicata*) and alkali muhli (*Muhlenbergia asperifolia*). The Habitat Replacement Site consists of wetland species such as showy milkweed (*Asclepias speciosa*), reed canary grass, and noxious weeds, including Canada thistle and Russian olive.

No Action: Under the No Action Alternative, there would be no construction or land disturbance associated with the North Delta Canal Project. Vegetative resources would remain in their current state, with no impacts from construction or soil disruption.

Proposed Action: Project construction activities, including excavation, pipeline and siphon installation, shotcrete lining, and backfilling abandoned sections of the canal, would temporarily disturb an estimated 21.5 acres, primarily previously disturbed areas (15.9 acres) along the canal prism and adjacent maintenance road, with some disturbance along irrigated pastures (1.7 acres) and undisturbed upland areas (3.8 acres), including an undeveloped swale at the location of the eastern horseshoe bend (Section 2). Temporary use areas for staging along Section 1 and Section 2 would disturb a total of 10.5 acres, consisting of 5.8 acres of fallow pasture and 4.7 acres of sparse greasewood/disturbed and weedy areas). Dust from operating equipment and vehicles would temporarily affect nearby vegetation; however increased dust would be minor and temporary, and therefore the impact to nearby vegetation would be minor and temporary. Following construction, disturbed areas would be revegetated with native plant species to support ecosystem recovery and reduce the potential for weed invasion. Given the extensive amount of undisturbed lands surrounding the Project (1,245 acres, based on a 500-m buffer around the Project, about ½ of which is undisturbed), temporary loss of 8.5 acres of native vegetation (3.8 acres from construction and 4.7 acres from staging) represents 0.7 % of undisturbed lands in the vicinity and would be a long-term, minor impact to native vegetation.

A habitat loss assessment was performed for the Project to quantify the fish and wildlife values that would be lost due to the conversion of these areas to uplands or farmlands by the Project (Sundance Consultants LLC, 2024a). The evaluation followed the methodology outlined in *Basinwide Salinity Control Program: Procedures for Habitat Replacement* (Reclamation 2018). In accordance with the protocol, the habitat value is calculated for each affected wetland or riparian habitat area by multiplying its acreage by its habitat quality score, which is assigned based on evaluation of a series of ten physical and biological criteria. These criteria include vegetative diversity, vegetative stratification, presence of noxious weeds, overall vegetative condition, interspersion of open water with vegetation, connectivity and proximity of other wildlife habitat areas, wildlife use, uniqueness or abundance, water supply, and degree of human-caused alteration. The Project would result in the permanent loss of approximately 4.4 acres of riparian and wetland vegetation associated with the unlined ditches, which when combined with the scores from the 10 habitat quality criteria described above, is the equivalent of 17.7 habitat value units (Sundance Consultants LLC, 2024a). As stipulated by the Salinity Control Act, a Habitat Replacement Project has been developed (Sundance Consultants LLC, 2025) which would generate 16.3 habitat value units, and is included as a component of the Project. As part of the Project, a habitat replacement plan would be implemented to improve a degraded riparian area along Big Gulch. This habitat replacement site consists of dense patches of Russian olive infestation, as well as open, wet meadows and mesic patches. Approximately 200 Russian olive trees and shrubs would be removed and treated, and the area replanted with native shrubs and trees, including Freemont's cottonwood, New Mexico privet, three-leafed sumac, rose, buffalo berry, and chokecherry. Naturally open areas would be planted along the fringes to establish structure. In total, 160 cottonwood trees would be planted and 480 shrub species in areas around the open meadow/open patches, and in areas where Russian olive are removed along the draw. In

addition, 3.4 excess habitat value units from the Phase I project would be applied to this Project (Reclamation, 2019; Zeman, 2018). Because the value of the habitat protected from degradation is greater than the value of the habitat lost (17.7), there would be no net loss of fish and wildlife values (in this case, riparian and wetland vegetation) associated with implementation of the Project. Because there would be no net loss of riparian and wetland values associated with implementation of the Project, the effects of the loss of riparian and wetland vegetation would be insignificant from a habitat perspective.

Construction would follow BMPs, including limiting the construction footprint to the minimum required, preventing unnecessary impacts to vegetation, and revegetation/restoration of disturbed areas post-construction.

No significant impacts to vegetation would occur as a result of the Project, because the construction footprint would be revegetated, and riparian and wetland values related to the ditches involved with the Project would be maintained with the implementation of the Habitat Replacement Site.

3.2.8 Noxious Weeds

The geographic scope of analysis for noxious weeds is the Project Area plus a one-mile buffer, the context within which Project activities have the potential to affect this resource. The most conspicuous noxious weeds present along the canal within the Project Area are tamarisk (*Tamarix spp.*), Russian olive (*Elaeagnus angustifolia),* Canada thistle (*Cirsium arvense*), bindweed (*Convolvulus arvensis*), spotted knapweed (*Centaurea stoebe*) and cheatgrass (*Bromus tectorum*) (Sundance Consulting LLC, 2024a); these weeds are widespread and common in the region. Weeds were observed along the edges of the canal and maintenance road due to disturbances from routine maintenance, and weeds such as Canada thistle, tamarisk and Russian olive are supported by seeps from the earthen ditches. Flowing water in irrigation ditches is also a vector for the continued spread of weeds. Livestock grazing, especially in the west part of the Project Area, contributes to the propagation of weeds. Conspicuous weeds at the Habitat Replacement Site are dense patches of Russian olive, tamarisk, common burdock (*Arctium minus*) and common chicory (*Cichorium intybus*). NDIC manages noxious weeds on the ditch prisms by spot-spraying, mowing seasonally, or by mechanical removal with heavy equipment. BLM also has inventoried and manages weeds on BLM lands in the Project Area. Vehicles, people and their dogs, livestock, and wildlife traveling on the ditch prism can also contribute to the spread of weeds.

The Colorado Noxious Weed Act designates undesirable plants that are considered a threat to Colorado's natural resources. NDIC is responsible for complying with the Colorado Noxious Weed Act in the Project Area. Impacts from weed infestations include the loss of forage for wildlife and livestock, decreased availability of habitat for wildlife, and a loss of biodiversity relative to undisturbed areas.

No Action: There would be no effect on noxious weeds from the No Action Alternative and noxious weeds would continue to spread in the Project Area. Flowing water in the irrigation ditches along with the movement of vehicles, wildlife, and livestock along the ditch corridors would continue to serve as vectors for the spread of noxious weeds in the area. Routine maintenance would continue to create opportunities for noxious weed establishment by disturbing soil surfaces.

Proposed Action: The Project would result in both beneficial and adverse impacts regarding the presence of noxious weeds in the Project Area. The Project would abandon or pipe 2.38 miles of the

existing canal resulting in a reduction of open water flow, a key element of invasive seed transport. Seeps from the earthen ditches that currently support noxious weeds would be dried and the ability of the environment to support this vegetation would be diminished. Adding sterile soil as topsoil (see Section 2.2.7) would help eliminate the spread of weeds post-construction. Certain segments of the ditch within the Project Area would no longer require regular maintenance, lowering the potential for the continued spread and establishment of weeds. Herbaceous and woody noxious weeds that are currently supported by ditch seepage would no longer be supported where the canal would be abandoned and backfilled or piped.

The Habitat Replacement Site weed infestations would be treated as part of the Habitat Replacement Plan (Sundance Consulting LLC, 2025), with goals for maintaining total weed cover from over 25 percent to below 15 percent (where the area is infested with Russian olive), and from 10 percent to below 5 percent for open meadow areas.

Despite the beneficial effects that would reduce noxious weed presence in some areas, noxious weeds would continue to be present throughout the Project Area. Further, soil disturbances and vehicle use associated with the Project would have adverse effects on noxious weed presence by increasing the potential for noxious weed spread and establishment. However, even assuming a total lack of weed control post-construction, the Project impacts on noxious weed presence would be minor and not significant.

The Project would generate a maximum of 8.5 acres of new ground disturbance. Weed cover is approximately 20% of disturbed areas in the Project Area. If noxious weeds colonize 20% of the new disturbed land, the Project would create 1.7 acres of additional weed cover within the evaluation area (within 1 mile radius of the Project, which totals 12,600 acres). Based on aerial imagery, about ½ of the evaluation area is undisturbed land, and the remaining ½ is developed agricultural land, formal and informal roads and road corridors, or residences (6,300 acres). Assuming that about ¼ of 6,300 acres is disturbed, and weeds cover accounts for 20% of cover on disturbed land, there are about 315 acres of noxious weeds in the evaluation area (this represents a 2.5% noxious weed cover across the 12,600-acre evaluation area). Under these assumptions, the Project would result in an increase of 0.5% in noxious weed cover, which is considered a minor impact and does not rise to the level of significant. The Project would have no significant impacts on noxious weed presence.

The analysis for weeds is conservative in that it assumes a total lack of weed control post-construction. To further minimize the spread of noxious weeds and protect native vegetation, the Project would implement BMPs, including pre-construction weed treatments, washing equipment before entering the Project Area, and applying certified weed-free straw for soil stabilization.

After construction and reclamation of the Project Area, noxious weed presence would be monitored subject to agreements between the Applicant and individual landowners including the BLM. Noxious weeds would be regulated by Delta County in accordance with county standards (Delta County, 2020).

3.2.9 Wildlife Resources

The geographic scope of analysis for wildlife is the Project Area plus an approximately 1-mile buffer, the approximate context within which the Project has the potential to affect this resource. Wildlife impacts are analyzed within habitats surrounding the Project Area, including riparian zones and terrestrial habitats. The North Delta Canal Project Area in Delta County, Colorado, supports a

variety of common wildlife species typical of rural and agricultural landscapes. Habitat types within the geographic scope include riparian zones along the Gunnison River, dry adobe slopes, and sagebrush communities that provide forage and shelter for numerous species. Typical wildlife observed or expected to inhabit the area include beaver, mule deer, North American river otter (*Lontra canadensis*), various waterfowl, migratory birds and raptors, wild turkey, small mammals, reptiles, and amphibians. The eastern portion of the Project Area serves as a corridor for wildlife movement, with the nearby Gunnison River and surrounding native riparian vegetation acting as critical habitats for feeding, breeding, and sheltering (Section 1; CPW, 2023a).

Note: Special Status species including migratory birds and raptors are discussed in Section 3.2.10.

The Project Area intersects with a mule deer resident population. The Habitat Replacement Site lies within Severe Winter Range for big game (elk and mule deer), and the southern boundary overlaps with a mapped Winter Concentration Area for mule deer (CPW, 2024). The Severe Winter Range is part of the overall range where 90% of the individuals are located when the annual snowpack is at its maximum and temperatures are at a minimum in the two worst winters out of ten. Winter Concentration Areas are mapped where animal densities are at least 200 percent greater than the surrounding winter range from the first heavy snowfall through spring green-up (CPW, 2024).

Wildlife in the Project Area experience a baseline level of disturbance due to disturbed soils within the canal corridor, and noise associated with operational traffic along the ditch road and heavy equipment use for annual ditch cleaning. The eastern portion of Section 1 is subject to a baseline level of disturbance from recreational use of the Gunnison River and associated human presence and noise. The western portion of Section 1 and most of Section 2 are nearby residential and agricultural activities, vehicles travelling nearby on public and private roads, domestic pets, and equipment use. Wildlife in the Habitat Replacement Site experience a baseline level of disturbance due to noise from the adjacent shooting range.

No Action: Under the No Action Alternative, no construction or modifications would occur in the Project Area. Existing wildlife habitats and movement corridors would remain undisturbed, and the current land use would continue. Consequently, no direct or indirect impacts on wildlife resources would occur and wildlife species would experience no additional stressors related to habitat modification, noise, or human presence (CPW, 2023a).

Proposed Action: Temporary Project construction activities such as trenching, heavy machinery operation, and vegetation clearing would disrupt wildlife in the immediate area including mule deer, North American river otter (*Lontra canadensis*), various waterfowl, migratory birds and raptors, wild turkey, small mammals, reptiles, and amphibians. Increased human activity, noise, and equipment use would cause temporary disturbances to wildlife species, potentially displacing them to adjacent habitats. However, the impact from disturbance on common wildlife species would be minimal and temporary, and would not rise to the level of significant. Disturbance from heavy equipment and human activity/noise would be temporary, limited to several months in each area, and ample wildlife habitat is present adjacent to the Project Area. The texture of the shotcrete that would be used in the open canal and the angle of the proposed slopes should provide wildlife with access to water from the open canal without risking entrapment. However, a widened, gently sloping ramp would be installed in Section 1 as a wildlife escape structure, as recommended by CPW. The ramp would be located approximately 0.7 miles east of the beginning of the proposed open canal.. Project timing would occur when wildlife including the various waterfowl, migratory birds, raptors (other than bald

eagles and golden eagles), small mammals, reptiles and amphibians are least active or have migrated out of the area.

During construction, direct impacts to hibernating amphibians in the mud and banks along the canal are likely but effects would be localized and minor, and population-level effects would not occur, as habitat for hibernating amphibians is prevalent in the surrounding valley (the leopard frog, a BLM-sensitive species, is addressed in section 3.2.10).

Some loss of vegetation used for foraging, bedding, or cover would occur due to construction, but the value would be fully maintained with the implementation of the Habitat Replacement Plan. Wildlife habitat values associated with the riparian/wetland vegetation adjacent to the canal or sourced by the canal that would be lost due to the Project would be maintained at the nearby Habitat Replacement Site created by the NDIC, along Big Gulch. Vegetation improvements would be made at the site, including replacement of Russian olive with native mid- and over-story, to enhance conditions for wildlife.

Indirect impacts to wildlife occupying sagebrush and dry adobe slopes in the vicinity of the Project would be temporary and minimized by Project timing (winter), when many species have migrated out of the area or are hibernating. Direct impacts to natural upland area habitat would be limited to 8.5 acres, representing less than 1 percent of available undisturbed uplands in the vicinity of the Project (approximately 1,245 acres). Disturbed uplands would be restored post-construction to allow habitat recovery. BMPs, including timing restrictions to avoid critical wildlife breeding seasons for sensitive species and measures to confine and contain construction-related disturbances, would further reduce impacts and disturbances, and would facilitate the safe movement of wildlife around the Project Area (CPW, 2023a). Impacts to wildlife due to loss of open water where the canal would be piped along Section 1 and Section 2 would be minor. Abundant water sources are available at the nearby Gunnison River along Section 1. Wildlife also have the ability to migrate to open ditches and laterals in the vicinity that would not be piped along Section 2. Wildlife would be able to access the water in sections that remain open and lined during the irrigation season. No water is available in the canal after the irrigation season is over (during the winter). Wildlife, including mule deer wintering in the area, would not be impacted by the loss of open water where the canal would be piped.

Construction at the Habitat Replacement Site would occur during the summer, avoiding winter disturbance to elk and mule deer. Severe Winter Range for elk and mule deer and the Winter Concentration Area for mule deer at the Habitat Replacement Site would not be affected by the Project between December 1 and April 30 (see Table 5). Loss of water from the open canal (where it would be piped) would not result in a significant impact to wildlife. The canal currently does not provide a winter water source and loss of the open canal would not impact wildlife. Impacts to wintering mule deer would be minor and not significant relative to existing baseline disturbance.

No significant impacts to wildlife resources would occur as a result of the Project, because construction impacts would be temporary and relatively small in comparison with surrounding available habitat, timing restrictions would protect nesting birds during sensitive periods, disturbed upland habitats would be revegetated, winter wildlife watering resources would not be impacted, alternative water sources are available nearby the Project Area, and wetland and riparian habitat values would be maintained with the implementation of a Habitat Replacement Site.

3.2.10 Special Status Species; Migratory Birds; Threatened and Endangered Species and Their Critical Habitats; BLM Sensitive Species

Migratory Birds and Raptors

Migratory birds protected under the Migratory Bird Treaty Act (MBTA) find nesting and/or migratory habitat in the Project Area. Under the MBTA, it is illegal to take, possess, import, export, transport, sell, purchase, or barter any migratory bird, bird parts, nests, or eggs of such birds except by permit. According to a list generated using the USFWS' Environmental Conservation Online System Information for Planning and Consultation (IPaC) for the Project Area (USFWS 2024a), migratory songbirds of conservation concern protected under MBTA that could potentially find habitat in the Project Area are listed in Appendix B. Destruction of vegetation that harbors active bird nests during nesting season can result in direct loss (i.e., "take") of eggs or young, or cause adult birds to abandon eggs. The primary nesting season for migratory songbirds in the Project Area is April 1 through July 15. Common migratory raptors with a high potential to occur in the Project Area include red-tailed hawk (nesting, foraging, wintering, migrating), great-horned owl (nesting, foraging, wintering, migrating), long-eared owl (nesting, migrating), and American kestrel (year-round). Peregrine falcons are known to occupy the eastern portion of Section 1 (pers. comm. K. Holsinger, Dec 3, 2024); the nesting season for Peregrine falcons is March 15 to July 31. Bald eagles and other raptors are common hunters during winter on the local mesas around the Project Area, especially on open and agricultural ground where prairie dogs and other burrowing rodents provide prey. According to species data compiled by CPW, the Project Area intersects bald eagle winter forage and the eastern portion of Section 1 intersects with bald eagle winter concentration range, defined as areas within an existing winter range where eagles concentrate between November 15 and April 1 (CPW, 2023b). The Project Area was surveyed for raptor nests in April 2024, (Section 1) and June, 2024, (Section 2), and no raptor nests were identified within line of sight, up to 1/2 mile (recommended buffer distances, CPW 2020), from the Project Area (Sundance Consulting Inc. 2024b). A pair of Peregrine Falcons were observed in the canyon area along Section 1 during the raptor surveys. Two inactive golden eagle nests are located in the Project Area.

Less common but potentially present migratory raptors, including burrowing owl (breeding), ferruginous hawk (wintering), prairie falcon (year-round), and Swainson's hawk (breeding), are protected by the MBTA. Habitat in the surrounding valley area is extensive, providing ample opportunities for raptor foraging and nesting.

No Action: Under the No Action Alternative, migratory bird and raptor habitats would remain in their current condition and no disturbance from construction activities would occur. No temporary displacement of migratory birds or raptors would occur. Salinity and selenium loading in the Colorado River Basin would continue at current rates, which would continue to affect water quality within the drainage, potentially affecting the wildlife using the area.

Proposed Action: Under the Proposed Action, Project activities would cause temporary disruptions to wintering and migrating songbirds and raptors during construction, particularly from noise and habitat clearing. This disturbance would impact breeding, nesting, and foraging behavior. However, construction timing would avoid the nesting season for migratory birds and raptors, with the exception of bald eagles and golden eagles (discussed below), and given the extensive opportunities for foraging and nesting in the surrounding area, impacts to breeding, nesting and foraging would be incidental, minor and therefore not significant.

Vegetation removal would occur outside the primary nesting season (April 1 to July 15) and construction activities would be scheduled in the late fall, winter, and early spring, minimizing noise and human activity during critical breeding and migration periods. Migratory birds or raptors wintering or foraging in the Project Area would be displaced temporarily by the disturbance. Habitat in the surrounding valley area is extensive, providing ample alternative habitat to any displaced species; therefore, this impact would not rise to the level of significant.

According to species data compiled by CPW, the eastern portion of Section 1 is within a winter concentration range for eagles, defined as areas within an existing winter range where eagles concentrate between November 15 and April 1 (CPW, 2023b). Impacts to the nesting Peregrine Falcons observed along Section 1 would be avoided as construction would occur outside the nesting period of March 15 to July 31(CPW 2020). Two known inactive golden eagle nests within the Project Area would be monitored when construction is occurring on Section 1 during the breeding season (see Chapter 4). Monitoring would occur between December 15 and March 31 by a qualified biologist at 10 to 14 day intervals to prevent construction disturbance should the nest become occupied. According to mapped data, a bald eagle roost (requiring ½ mile buffer; CPW 2020) is located over a mile distant from Section 2, and a golden eagle nest (requiring ½ mile buffer; CPW 2020) is located over ½ mile from the Project Area southeast of Section 1, along the Gunnison River (CPW, 2024). Direct impacts to nesting or roosting raptors would be avoided, as construction would occur outside the maximum buffer distances established by CPW or would be timed to occur outside the nesting season.

Construction activities would cease and authorities with the USFWS, Reclamation and BLM would be notified immediately upon the unanticipated discovery of a new active raptor nest within ½ mile of the Project Area or if a known inactive golden eagle nest becomes occupied. Potential appropriate action may include waiting to resume construction near the sensitive area until the nest fledges, establishing a buffer between the nest and construction activities, or (in coordination with USFWS biologists) relocating the nest. The Project would result in some loss of potential raptor nesting habitat (tall trees); however, the number of tall trees lost would be minimal in relation to ample raptor nesting habitat in the surrounding valley and therefore would not be significant. The presence of nesting habitat for migratory birds and raptors would be maintained by the Habitat Replacement Project in compliance with the Colorado River Basin Salinity Control Act. If there were any changes to the project schedule and vegetation clearing would occur during the breeding season for migratory birds, nesting bird surveys would be completed before any clearing or grubbing activities and all active nests would be avoided until the nest fledges.

No significant impacts to migratory birds and raptors would occur as a result of the Project, because construction impacts would be temporary and relatively small in comparison with surrounding available habitat, the known unoccupied golden eagle nests would be monitored during the breeding season, timing restrictions would protect nesting birds during sensitive periods, and riparian/wetland nesting habitat would be maintained with the implementation of a Habitat Replacement Site.

Threatened and Endangered Species and Their Critical Habitats

The Endangered Species Act (ESA) of 1973 protects federally listed endangered, threatened, and candidate plant and animal species and their critical habitats. This section evaluates potential impacts on species listed or proposed to be listed, as well as their designated or proposed critical habitat, as a result of implementation of the Proposed Action.

Table 6 lists the eleven federally threatened, endangered, or proposed species that have the potential to occur in the Project Area or be affected by actions in the Project Area, along with habitat descriptions (USFWS, 2024).

A field verification survey for species protected under the ESA was conducted on April 29, 2024, for Section 1, and June 4, 2024, for Section 2 (Sundance, 2024). Based on existing habitat within the Project Area and known habitat preferences for listed species, potential habitat for three insect species, the silverspot butterfly (*Speyeria nokomis nokomis*), monarch butterfly (*Danaus plexippus*) and Suckley's cuckoo bumble bee (*Bombus suckleyi*), and two plant species, the Colorado hookless cactus (*Sclerocactus glaucus*) and clay-loving wild buckwheat (*Eriogonum pelinophilum*) have potential to occur in the Project Area. The northern bog violet (***Viola nephrophylla***), the host plant for the silverspot butterfly, was not located in or near the Project Area during the surveys. The silverspot butterfly was not observed during surveys. Isolated occurrence of showy milkweed, a host plant for the monarch butterfly, was identified in the Project Area during surveys. No monarch butterfly species were observed. The Project Area is outside migrating corridors for the monarch butterfly (United States Forest Service (USFS) 2024). Habitat for the Suckley's cuckoo bumble bee includes grassy areas with access to pollinators; potential habitat may occur on irrigated pasture near the Project Area. The Suckley's cuckoo bumble bee was last sighted in 2016 in Oregon and there are no recorded sightings in Delta County (Liebich, 2024). Surveys for the two federally protected plant species did not locate any individuals or populations in the Project Area. Habitat in the Project Area for the yellow-billed cuckoo (*Coccyzus americanus*) is not suitable for nesting, but foraging may occur. No potential habitat for the five other listed species occurs within the project area, including four federally listed Colorado river fish and the gray wolf (*Canis lupus*) (Table 6).

The upper Colorado River Basin has three fish species listed as endangered: bonytail chub (*Gila elegans*), Colorado pikeminnow (*Ptychocheilus lucius*), and razorback sucker (*Xyrauchen texanus*), and one listed as threatened: humpback chub (*Gila cypha*). Decline of these fish species is due in part to habitat destruction (diversion and impoundment of rivers) and competition and predation from introduced fish species. In 1994, the Service designated critical habitat for the four federally listed fish species in the Federal Register (56 FR 54957-54967), which in Colorado includes the 100-year floodplain of the upper Colorado River from Rifle to Lake Powell and the Gunnison River from the city of Delta to the city of Grand Junction. None of the four listed endemic Colorado River fish occur in the Project Area and the Project Area does not occur within or adjacent to designated critical habitat. However, water depletions in the Gunnison River Basin have the potential to diminish backwater spawning areas in downstream designated critical habitat in the Colorado River Basin, directly impacting the four listed fishes and the extent and quality of their designated critical habitat.

Previously issued biological opinions by the USFWS state that all depletions within the upper Colorado River Basin may adversely impact the four fishes (USFWS 2009). The Upper Colorado River Endangered Fish Recovery Program (Recovery Program) was established in 1988 as a partnership of public and private organizations working to recover the four species while allowing continued and future water development. Recovery strategies include conducting research, improving river habitat, providing adequate stream flows, managing non-native fish, and raising endangered fish in hatcheries for stocking. In 2011, the Service determined that the Recovery Program has made "sufficient progress to be the reasonable and prudent alternative to avoid the likelihood of jeopardy to the endangered fishes and to avoid destruction or adverse modification of their critical habitat" for "existing depletions" (USFWS 2011). Furthermore, the Gunnison River

Basin Programmatic Biological Opinion (PBO) issued by the Service in 2009, found that the Recovery Program is the reasonable and prudent alternative to avoid jeopardy to the endangered Colorado River fishes and avoid adverse modification of designated critical habitat (USFWS 2009).

The NDIC has a historic depletion of approximately 30.000 cfs from the Forked Tongue Creek, and 49.675 cfs from the Gunnison River. The NDIC and the USFWS completed consultation regarding depletions to the Colorado River associated with the diversion of water for the purposes of irrigation in October 2018 (TAILS 06E24100-2018-F-0161). A recovery agreement was executed on October 15, 2018, between the NDIC and the USFWS (Appendix B). The recovery agreement covers all water rights held by the NDIC and acknowledges that the depletions are governed by the provisions of a 2009 Programmatic Biological Opinion for the Gunnison Basin (USFWS 2009).

The Habitat Replacement Site would result in a maximum of 0.04 AF of annual depletions from Big Gulch, tributary to the North Fork River.

Table 6. Federally Listed Species with Potential to Occur in the Project Area.

Common Name (Scientific Name)	Status	Habitat Description	Potential to Occur in Project Area
Yellow-billed cuckoo (*Coccyzus americanus)*	Threatened	Deciduous riparian woodlands, with dense cottonwood and willow, and sometimes tamarisk/Russian olive.	Yes, vegetation is not suitable for nesting; but potential foraging habitat is along riparian areas within the Project vicinity. The Project Area lacks suitable dense cottonwood with a riparian understory.
Bonytail chub (*Gila elegans*)	Endangered	Slow-moving, deep river sections with backwater habitats	No, but water effects should be considered on downstream critical habitat.
Humpback chub (*Gila cypha)*	Threatened	Deep canyon sections of large rivers with fast currents	No, but water effects should be considered on downstream critical habitat.
Colorado pikeminnow (*Ptychocheilus lucius*)	Endangered	Large rivers with slow-moving backwaters and pools	No, but water effects should be considered on downstream critical habitat.
Razorback sucker (*Xyrauchen texanus*)	Endangered	Large rivers and backwaters with slow-flowing, warm waters	No, but water effects should be considered on downstream critical habitat.
Monarch butterfly (*Danaus plexippus)*	Proposed Threatened	Open fields and meadows with milkweed for breeding and feeding	Yes, limited habitat suitability; minor disturbance to milkweed plants in areas where Project activities may overlap.
Silverspot butterfly (*Speyeria nokomis nokomis*)	Threatened	Grasslands and meadows with host plants (violets) for larvae	Yes, low suitability; Project minimally overlaps with preferred meadow habitats. Surveys for the butterfly and the bog violet conducted in June 2024 were negative for both species (Sundance Consulting LLC, 2024b).
Suckley's cuckoo bumble bee (*Bombus suckleyi)*	Proposed Endangered	Prairies, grasslands, meadows, woodlands and agricultural and urban areas (Liebich, 2025).	Unlikely. There is suitable habitat in the Project Area (meadows and irrigated pasture). The last sighting of the bee was in 2016 in Oregon (USFWS 2025).
Gray wolf (*Canis lupus*)	Experimental Population	Various habitats with adequate prey availability	No, low suitability due to the absence of significant prey populations or habitat overlap in the Project Area.
Clay-loving wild buckwheat (*Eriogonum pelinophilum*)	Endangered	Clay soils on shale hillsides in western Colorado	No, no suitable clay soils were found and plant surveys did not locate the species
Colorado hookless cactus (*Sclerocactus glaucus*)	Threatened	Dry, rocky soils on river slopes and desert shrublands	No, suitable soils were not found and plant surveys did not locate the species

Source: USFWS-IPaC 2024; NatureServe 2024

No Action: Under the No Action Alternative, the current conditions would remain, and no construction activities would take place in the Project Area. This means there would be no direct or indirect disturbances to listed species' habitats, nor would the Project contribute to the improvement of water quality that might benefit aquatic species including all four federally listed fish.

Proposed Action: The Project Area does not contain suitable nesting habitat for the yellow-billed cuckoo and is outside of the designated critical habitat (USFWS 2024a). The vegetation within the action area consists of less dense riparian areas that do not meet the habitat requirements for nesting yellow-billed cuckoos. In addition, all construction activities would occur outside of the migratory and breeding seasons (from the period of May 15 to August 31). Based on this analysis, the determination for the yellow-billed cuckoo is No Effect. There would be no direct impacts to nesting habitat, and any temporary disruption to foraging areas would be minimal and temporary. Vegetation improvements at the Habitat Replacement Site would provide potential habitat for foraging and nesting, which would have a potential beneficial effect on the yellow-billed cuckoo.

The 2009 Programmatic Biological Opinion (PBO) and NDIC's Recovery Agreement provide ESA compliance for the NDIC's historic depletions under the 2009 PBO for the Gunnison Basin (USFWS 2009). The NDIC's historical depletion rate is part of baseline conditions, and the Project would not create additional depletions that would adversely impact the listed Colorado river fish. In addition, the Recovery Program ensures significant effects to the fishes and their designated critical habitat do not occur due to projects covered under the PBO. Watering requirements for establishing vegetation at the Habitat Replacement Site would result in de minimis new depletions (0.04 AF) (USFWS 2024c).

Impact to habitat for monarch species may occur as a result of Project construction and loss of showy milkweed plants; however, impacts would be minor as the monarch would be displaced to nearby areas and the extent of milkweed in the Project Area is very small (several small 4-foot by 6-foot patches and isolated occurrences of individual plants; the total size of habitat is 0.01 acre or less). Although the extent of milkweed habitat in the surrounding valley has not been quantified, there are many existing natural water features including Currant Creek and the Gunnison River, as well as laterals, irrigated fields, open canals, and ditches. Based on review of the National Wetland Inventory mapper, the estimated extent of potential milkweed habitat in the surrounding valley would likely be well over 10 acres (NWI, 2024). Impacts would be minor and would not rise to the level of significant. The Project Area is hundreds of miles distant from flyways and congregational areas (USFS, 2024). Therefore, the Project would have no effect on the monarch butterfly population.

There would be no direct or indirect impacts to the silverspot butterfly due to the absence of suitable habitat. Conditions in the Project Area are primarily disturbed and not suitable for the establishment of the host plant (bog violet), which prefers moist soil and cooler, less alkaline environments. Surveys for the butterfly and the bog violet conducted in June 2024 were negative for both species (Sundance Consulting LLC, 2024b). The Project would have no effect on the silverspot butterfly.

There is suitable habitat in the Project Area for the Suckley's cuckoo bumble bee (meadows and irrigated pasture), but direct effects are unlikely. The last sighting of the bee was in 2016 in Oregon (USFWS 2025). Any impacts to the irrigated pasture would be minor and temporary. The proposed Project would have no effect on the Suckley's cuckoo bumble bee.

The Proposed Action would not interfere with any established gray wolf corridors or key habitats. The Project does not include a predator management program. Therefore, there would be no effect on the gray wolf due to the Project's location outside its range.

There is no suitable habitat for the clay-loving wild buckwheat within the Project Area (pers. comm., K. Holsinger, Dec. 3, 2024) and no species were located during surveys of the Project Area (Sundance Consulting LLC, 2024b). Therefore, there would be no effect to clay-loving wild buckwheat.

The Project Area is outside the range for Colorado hookless cactus (USFWS 2024b), although BLM has documented occurrence of the cactus nearby on the benches above the Gunnison River, along the north-facing bank. BLM has not found cactus on the south-facing bank which overlaps with the Project Area, possibly due to steep topography, disturbance and the prevalence of invasive species. The Project Area was surveyed, and no occurrences were found (Sundance Consulting LLC, 2024b). Therefore, there would be no effect to Colorado hookless cactus.

Overall, the Proposed Action would have No Effect on any listed species or critical habitats, and no new effect to the four listed fish species since the previous consultation.

BLM-Sensitive Species

The total amount of potentially affected areas on BLM land is approximately 2.5 acres. The areas are within an existing historical prescriptive easement, and on previously disturbed land. BLM sensitive species that have a potential to occur in the Project Area and were not previously considered in the Migratory Birds or Threatened and Endangered Species discussions above include: fringed myotis (*Myotis thysanodes*), Townsend's big-eared bat (*Corynorhinus townsendii*), big free-tailed bat (*Nyctinomops macrotis*), spotted bat (*Euderma maculatum*), midget faded rattlesnake (*Crotalus oreganus concolor*), northern leopard frog (*Rana pipiens*), and North American otter (*Lontra canadensis*) (Appendix B). According to observation data obtained from BLM, 15 species of bats have been detected in the area; 10 are listed as BLM sensitive species. These species rely on specific habitats, such as riparian areas, wetlands, and open lands, that may be affected by construction activities (BLM Sensitive Species List [2023]). Potential impacts and impact minimization measures for these species are summarized in Table 7. Potential to occur and effects determinations are based on biological surveys (Sundance Consulting Inc. 2024) and informal consultation with BLM Uncompahgre Field Office (UFO) ecologist (pers. comm. with Ken Holsinger, Dec. 3, 2024).

Table 7. Summary of BLM-Sensitive Species with Potential to Occur in the Project Area and Impact

Minimization Measures.

Species (Common Name and Scientific Name)	Habitat Description	Potential Project Impact and Minimization Measures (if applicable)
North American river otter (*Lontra canadensis*)	Requires intact stream and river ecosystems with adequate prey availability. Habitat is adjacent to construction area in the Gunnison River channel and connected to the river at the headgate. Breeding season is December to April.	Very low probability of direct impacts to denning as no work would be done in the river channel and the probability of otters occupying the headgate is very low. Winter construction noise would create a short-term, low intensity disturbance that would be minor to negligible. No significant impacts would occur because the probability for disturbance is very low and any potential impacts would be minor to negligible.
Fringed myotis (*Myotis thysanodes*) Townsend's big-eared bat (*Corynorhinus townsendii*) Big free-tailed bat (*Nyctinomops macrotis*) Spotted bat (*Euderma maculatum*)	Roosts in caves, mines, and buildings; forages in forested areas and near water. Prefers caves, mines, and old buildings for roosting. Roosts in rock crevices and buildings; forages in open areas. Uses cliffs and rocky areas for roosting; forages in open habitats.	No direct impacts to bat species as construction is timed for late fall, winter and early spring when bats have migrated out of the area or are hibernating. No bat hibernacula are located in the Project Area. Construction BMPs would minimize cottonwood tree loss (potential roosting habitat for bats). Loss of tree habitat would occur just within the construction ROW (approximately 30 feet) and would not extend to trees downgradient of the canal area. Loss of bat roosting habitat would be minor to negligible relative to the extensive tree habitat along the Gunnison River. As impacts would be incidental and minor to bat species occupying the canyon area they would not be significant.
Midget faded rattlesnake (*Crotalus oreganus concolor*)	Found in rocky areas, shrublands, and grasslands. Communal hibernacula under very large boulders during winter.	Very low probability of direct impact to hibernating individuals during construction activities as work would be confined within the existing ditch corridor and away from winter hibernating areas (large boulders). Individuals not hibernating would relocate to nearby areas. Any impact to the midget faded rattlesnake would be incidental and minor; therefore, the Project would have no significant impacts to the species.

Species (Common Name and Scientific Name)	Habitat Description	Potential Project Impact and Minimization Measures (if applicable)
Northern leopard frog (*Rana pipiens*)	Wetlands and riparian zones. In winter hibernates in mud.	Loss of habitat and direct impacts to individuals hibernating in mud along the canal would occur during construction activities. A robust population of the northern leopard frog is present within the Gunnison River corridor. Loss of individuals and habitat along the canal would be minor relative to the robust population nearby and would not impact the species at a population level. The Project would have no significant impacts to the northern leopard frog because the Project would not impact the species at a population level.

Source: BLM 2023, pers. comm. K. Holsinger Dec 3, 2024.

No Action: Under the No Action Alternative, the current conditions would remain, and no construction activities would take place in the Project Area. There would be no direct or indirect disturbances to BLM-listed sensitive species or their habitats, nor would the Project contribute to the improvement of water quality that would benefit aquatic species and other wildlife.

Proposed Action: Under the Proposed Action, the Project would avoid significant adverse impacts on BLM-sensitive species. Following is a summary of impacts to BLM-sensitive species, based on informal consultation with BLM (pers. comm. Ken Holsinger Dec. 3, 2024). There would be a very low probability of direct impacts to North American river otters (otters) as no work would be done in the river channel, and the probability of otters occupying the headgate area is very low. Winter construction noise would create a short-term, low intensity disturbance and impacts to breeding otters would be minor to negligible. Construction timing would avoid impacts to the bat species known to occupy the canyon, and loss of roosting habitat would be minimized during construction through BMPs to avoid removing trees outside the construction ROW. The midget faded rattlesnake would not be present in the construction area, either due to hibernating beneath large boulders outside the construction area, or (if not hibernating) relocating to nearby areas; therefore, impacts to the midget faded rattlesnake as a result of the Project would be minor, incidental and not significant. Although the Project would impact individual leopard frogs and habitat, a robust population of the northern leopard frog is present within the Gunnison River corridor. Loss of individuals and habitat along the canal would be minor relative to the robust population of leopard frog nearby and would not impact the species at a population level. The Project would have No Significant Adverse Impact on BLM-sensitive species in the area.

3.2.11 Cultural Resources

The North Delta Canal Project Area in Delta County, Colorado, encompasses both private and BLM-managed lands. This region boasts a rich cultural heritage, as evidenced by historical and archaeological surveys conducted by the BLM and studies related to irrigation and agricultural development (BLM, 2020; Conner and Inman, 2024). The BLM Uncompahgre Field Office

manages cultural resources on public lands, ensuring their protection under the National Historic Preservation Act (NHPA) (BLM, 2020).

Grand River Institute (GRI) conducted a Class III cultural resource inventory of the Project Area (Conner and Inman, 2024). The geographic area of analysis for these inventories were the ditches and ground disturbance areas involved with the Project, including the Habitat Replacement Site, plus a 100-foot buffer (e.g., the Area of Potential Effect). The North Delta Canal (Site 5DT.1738) was reevaluated in the context of the current Project. This site is officially eligible for listing on the National Register of Historic Places (NRHP) due to its historical significance. There is an ongoing trend of piping earthen irrigation ditches in the region, many of which are eligible for listing in the NRHP. This conversion is typically viewed as an adverse effect on the eligible and nationally listed cultural resource properties. As part of this Project, Segment 5DT.1738.3 was expanded, and a new segment (5DT.1738.7) was recorded to support the canal's eligibility status. In addition, two sites were identified that are field-evaluated as NRHP-eligible, including Smith's Ferry (5DT.3081) and a prehistoric open camp (5DT.3082).

No Action: Under the No Action Alternative, no new construction or modifications to the North Delta Canal would occur. Consequently, no ground-disturbing activities would take place, leaving any cultural resources in the Project Area undisturbed. Current management practices and protections for cultural resources on BLM-managed lands would continue without changes, posing no new risks to the preservation of cultural resources within the Project Area.

Proposed Action: The North Delta Canal (5DT.1738), including segment 5DT.1738.3 and the newly recorded segment 5DT.1738.7, would be adversely effected by the Project. The two sites identified as NRHP-eligible, including Smith's Ferry (5DT.3081) and the prehistoric open camp (5DT.3082) would be preserved in place. Both sites are located on BLM-managed land. In coordination with Reclamation and BLM, protective fencing would be used to confine access routes and ensure potential impacts are avoided. An agreement (PA Agreement) subject to the 2022 Colorado/Bureau of Reclamation Programmatic Agreement (PA) with all consulting parties has been executed and is included as Appendix C. The PA Agreement stipulations maintain the cultural heritage of irrigation history through public interpretation and/or documentation. Maintaining the cultural heritage of irrigation history would ensure the Project would not result in the loss of knowledge of early irrigation systems, their design, or reduce the ability to gain knowledge of early irrigation systems into the future.

No significant impacts to cultural resources would occur as a result of the Project, because the cultural heritage of irrigation history would be maintained.

3.2.12 Soils and Farmlands of Agricultural Significance

The geographic scope of analysis for soils and farmlands of agricultural significance covers the Project Area and surrounding farmlands served by the NDIC (Figure 1).

The soils within the North Delta Canal Project Area in Delta County, Colorado, are primarily derived from weathered Mancos Shale, exhibiting characteristics that influence their agricultural suitability. These soils are generally well-drained with high to very high runoff potential and low to very low water storage capacity, presenting challenges for agricultural productivity due to limited water retention and increased surface runoff (NRCS 2024b, U.S. Department of Energy, 2011).

Additionally, soils in the Project Area are often slightly to moderately saline, a natural trait of landscapes underlain by Mancos Shale. This salinity can affect plant growth, soil fertility, and sustainable agricultural use. The USDA NRCS classifies these soils based on productivity, slope, and other suitability factors for agricultural use (NRCS, 2024b). Within the Project Area, these soils fall under categories such as prime farmland if irrigated or not prime farmland. Approximately 22% of the soils are classified as prime farmland if irrigated, indicating significant agricultural potential when supported by adequate irrigation infrastructure, while the remaining 78% do not meet prime farmland criteria (NRCS, 2024b).

No Action: Under the No Action Alternative, current conditions would persist without modifications to the North Delta Canal system. Consequently, historical levels of water loss, salinity, and selenium loading into the Gunnison and Colorado river basins would continue, contributing to ongoing salinity issues in both soil and water in downstream agricultural areas. These conditions would affect soil health by reducing fertility, degrading soil structure, and limiting the productivity of farmlands, particularly in areas designated as prime farmland if irrigated (NRCS 2024b, U.S. Department of Energy, 2011).

Proposed Action: Project activities such as construction, soil compaction, and canal modification would temporarily impact soil quality, structure, and fertility within the Project Area. Construction activities would disrupt soil structure, impacting porosity and limiting root growth, while heavy equipment would compact soils, particularly in loamy or clayey areas, potentially reducing water infiltration and increasing surface runoff (USGS, 2009). New disturbance to soils would be limited to 8.5 acres, less than 1 percent of total undisturbed soils in the vicinity of the Project (an estimate total of 1,245 acres), and therefore impacts to soil quality, structure and fertility from Project activities would not be significant.

The Project would have a beneficial effect on the NDIC's ability to manage irrigation water, through improved efficiencies and modernized infrastructure. Improved water efficiency from the installation of pipelines, siphons, and lined sections would benefit shareholders by providing more water per share, allowing for enhanced soil management and maintenance of soil fertility. The Project would maintain the current configuration of irrigated lands, ensuring that no part of the irrigation season is disrupted during implementation. No adverse impacts to farmlands would occur as a result of the Project; therefore, no significant impacts would occur to farmlands.

Replacing open ditches with buried pipelines or lining open ditches would reduce soil erosion along the canal route, leading to decreased sediment transport and reduced soil degradation in irrigated fields and water bodies downstream. This improved management approach would benefit agricultural soils by minimizing erosion impacts and protecting soil resources. BMPs would be implemented during construction to protect soils, including topsoil preservation and post-construction restoration, and disturbed agricultural soils would be returned to production in the following growing season.

The Project would result in no significant impacts to Soils and Farmlands of Agricultural Significance, as no areas would be removed from production. Temporary soil disturbances during construction would occur primarily on previously disturbed lands and would be protected by BMPs. The long-term benefits of reduced salinity and erosion control are anticipated to enhance the productivity and sustainability of prime farmlands in the area. Reduced salinity levels in irrigation water would enhance soil productivity over time.

3.2.13 Paleontological Resources

The geographical scope for analysis of paleontological resources includes the portion of the Project Area where bedrock would be disturbed.

Paleontological resources (i.e., fossils) are considered nonrenewable scientific resources because once destroyed, they cannot be replaced. As such, paleontological resources are afforded protection under various federal, state, and local laws and regulations.

The BLM has paleontological resource management policies, guidelines, and procedures (BLM Handbook 8720-1 [BLM, 1998]), as well as Instructional Memorandum (IM) 2009-011 (BLM, 2008) and established best practices in mitigation paleontology (Society of Vertebrate Paleontology [SVP], 2010; Murphey et al., 2019).

The BLM currently uses the Paleontological Resources Preservation Act (PRPA), a subtitle of the Omnibus Public Land Management Act, as the legislative authority for its paleontological resource policies, which satisfies all requirements of the NEPA. The PRPA (Public Law [PL] 111-011, Subtitle D) is part of the Omnibus Public Land Management Act of 2009, with the final rule enacted in 2022. This act directs the Secretary of the Interior or the Secretary of Agriculture to manage and protect paleontological resources on federal land and develop plans for inventorying, monitoring, and deriving the scientific and educational use of such resources. The PRPA organizes and combines the existing policies of the BLM, National Park Service (NPS), USFS, Reclamation, and the USFWS.

Bedrock would be disturbed within 500 and 1000 LF in the portion to be piped on BLM-managed land. This portion occurs in the Morrison Formation, a formation classified for having a high potential fossil yield classification (PYFC) (Weigner et. al., 2025). Specifically, published geologic mapping indicates that the survey area is underlain by seven geologic units, with two scoring above a 4 in PFYC: Alluvial Deposits of the Gunnison River Alluvium one-a of the Gunnison River (Qag1a) (PFYC Unknown (U)); Alluvial deposits along tributary streams (Qa) (PFYC U); Landslide deposits (Qls) (PFYC 2); Alluvial deposits of the Gunnison River, Alluvium two of the Gunnison River (Qag2) PFYC U); Alluvial deposits of the Gunnison River, Alluvium three of the Gunnison River (Qag3) (PFYC U); Mowry Shale, Dakota Sandstone and Burro Canyon Formation, undivided (Kdb) (PFYC 4); and Morrison Formation (Jm) (PFYC 5) (Noe and Zawaski, 2013).

The NDIC conducted a survey of areas of construction deemed most likely to impact bedrock. The geologic units within the survey area with unknown (PFYC U) and moderately high to very high paleontological potential (PFYC 4-5) were surveyed in February of 2025; no significant fossil localities and no non-significant fossil occurrences were identified (Weigner et. al., 2025).

Based on a geologic map review, paleontological resource museum records search, and literature review there are eight previously recorded fossil occurrences within 2-miles of the survey area, and there are no previously documented fossil localities from the same geologic units as the Project within a 2-mile radius of the Survey area (Weigner et. al., 2025).

No Action: Under the No Action Alternative, there would be no disturbance to bedrock with a high potential fossil yield classification in the Project Area. Any fossils that may be present would remain undiscovered and protected in their current location.

Proposed Action: Project activities would impact the bedrock in the Project Area. The potential to impact paleontological resources would be minimized by monitoring during bedrock disturbances. Three potential methods for disturbance are under consideration: blasting, excavation with heavy equipment/rock pick, and excavation using a method of drilling and insertion of expanding grout. Regardless of the method selected, the operations would be undertaken with monitoring to ensure any resources contained within the bedrock are identified and preserved. Paleontological monitoring would be conducted during construction where bedrock is disturbed, for exposures of the Morrison Formation as well as landslide deposits that consists of partially or wholly intact Morrison Formation (see Weigner, et. a., 2025 and Chapter 4 of this EA for more detail). Due to the Environmental Commitments incorporated into the Proposed Action, impacts to paleontological resources would be negligible and managed and would not rise to the level of significant.

3.2.14 Climate

Delta County's monthly average temperatures range from lows of 12 º Fahrenheit (F) in January to 58 º F in July, and average highs of 40 º F to 93 º F (monthly averages between 1981 and 2010; U.S. Climate Data, 2025).The Project Area is situated at a transition area between two major ecoregions of North America: the Great Southwest Basin and the Rocky Mountains. Over a 125-year period, Delta County has seen some of the most extreme warming of anywhere in the United States with an average temperature rise of 3 degrees between 1895 and 2019 (CHC, 2022). According to records dating back 1,200 years the current extended drought is unprecedented (Williams, et, al., 2022) and as a result, the natural surface water supply is in a state of transition, as every 1.8º Fahrenheit rise results in a 10% decline in the Colorado River (Udall, B., et. al. 2017). Topography is highly variable and rugged in many areas of Delta County, and the County is subject to diverse microclimates at a fine scale, due to the influence of slope and aspect, as well as soils and vegetation, and proximity to water. For example, this variation can be explained in the context of local fruit production; it is common knowledge that apricots near the river below a north-facing slope seldom fruit as the blossoms freeze; while apricots on a bench above the north-facing slope (even just several hundred yards distant from the river) may fruit an average of once every 4 years (M. Waltermire, Per. Comm., 2024).

No Action: Under the No Action Alternative, there would be change to the climate.

Proposed Action: Project activities would remove an open water source. The impacts along Section 1 are negligible, as the piped area traverses the south-facing slope of the Gunnison River and the localized climate would experience only minor loss in riparian vegetation and evaporative loss relative to the riparian vegetation and open water along the Gunnison river itself. Along the middle and western portion of Section 2, the Project Area traverses irrigated pasture and the canal would remain open (but lined), and the open portions would still contribute to localized humidity. The microclimate along the eastern-most horseshoe bend of Section 2 would experience a change due to loss of open water and riparian vegetation. The area is not proximate to irrigated pasture although a sparsely vegetated ephemeral drainage bisects the bend, sourced by water seepage and tailwater flows from Devil's Thumb (an irrigated golf course on an upland bench north of the bend). Existing adjacent vegetation (largely upland vegetation) would persist after the Project is completed. Some vegetation would be permanently removed (1.1 acre total) due to the installation of the siphon. This represents 1.5 % of the riparian area, which totals approximately 72 acres. In addition, a total of 1.19 acres of open water would be removed due to abandonment and siphoning along Section 2, and another 0.71 acre removed due to piping (1.90 acres total); however, this is a minor amount relative to the extensive irrigated pasture and open water infrastructure (including laterals and feeder ditches)

and natural surface water features including the nearby Confluence Park (and reservoir), the Oasis Reservoir (near Section 1), as well as both the Gunnison and Uncompahgre Rivers. Therefore, the Project overall would result in *de minimus* changes to the local microclimate; these changes would not result in significant impacts to the macro or micro climate.

3.3 Summary of Impacts

Table 8 provides a summary of environmental impacts for each resource evaluated in this EA for both the No Action and Proposed Action alternatives. As described within Chapter 3 of this EA, environmental impacts of the Proposed Action Alternative were not determined to be significant.

Table 8. Summary of Impacts for the No Action and Proposed Action Alternatives.

Resource	Impacts: No Action Alternative	Impacts: Proposed Action Alternative
Water Rights and Use	No Effect; the water system would continue to function as it has in the past.	The improved system would provide efficiencies in water delivery, eliminate water seepage, and enable full shares to be delivered to the farm turnouts, benefiting shareholders on the system. Piping the canal in areas of steep topography along Section 1 would mitigate help protect against the risk of failure from geological hazards.
Water Quality	The high salt levels contributed to the Colorado River Basin from this system would continue at a rate of 3,432 tons of salt per year (Applegate Group Inc., 2023), along with current levels of selenium loading.	Estimated reduction of 3,432 tons of salt per year and an unquantified amount of selenium. Improved water quality downstream, with benefits to aquatic species through reduced salt and selenium loading in the Gunnison and Colorado rivers. The Project would affect waters under the jurisdiction of CWA Section 404 (the ditches themselves) and disturb irrigation-induced wetland and riparian vegetation associated with the ditches. There would be no significant short- or long-term adverse impacts to water quality. The Project would result in overall beneficial, long-term impacts to water quality in the Lower Gunnison and Colorado River basins.
Air Quality	No Effect; continued routine maintenance and operation with minimal dust or emissions from vehicles/equipment.	Temporary vehicle and equipment exhaust and dust from construction activities. BMPs such as dust control and minimized idling reduce air quality impacts to short-term and minor. No long-term and no significant impact.

Resource	Impacts: No Action Alternative	Impacts: Proposed Action Alternative
Access, Transportation and Safety	No Effect; existing conditions for access, public safety, and transportation remain unchanged.	The use of heavy machinery and vehicles for habitat improvements (vegetation removal, planting and watering), pipeline installation, ditch backfilling, shotcrete lining, and other canal improvements would generate emissions of nitrogen oxides (NO_x), CO, and PM. Additionally, fugitive dust would be generated from soil disturbance activities such as excavation, grading, and movement of construction materials. There would be no long-term significant impacts to air quality from the Project, as air quality would return to its baseline level and Delta County would remain in attainment for all criteria pollutants.
Noise	No Effect; continued maintenance activities with negligible noise impacts.	The Project would cause temporary noise sources associated with construction activities, including the operation of heavy machinery, such as trackhoes, bulldozers, loaders, and concrete mixers. Blasting may be necessary to bed the pipe in the canyon area along Section 1. These activities would produce intermittent, short-term noise levels that may be audible in nearby areas. No significant short-term or long-term noise impacts are anticipated would occur because noise associated with construction of the Project would be short-term and would not raise the noise level of the area above the moderate noise baseline.
Public Recreation	No Effect; continued access to dispersed recreation without Project-related disruptions.	Temporary interruptions to recreational quality due to construction noise, traffic, and equipment presence. No long-term and no significant impacts on recreational activities, as disruptions cease post-construction.
Visual Resources	No Effect; visual landscape remains with open earthen ditches and agricultural/rural character intact.	Minor temporary visual disruption due to construction. Changes to visual resources are consistent with the character of the surrounding landforms and the rural and agricultural character in the vicinity of the Project. Long-term benefit through stabilization of canal banks and minimized erosion. Enhanced landscape aesthetics with reduction in open ditch visibility. No significant impacts.

Resource	Impacts: No Action Alternative	Impacts: Proposed Action Alternative
Vegetative Resources	No Effect; vegetation resources would remain in their current state.	Temporary new disturbance of 8.5 acres resulting in a temporary impact of an estimated 8.5 acres of upland native vegetation until revegetation efforts post-construction take off. Minor and temporary effects from dust due to construction. Loss and replacement of habitat value associated with 4.4 acres of riparian vegetation. There would be no significant impacts.
Noxious Weeds	Existing invasive species remain unaddressed with potential spread in disturbed areas.	Long term reduction in weed spread due to reduction in soil disturbance associated with annual maintenance of earthen ditch, reduction in open water flow and weed seed transport, and drying of seeps that currently support noxious weeds. Control measures for invasive species implemented, including use of sterile soil, use of certified weed-free materials and monitoring for successful native regrowth. Assuming weed control measures are not effective (as a worst case) the Project would result in an increase of 0.5% in weed cover across the 12,600-acre evaluation area from construction due to soil disturbance and vehicle use. Reduction in cover of noxious weeds at Habitat Replacement site. There would be no significant impacts.
Wildlife Resources	No Effect; wildlife would continue to use the area as in the past, and salt and selenium loading would continue to affect aquatic dependent species.	Minimal and temporary impacts to wildlife due to construction activities, which would temporarily disrupt and displace common wildlife. Adjacent wildlife habitat is abundant in the surrounding valley, and construction would be timed to avoid nesting birds during sensitive periods; therefore, impacts would be minor. Loss of vegetation habitat for foraging, bedding or cover would occur, and loss of wetland and riparian vegetation would impact wildlife, with value to wildlife fully maintained with the implementation of the Habitat Replacement Plan. Impacts to mule deer or elk at the Habitat Replacement Site, a winter concentration area, would be avoided by construction timing. Impacts to mule deer wintering along Section 1 would be minor and localized. A wildlife escape structure would be installed in Section 1 to allow elk and mule deer to easily exit the open canal. Minor impacts due to loss of access to open water. Construction impacts would be temporary and relatively small in comparison with the

Resource	Impacts: No Action Alternative	Impacts: Proposed Action Alternative
		surrounding available habitat. No significant impact to wildlife or wildlife resources.
Special Status Species; Migratory Birds, Threatened and Endangered Species and Their Critical Habitats, and BLM Sensitive Species	No Effect; sensitive species would continue. Continued salinity and selenium loading.	Noise and habitat clearing would disrupt or displace wintering and migrating songbirds and raptors. Loss of tall trees would impact raptor nesting habitat but impacts would be minor and not significant relative to the extent of tall trees in the surrounding area. All clearing and grubbing would occur outside the breeding season for migratory birds; if that period cannot be avoided, nesting bird surveys would be conducted and all active nests avoided until the nest fledges. The habitat replacement site would create new nesting habitat for migratory birds and raptors. Construction timing would avoid the nesting season for raptors other than bald eagles and golden eagles; impacts to these raptors would not occur as the Project is outside buffer distance of ½ mile for a nearby bald eagle roost and golden eagle nest. BMPs would be followed if a new raptor nest is located within ½ mile of the Project. The Proposed Action would have No Effect on listed or proposed listed species or critical habitats for the monarch butterfly, silverspot butterfly, gray wolf, yellow-billed cuckoo, Colorado hookless cactus, or clay-loving wild buckwheat, and no new effect to the four listed Colorado River fish species since the previous consultation with the USFWS in 2018 (Appendix B). Reduced salt and selenium loading would improve habitat for the four listed Colorado River fish downstream of the Project Area. Impacts to BLM Sensitive Species include incidental loss of individual leopard frogs burrowing in the mud along the canal and loss of leopard frog habitat. Impacts would be minor and would not cause population-level effects. The Project would create the loss of a small amount of tree habitat for roosting bats, but the amount is minor relative to existing trees in the surrounding area. There would be a very low likelihood of impacts to the North American river otter and midget faded rattlesnake from construction disturbance, and impacts would be incidental and minor. No significant adverse impacts to migratory birds, raptors, federally listed species, or BLM-sensitive species.

Resource	Impacts: No Action Alternative	Impacts: Proposed Action Alternative
Cultural Resources	No Effect; cultural resources continue in existing condition.	Adverse impacts to historical resources include two segments of the North Delta Canal, and two sites identified as NRHP-eligible: Smith's Ferry, and a prehistoric site. Impacts to the two sites would be avoided due to the Project location (Smith's Ferry) and due to BMP's to ensure the prehistoric site is protected during construction. Impacts to the canal would be protected under the existing Programmatic Agreement and through a PA Agreement that would ensure the Project would not result in the loss of knowledge of early irrigation systems, their design, or reduce the ability to gain knowledge of early irrigation systems into the future (Appendix C). In addition, impacts would be managed through adherence to preservation stipulations. No significant impacts.
Soils and Farmlands of Agricultural Significance	No Effect; continued salinity loading from seepage impacting soil productivity.	Temporary impacts due to construction activities to soil structure, quality and fertility. New disturbance would be limited to 8.5 acres, minor, and not significant. Revegetation efforts promote soil stability post-construction. Beneficial impacts to soil from reduced soil erosion, decreased sediment transport and soil degradation in irrigated fields. Beneficial impact to soils and farming due to NDIC's improved ability to manage irrigation water. No adverse impact to farmlands, and no significant impact to farmlands or soils.
Paleontological Resources	No Effect; Paleontological Resources continue to exist undisturbed.	Potential impacts associated with bedrock disturbance in a 500 to 1000 linear feet area, where bedrock would need to be removed down to a depth of 1 to 2 feet. Permit stipulations requiring a pre-construction paleontological survey and monitoring during bedrock removal by a certified paleontologist would minimize impacts to Paleontological Resources.

CHAPTER 4 – ENVIRONMENTAL COMMITTMENTS

This section summarizes the design features, BMPs, conservation measures, and other requirements (collectively, "Environmental Commitments") developed to lessen the potential adverse insignificant effects of the Project. The actions in the following environmental commitment list would be implemented as an integral part of the Project and shall be included in any contractor bid specifications. Additionally, the generic BLM ROW Permit stipulations are included as Appendix E.

In the event of a change in the Project description or should any construction activities be proposed outside of the inventoried Project Area or the planned timeframes outlined in this EA, additional environmental review by Reclamation would be required to determine if the existing surveys and information are adequate to evaluate the changed Project scope. Additional NEPA documentation may be required.

Table 9. Environmental Commitments

Type	Environmental Commitment	Affected Resource	Authority
Construction Contractor Plan or Certification Requirement	A Spill Response Plan shall be prepared in advance of construction by the contractor for areas of work where spilled contaminants could flow into water bodies.	Water Quality	CWA of 1972 as amended
Construction Contractor Plan or Certification Requirement	A Stormwater Management Plan shall be prepared and submitted to CDPHE by the construction contractor prior to construction disturbance.	Water Quality	CWA of 1972 as amended
Construction Contractor Plan or Certification Requirement	A CWA Section 402 Storm Water Discharge Permit compliant with the NPDES shall be obtained from CDPHE by the construction contractor prior to construction disturbance (regardless of whether dewatering would take place during construction).	Water Quality	CWA of 1972 as amended
Construction Contractor Plan or Certification Requirement	Certification under CDPHE Water Quality Division Construction Dewatering Discharges Permit COG070000 shall be obtained by the construction contractor prior to any dewatering activities related to construction.	Water Quality	CWA of 1972 as amended
Construction Contractor Plan or Certification Requirement	Any construction, access, or use permits required by the Delta County Planning Department, County Engineering and County Road and Bridge District #3 shall be obtained in advance of road crossings.	Access, Transportation and Safety	County Ordinances and Regulations

Type	Environmental Commitment	Affected Resource	Authority
Construction Contractor Requirement	Required (if any) air quality emissions inventories, record-keeping, or reporting for construction equipment shall be on file with CDPHE prior to commencing construction.	Air Quality	CAA of 1963 and 5 Code of Colorado Regulations (CCR) 1001-5 Part I.B.10 (Allowable Emissions), Part II.A (Air Pollutant Emission Notices for New, Modified, and Existing Sources), Part II.D (Exemptions from Air Pollutant Emission Notice Requirements
General NEPA Compliance	To satisfy the requirements of RGP-5, submit the following package to USACE at least 30 days in advance of construction: (1) documentation for compliance with the ESA and NHPA and/or the lead Federal Agency NEPA document containing the same, (2) a project description, (3) project plans, and (4) a location map."	Wetlands	RGP-5, Section 404, CWA of 1972 as amended
General BMP	Contractor shall implement periodic application of water to disturbed areas along the construction corridor and access roads for dust control during construction.	Air Quality, Vegetation	CAA of 1963
General BMP	Contractor shall minimize idling of equipment.	Air Quality	CAA of 1963
General BMP	Contractor shall maintain equipment to minimize excessive noise and establish regular operational hours that avoid early morning or late evening construction.	Noise	ESA of 1973, Colorado noise statute 25-12-103
General BMP	Construction limits shall be clearly flagged or marked onsite to avoid unnecessary plant loss or ground disturbance. No grading or blading shall occur inside the Project ROW other than that necessary within the actual construction footprint.	Vegetation, Weeds, Habitat, Wildlife	Delta County Weed Management Plans (Delta County, 2023); BLM ROW Permit Stipulation
General BMP	All equipment shall be power-washed before it is brought to the construction area, to minimize transport of new weed species to the construction area.	Vegetation, Weeds, Habitat, Wildlife	Delta County Weed Management Plans (Delta County, 2023); BLM ROW Permit Stipulation

Type	Environmental Commitment	Affected Resource	Authority
General BMP	Prior to construction, vegetative material ("slash") shall be removed by mowing or chopping, and either reserved for mulch onsite, or hauled to the County landfill or to a staging area to be processed (burned, chipped, and/or mulched). Stumps shall be grubbed and hauled to the County landfill or a proposed staging area to be burned. Slash processing would only occur on BLM lands in accordance with permit stipulations. On BLM-managed lands, Russian olive slash will be removed entirely and burned (not chipped) at a nearby staging area to avoid spreading the weed. No burning shall occur on federal public lands.	Soil, Vegetation, Weeds, Habitat	Delta County Weed Management Plans (Delta County, 2023); Public Land Permit Stipulations; County burn ordinances and restrictions
General BMP	Vegetation removal shall be confined to the smallest portion of the Project Area necessary for completion of the work.	Soil, Vegetation, Weeds, Habitat	Delta County Weed Management Plans (Delta County, 2023) BLM ROW Permit Stipulation
General NEPA Requirement	Tree grubbing and vegetation removal in all Project Areas shall avoid the primary nesting season of migratory birds (April 1 – August 31), unless surveys are conducted and no active nests are found. Any active nest found during a survey should receive a 50-foot avoidance area buffer until the nest is successful (fledged). This timing restriction shall be noted on Project construction drawings.	Wildlife	Migratory Bird Treaty Act of 1918
General BMP and Design Feature	Following pipeline construction, disturbed areas in the pipeline alignment shall be recontoured and either topsoiled and reseeded with a seed mix appropriate for the surrounding vegetation community or finished with sterile subsurface soil and unseeded, depending on the wishes of the underlying landowner. Reseeding success shall be monitored subject to public land permit stipulations and agreements between the Applicant and individual landowners.	Soil, Vegetation, Weeds, Habitat	Delta County Weed Management Plans (Delta County, 2023); Public Land ROW Permit Stipulations
General BMP	Weed control shall be implemented by the Applicant or its contractor in accordance with the most current Delta County weed control standards and public lands permit stipulations. Noxious weed presence shall be monitored subject to agreements between the Applicant, BLM, and individual landowners, and regulated by Delta County in accordance with county standards. Certified weed-free straw would be applied for soil stabilization.	Soil, Vegetation, Weeds, Habitat	Delta County Weed Management Plans (Delta County, 2023)
General BMP	Straw wattles, silt curtains, cofferdams, dikes, straw bales, or other suitable erosion control measures shall be used to prevent erosion from entering water bodies during construction along the canal and during planting and tree removal at the Habitat Replacement Site.	Water Quality	CWA of 1972 as amended

Type	Environmental Commitment	Affected Resource	Authority
General BMP	Any concrete pours shall occur in forms and/or behind cofferdams to prevent discharge into waterways. Any wastewater from concrete-batching, vehicle wash down, and aggregate processing shall be contained and treated or removed for off-site disposal.	Water Quality	CWA of 1972 as amended
General BMP	The construction contractor shall transport, handle, and store any fuels, lubricants, or other hazardous substances involved with the Project in an appropriate manner that prevents them from contaminating soil and water resources.	Water Quality, Soil	CWA of 1972 as amended
General BMP	Equipment shall be inspected daily and immediately repaired as necessary to ensure equipment is free of petrochemical leaks.	Water Quality, Soil	CWA of 1972 as amended
General BMP	Ground disturbances and construction areas shall be limited to only those areas necessary to safely implement the Project.	Soil, Vegetation, Weeds, Habitat, Wildlife	Archaeological Resources Protection Act of 1979; Paleontological Resources Preservation Act of 2009
General BMP	Pipeline trenches left open overnight shall be kept to a minimum and covered to reduce potential for hazards to the public and to wildlife. Covers shall be secured in place and strong enough to prevent people, livestock, or wildlife from falling through. Where trench covers would not be practical, wildlife escape ramps shall be used.	Wildlife, Public Safety	C.R.S. 33-1-101 to 125 Parks and Wildlife Article 1: Wildlife
General NEPA Compliance	Install a protective, temporary fence along access route on BLM land both east and west of the bridge to confine access and limit disturbance. Ensure construction drawings are marked to include the fenced areas.	Cultural Resources	NHPA of 1966 Archaeological Resources Protection Act of 1979
General NEPA Compliance	If previously undiscovered cultural or paleontological resources are discovered during construction, construction activities must immediately cease in the vicinity of the discovery and Reclamation must be notified. In this event, the SHPO shall be consulted, and work shall not be resumed until consultation has been completed, as outlined in the Unanticipated Discovery Plan in the MOA (see Appendix C). Stipulations in the MOA are incorporated into this Final EA by reference. Additional surveys shall be required for cultural resources if construction plans, or proposed disturbance areas are changed.	Cultural and Paleontological Resources	NHPA of 1966 Archaeological Resources Protection Act of 1979 Paleontological Resources Preservation Act of 2009

Type	Environmental Commitment	Affected Resource	Authority
General NEPA Compliance	Paleontological monitoring will be conducted during construction where bedrock is disturbed, for exposures of the Morrison Formation as well as landslide deposits that consists of partially or wholly intact Morrison Formation. These areas will be marked on the engineering plan set and requirements communicated to bidding contractors. If any subsurface bones or other paleontological resources are encountered when paleontological monitor is not present, work in the immediate area (250ft radius) should cease and the fossils should not be disturbed. Reclamation and the BLM Paleontology Coordinator (for discovery on BLM-managed land) should be notified immediately, and a BLM permitted paleontologist contacted to evaluate the significance of the fossil discovery. A paleontological mitigation and monitoring plan shall be developed as part of the Plan of Development and include: 1). A worker environmental awareness program to educate projects crews on regulations and reporting procedures for fossil discoveries; 2). Detailed descriptions and maps of locations that require paleontological monitoring; 3). Communication protocols and chain of command for fossil discoveries; 4). Mitigation measures in the event that fossils require collection.	Paleontological Resources	Paleontological Resources Preservation Act of 2009
General NEPA Compliance	During Section 1 construction, the Applicant will contract with a qualified biologist to conduct raptor nest monitoring for two known unoccupied golden eagle nests to prevent construction impacts. Construction monitoring will occur at 10 to 14 day intervals to begin on December 15 and continue through the end of March (or until all construction activity- including access activities- are complete and not occurring on BLM-managed land). Monitoring will be conducted from an observation point designated by the BLM (contained in project planning records). A breeding area should not be recorded as unoccupied until the end of March to ensure adequate survey opportunities for nest fate determination. While working, if an active avian nest is discovered or the known golden eagle nest becomes active, work will cease and the USFWS and BLM authorized officer will be contacted. Timing restrictions for active raptor nests will be applied in conformance with the UFO RMP (2020). Golden eagle timing restrictions for surface disturbing activities, surface use and disruptive activities are from December 15 - July 15.	Wildlife	Bald and Golden Eagle Protection Act of 1940.

Type	Environmental Commitment	Affected Resource	Authority
General NEPA Compliance	In the event that previously undocumented raptor nests within ½ mile of the Project Area, or threatened or endangered species are encountered during construction, the contractor shall stop construction activities until Reclamation has consulted with USFWS and a BLM authorized officer will be contacted to ensure that adequate measures are in place to avoid or reduce impacts to the species.	Threatened and Endangered Species	ESA of 1973 as amended, MBTA of 1918 Bald and Golden Eagle Protection Act of 1940
General NEPA Compliance	Construction activities shall take place only in accordance with the schedule restrictions outlined in this EA and summarized in Table 5. These schedule restrictions and their spatial extents shall be clearly marked on the Project construction drawings.	Wildlife	MBTA of 1918; Bald and Golden Eagle Protection Act of 1940
General NEPA Compliance	Minimize grubbing and clearing of vegetation to what is minimally required for safe construction; avoid or minimize the loss of cottonwood trees in the canyon area along the Gunnison River.	Soil, Vegetation, Wildlife	UFO BLM RMP, MBTA of 1918; Bald and Golden Eagle Protection Act of 1940
General BMP	Following construction, except where the maintenance road would be retained along the western and middle horse-shoe bends, all disturbed areas shall be smoothed with tracked equipment (without back dragging blade), shaped, and contoured to as near to their pre-project conditions as practicable.	Soil, Vegetation, Weeds, Habitat	CWA of 1972 as amended
Design Feature	All drainage patterns that intersect the ditch shall be shaped to their natural flow patterns following ditch piping.	Soil, Vegetation, Habitat	CWA of 1972 as amended
General BMP	All equipment shall be cleaned before it is transported to another job site, to avoid introducing weed species from the construction area to another job site.	Vegetation, Weeds, Habitat	Delta County Weed Management Plans (Delta County, 2023)

CHAPTER 5 – CONSULTATION AND COORDINATION

5.1 Introduction

Reclamation's public involvement process presents the public with opportunities to obtain information about a given project and allows interested parties to participate in the project through written comments. This chapter discusses public involvement activities taken to date for the Proposed Action.

5.2 Public Involvement

Notice of the public review period (November 21, 2024 – December 21, 2024) and availability of the Draft EA was distributed to private landowners adjacent to the Proposed Action, and the organizations and agencies listed in Appendix E. The publicly available electronic version of the Draft EA met the technical standards of Section 508 of the Rehabilitation Act of 1973, so that the document could be accessed by people with disabilities using accessibility software tools. Public comments were received and can be viewed, along with comment responses from Reclamation, in Appendix E.

CHAPTER 6 – PREPARERS

Table 10. Preparers

Name	Agency	Title	Areas of Responsibility
Jennifer Ward	Reclamation	Environmental Group Chief	EA Review, General Authorship
Cassandra Shenk	Sundance Consultants, LLC (Consultant to the Ditch Companies)	NEPA Project Manager	Project Management, Primary Author
Cristi Painter	Sundance Consultants, LLC (Consultant to the Ditch Companies)	NEPA Project Manager	Resource Specialist, Contributing Author
Leo Lentsch	Sundance Consultants, LLC (Consultant to the Ditch Companies)	Vice President Natural Resources and Planning	Sr. Technical Review
Matt Rice	Sundance Consultants, LLC (Consultant to the Ditch Companies)	Sr. Natural Resource Project Manager	Sr. Technical Review
Steve Gehring	Sundance Consultants, LLC (Consultant to the Ditch Companies)	Technical Editor	Review and Formatting

CHAPTER 7 – REFERENCES

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CHAPTER 8 – ABBREVIATIONS AND ACRONYMS

Acronym	Definition
BLM	Bureau of Land Management
BMP	best management practices
CAA	Clean Air Act
CCR	Code of Colorado Regulations
CDOT	Colorado Department of Transportation
CDPHE	Colorado Department of Public Health and Environment
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
cfs	cubic feet per second
CO	carbon monoxide
CPW	Colorado Parks and Wildlife
CRSP	Colorado River Storage Project
CWA	Clean Water Act
EA	Environmental Assessment
ESA	Endangered Species Act
EO	Executive Order
EPA	Environmental Protection Agency
FLPMA	Federal Land Policy and Management Act
FMC	Fire Mountain Canal
FONSI	Finding of No Significant Impact
FPMA	Federal Land Policy and Management Act of 1976
GIS	Geographic Information System
GRI	Grand River Institute
HDPE	High-density polyethylene
HQS	habitat quality score
HRP	Habitat Replacement Plan
HUC	Hydrologic Unit Code
IPaC	Information for Planning and Consultation
MOA	Memorandum of Agreement
MBTA	Migratory Bird Treaty Act
NAAQS	National Ambient Air Quality Standards
NCA	National Conservation Area
NDIC	North Delta Irrigation Company
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO_x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NPDES	National Pollutant Discharge Elimination System

Acronym	Definition
OHV	off-highway vehicle
PA	Programmatic Agreement
PBO	Programmatic Biological Opinion
$PM_{2.5}$	particulate matter (with a diameter of 2.5 micrometers or less)
PM_{10}	particulate matter (with a diameter of 10 micrometers or less)
PPE	Polypropylene
Project	Phase 2 Salinity Control Project
PRPA	Paleontological Resource Preservation Act
PVC	Polyvinyl chloride
PYFC	Potential Fossil Yield Classification
RCPP	Regional Conservation Partnership Program
Reclamation	Bureau of Reclamation
RGP-5	Regional General Permit 5
RMP	Resource Management Plan
ROW	Rights-of-way
SMP	Selenium Management Program
SMPW	Selenium Management Program Workgroup
SHPO	State Historic Preservation Office
THV	Total Habitat Value
UFO	Uncompahgre Field Office
USACE	U.S. Army Corps of Engineers
U.S.C.	U.S. Code
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VRM	Visual Resource Management
WOTUS	Waters of the U.S.

APPENDICES

Appendix A- Seed List
Appendix B- Supplemental Biological Information for Sensitive Species (including ESA Compliance Documentation)
Appendix C- Cultural Resource Compliance Documentation
Appendix D- Distribution List
Appendix E- Summary of Comments on Draft EA and Responses
Appendix F- Summary of Habitat Replacement Accounting for Salinity Control Projects in the Region

Appendix A. Seed List

BLM Standard Native Seed Mix For Adobe-Type Soils
Below 6500'

Price and seed availability vary, so not all species may be available at the time you need them, or priced affordably. However the major ones should usually available. The rate shown below is for a drilled seeding, or some other method that incorporates the seed into the soil. Rates should be doubled if the seed is to be aerially applied. If price or availability is a concern, reduce or leave out those species and increase percentages of remaining species correspondingly (column A in table below, total to this column should equal 100%, carry through changes in columns B, D, and E following instructions under column headings).

BLM places the following requirements on seed mixes which are put on BLM lands:

1) Use the following minimum PLS (Pure Live Seed) tolerances

PLS tested %	Tolerance % points
81-100	-7
61-80	-6
41-60	-5
21-40	-4
0-20	-3

2) All seed must comply with BLM and Colorado weed seed guidelines. There should be no prohibited species seed, and no more than allowable levels of restricted species seed. In addition, there should be no more that 0.5% total weed seed, less than 2% other seed, and no trash larger than ¼" in length. Seed shall not be stored in burlap bags.
3) The UFO places additional local restrictions on seed to minimize cheatgrass spread. If seed tests show any *Bromus tectorum* or *Bromus japonicus*, the BLM should be consulted with for approval. No mix placed on BLM shall contain more than 150 *Bromus tectorum* and/or *Bromus japonicus* seeds per pound.
4) BLM requires additional seed tests on seeding projects that are greater than 20 acres and/or require over 200 lbs of seed. For these seeding projects, the project proponent should have the seed supply company store the purchased seed prior to mixing, and pull samples to be sent to a certified laboratory, such as Colorado State Laboratory at the following address. Seed test results must comply with the criteria listed above before seed is mixed, shipped and applied to the project area:

   Wyoming State Laboratory
   749 Road 9
   Powell, WY 82435

5) BLM will need copies of seed tags and test results for all seed applied regardless of project size.
6) Only State Certified weed free mulch shall be used

	A	B	C	D	E
Species	Desired % of planting	Multiplier (A x 0.01)	PLS lbs for full stand	PLS lbs per acre needed for mix (B x C)	PLS lbs per acre for project (D x # acres)
Bottlebrush squirreltail *(Elymus elemoides)*	25	0.25	16	4	
Western Wheatgrass *(Pascopyrum smithii)* Variety Arriba	25	0.25	10	2.5	
Galleta Grass (*Hilaria* or *Pleuraphis jamesii*)	10	0.1	16	1.6	
Indian Ricegrass *(Acnatherum hymenoides)* Variety Paloma	10	0.1	32	3.2	
Salina Wildrye *(Leymus salinus)*	5	0.05	8	0.4	
Scarlet Globemallow *(Sphaeralcea coccinea)*	2	0.02	6	0.12	
Annual sunflower (*Helianthus annuus*)	3	0.03	10	0.3	
Winterfat (*Eurotia* or *Krascheninnikovia lanata)*	5	0.05	5	0.25	
Shadscale *(Atriplex confertifolia)*	5	0.05	5	0.25	
Mat saltbush (*Atriplex corrugate*)	5	0.05	6	0.3	
Gardner saltbush (*Atriplex gardneri*)	5	0.05	5	0.25	
Totals	100	1.0		13.17	

Appendix B Supplemental Biological Information for Sensitive Species (including ESA Compliance Documentation)

Sundance Consulting Inc.

TECHNICAL MEMORANDUM

TO: Jenny Ward/U.S. Bureau of Reclamation, Western Area Office

FROM: Matt Rice, Sundance Consulting, Inc.

DATE: **April 4, 2025**

SUBJECT: Biological Evaluation for North Delta Canal Salinity Control Project, Phase 2

This Biological Evaluation (BE) (enclosed) provides additional biological information related to the potential effect of the North Delta Canal Salinity Control Project, Phase 2, on federally listed, proposed, and candidate species; migratory birds and raptors; critical habitats and Bureau of Land Management (BLM) sensitive species.

Biological Evaluation
North Delta Canal Salinity Control Project
Phase 2
Delta County, Colorado

Prepared for:

Bureau of Reclamation, Western Colorado Area Office
445 West Gunnison Ave, Suite 221
Grand Junction, CO 81501

Prepared by:

Sundance Consultants, LLC
333 S. Main Street, Suite 20
Pocatello, ID 83204

April 2025

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List of Acronyms

Acronym	Definition
BE	Biological Evaluation
BLM	Bureau of Land Management
cfs	cubic feet per second
CPW	Colorado Parks and Wildlife
ESA	Endangered Species Act
GIS	geographic information system
HPH	High Priority Habitat
IPaC	Information for Planning and Consultation
MBTA	Migratory Bird Treaty Act
NDIC	North Delta Irrigation Canal
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
PBO	Gunnison River Basin Programmatic Biological Opinion
PP	Photo Point
Project	North Delta Canal Phase 2 Salinity Control Project
Reclamation	Bureau of Reclamation
Recovery Program	Upper Colorado River Endangered Fish Recovery Program
U.S.C.	U.S. Code
USFWS	U.S. Fish and Wildlife Service
USFS	U.S. Forest Service
USGS	U.S. Geological Survey

Chapter 1 - Executive Summary

The North Delta Canal Phase 2 Salinity Control Project ("Project") is designed to reduce salinity loading within the Gunnison and Colorado river basins through canal piping and lining improvements, contributing to improved local and regional water quality. The Project is part of a larger effort to comply with the Colorado River Basin Salinity Control Act of 1974 (Public Law 93-320), addressing regional water quality concerns by reducing salinity levels in critical waterways. Modifications to the North Delta Irrigation Canal (NDIC) infrastructure aim to support local agriculture and improve downstream ecosystems impacted by high salinity and selenium levels (Bureau of Reclamation [Reclamation], 2017; Reclamation, 2024). The Project is located in the southwestern part of Delta County, Colorado, near the city of Delta and the town of Austin (Figure 1). The Project consists of two components: salinity control improvements and habitat replacement; the Project Area is the limits of disturbance, plus a 100-foot buffer.

This Biological Evaluation (BE) assesses the Project's potential effects on federally listed, proposed, and candidate species; migratory birds and raptors; and critical habitats within the Project's Action Area (the Project Area, including a 500-meter buffer; Figures 2A and 2B) ensuring compliance with the Endangered Species Act (ESA), the Migratory Bird Treaty Act (MBTA), and the Bald and Golden Eagle Protection Act. This BE also provides an assessment of effects on Bureau of Land Management (BLM) Sensitive Species.

This BE provides an assessment of project elements, identifying potential impacts to species and proposing design criteria and mitigation strategies. Determinations made in this BE are based on field investigations conducted in April and June 2024 and the professional judgement of experienced biologists who drafted and reviewed this document. Based on the lack of suitable habitat and the implementation of design criteria and mitigation strategies, the project is expected to have "**no effect**" on the 11 federally listed, proposed or candidate species.

Chapter 2 - Project Description

The Project, managed by the NDIC, includes improvements for salinity control in two sections of the canal: Section 1 (eastern upper section) and Section 2 (western lower section) (Figure 1). Measures to protect soils from direct contact with irrigation water for both sections include piping, lining, or installing siphons or piped sections and abandoning horseshoe bends in the open canal (Applegate Group Inc., 2024). In addition, a 9.6-acre Habitat Replacement Site would be constructed to implement habitat replacement procedures.

- **Section 1 (Austin, CO):** This area includes 1.21 miles of shotcrete lining and 1.01 miles of gravity piping improvements. The upstream section runs along a narrow canyon area above the Gunnison River and agricultural lands along the Highway 92 corridor east of Austin, Colorado. Portions of this section transect a historical, prescriptive easement on BLM-managed land (Applegate Group Inc., 2023; Figure 2A). Photographs of Section 1 are included in Appendix A.
- **Section 2 (Delta, CO):** Section 2 involves 1.11 miles of shotcrete lining, 0.15 mile of large-diameter gravity pipeline improvements, 0.62 mile total of siphon installation in

three locations, and abandonment/decommissioning of 1.22 miles of open ditch. This section traverses gently sloping semi-desert shrublands adjacent to agricultural lands (Applegate Group Inc., 2023; Figure 2B). Photographs of Section 2 are included in Appendix A.

- **Habitat Replacement**: A Habitat Replacement Site about 7 miles east of Section 1 would reestablish adequate habitat to support fish and wildlife species impacted by the piping component of the Project (Figure 3). Activities would include enhancing diversity and connectivity by establishing cottonwood stands and mid-story native vegetation within a 9.5-acre area along Big Gulch, a perennial drainage connecting undeveloped benched areas and terraces with the Gunnison River.

Figure 1. Project Overview ***North Delta Salinity Control Project-Phase 2***

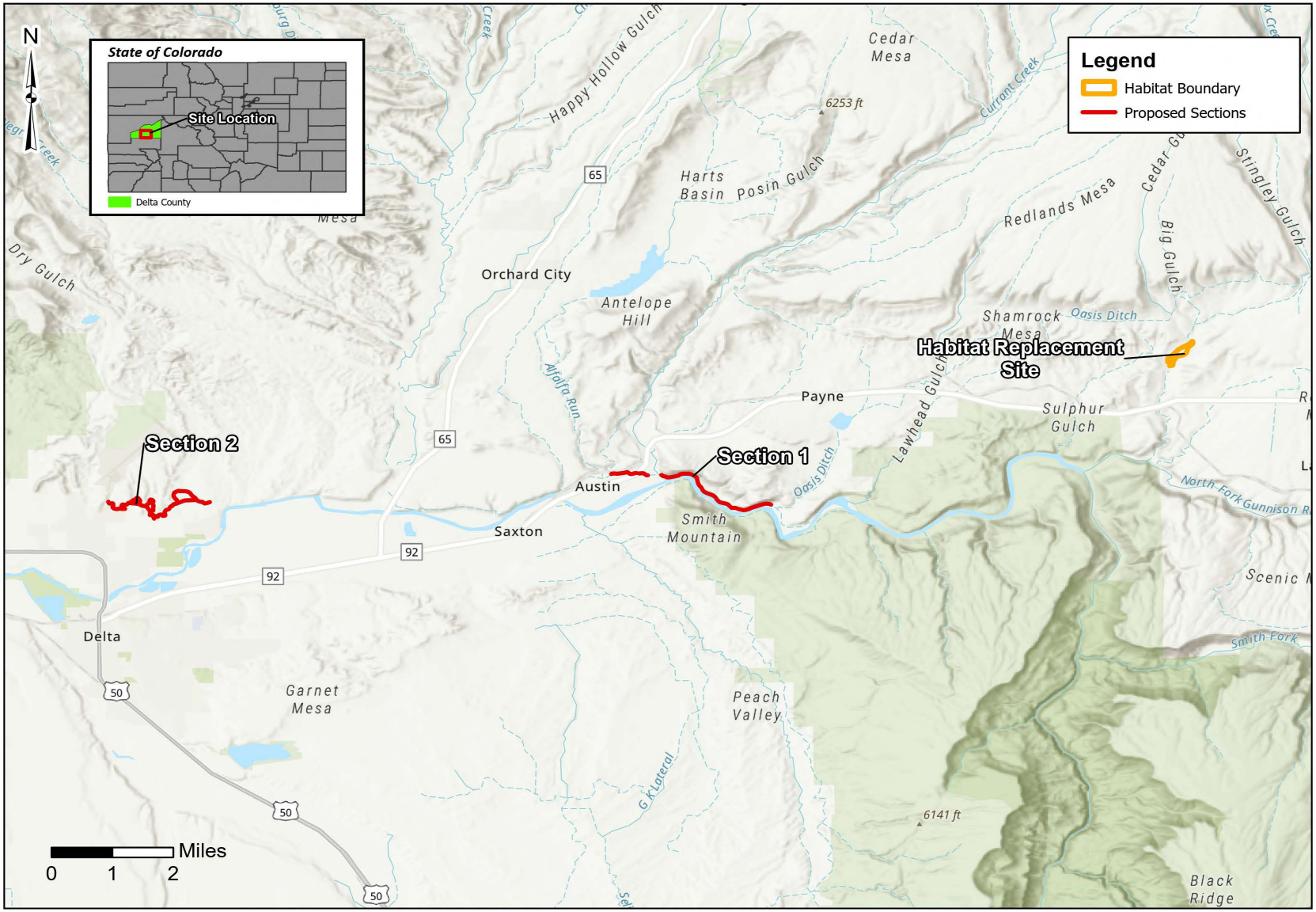


Figure 2A. Action Area Map, Section 1

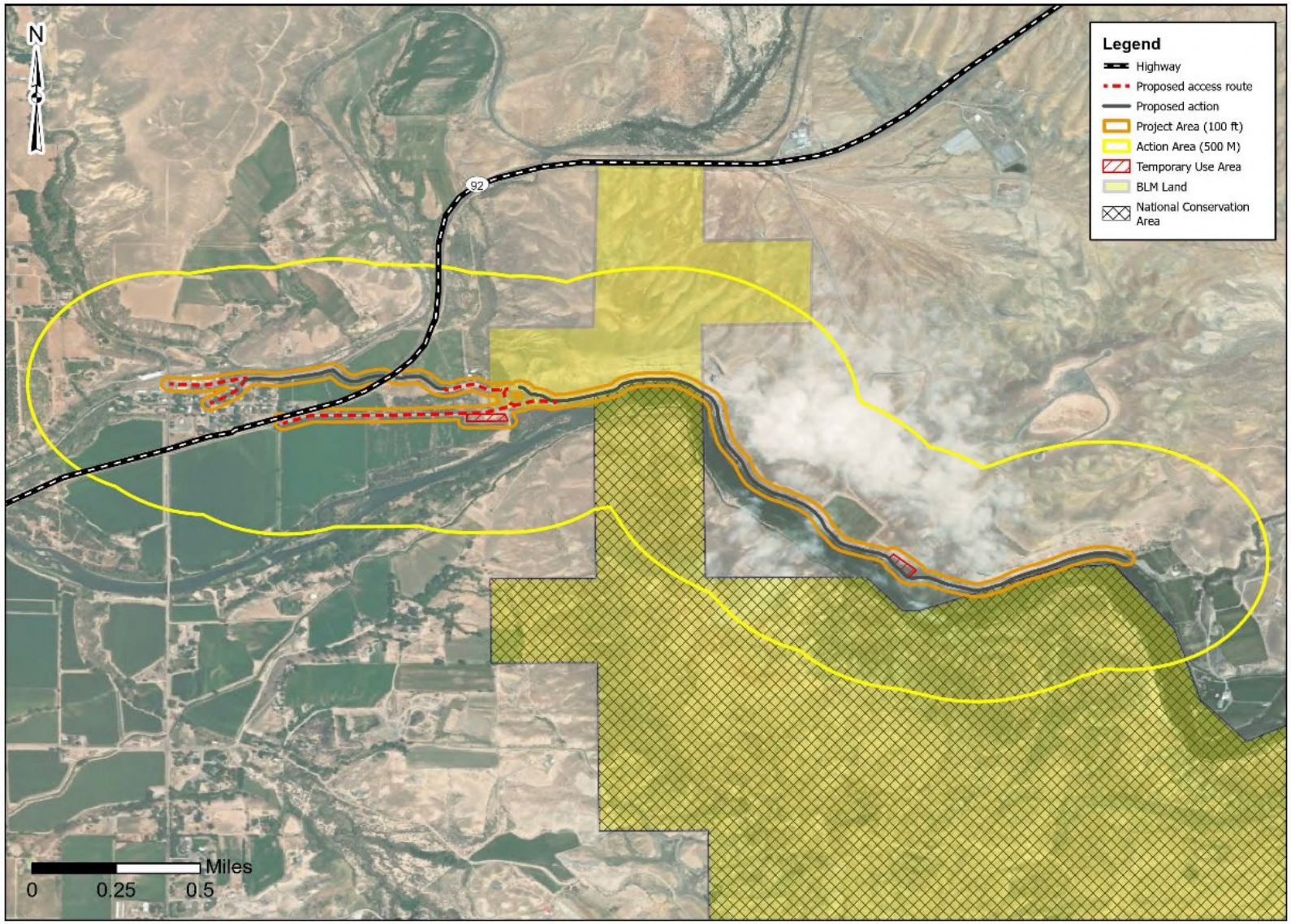


Figure 2B. Action Area Map, Section 2

North Delta Salinity Control Project-Phase 2

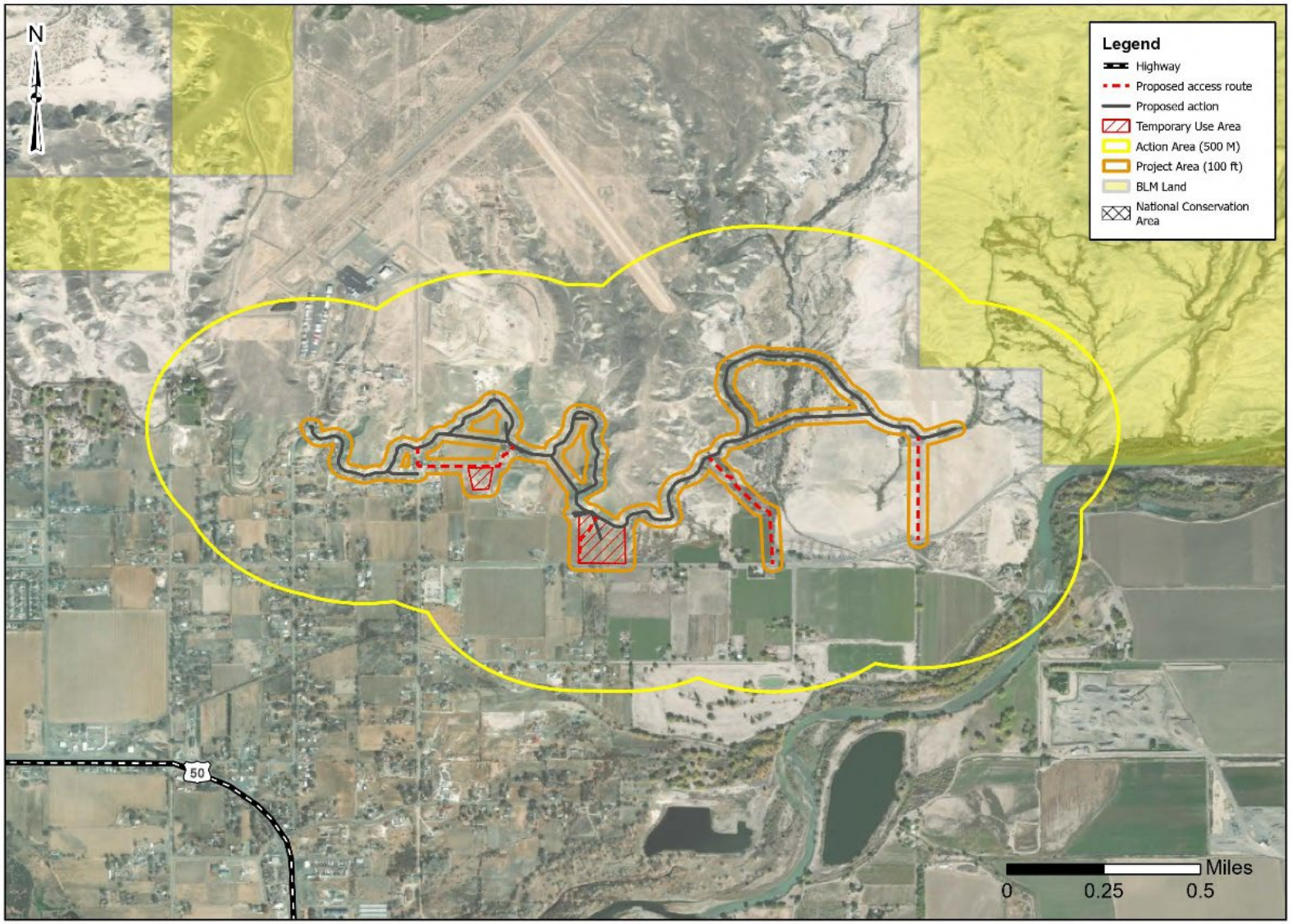
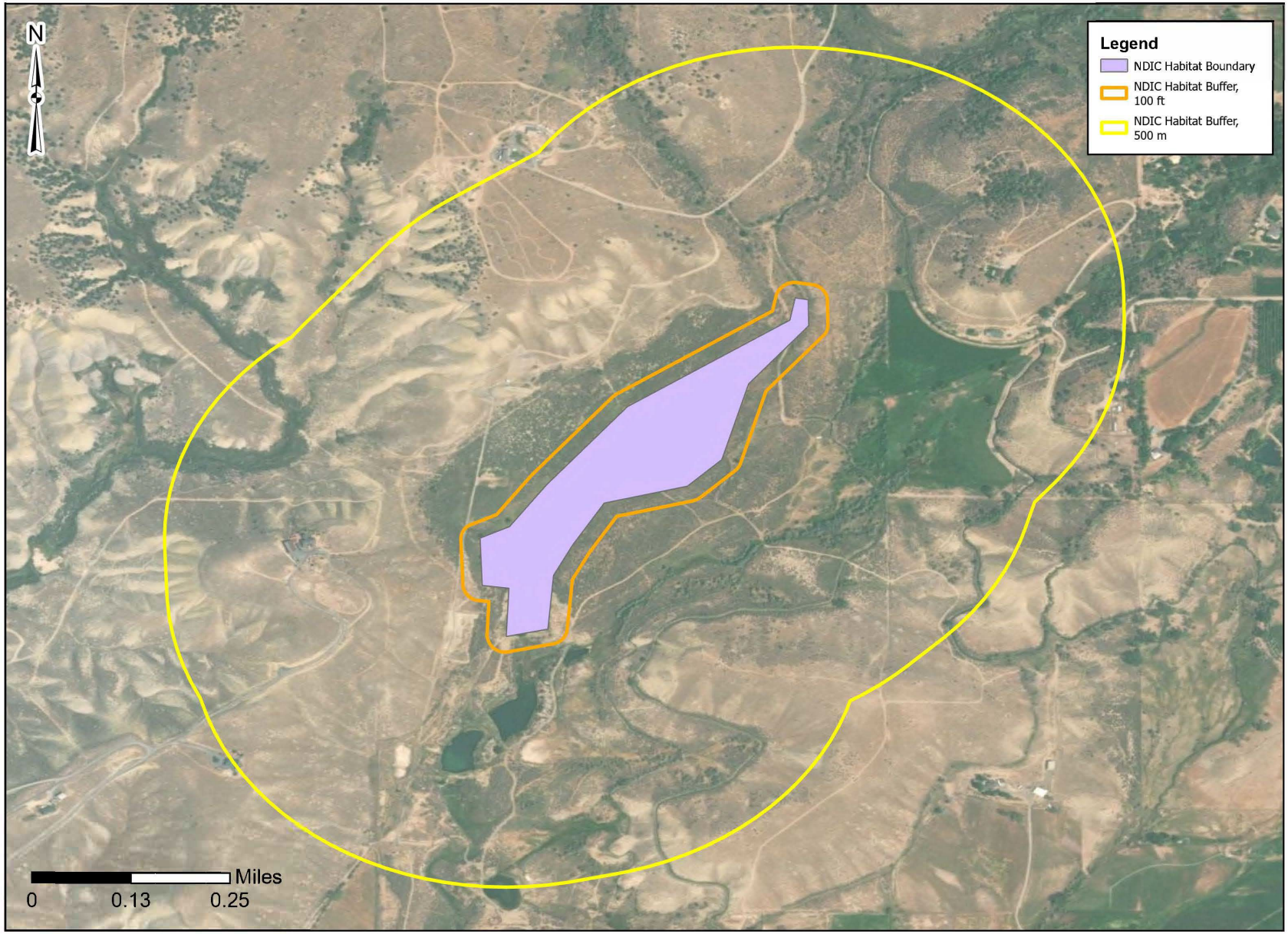


Figure 3. Habitat Boundary Map

North Delta Salinity Control Project-Phase 2



2.1 Applicant-Committed Design Criteria

NDIC has committed to specific design criteria to protect sensitive species and reduce the project's environmental footprint. Key design features include:

- **Minimize Disturbance**: Vegetation removal shall be confined to the smallest portion of the Project Area necessary for completion of work. Construction limits shall be clearly flagged or marked onsite to avoid unnecessary plant loss or ground disturbance. No grading or blading shall occur inside the project right-of-way other than that necessary within the actual construction footprint.
- **Timing Restrictions:** All ground clearing (tree grubbing and vegetation removal) shall be timed to occur outside of the primary migratory bird nesting season (April 1 to July 15). The eastern portion of Section 1 will avoid March 15 to July 31 to protect peregrine falcons known to occupy the canyon area. This timing restriction shall be noted on Project construction drawings.
- **Construction Monitoring:** A qualified biologist will perform raptor nest monitoring for two unoccupied golden eagle nests in the Project Area during construction activities between December 15 and March 31 in the canyon area along the eastern portion of Section 1. Monitoring frequency will be 10 to 14 days throughout the construction, starting on approximately December 15, from an observation location contained in the Project planning records.
- **Erosion and Sediment Control:** Silt fences, straw wattles, and sediment traps shall minimize soil displacement and prevent sediment runoff into waterways.
- **Air Quality**: Water for dust suppression shall be used to manage construction dust, and equipment idling shall be minimized.
- **Water Quality**: Any concrete pours shall occur in forms and/or behind cofferdams to prevent discharge into waterways. Any wastewater from concrete-batching, vehicle wash down, and aggregate processing shall be contained and treated or removed for off-site disposal. The construction contractor shall transport, handle, and store any fuels, lubricants, or other hazardous substances involved with the Project in an appropriate manner that prevents them from contaminating soil and water resources. Equipment shall be inspected daily and immediately repaired as necessary to ensure equipment is free of petrochemical leaks.
- **Wildlife:** Pipeline trenches left open overnight shall be kept to a minimum and covered to reduce potential for hazards to the public and to wildlife. Covers shall be secured in place and strong enough to prevent people, livestock, or wildlife from falling through. Where trench covers would not be practical, wildlife escape ramps shall be used.
- **Sensitive Species:** In the event that previously undocumented threatened or endangered species are encountered during construction, the contractor shall stop construction activities until Reclamation has consulted with U.S. Fish and Wildlife Service (USFWS) to ensure that adequate measures are in place to avoid or reduce impacts to the species. If a previously undocumented active raptor nest is discovered within 1/2 mile of the Project Area during construction, construction shall cease until Reclamation can complete consultations with Colorado Parks and Wildlife (CPW), USFWS, and BLM, as appropriate.
- **Weed Control:** Weed control shall be implemented by the Applicant or its contractor in accordance with the most current Delta County weed control standards and public lands

permit stipulations. Noxious weed presence shall be monitored subject to agreements between the Applicant, BLM, and individual landowners, and regulated by Delta County in accordance with county standards.

- **Vegetation Restoration:** Native species shall be planted post-construction to stabilize soil and restore disturbed habitats. Disturbed areas shall be recontoured and either topsoiled and reseeded with a seed mix appropriate for the surrounding vegetation community or finished with sterile subsurface soil and unseeded, depending on the wishes of the underlying landowner. Reseeding success shall be monitored subject to public land permit stipulations and agreements between the Applicant and individual landowners.
- **Habitat Replacement:** Per Salinity Control Act requirements, habitat values impacted by the project will be replaced at a Habitat Replacement Site.

2.2 Project and Action Area Definitions

- **Project Area:** The Project Area includes all canal sections and lands adjacent to the canal where disturbance may occur as a result of access, construction, staging, and restoration activities, and the Habitat Replacement Site, including a 100-foot buffer around these areas. The total Project Area is approximately 227 acres.
- **Action Area:** The Action Area includes a 500-meter buffer around the Project Area, to incorporate the Project's potential impacts from noise or dust. The total Action Area is approximately 2,931 acres.

Chapter 3 - Consultation History

The upper Colorado River Basin has three fish species listed as endangered: bonytail chub, Colorado pikeminnow, and razorback sucker; and one listed as threatened: humpback chub. Decline of these fish species is due, at least in part, to habitat destruction (diversion and impoundment of rivers) and competition and predation from introduced fish species. In 1994, the USFWS designated critical habitat for the four endangered fish species in the Federal Register (56 FR 54957-54967), which in Colorado includes the 100-year floodplain of the upper Colorado River from Rifle to Lake Powell, and the Gunnison River from the city of Delta to the city of Grand Junction.

Water depletions in the Gunnison River Basin have the potential to diminish backwater spawning areas in downstream designated critical habitat in the Colorado River Basin, directly affecting four federally listed Colorado River fishes and the extent and quality of their designated critical habitat. Previously issued biological opinions by the USFWS state that all depletions within the upper Colorado River Basin may adversely impact the four listed fishes. The Upper Colorado River Endangered Fish Recovery Program (Recovery Program) was established in 1988 as a partnership of public and private organizations working to recover the four species while allowing continued and future water development. The Gunnison River Basin Programmatic Biological Opinion (PBO) issued by USFWS in 2009, found that the Recovery Program is the reasonable and prudent alternative to avoid jeopardy to the listed Colorado River fishes and avoid adverse modification of designated critical habitat (USFWS, 2009).

The NDIC has a historic depletion of approximately 30.000 cfs from the Forked Tongue Creek, and 49.675 cfs from the Gunnison River. The NDIC and the USFWS have completed consultation regarding depletions to the Colorado River associated with the diversion of water for the purposes of irrigation. A recovery agreement was executed on October 15, 2018, between the NDIC and the USFWS (TAILS 06E24100-2018-F-0161) (Appendix B). The recovery agreement acknowledges NDIC's historic depletions associated with diversions from Forked Tongue Creek and the Gunnison River are governed by the provisions of a 2009 PBO (USFWS, 2009). Specific water rights for the NDIC are included in Table 1.

Table 1. Water Rights Pertaining to the North Delta Canal

Water Right Name	Water Source	Adjudicated Date	Appropriation Date	Decreed Amount (Cubic Feet/Second)
North Delta Canal	Gunnison River	06/23/1914	02/24/1901	49.675
North Delta Canal	Forked Tongue Creek	05/28/1954	08/16/1936	30.000

Chapter 4 - Methods

The BE's methodology integrates pre-field research, field surveys, and geographic information system (GIS) data analysis to document existing environmental conditions within the project area and potential project impacts (USFWS, 2024a; USFWS, 2024b; USFWS, 2024c; USFWS, 2024d; USFWS, 2025; CPW, 2024). Prior to field work, a list of sensitive species that may occur in the Project Area according to the USFWS's Information for Planning and Consultation (IPaC) (Appendix C), as well as CPW's High Priority Habitat (HPH) data, was compiled. The IPaC also generated a list of migratory birds/Birds of Conservation Concern that have potential to occur in the Project Area (USFWS 2025). Mapped critical habitat information was obtained from USFWS's Environmental Conservation Online System (USFWS, 2024c). Soil and vegetation conditions were evaluated, and potentially sensitive wetland and riparian areas identified based on their potential to occur in the project area (USFWS, 2024a; Natural Resources Conservation Service [NRCS], 2024; Lyon and Williams, 1998). GIS analysis integrated data from multiple sources to create a spatial representation of species distribution, land cover, and habitat connectivity.

Field surveys of the project area were conducted in April 2024 (Section 1), June 2024 (Section 2), and September 2024 (Habitat Replacement Site). The surveys included a pedestrian survey of the Project Area and visual surveys of the surrounding Action Area. Surveys were conducted for all sensitive species, as well as their habitat, with the potential to occur in the Project Area including the threatened Colorado hookless cactus (*Sclerocactus glaucus*), clay-loving wild buckwheat (*Eriogonum pelinophilum*), the monarch butterfly (*Danaus plexippus)* or showy milkweed (*Asclepias speciosa*), host plant for the monarch butterfly, the silverspot butterfly (*Speyeria nokomis nokomis*) or bog violet (*Viola nephrophylla*), host plant for the silverspot butterfly, raptor nests, migratory bird habitat, including habitat for the yellow-billed cuckoo (*Coccyzus americanus)*, and BLM-sensitive species or their habitat. Trees within the Project

Area, as well as within line of sight of the Project Area, up to ½ mile, were surveyed for raptor nests.

Chapter 5 - Existing Habitat Conditions

5.1 Existing Land Use

The NDIC Project Area encompasses diverse land uses. Surrounding developed lands consist of a mix of cultivated fields, grazing lands, residential areas and streets, and the Highway 92 transportation corridor (Figure 1). Undeveloped areas include primarily semi-desert shrublands and the Gunnison River corridor and canyon area (Lyon and Williams, 1998). Irrigation practices shape land use and conditions in the Action Area and surrounding landscape, with some canal seepage creating micro-habitats along the canal edges and downgradient from the canal (Sundance, 2024). Limited riparian vegetation along the canal contributes modestly to local habitat diversity.

5.2 Topography

The Project spans two distinct segments and a Habitat Replacement Site, each with unique topographic characteristics:

- **Section 1** runs parallel to the Gunnison River, traversing narrow, rocky terrain. The topography is rugged, with steep slopes leading into sparse riparian zones along the riverbanks. This variation in elevation influences erosion patterns and determines vegetation density, with rocky outcrops limiting plant cover in some areas (Lyons and Williams, 1998).
- **Section 2** lies on the dry adobe slopes north of Delta, Colorado. Compared to Section 1, it has broader, flatter landscapes marked by intermittent gullies and shallow ravines. The Mancos Shale-based slopes influence soil properties, affecting both salinity levels and water retention, which directly impact vegetation composition (USGS, 2009; NRCS, 2024).
- **Habitat Replacement Site** is along a gently-sloping, perennial gulch transecting a terrace above the Gunnison River.

5.3 Soils and Geology

Soils in the Project Area are predominantly derived from Mancos Shale, characterized by high salinity and susceptibility to erosion. The following describes the characteristics of the Project Area soils:

- **Silty Clays:** These soils, commonly found along the canal, exhibit poor drainage and high compatibility, particularly in irrigated areas. High clay content in these soils contributes to salinity runoff, affecting downstream water quality (USGS, 2009; NRCS, 2024).
- **Sandy Loams:** Less prevalent but located primarily on Section 1 slopes, sandy loams provide better drainage, although they are more erosion-prone, especially on steep inclines (NRCS, 2024).

These soil characteristics create challenging conditions for vegetation, particularly in areas with high salinity, which limits the range of plant species that can thrive (USGS, 2009; NRCS, 2024).

5.4 Vegetation

In general, landcover surrounding the Project Area consists of developed residential areas, irrigated pastures, disturbed ruderal areas, semi-desert shrublands, shrub riparian vegetation, and bare or sparsely vegetated landscapes due to disturbance, natural soil conditions, or steep canyon topography. The area supports a mix of native and non-native plants, including invasive weed species common in disturbed and agricultural landscapes. Natural upland vegetation is dominated by shadscale (*Atriplex confertifolia*), rabbitbrush (*Ericameria sp.*), greasewood (*Sarcobatus vermiculatus*), and various upland grasses.

Water flowing seasonally in the canal has created narrow margins of riparian habitat due to water seepage. This riparian habitat is vegetated with reed canary grass (*Phalaris arundinacea*) and intermittent occurrences of various rushes, Russian olive (*Elaeagnus angustifolia*), tamarisk (*Tamarix spp*.), and narrowleaf willow (*Salix exigua*). Along Section 1, the riparian corridor of the Gunnison River is directly adjacent and downgradient of the canal and is vegetated with wood's rose (*Rosa woodsii*), Russian olive, and stands of narrowleaf cottonwood (*Populus angustifolia*) and plains cottonwoods (*Populus deltoides*). Several dense patches of three-leaved sumac (*Rhus triolobata*) are common around the margins of the riparian vegetation and beneath the cottonwood stands. Riparian vegetation is similar along Section 2, with weedy areas especially thick with spotted knapweed (*Centuraea stoebe*). Downgradient from Section 2, canal seepage is suspected to support several patches of willow and tamarisk, and several herbaceous swales dominated by desert saltgrass (*Distichlis spicata*) and alkali muhli (*Muhlenbergia asperifolia*). The Habitat Replacement Site consists of wetland species such as showy milkweed, reed canary grass, and noxious weeds, including Canada thistle (*Circium arvense*) and Russian olive.

Weeds identified as noxious by the Colorado Department of Agriculture in the Project Area include Russian olive, Russian knapweed (*Acroptilon repens*), spotted knapweed, Canada thistle, and tamarisk, which can dominate local ecosystems and outcompete native vegetation (Colorado Department of Agriculture, 2024).

Chapter 6 - Threatened and Endangered Species and Critical Habitat

A total of eleven federally listed, proposed and candidate species known to inhabit or potentially utilize the Gunnison River ecosystem were identified through the USFWS IPaC tool (USFWS, 2025; Appendix C), and are listed below (Table 2).

Table 2. Federally Listed and Candidate Species, and Potential to Occur in the Action Area

Species (Common Name and Scientific Name)	Status	Habitat Description	Habitat Suitability and Potential Effects
Yellow-billed cuckoo (*Coccyzus americanus*)	Threatened	Deciduous riparian woodlands, with dense cottonwood and willow, and sometimes tamarisk/Russian olive. Winters in South America.	Vegetation within the Action Area does not meet the habitat requirements for nesting cuckoos, although foraging may occur in or near the Action Area. Any disturbance associated with construction would occur outside the primary nesting period (June 1 through August 31), which would eliminate the risk of direct disturbance to foraging or nesting cuckoos. The proposed Project would have **no effect** on the yellow-billed cuckoo.
Bonytail chub (*Gila elegans*)	Endangered	Found within the Colorado River and its tributaries in slow-moving, deep river sections and canyon areas, as well as backwater habitats just outside the main river current (USFWS, 2002).	No suitable aquatic habitat within the Action Area. The NDIC has consulted with the USFWS regarding depletions associated with the use of water for irrigation; a recovery agreement is provided in Appendix D, acknowledging all NDIC depletions are governed by the provisions of a 2009 Programmatic Biological Opinion for the Gunnison Basin (USFWS, 2009). The proposed Project is expected to have **no new effect** on the bonytail chub.
Humpback chub (*Gila cypha*)	Threatened	Found within the Colorado River and its tributaries in deep canyon sections of large rivers with fast currents and rocky habitat (USFWS 2018).	No suitable aquatic habitat in the Action Area. The NDIC has consulted with the USFWS regarding depletions associated with the use of water for irrigation; a recovery agreement is provided in Appendix D, acknowledging all NDIC depletions are governed by the provisions of a 2009 Programmatic Biological Opinion for the Gunnison Basin (USFWS, 2009). The proposed Project is expected to have **no new effect** on the humpback chub.
Colorado pikeminnow (*Ptychocheilus lucius*)	Endangered	Found within the Colorado River and its tributaries in wide sections with slow-moving backwaters and pools (USFWS 2024b).	No suitable aquatic habitat in the Action Area. The NDIC has consulted with the USFWS regarding depletions associated with the use of water for irrigation; a recovery agreement is provided in Appendix D, acknowledging all NDIC depletions are governed by the provisions of a 2009 Programmatic Biological Opinion for the Gunnison Basin (USFWS, 2009). The proposed Project is expected to have **no new effect** on the Colorado pikeminnow.

Species (Common Name and Scientific Name)	Status	Habitat Description	Habitat Suitability and Potential Effects
Razorback sucker (*Xyrauchen texanus*)	Endangered	Found within the Colorado River and its tributaries in warm water regions, lakes, floodplains, flatwater river sections and reservoirs (USFWS 2024b).	No suitable aquatic habitat in the Action Area. The NDIC has consulted with the USFWS regarding depletions associated with the use of water for irrigation; a recovery agreement is provided in Appendix B, acknowledging all NDIC depletions are governed by the provisions of a 2009 Programmatic Biological Opinion for the Gunnison Basin (USFWS, 2009). The proposed Project is expected to have **no new effect** on the razorback sucker.
Monarch butterfly (*Danaus plexippus*)	Candidate	Open fields and meadows with milkweed (*Asciepias spp*.) for breeding and feeding. Winters in southern California and central Mexico.	The Project Area is distant from core migratory paths/flyways and mapped congregational sites (USFS, 2024), and construction would occur outside the summer breeding season for monarch butterflies in Western Colorado (May 15 to September 30 (Xerces Society, 2018)). Removal of milkweed plants during winter construction would not directly impact the monarch as the season for chrysalis or larvae stage occurs in the spring/summer. Habitat for the monarch would potentially be enhanced at the Habitat Replacement Site. The proposed Project would have **no effect**[1] on the monarch butterfly.
Silverspot butterfly (*Speyeria nokomis nokomis*)	Threatened	Moist, open meadows with diverse herbaceous and woody vegetation; larvae host plant is the bog violet (USFWS, 2023a).	Low suitability; Project Area does not contain suitable meadow habitats. Surveys were conducted along wet margins for northern bog violet, the host plant for the silverspot butterfly, and no occurrences were found. No critical habitat has been designated for this species. The proposed Project would have **no effect** on the silverspot butterfly.
Suckley's cuckoo bumble bee (*Bombus suckleyi*)	Proposed listed	Prairies, grasslands, meadows, woodlands and agricultural and urban areas (Liebich, 2025).	Unlikely. There is suitable habitat in the Project Area (meadows and irrigated pasture), but direct effects are unlikely. The last sighting of the bee was in 2016 in Oregon (USFWS 2025). The proposed Project would have **no effect** on the Suckley's cuckoo bumble bee.
Gray wolf (*Canis lupus*)	Experimental Population	Various habitats with availability of adequate prey (large ungulates) (USFWS, 2023b)	Limited suitability due to high risk of conflict with humans and livestock (USFWS, 2023b). Project area is outside the current range (USFWS, 2023b). The project is not expected to impact individuals or suitable habitat; therefore, the species is not considered further. The proposed Project would have **no effect** on grey wolves.

Species (Common Name and Scientific Name)	Status	Habitat Description	Habitat Suitability and Potential Effects
Clay-loving wild buckwheat (*Eriogonum pelinophilum*)	Endangered	Clay soils on shale hillsides in western Colorado.	No suitable clay soils in the project area. Surveys did not document any occurrences. The proposed Project would have **no effect** on clay-loving wild buckwheat.
Colorado hookless cactus (*Sclerocactus glaucus*)	Threatened	Dry, rocky soils on river slopes and desert shrublands	The Project Area is outside of mapped range for the species (USFWS 2024d) and surveys did not document any occurrences. The proposed Project would have **no effect** on Colorado hookless cactus.

Source: USFWS, 2024a.

[1] Effects determination for the monarch butterfly, a candidate species, is made in the event that the species becomes listed under the ESA.

Critical Habitat

The Action Area does not contain federally designated or proposed critical habitat (USFWS, 2024). Critical habitat for the yellow-billed cuckoo is just over 4 miles southeast of the Habitat Replacement Site, and critical habitat for clay-loving wild buckwheat is 3 miles northwest of Section 1 (USFWS, 2024a). The proposed Project would have **no effect** on designated or proposed critical habitats.

Chapter 7 - Effects Determination

In summary, given the design criteria described in Section 2.1, and the lack of suitable habitat or potential for the 10 federally listed or candidate species to occur in the Action Area, the proposed Project would have "**no effect**" on the 11 federally listed, proposed or candidate species considered in this BE (Table 3). The Project would result in a reduction in selenium loading to the Colorado and Gunnison river basins, improving water quality within designated critical habitat for the Colorado pikeminnow, razorback sucker, humpback chub, and bonytail throughout the Colorado River Basin and lower Gunnison River Basin, benefiting the species and the ecosystem (Reclamation, 2024).

Table 3. Summary of Effects Determination for Federally Listed Species

Species (Common Name and Scientific Name)	Status	Determination of Effect
Yellow-billed cuckoo (*Coccyzus americanus*)	Threatened	No Effect
Bonytail chub (*Gila elegans*)	Endangered	No New Effect
Humpback chub (*Gila cypha*)	Threatened	No New Effect
Colorado pikeminnow (*Ptychocheilus lucius*)	Endangered	No New Effect
Razorback sucker (*Xyrauchen texanus*)	Endangered	No New Effect
Monarch butterfly (*Danaus plexippus*)	Candidate	No Effect[1]
Silverspot butterfly (*Speyeria nokomis nokomis*)	Threatened	No Effect
Suckley's cuckoo bumble bee (*Bombus suckleyi*)	Proposed	No Effect[1]

Species (Common Name and Scientific Name)	Status	Determination of Effect
Gray wolf (*Canis lupus*)	Experimental Population	No Effect
Clay-loving wild buckwheat (*Eriogonum pelinophilum*)	Endangered	No Effect
Colorado hookless cactus (*Sclerocactus glaucus*)	Threatened	No Effect

[1] Effects determination for the Suckley's cuckoo bumble bee and the monarch butterfly are made in the event that the species become listed under the ESA.

Chapter 8 - Migratory Birds and Raptors

8.1 Migratory Bird Species of Concern

The MBTA (16 U.S. Code [U.S.C.] §703-712) requires federal agencies to consider the effects on migratory birds from land management and planning activities. Protection of migratory birds under the MBTA extends to raptors, including eagles, hawks, falcons, and other birds of prey, ensuring their conservation. Species of migratory birds of conservation concern with the potential to occur in the Action Area, habitat description and suitability are listed below (Table 4) (USFWS, 2025; CPW, 2023a). Potential impacts to migratory birds associated with the Project include temporary disturbances from construction activities, vegetation clearing, and noise.

In addition to protections under the MBTA, bald eagles and golden eagles are protected by the Bald and Golden Eagle Protection Act of 1940. The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." Under the Act, "Disturb" means to agitate or bother a bald or golden eagle to a degree that it causes injury or interferes with normal breeding, feeding, or sheltering behavior.

Table 4. Birds of Conservation Concern with Potential to Occur in the Action Area

Species	Status	Habitat Description	Habitat Suitability
Black swift (*Cypseloides niger)*	Species of Concern	Coastal areas, nesting along ledges or shallow caves in steep canyons often near waterfalls.	Limited suitability: primary habitat distant from the project footprint.
Broad-tailed hummingbird *(Selasphorus platycercus)*	Species of Concern	Montane meadows, pinyon-juniper woodlands, areas with flowering shrubs	Limited suitability: primary habitat distant from the project footprint.
Brown-capped rosy finch *(Leucosticte australis)*	Species of Concern	Prefers high-elevation alpine and tundra environments above treeline, descending to lower forested environments in winter	Limited suitability: primary habitat in high elevation areas, distant from the project footprint.

Species	Status	Habitat Description	Habitat Suitability
California gull *(Larus californicus)*	Species of Concern	Diverse range of habitats, nests on islands in rivers, lakes; forages in open habitats	Limited suitability: primary habitat distant from the project footprint.
Cassin's finch *(Haemorhous cassinii)*	Species of Concern	Coniferous forests with pine and aspen	Limited suitability: primary habitat distant from the project footprint.
Clark's grebe *(Aechmophorus clarkii)*	Species of Concern	Freshwater lakes and marshes, often in open water	Limited suitability; primary habitat distant from the project footprint.
Clark's nutcracker *(Nucifraga Columbiana)*	Species of Concern	Montane coniferous forests	Limited suitability: primary habitat distant from the project footprint.
Evening grosbeak *(Coccothraustes vespertinus)*	Species of Concern	Mixed coniferous forests, primarily spruce and fir	Limited suitability: primary habitat distant from the project footprint.
Golden eagle *(Aquila chrysaetos)*	BLM-Sensitive, MBTA	Open areas, nesting on cliffs or tall trees	High suitability for foraging and nesting; agricultural fields provide foraging, and cliffs and tall trees in or near Project Area are suitable for nesting. Two inactive golden eagle nests are documented in the Project Area (pers. comm. with E. Latta, BLM Biologist, Jan. 6, 2025). An active golden eagle nest is located along the Gunnison River 1.5 miles east of the Project Area (CPW, 2024).
Lesser yellowlegs *(Tringa flavipes)*	Species of Concern	Open tundra for breeding; migrates through wetlands	Limited suitability: some wetlands in or near the project area. Primary breeding habitat is distant from the project footprint.
Lewis's woodpecker *(Melanerpes lewis)*	Species of Concern	Open forests, particularly with ponderosa pine, scattered trees and snags, and riparian areas	Low suitability: Cottonwoods may provide cavities for nesting. Species distribution overlaps with project area.
Long-eared owl (*Asio otus*)	Species of Concern	Wooded, densely vegetated areas for roosting and nesting, open areas for hunting. Nests in tree cavity or old raven or raptor nests.	Low suitability: primary nesting habitat (dense vegetation) is distant from project area.
Pinyon jay (*Gymnorhinus cyanocephalus)*	Species of Concern	Pinyon-juniper woodland, sagebrush, scrub oak and chaparral communities.	Moderate suitability due to sagebrush and scrub-shrub vegetation near Project Area.

Species	Status	Habitat Description	Habitat Suitability
Virginia's warbler *(Leiothlypis virginiae)*	Species of Concern	Shrubby slopes, woodland edges, oak thickets, pinyon-juniper	Limited suitability: primary habitat is distant from the Project Area.
Western grebe *(Aechmophorus occidentalis)*	Species of Concern	Large lakes and marshes; open water breeding colonies	Low suitability: Project Area is distant from preferred habitats.
Bald eagle *(Haliaeetus leucocephalus)*	BLM-Sensitive, MBTA	Open areas near water with large trees for nesting	High suitability for foraging, roosting, and nesting. Open areas are near water with large trees in the Project Area along Section 1 (along Gunnison River). According to high priority habitat data compiled by CPW, the Project Area intersects bald eagle winter forage and winter concentration range, defined as areas within an existing winter range where eagles concentrate between November 15 and April 1 (CPW, 2024). A documented bald eagle roost site is 1.75 miles from the Project Area.

Source: USFWS 2024a; NatureServe 2024

According to species data compiled by CPW, the Project Area intersects bald eagle winter forage and the eastern portion of Section 1 intersects with bald eagle winter concentration range, defined as areas within an existing winter range where eagles concentrate between November 15 and April 1 (CPW, 2023b; CPW, 2024). Bald eagles shelter in communal roost sites, consisting of trees or other tall structures where they gather regularly during the course of a season and shelter overnight or during inclement weather. A documented bald eagle roost site is 1.75 miles from the Project Area. To protect raptors during roosting, nesting, and fledgling, the CPW has established buffer guidelines limiting activity, including construction, within ¼ to ½ mile from the nest; distance varies for species (CPW, 2020). The core nesting season for raptors (hawks, falcons, and owls) in the area is April 1 through July 15; however, individuals may begin courtship and nest construction as early as February. Bald eagles nest during the period between October 15 and July 31, golden eagles nest between December 15 and July 15, and red-tailed hawks can initiate nesting as early as February 15. An active golden eagle nest is located approximately 1.5 miles east of the project area (CPW, 2024). The Project Area was surveyed for raptor nests in April, 2024, (Section 1) and June, 2024, (Section 2) No raptor nests were identified within line of sight, up to 1/2 mile, from the Project Area; however, the BLM reported a pair of unoccupied golden eagle nests are located within the Project Area (pers. comm. with E. Latta, BLM Biologist, Jan. 6, 2025). A pair of peregrine falcons were observed in the canyon area along Section 1 during the raptor surveys and are known to occupy the eastern portion of Section 1 (pers. comm. K. Holsinger, Dec 3, 2024); the nesting season for peregrine falcons is March 15 to July 31.

8.2 Mitigation Strategies and Effects

Disturbances to most migratory bird and raptors species would be avoided through construction timing, which would occur during the winter to avoid peak breeding and migratory periods.

Vegetation removal would be scheduled outside of peak breeding periods to avoid potential impacts to nesting migratory birds (April 1 to July 15). Impacts to peregrine falcons known to occupy the canyon area would be avoided as construction would occur outside the nesting season of March 15 to July 31. During construction, migratory birds or raptors wintering or foraging in the Project Area would be displaced temporarily by the disturbance. Habitat in the surrounding valley area is extensive, providing ample alternative habitat to any displaced species; therefore, impacts to displaced species would be minor and not significant. Although a golden eagle nest and bald eagle roost are in the vicinity of the Project, the entire Project Area is outside of protective buffers of ½ mile established by CPW (CPW, 2020).

Increased human disturbance and construction noise could result in avoidance of the Project Area by migratory birds. Ample habitat is available adjacent to the Action Area and the construction disturbance would be temporary, typically lasting one season. Some impacts to migratory bird species would occur due to habitat loss following construction of piped and lined ditches, particularly potential nesting habitat for raptors (tall trees). The number of tall trees lost would be minimal in relation to ample raptor nesting habitat in the surrounding valley and therefore would not be significant. The presence of nesting habitat for migratory birds and raptors would be maintained by Project activities at the Habitat Replacement Site in compliance with the Colorado River Basin Salinity Control Act (Reclamation, 2018). Construction activities would cease, and authorities with the USFWS and Reclamation would be notified immediately upon the unanticipated discovery of a new active raptor nest within 1/2 mile of the Proposed Action, or a new bald eagle roost site or nest site within 1/2 mile. Given these strategies, potential direct impacts on migratory birds and raptors would be minor and short-term.

No significant impacts to migratory birds and raptors would occur as a result of the Project as construction impacts would be temporary and relatively small in comparison with surrounding available habitat, timing restrictions would protect nesting birds during sensitive periods, and riparian/wetland nesting habitat would be maintained with the implementation of a Habitat Replacement Site.

Chapter 9 - BLM Sensitive Species

9.1 BLM Sensitive Species

The following BLM-sensitive species occur or have the potential to occur in the Project Area (BLM, 2023) and are not previously considered in the migratory birds or threatened and endangered species discussions above (Table 5). These species rely on habitats that may be affected by construction activities, such as river ecosystems, riparian areas, wetlands, and open lands (BLM, 2023).

Table 5. Summary of BLM-Sensitive Species with Potential to Occur in the Project Area and Mitigation Strategy

Species (Common Name and Scientific Name)	Habitat Description	Potential Project Impact and Minimization Measures (if applicable)
North American river otter (*Lontra canadensis*)	Requires intact stream and river ecosystems with adequate prey availability. Habitat is adjacent to construction area in the Gunnison River channel and connected to the river at the headgate. Breeding season is December to April.	Very low probability of direct impacts to denning as no work would be done in the river channel and the probability of otters occupying the headgate is very low. Winter construction noise would create a short-term, low intensity disturbance that would be minor to negligible. No significant impacts would occur because the probability for disturbance is very low and any potential impacts would be minor to negligible. .
Fringed myotis (*Myotis thysanodes*) Townsend's big-eared bat (*Corynorhinus townsendii*) Big free-tailed bat (*Nyctinomops macrotis*) Spotted bat (*Euderma maculatum*)	Roosts in caves, mines, and buildings; forages in forested areas and near water. Prefers caves, mines, and old buildings for roosting. Roosts in rock crevices and buildings; forages in open areas. Uses cliffs and rocky areas for roosting; forages in open habitats.	No direct impacts to bat species as construction is timed for late fall, winter and early spring when bats have migrated out of the area or are hibernating. No bat hibernacula are located in the Project Area. Construction BMPs would minimize cottonwood tree loss (potential roosting habitat for bats). Loss of tree habitat would occur just within the construction ROW (approximately 30 feet) and would not extend to trees downgradient of the canal area. Loss of bat roosting habitat would be minor to negligible relative to the extensive tree habitat along the Gunnison River. As impacts would be incidental and minor to bat species occupying the canyon area they would not be significant.

Species (Common Name and Scientific Name)	Habitat Description	Potential Project Impact and Minimization Measures (if applicable)
Midget faded rattlesnake (*Crotalus oreganus concolor*)	Found in rocky areas, shrublands, and grasslands. Communal hibernacula under very large boulders during winter.	Very low probability of direct impact to hibernating individuals during construction activities as work would be confined within the existing ditch corridor and away from winter hibernating areas (large boulders). Individuals not hibernating would relocate to nearby areas. Any impact to the midget faded rattlesnake would be incidental and minor; therefore, the project would have no significant impacts to the species.
Northern leopard frog (*Rana pipiens*)	Wetlands and riparian zones. In winter hibernates in mud.	Loss of habitat and direct impacts to individuals hibernating in mud along the canal would occur during construction activities. A robust population of the northern leopard frog is present within the Gunnison River corridor. Loss of individuals and habitat along the canal would be minor relative to the robust population nearby and would not impact the species at a population level. The Project would have no significant impacts to the northern leopard frog because the Project would not impact the species at a population level.

Source: BLM 2023

9.2 Effects Determination for BLM-Sensitive Species

The Project would avoid significant adverse impacts on BLM-sensitive species. Following is a summary of impacts to BLM-sensitive species based on informal consultation with BLM (pers. comm. Ken Holsinger Dec. 3 2024, 2024). There would be a very low probability of direct impacts to North American river otters (otters) as no work would be done in the river channel and the probability of otters occupying the headgate area is very low. Winter construction noise would create a short-term, low intensity disturbance and impacts to breeding otters would be minor to negligible. Construction timing would avoid impacts to the bat species known to occupy the canyon and loss of roosting habitat would be minimized during construction through BMPs to avoid removing trees outside the construction ROW. The midget faded rattlesnake would not be present in the construction area, either due to hibernating beneath large boulders outside the construction area or (if not hibernating) relocating to nearby areas; therefore, impacts to the midget faded rattlesnake as a result of the Project would be minor, incidental, and not

significant. Although the Project would impact individual leopard frogs and habitat, a robust population of the northern leopard frog is present within the Gunnison River corridor. Loss of individuals and habitat along the canal would be minor relative to the robust population of leopard frogs nearby and would not impact the species at a population level.

Chapter 10 - References

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Chapter 11 - Biological Evaluation Preparers

Table 6. Biological Evaluation Preparers

Name	Agency	Title	Areas of Responsibility
Cassandra Shenk	Sundance Consultants, LLC (Consultant to the Ditch Companies)	NEPA Project Manager	Project Management, Field Biologist, Primary Author
Cristi Painter	Sundance Consultants, LLC (Consultant to the Ditch Companies)	NEPA Project Manager	Resource Specialist, Contributing Author
Matt Rice	Sundance Consultants, LLC (Consultant to the Ditch Companies)	Sr. Natural Resource Project Manager	Sr. Biologist, Sr. Technical Review
Steve Gehring	Sundance Consultants, LLC (Consultant to the Ditch Companies)	Technical Editor	Review and Formatting

Chapter 12 - Appendices

- **Appendix A.** Photo Log – Photo Points Sections 1 and 2
- **Appendix B.** Consultation History - NDIC and USFWS Recovery Agreement
- **Appendix C.** USFWS IPaC Information

Appendix A. Photo Log

Section.7.Photo.Points

Section.8.Photo.Points

Photo Point (PP) Section 1-1. view west, downstream, dense herbaceous and willow on opposite (south) side.

PP Section 1-2. view east, upstream towards the Gunnison River canyon area.

PP Section 1-3 (top view west and bottom view east). Top photos show a downstream view towards the Town of Austin, view of herbaceous riparian vegetation between the maintenance road and the canal, and rock/slope precluding vegetation on the bank opposite the road. Bottom view shows an upstream view where vegetation begins on the opposite bank.

PP Section 1-4 (top and bottom; both view east of canyon area). Top photo is view upstream of canal and bottom photo is of the Gunnison River parallel and downgradient of canal.

PP Section 1-5. View east and upstream of cottonwood stand. Gunnison River is to the right and out of view, below canal; view upstream.

PP Section 2-1. Top photo is view east, herbaceous vegetation on either side of canal in this area. Canal is about 4 feet across. The bottom photo is view west, tree canopy in view is from trees planted in residential area downgradient of canal.

PP Section 2-2. View of Russian olive and tamarisk along canal (top photo), and view east of tree-stature Russian olive (bottom photo)

PP Section 2-3. View west of conditions along canal (top photo), and view east across horse-shoe bend to largest cottonwood patch (bottom photo)

PP Section 2-3, cont. View south of pasture and maintenance road; canal is out of view to left (top photo), and view north (bottom photo)

PP Section 2-4. Mallard pair along canal (top photo), and view west along canal (bottom photo)

PP Section 2-5. View west of canal (top photo), and south (bottom photo)

PP Section 2-6. View downstream (northwest) at the eastern horse-shoe bend along Section 2. Maintenance road is in view. Some willows and a cottonwood tree stand in view. The canal is about 6 feet across and 1 to 2 feet deep. The riparian fringe along the canal in Section 2 is limited by soil type and maintenance disturbance. Upland vegetation is predominately knapweed, greasewood, yellow sweetclover and bindweed in this section. Spoils from cleaning are piled on the off-side bank. June 4, 2024.

Appendix B. Consultation History- NDIC and USFWS Recovery Agreement

GUNNISON BASIN RECOVERY AGREEMENT

This RECOVERY AGREEMENT is entered into this 15th day of October, 2018, by and between the United States Fish and Wildlife Service (Service) and The North Delta Irrigation Company (Water User).

WHEREAS, in 1988, the Secretary of Interior, the Governors of Wyoming, Colorado and Utah, and the Administrator of the Western Area Power Administration signed a Cooperative Agreement to implement the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin (Recovery Program); and

WHEREAS, the Recovery Program is intended to recover the endangered fish while providing for water development in the Upper Basin to proceed in compliance with state law, interstate compacts and the Endangered Species Act; and

WHEREAS, the Colorado Water Congress has passed a resolution supporting the Recovery Program; and

WHEREAS, on December 4, 2009, the Service issued a programmatic biological opinion (2009 Opinion) for the Gunnison River Basin and the operation of the Wayne N. Aspinall Unit concluding that implementation of specific operation of the Aspinall Unit, implementation of a Selenium Management Plan and specified elements of the Recovery Action Plan (Recovery Elements), along with existing and a specified amount of new depletions, are not likely to jeopardize the continued existence of the endangered fish or adversely modify their critical habitat in the Gunnison River subbasin and Colorado River subbasin downstream of the Gunnison River confluence; and

WHEREAS, Water User is the owner of the North Delta Irrigation Canal (Water Project), which causes or will cause depletions to the Gunnison River subbasin; and

WHEREAS, Water User desires certainty that its depletions can occur consistent with section 7 and section 9 of the Endangered Species Act (ESA); and

WHEREAS, the Service desires a commitment from Water User to the Recovery Program so that the Program can actually be implemented to recover the endangered fish and to carry out the Recovery Elements.

NOW THEREFORE, Water User and the Service agree as follows:

1. The Service agrees that implementation of the Recovery Elements specified in the 2009 Opinion will avoid the likelihood of jeopardy and adverse modification under section 7 of the ESA, for depletion impacts caused by Water User's Water Project. Any consultations under section 7 regarding Water Project's depletions are to be governed by the provisions of the 2009 Opinion. The Service agrees that, except as provided in the 2009 Opinion, no other measure or action shall be required or imposed on Water Project to comply with section 7 or section 9 of the ESA with regard to Water Project's depletion impacts or other impacts covered by the 2009 Opinion. Water User is entitled to rely on this Agreement in making the commitment described in paragraph 2.

2. Water User agrees not to take any action which would probably prevent the implementation of the Recovery Elements. To the extent implementing the Recovery Elements requires active cooperation by Water User, Water User agrees to take reasonable actions required to implement those Recovery Elements. Water User will not be required to take any action that would violate its decrees or the statutory authorization for Water Project, or any applicable limits on Water User's legal authority. Water User will not be precluded from undertaking good faith negotiations over terms and conditions applicable to implementation of the Recovery Elements.

3. If the Service believes that Water User has violated paragraph 2 of this Recovery Agreement, the Service shall notify both Water User and the Management Committee of the Recovery Program. Water User and the Management Committee shall have a reasonable opportunity to comment to the Service regarding the existence of a violation and to recommend remedies, if appropriate. The Service will consider the comments of Water User and the comments and recommendations of the Management Committee, but retains the authority to determine the existence of a violation. If the Service reasonably determines that a violation has occurred and will not be remedied by Water User despite an opportunity to do so, the Service may request reinitiation of consultation on Water Project without reinitiating other consultations as would otherwise be required by the Reinitiation Notice section of the 2009 Opinion. In that event, the Water Project's depletions would be excluded from the depletions covered by 2009 Opinion and the protection provided by the Incidental Take Statement.

4. Nothing in this Recovery Agreement shall be deemed to affect the authorized purposes of Water User's Water Project or The Service' statutory authority.

5. This Recovery Agreement shall be in effect until one of the following occurs.

a. The Service removes the listed species in the Upper Colorado River Basin from the endangered or threatened species list and determines that the Recovery Elements are no longer needed to prevent the species from being relisted under the ESA; or

b. The Service determines that the Recovery Elements are no longer needed to recover or offset the likelihood of jeopardy to the listed species in the Upper Colorado River Basin; or

c. The Service declares that the endangered fish in the Upper Colorado River Basin are extinct; or

d. Federal legislation is passed or federal regulatory action is taken that negates the need for [or eliminates] the Recovery Program.

6. Water User may withdraw from this Recovery Agreement upon written notice to the Service. If Water User withdraws, the Service may request reinitiation of consultation on Water Project without reinitiating other consultations as would otherwise be required by the Reinitiation Notice section of the 2009 Opinion.

Water User Representative
North Delta Irrigation Company

10-12-2018
Date

Western Colorado Supervisor
U.S. Fish and Wildlife Service

10/15/18
Date

Appendix C. USFWS IPaC Information

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Western Colorado Ecological Services Field Office
445 West Gunnison Avenue, Suite 240
Grand Junction, CO 81501-5711
Phone: (970) 628-7180 Fax: (970) 245-6933

In Reply Refer To: 12/03/2024 16:45:02 UTC
Project Code: 2025-0026516
Project Name: North Delta Irrigation Company Phase II Salinity Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Western Colorado Ecological Services Field Office
445 West Gunnison Avenue, Suite 240
Grand Junction, CO 81501-5711
(970) 628-7180

PROJECT SUMMARY

Project Code: 2025-0026516
Project Name: North Delta Irrigation Company Phase II Salinity Project
Project Type: Water Supply Facility - Maintenance / Modification
Project Description: The North Delta Irrigation Company plans to do a combination of lining and piping of their irrigation canal as a Salinity Control Program project.
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@38.773966900000005,-108.05388510111504,14z

Counties: Delta County, Colorado

ENDANGERED SPECIES ACT SPECIES

There is a total of 10 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 4 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Gray Wolf *Canis lupus* Population: CO No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4488	Experimental Population, Non-Essential

BIRDS

NAME	STATUS
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

FISHES

NAME	STATUS
Bonytail *Gila elegans* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. This species only needs to be considered under the following conditions: ▪ Water depletions in the upper Colorado River basin adversely affect this species and its critical habitat. Effects of water depletions must be considered even outside of occupied range. Species profile: https://ecos.fws.gov/ecp/species/1377	Endangered
Colorado Pikeminnow *Ptychocheilus lucius* Population: Wherever found, except where listed as an experimental population There is **final** critical habitat for this species. Your location does not overlap the critical habitat. This species only needs to be considered under the following conditions: ▪ Water depletions in the upper Colorado River basin adversely affect this species and its critical habitat. Effects of water depletions must be considered even outside of occupied range. Species profile: https://ecos.fws.gov/ecp/species/3531	Endangered
Humpback Chub *Gila cypha* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. This species only needs to be considered under the following conditions: ▪ Water depletions in the upper Colorado River basin adversely affect this species and its critical habitat. Effects of water depletions must be considered even outside of occupied range. Species profile: https://ecos.fws.gov/ecp/species/3930	Threatened
Razorback Sucker *Xyrauchen texanus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. This species only needs to be considered under the following conditions: ▪ Water depletions in the upper Colorado River basin adversely affect this species and its critical habitat. Effects of water depletions must be considered even outside of occupied range.	Endangered

NAME	STATUS

Species profile: https://ecos.fws.gov/ecp/species/530

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate
Silverspot *Speyeria nokomis nokomis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2813	Threatened

FLOWERING PLANTS

NAME	STATUS
Clay-loving Wild Buckwheat *Eriogonum pelinophilum* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3348	Endangered
Colorado Hookless Cactus *Sclerocactus glaucus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2280	Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

---

1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to Bald Eagle Nesting and Sensitivity to Human Activity

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Dec 1 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

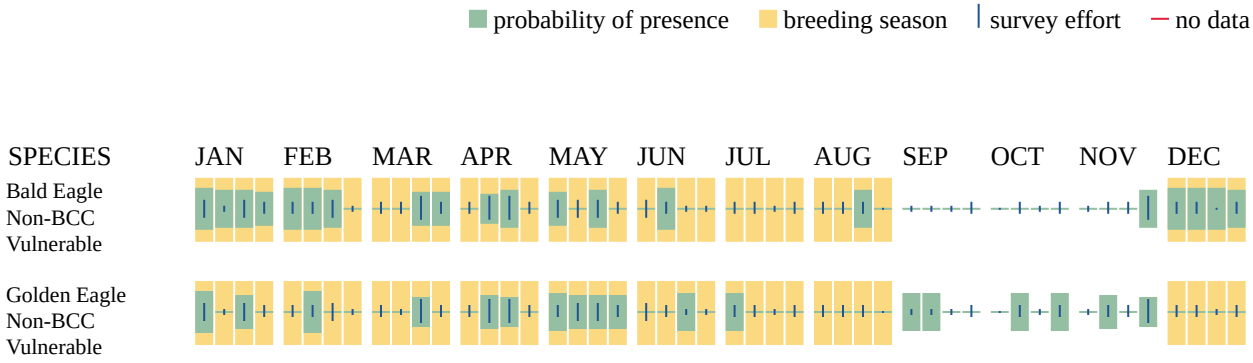
Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)

Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31
Black Swift *Cypseloides niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8878	Breeds Jun 15 to Sep 10
Broad-tailed Hummingbird *Selasphorus platycercus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/11935	Breeds May 25 to Aug 21
Brown-capped Rosy-finch *Leucosticte australis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9461	Breeds Jun 15 to Sep 15
California Gull *Larus californicus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10955	Breeds Mar 1 to Jul 31
Cassin's Finch *Haemorhous cassinii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9462	Breeds May 15 to Jul 15
Clark's Grebe *Aechmophorus clarkii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10575	Breeds Jun 1 to Aug 31
Clark's Nutcracker *Nucifraga columbiana* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9421	Breeds Jan 15 to Jul 15

NAME	BREEDING SEASON
Evening Grosbeak *Coccothraustes vespertinus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9465	Breeds May 15 to Aug 10
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Dec 1 to Aug 31
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Lewis's Woodpecker *Melanerpes lewis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9408	Breeds Apr 20 to Sep 30
Long-eared Owl *asio otus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3631	Breeds Mar 1 to Jul 15
Pinyon Jay *Gymnorhinus cyanocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9420	Breeds Feb 15 to Jul 15
Virginia's Warbler *Leiothlypis virginiae* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9441	Breeds May 1 to Jul 31
Western Grebe *aechmophorus occidentalis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6743	Breeds Jun 1 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

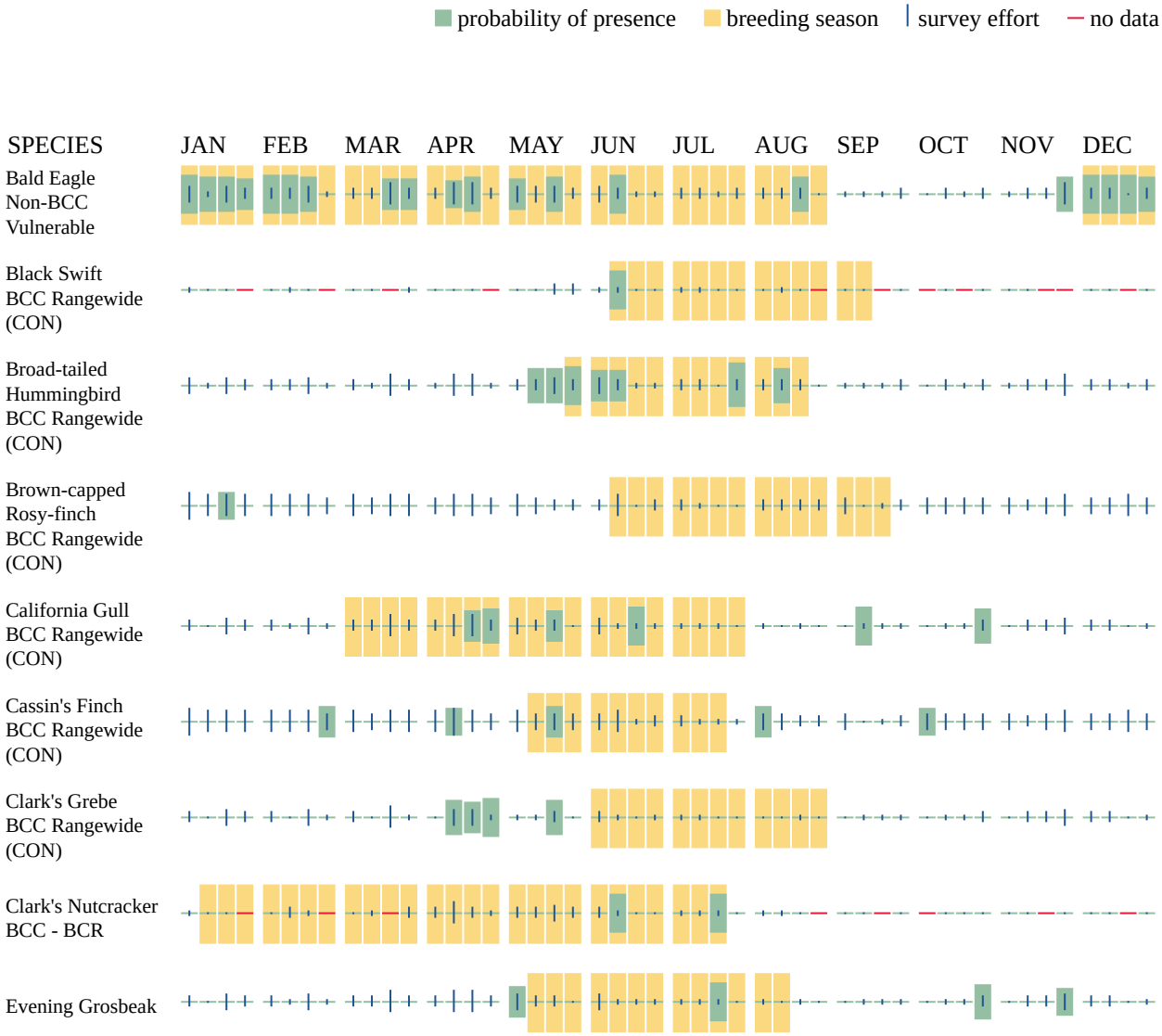
Probability of Presence (■)

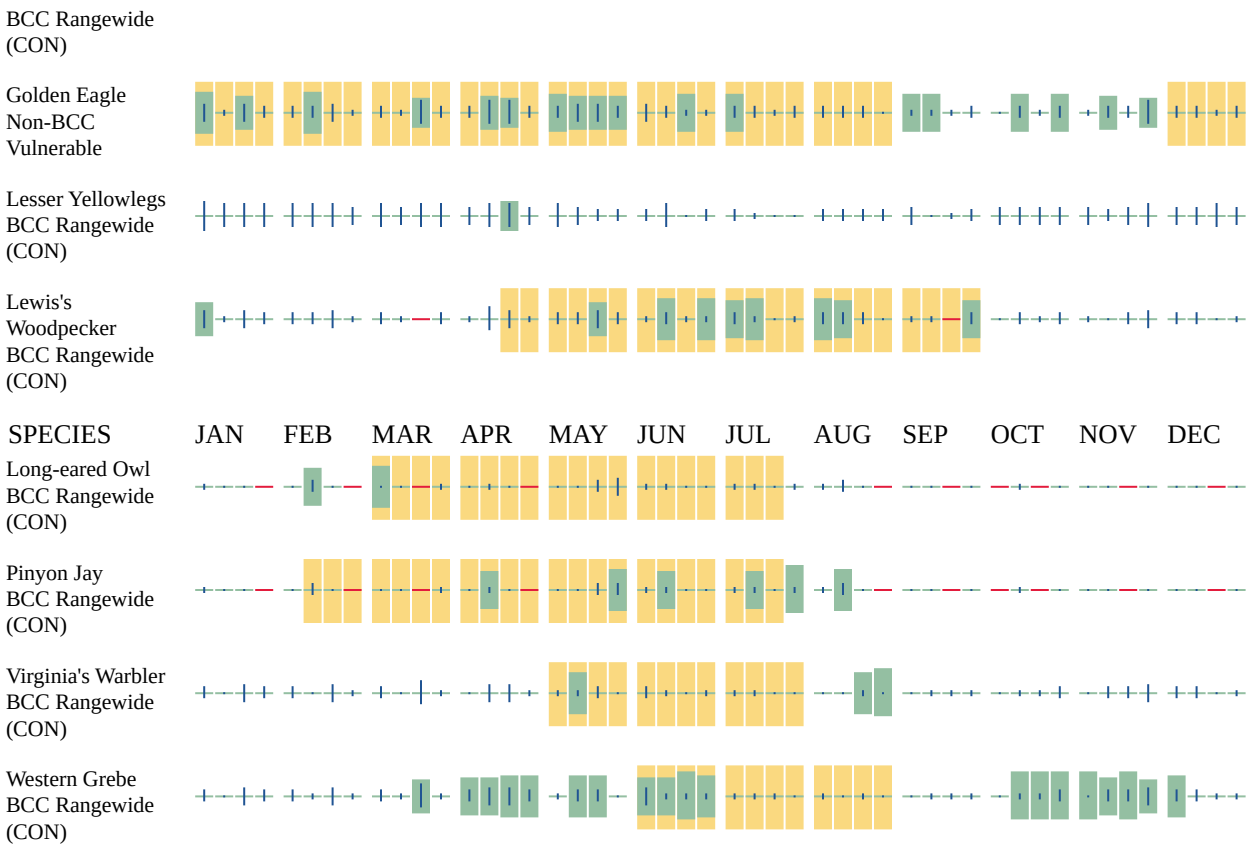
Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.





Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER EMERGENT WETLAND

- PEM1A
- PEM1C

FRESHWATER FORESTED/SHRUB WETLAND

- PSS1A

RIVERINE

- R4SBCx
- R4SBC

FRESHWATER POND

- PABFh

IPAC USER CONTACT INFORMATION

Agency: Bureau of Reclamation
Name: Jennifer Ward
Address: 554 W Gunnison Ave Suite 221
City: Grand Junction
State: CO
Zip: 81501-5711
Email jward@usbr.gov
Phone: 9702480651

Appendix C - Cultural Resource Compliance Documentation

PROGRAMMATIC AGREEMENT

AMONG

THE U.S. DEPARTMENT OF THE INTERIOR – BUREAU OF RECLAMATION, BUREAU OF LAND MANAGEMENT, THE U.S. DEPARTMENT OF AGRICULTURE – NATURAL RESOURCES CONSERVATION SERVICE, THE U.S. DEPARTMENT OF AGRICULTURE – FOREST SERVICE ROCKY MOUNTAIN REGION, THE U.S. DEPARTMENT OF THE INTERIOR FISH AND WILDLIFE SERVICE – MOUNTAIN – PRAIRIE REGION, THE COLORADO STATE HISTORIC PRESERVATION OFFICER, AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION

REGARDING

THE MANAGEMENT OF WATER CONTROL FEATURES IN THE STATE OF COLORADO

PA Mitigation Proposal for Adverse Effects to Components of Irrigation Systems

Project Proponent: North Delta Irrigation Company (NDIC)

Lead Agency: Bureau of Reclamation (Reclamation)

Other Federal Agencies: Bureau of Land Management, Uncompahgre Field Office (BLM UFO)

Project Name, Agency Project Number, and Description: The NDIC Phase II Salinity Control Project (DT.R.R66)(HC# 86426) will pipe and/or line with shotcrete two segments of the National Register of Historic Places (NRHP) eligible North Delta Canal (5DT.1738.3 and 5DT.1738.7). The Area of Potential Effect (APE) includes buffers of all necessary staging, access, and borrow pits. The APE was initially surveyed and documented by Grand River Institute in their November 11, 2024 report titled *Class III Cultural Resources Inventory for the North Delta Irrigation Company Salinity Control Project Phase II in Delta County, Colorado.* The entire APE included 186.8 acres of privately owned lands and 15.6 acres of BLM UFO lands.

History Colorado Number: HC# 86426

Projected Project Construction Date: Fall 2025

Finding of Effect (describe the resource(s) affected by Smithsonian # including type of effect, scope of effect, and other details as needed):

The North Delta Canal (5DT.1738.3 and 5DT.1738.7) is eligible to the NRHP under Criterion A. Reclamation initiated consultation on June 25, 2025. In consultation it was determined that the North Delta Canal would be adversely impacted by the piping and lining. The Colorado State Historic Preservation Officer (SHPO) concurred with Reclamation's finding of adverse effect in an August 6, 2025 letter and agreed it is appropriate to resolve the adverse effects according to Stipulation III. 1 and Appendix B of the Programmatic Agreement Regarding the Management of Water Control Features in the State of Colorado (PA).

Selected mitigation from Appendix B of the PA or other mitigation activity:

The project team proposes online North Delta Canal content to contribute to the identified Appendix B Topic: X. Local Canal, Canal System, or Regional Irrigation History. Historic narrative content for the topic would cover the entire length of the North Delta Canal. However, the interpretive focus will be on segments 5DT.1738.3 and 5DT.1738.7. The interpretive material's intended audience is the general public.

A reader of the interpretive material will learn the significance of the North Delta Canal to regional settlement and agricultural development.

Digital interpretation will include primary sources such as: current and historic images and maps. Drawings, historic newspaper articles, oral histories, and other primary sources will be incorporated as possible.

Mitigation for the resolution of the adverse effect(s) stated above in accordance with the PA is agreed upon by the proponent, lead agency, and SHPO/THPO. The scope of the mitigation and timeline for completion shall be commensurate with the adverse effect being mitigated. The proponent agrees to the included schedule to complete the required mitigation. Failure to complete mitigation will result in an adverse effect to a historic property that will require the proponent and lead agency to negotiate a Memorandum of Agreement to resolve adverse effects to historic properties in accordance with 36 CFR 800.6.

Mitigation for this project will be completed no later than: December 31, 2028

The proponent will pay a one-time $400 website hosting fee to PaleoCultural Research Group. Details on uploading the information can be accessed at https://archaeologycolorado.org/content/water-west-contentsubmission.

The proponent will pay a one-time $400 website hosting fee to PaleoCultural Research Group. Details on uploading the information can be accessed at https://archaeologycolorado.org/content/water-west-contentsubmission.

Proponent's signature and date Kay L Nelson 8-22-2025

Cooperating agency official signature and date D. BA Digitally signed by Dan Ben-Horin Date: 2025.08.25 12:58:28 -06'00'

Lead agency official signature and date Bart W. Deming Digitally signed by BART DEMING Date: 2025.08.25 14:50:59 -06'00'

SHPO/THPO concurrence letter will be attached acknowledging the adverse effect and the mitigation proposed.

History Colorado

August 06, 2025

Bart Deming
Acting Area Manager
Bureau of Reclamation
Western Colorado area Office
Denver Federal Center
445 West Gunnison Avenue, Suite 221
Grand Junction, CO 81501

RE: Determination of Eligibility and Effect; Class III Inventory for the North Delta Irrigation Company Salinity Control Project, Salinity Control Program, Colorado (DT.R.R66) (HC# 86426)

Dear Mr. Deming:

We appreciate the additional information received by our office on August 4 and 6, 2025, in order to continue consultation for the above referenced undertaking pursuant to the Programmatic Agreement Among the U.S. Department of the Interior – Bureau of Reclamation, Bureau of Land Management, the U.S. Department of Agriculture – Natural Resources Conservation Service, the U.S. Department of Agriculture – Forest Service Rocky Mountain Region, The U.S. Department of Interior Fish and Wildlife Service – Mountain – Prairie Region, the Colorado State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding the Management of Water Control Features in the State of Colorado (PA). The additional information requested included an update to the Bureau of Reclamations determination of effect finding to include properties that were excluded in the original correspondence submitted to our office on June 27, 2025. Our office requested this information on July 10, 2025 in order to complete our review. Our office has reviewed the submitted materials, and we offer the following comment.

Identification of Historic Properties

We find the definition of the area of potential effect (APE) for the undertaking acceptable.

We concur that sites 5DT.3081 and 5DT.3082, are eligible for listing in the National Register of Historic Places (NRHP). We concur that two segments of the North Delta Canal, 5DT.1738.3 and 5DT.1738.7, support the overall eligibility of the entire linear resource (5DT.1738) for listing to NRHP. Lastly, we concur that 5DT.3078, 5DT.3079, 5DT.3080, 5DT.3087, 5DT.3149, and isolate 5DT.3083 are not eligible for listing to the NRHP.

Assessment of Adverse Effects

We concur with your finding that the undertaking will result in **adverse effects,** 36 CFR 800.5(b) to the North Delta Canal (5DT.1738). It is our understanding that the Bureau of Reclamation intends to resolve adverse effects to 5DT.1738 according to Stipulation III.1 and Appendix B of the PA. Given the nature of the present undertaking, we agree this course of action is appropriate, and look forward to reviewing the mitigation proposal and continuing consultation according to Stipulation III.1 of the PA. .

We request being involved in the consultation process with the local government, which as stipulated in 36 CFR 800.3 is required to be notified of the undertaking, and with other consulting parties. Additional information provided by the local government or other consulting parties might cause our office to re-evaluate our eligibility and potential effect findings. Please note that our compliance letter does not end the 30-day review period provided to other consulting parties.

Thank you for the opportunity to comment. If you have any questions, please feel free to contact Holly McKee-Huth, Cultural Resource Information/Section 106 Compliance, at (303) 866-4670 or holly.mckee@state.co.us.

Sincerely,

(for) Dawn DiPrince
State Historic Preservation Officer

Appendix D. EA Distribution List

Agency	City	State
US Fish and Wildlife Service	Grand Junction	CO
US Fish and Wildlife Service	Grand Junction	CO
US Army Corps of Engineers	Grand Junction	CO
US Bureau of Land Management	Montrose	CO
Natural Resources Conservation Service	Grand Junction	CO
Colorado Parks and Wildlife	Montrose	CO
Colorado Parks and Wildlife	Montrose	CO
Colorado Parks and Wildlife	Montrose	CO
Colorado Parks and Wildlife	Montrose	CO
Colorado Parks and Wildlife	Montrose	CO
Colorado Parks and Wildlife		
Colorado Department of Transportation	Grand Junction	CO
Colorado Department of Archaeology and Historic Preservation	Denver	CO
Southern Ute Indian Tribe	Ignacio	CO
Ute Mountain Ute Tribe	Towaoc	CO
Ute Indian Tribe – Uintah and Ouray Reservation	Fort Duchesne	UT
Colorado Water Conservation Board	Denver	CO
Colorado River Water Conservation District	Glenwood Springs	CO
Colorado River Water Conservation District	Glenwood Springs	CO
Trout Unlimited	Montrose	CO
Trout Unlimited		
Citizens for a Healthy Community	Paonia	CO
Western Slope Conservation Center	Paonia	CO
Delta County Planning and Development	Delta	CO
Delta County Road and Bridge	Delta	CO
Delta County Commissioners	Delta	CO
City of Delta- Delta Works	Delta	CO
Orchard City	Orchard City	CO
DMEA	Delta	CO
Blackhills Energy	Rapid City	SD
Town of Hotchkiss	Hotchkiss	CO
Golden Eagle Water Company		
Grazing Allotment Holders in project area	Texas	CO

PRIVATE LANDOWNERS NEAR PROJECT

Owner Name	Mail City	State
THARP GARY W	AUSTIN	CO
THOMPSON RAYMOND E	AUSTIN	CO
WADDINGTON ALBERTA S	DELTA	CO

Owner Name	Mail City	State
THOMPSON RAYMOND E	AUSTIN	CO
SANCHEZ DALE J JR	AUSTIN	CO
BUREAU OF LAND MANAGEMENT	MONTROSE	CO
WHITAKER SUZETTE	AUSTIN	CO
DRYSDALE RIVER RANCH LLC	YUMA	AZ
DELTA COUNTY OF (ROW)	DELTA	CO
DOWELL JAMES S	AUSTIN	CO
GILBERTSON DAVID	AUSTIN	CO
THARP GARY W	AUSTIN	CO
THARP GARY W	AUSTIN	CO
THARP GARY W	AUSTIN	CO
DELTA COUNTY OF	DELTA	CO
DOUGLAS SAMUEL J	AUSTIN	CO
PACHECO LANCE JOE	AUSTIN	CO
MAUTZ KEITH I	AUSTIN	CO
BOYD EDWARD E	AUSTIN	CO
DOWELL JAMES	AUSTIN	CO
BYERS LARRY J	AUSTIN	CO
WADDINGTON ALBERTA S	DELTA	CO
DOWELL JAMES L	AUSTIN	CO
SURFACE CREEK COMMUNITY CHURCH	AUSTIN	CO
WESKAMP WILLIAM	AUSTIN	CO
MCILHENNY CLAYTON	AUSTIN	CO
DOWELL JAMES L	AUSTIN	CO
MESSENGER JESSIE J	AUSTIN	CO
GRAND HEADWATERS LLC	BOULDER	CO
MCDERMOTT MEMORY M	CEDAREDGE	CO
MCCARTHY ELIZABETH ANN	ECKERT	CO
BECHTOLD CHARLES A	AUSTIN	CO
SAN MIGUEL HOLDINGS LLC	TELLURIDE	CO
DOUGLAS SAMUEL J	AUSTIN	CO
DELTA COUNTY OF (ROW)	DELTA	CO
DOWELL JAMES	AUSTIN	CO
TUFT EDWARD	HOTCHKISS	CO
TUFT EDWARD	HOTCHKISS	CO
RUNDLE CHAD M	AUSTIN	CO
DOWELL JAMES L	AUSTIN	CO
EDWARDS MICHAEL J	DELTA	CO
BRIDGE STREET MARKET LLC	HOTCHKISS	CO
AUSTIN BAPTIST CHURCH	AUSTIN	CO
HARDIN WILLIAM P	AUSTIN	CO
BYERS LARRY J	AUSTIN	CO
GROOMS JOSEPH MARK	MADISON	MS
HUTCHINSON ROSS A	AUSTIN	CO

Owner Name	Mail City	State
HARDIN WILLIAM P	AUSTIN	CO
HARDIN WILLIAM P	AUSTIN	CO
BROWN DOROTHY M	AUSTIN	CO
DAO NGOC NGA T	LAKEWOOD	CO
GILBERTSON DAVID	AUSTIN	CO
WALKER JEREMIAH 1/2 INT	GYPSUM	CO
PUTNEY ANNA M	RANGELY	CO
SANCHEZ BENJAMIN FRANCISCO	DELTA	CO
CARTER GARY BRENT	OLATHE	CO
HUTCHINSON ROSS A	AUSTIN	CO
SALISBURY TERRY L	AUSTIN	CO
DOWELL ROYDEN F	AUSTIN	CO
GILBERTSON DAVID	AUSTIN	CO
CHIARMONTE TRISTEN	AUSTIN	CO
STARR MARK A	AUSTIN	CO
CONRAD DAWN L	AUSTIN	CO
SPARACINO KATHERINE L	AUSTIN	CO
YOUNG SARAH L	AUSTIN	CO
BRUCE TIMOTHY A	AUSTIN	CO
BAUTISTA SATOSHI HIGA	AUSTIN	CO
CHIARMONTE TRISTEN	AUSTIN	CO
GILBERTSON DAVID	AUSTIN	CO
Section 2 (North Delta Area)		
COLEMAN LESLIE D	DELTA	CO
DSCO FARMS LLC	DELTA	CO
WHITEWATER BUILDING MATERIALS CORPORATION	GRAND JUNCTION	CO
HUTCHINS ASHLEY SIGRID	DELTA	CO
OLDCASTLE SW GROUP INC	GRAND JUNCTION	CO
DELTA COUNTY OF	DELTA	CO
YADON BRANDON	HOTCHKISS	CO
RODRIGUEZ AURELIO D	DELTA	CO
DEUSCHLE WENDY R	DELTA	CO
GALLEGOS MAX	DELTA	CO
DELTA CITY OF	DELTA	CO
DELTA CITY OF	DELTA	CO
DALPIAZ TERRY	DELTA	CO
PITTMAN MEGAN E	DELTA	CO
FEZER SUSAN	POULSBO	WA
WILCOX EDWIN LEROY	DELTA	CO
SHAW JAMES W	DELTA	CO
RUYBAL CATHERINE T	DELTA	CO
GERD DON A	DELTA	CO
NEUROCK HARMONY	DELTA	CO

Owner Name	Mail City	State
SUKLE JAMES L TRUST	DELTA	CO
SCHAAF TRE	DELTA	CO
BOWLING RUSSELL A	DELTA	CO
EVANS HARVIE	DELTA	CO
NELSON ROY L	DELTA	CO
AMES LEE D.	WASILLA	AK
NORTH DELTA IRRIGATION CO THE	DELTA	CO
MCGAHA LUKE	DELTA	CO
HOTCHKISS RANCHES INC	DELTA	CO
DELTA COUNTY OF (BLAKE FIELD)	DELTA	CO
DELTA COUNTY OF	DELTA	CO
WELLS TROY	DELTA	CO
OLDCASTLE SW GROUP	GRAND JUNCTION	CO
DARNALL DAKOTA	DELTA	CO
MGMGJ PROPERTIES LLC	GRAND JUNCTION	CO
OLDCASTLE SW GROUP INC	GRAND JUNCTION	CO
COLEMAN LESLIE D	DELTA	CO
BUREAU OF LAND MANAGEMENT	MONTROSE	CO
DELTA CITY OF	DELTA	CO
MILLER CHARLES R	DELTA	CO
BROWN ANNA JEAN	DELTA	CO
BROWN ANNA JEAN	DELTA	CO
NELSON ROY L	DELTA	CO
NELSON KENNETH L	DELTA	CO
HILL DOUGLAS	DELTA	CO
PIRELA YOFRAN RAFAEL	DELTA	CO
HENDRICKS ELMA JEAN	NEWNAN	GA
RODRIGUEZ AURELIO D	DELTA	CO
JONES MATTHEW G	DELTA	CO
HAYNES AARON F	DELTA	CO
HAMMER MARKUS GERHARD	DELTA	CO
JUNE F AYERS REVOCABLE TRUST DATED MAY 4 2020 AS AMENDED	DELTA	CO
EASTER DARRELL W	DELTA	CO
BROWN DAVID	DELTA	CO
DEUSCHLE WENDY R	DELTA	CO
ARAGON DONNA J	DELTA	CO
BASCUE KEVIN M	DELTA	CO
JONES CHANCE ELLSWORTH	DELTA	CO
STIGGINS JIMMIE NAVON	WINTER PARK	FL
FIRE MOUNTAIN PROPERTIES LLC	PAONIA	CO
NELSON ROY L	DELTA	CO
HODGES GARY LEE	DELTA	CO
ALSDORF JAY WESTLEY	DELTA	CO

Owner Name	Mail City	State
DELTA CITY OF	DELTA	CO
DELTA CITY OF	DELTA	CO
FISHER RANDALL R	DELTA	CO
BERNAL CORRAL EMIGDIO	DELTA	CO
FOREMAN DEBORAH	CEDAREDGE	CO
HATCH TIMOTHY W	DELTA	CO
KEARNS PHYLLIS E	DELTA	CO
BENGSTON TREVA (1/3 INT)	SOUTH HUTCHINSON	KS
DELTA COUNTY OF (BLAKE FIELD)	DELTA	CO
DELTA COUNTY OF (BLAKE FIELD)	DELTA	CO
DELTA COUNTY OF	DELTA	CO
OLDCASTLE SW GROUP INC	GRAND JUNCTION	CO
HERBIG LARRY J	DELTA	CO
BERTO DIANE M	DELTA	CO
HERNANDEZ PORFIRIO J	DELTA	CO
FEATHERSTON DEBBIE	DELTA	CO
ROOP GEORGE A	DELTA	CO
MCGAHA LUKE	DELTA	CO
PETRI GARY A	MONTROSE	CO
LOPEZ JUDITH ELLEN	DELTA	CO
JATS LAND & CATTLE LLLP	DELTA	CO
LOZANO TIMOTHEA A	DELTA	CO
JATS LAND & CATTLE LLLP	DELTA	CO
DELTA TRAP CLUB	DELTA	CO
DELTA COUNTY OF (BLAKE FIELD)	DELTA	CO
BUREAU OF LAND MANAGEMENT	MONTROSE	CO
DELTA COUNTY OF	DELTA	CO
NELSON ROY L	DELTA	CO
DELTA COUNTY OF	DELTA	CO
LEE MARK BRIAN	DELTA	CO
DELTA CITY OF	DELTA	CO
DARNALL DAKOTA	DELTA	CO
DELTA COUNTY OF (BLAKE FIELD)	DELTA	CO
DSCO FARMS LLC	DELTA	CO
JATS LAND & CATTLE LLLP	DELTA	CO
ALSDORF TRUST	DELTA	CO
DURFEE HAL B	DELTA	CO
CLARENCE R MOORE AND PATRICIA C MOORE LIVING TRUST DATED JANUARY 16 2024	DELTA	CO
MONTANO MARCELINO A	DELTA	CO
BUREAU OF LAND MANAGEMENT	MONTROSE	CO
BUREAU OF LAND MANAGEMENT	MONTROSE	CO
BUREAU OF LAND MANAGEMENT	MONTROSE	CO
NUTTER VERNON B	DELTA	CO

Owner Name	Mail City	State
FENDER JOHNNA D	DELTA	CO
MGMGJ PROPERTIES LLC	GRAND JUNCTION	CO
SEVERSON LESTER MERLYN	DELTA	CO
WORKMAN LESTER N	DELTA	CO
BANGERT CECIL DOUGLAS	DELTA	CO
ALSDORF TRUST	DELTA	CO
CROSS JOAN E	FREMONT	CA
BURKHOLDER JAY L	DELTA	CO
LEE MARK BRIAN	DELTA	CO
WITTEN RAY	WHITE HOUSE	TN
HERNANDEZ JAVIER ROMERO	DELTA	CO
HERNANDEZ JESUS ROMERO	DELTA	CO
DELTA CHRISTIAN CHURCH OF CHRIST	DELTA	CO
WOFFORD TRAVIS W	MONTROSE	CO
WOFFORD TRAVIS W	MONTROSE	CO
EVANS TRAVIS MARK	DELTA	CO
ADAME JUAN	OLATHE	CO
COOPER FAMILY TRUST DATED SEPTEMBER 26 2017	DELTA	CO
SANDERS JESSE J	DELTA	CO
SUKLE JAMES L TRUST	DELTA	CO
BORLAND MARK T	DELTA	CO
CARLSON WESLEY L	DELTA	CO
KING CARLENE	DELTA	CO

Appendix E

Public Comments and Responses

Two (2) comment letters were received during the public comment period. The letters contained 5 distinct, substantive comments. The comments were primarily focused on the minimization of impacts to wildlife and timing limitations. Possible responses to these comments include:

- Modifying the alternatives or developing and evaluating new alternatives
- Supplementing, improving, or modifying the analyses
- Making factual corrections

The Bureau of Reclamation (Reclamation) reviewed each comment and classified them according to topic or comment category below. Summary comments and consolidated responses follow. Changes were made to supplement, improve, or modify the EA as a result of these comments and the reader is referred to the section of the EA where the changes occurred.

All substantive comments received were from Colorado Parks and Wildlife (CPW).

Category: Wildlife
Comment Numbers: 1, 4, 5

Summary comment: CPW indicated the project area has a diversity of wildlife, including mountain lion, black bear, beaver, wild turkey, mule deer, various raptor species, and elk, and identified that the project area contains CPW-mapped High Priority Habitats (HPH), which include Severe Winter Range and Winter Concentration Area for mule deer and elk. CPW recognized open ditches provide water to wildlife in arid areas, and requested Reclamation examine the need to provide wildlife access to water projects in areas where open irrigation systems are the only source of water available for wildlife and requested early coordination on future, larger piping projects. Ultimately, CPW does not believe measures such as installing wildlife guzzlers or small ponds to provide a source of water to wildlife is a necessary measure for the Proposed Action. CPW requested Reclamation examine the need to include a means for wildlife to escape the shotcrete canal.

Response: Impacts to mountain lion, black bear, wild turkey, and elk were analyzed in Section 3.2.9 of the Draft EA. Impacts to raptors were analyzed in Section 3.2.10 of the Draft EA. Beaver has been added to Section 3.2.9 in the Final EA. Impacts to Severe Winter Range for elk and mule deer and to the elk Winter Concentration Area were analyzed in Section 3.2.9 of the Draft EA. Reclamation will continue to coordinate with CPW early on future, larger piping projects where open irrigation systems are the only source of water available for wildlife. Reclamation acknowledges CPW does not believe measures such as installing wildlife guzzlers or small ponds to provide a source of water to wildlife is a necessary measure for the Proposed Action.

Reclamation coordinated with CPW regarding project impacts in a June 23, 2025 meeting. The project engineers and CPW identified an area within the shotcrete lined portion of the canal in Section 1 where the side slopes could be laid back to better facilitate the crossing of big game. This change has been added to the description of the Proposed Action in Section 2.2.2 of the Final EA and has been discussed in the analysis of wildlife in Section 3.2.9 of the Final EA.

Category: Timing Limitations
Comment Numbers: 2, 3

Summary comment: CPW requested efforts are made to finish construction in Section 1 by March 1, as mule deer are at their worst body condition and the highest overwinter mortality occurs from March through May. CPW also recommended tree removal or vegetation grubbing not occur during the breeding period for migratory birds unless surveys are conducted to identify locations of active nests.

Response: Reclamation coordinated with CPW regarding the requested March 1 timing restriction in Section 1 in a June 23, 2025 meeting. CPW clarified that they update their Species Activity Maps (SAM) annually in an effort to use the best available science. The SAM in the Project Area was updated since the time CPW made this comment on the Draft EA. CPW acknowledged there has been a reduction in mule deer activity in this area and the Section 1 area is no longer in a mapped Wildlife Conservation Area (WCA) for mule deer. Therefore, CPW requested Reclamation disregard the timing restriction requested for Section 1 in their comment letter.

Section 2.2.9 of the Draft EA identified that vegetation grubbing or clearing would avoid the breeding period for migratory birds (February 15 – July 15), and an environmental commitment pertaining to this timing restriction was included in Table 8 of the Draft EA. Reclamation will add language to the environmental commitment in the Final EA to indicate that if the project schedule changes and vegetation clearing and grubbing would occur during the breeding season for migratory birds, nesting bird surveys would be completed prior to any clearing or grubbing activities and all active nests would be avoided until the nest fledges.

Outlook

[EXTERNAL] Re: Availability of Draft EA - North Delta Irrigation Company Phase II Salinity Control Project

From Wendell Koontz <wkoontz@deltacountyco.gov>
Date Tue 4/22/2025 9:13 AM
To Ward, Jennifer K <jward@usbr.gov>

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Ms. Ward,

Delta County supports the North Delta Canal Salinity Control Phase II Project. Replacing, upgrading, piping, and active management of water resources is a benefit to shareholders and the environment. Thank you for the opportunity to comment.

Regards,

Wendell A. Koontz

On Wed, Apr 9, 2025 at 6:57 AM Ward, Jennifer K <jward@usbr.gov> wrote:

> Hello,
>
> Please find attached a letter announcing the availability of the Draft Environmental Assessment for North Delta Irrigation Company's North Delta Canal Phase II Salinity Control Project. The public comment period extends through Monday, May 12, 2025.
>
> Thank you,
> Jenny
>
> Jenny Ward
> Environmental Group Chief
> Western Colorado Area Office
> Bureau of Reclamation
> (970) 248-0651

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COLORADO
Parks and Wildlife
Department of Natural Resources

Gunnison Service Center
200 S. Spruce Street
Gunnison, CO 81230
P 970.641.7060 | F 970.648.3014

May 12, 2025

Mr. Ed Warner - Area Manager
Department of the Interior
Bureau of Reclamation
445 West Gunnison Ave, Suite 221
Grand Junction, CO 81501

RE: Draft Environmental Assessment: North Delta Canal Salinity Control Project
Project: WC-GJ-EA-2024-002

Dear Mr. Warner,

Thank you for the opportunity to comment on the Bureau of Reclamation's (Reclamation) North Delta Canal Salinity Reduction Project draft Environmental Assessment (EA). Under the Proposed Action Alternative, Reclamation would provide funding to install 3.3 miles of shotcrete lining and 1.16 miles of piping. This project is intended to reduce salinity loading into the Colorado River. Colorado Parks and Wildlife (CPW) appreciates the involvement Reclamation has given CPW in planning this project. This collaboration allows CPW to carry forward our mission, which is, in part, to perpetuate the wildlife resources of the state.

The proposed project area is located on public and private lands inhabited by diverse wildlife, including mountain lion, black bear, river otter, wild turkey, mule deer, elk, migratory birds, and various raptor species. The current open ditch provides a water source for wildlife during the irrigation season (April-October) and supports the surrounding vegetation. Section 1 of the project area also contains CPW-mapped High Priority Habitats (HPH), including Winter Concentration Area (WCA) for mule deer and Aquatic Native Species Conservation Waters. CPW's recommendations to avoid and minimize impacts to these HPHs can be found here.

Comment 1

Comment 2

Section 3.2.9, page 35, discusses a timing limitation for the habitat replacement component of the project from December 1 to April 30 to protect mule deer WCA HPH. Not stated in the draft EA, Section 1 of the project is also in mule deer WCA HPH. CPW understands that avoidance of construction activities from December 1 to April 30 may not be possible due to the irrigation season. To reduce impacts from these proposed activities in mule deer WCA, we recommend that efforts are made to finish Section 1 by March 1, as mule deer are at their worst body condition and the highest overwinter mortality occurs from March through May. In addition, CPW would also recommend that any trenches capable of entrapping big game have escape ramps, at least one every quarter mile, or trenches will be covered when not attended.

Comment 3

Jeff Davis, Director, Colorado Parks and Wildlife
Parks and Wildlife Commission: Dallas May, Chair · Richard Reading, Vice-Chair · Karen Bailey, Secretary · Jessica Beaulieu
Marie Haskett · Tai Jacober · Jack Murphy · Gabriel Otero · Murphy Robinson · James Jay Tutchton · Eden Vardy

In order to reduce impacts to breeding birds, CPW recommends that tree removal or vegetation removal activities be timed to avoid the migratory bird breeding season, which is April 1 to August 31, unless surveys are conducted and no active nests are found. Any active nests found during a survey should receive a 50-foot avoidance area buffer until the nest is successful.

Comment 4

No research has been conducted that examines the impacts of converting earthen irrigation canals to cement-lined irrigation canals. Anecdotal evidence and professional observation have shown that cement-lined canals (shotcrete) can present a barrier or a hazard to wildlife attempting to access water or during movement and migration periods. Hooved animals like deer may be unable to escape a slick, cement-lined canal, based on the depth and steepness of its sides. Due to the complex nature of this issue, CPW recommends that in the future, BOR reach out early for consultation if a project proposes the use of shotcrete lining. Early consultation would be especially important in areas where the shotcrete lining would extend for more than ½ mile, a canal lies parallel to a water feature such as a river or pond, or a canal crosses a migration corridor. In addition, CPW would request that BOR examine the need to include a means for wildlife to escape the shotcrete canal where a canal converts to a pipeline.

Comment 5

Thank you for the opportunity to provide comments on the North Delta Canal Salinity Control Project EA. If you have any questions or would like further clarification, please don't hesitate to contact Cedaredge District Wildlife Manager Kevin Brian at 303-291-7223 or Delta District Wildlife Manager Stuart Sinclair at 970-209-2370.

Very Respectfully,

Brandon Diamond
Area Wildlife Manager, Area 16

CC: Area 16 File; Area 18 File; SW Regional File; SW Region Land Use Coordinator - Peter Foote

Jeff Davis, Director, Colorado Parks and Wildlife
Parks and Wildlife Commission: Dallas May, Chair · Richard Reading, Vice-Chair · Karen Bailey, Secretary · Jessica Beaulieu
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Appendix F Summary of Habitat Replacement Accounting for Salinity Control Sites in the Region

Appendix F – Summary of Habitat Sites

Salinity Project	Status	Habitat Units Lost	Habitat Credits Created
Bostwick Park Siphon Lateral Piping Project and Waterdog & Shinn Park Laterals Piping Project	Past	32.1	32.4
C Ditch/Needle Rock	Past	7.88	10.49
Cattleman's Ditch Phases 1 and 2	Past	18.57	23.32
Crawford Clipper – Center Lateral	Past	33.9	38.4 + Excess from previous project
Crawford Clipper - Jerdon, West, & Hamilton	Project	11.6	33.4
Crawford Clipper – Spurlin Mesa (Clipper 4) & Zanni Lateral	Past	16.38	16.49
East Side Laterals – Phase 1	Past	59.85 acres[1]	100 acres
East Side Laterals – Phase 2	Past	26 acres	26 acres
East Side Laterals – Phase 3	Past	8.6	26
East Side Laterals – Phase 4	Past	7.04	Using excess from previous project
East Side Laterals – Phase 5 & GE, DK Laterals	Past	9.99	Using excess from previous project
East Side Laterals – Phase 7[a]	Past	2.77	41.9
East Side Laterals – Phase 8	Past	22.2	Using excess from previous project
East Side Laterals – Phase 9 & Phase 9 Mod	Past	35.6	31.7+ Excess from previous project
East Side Laterals – Phase 10	Reasonably Foreseeable	18.7	6.3[a] + Excess
Fire Mountain Canal	Past	8.42	13.05
Forked Tongue/Holman Ditch	Past	6.7	11.07

Salinity Project	Status	Habitat Units Lost	Habitat Credits Created
Gould Canal – Projects A & B	Past	18.1	24.19
Grandview Canal – Upper, Middle & Lower	Past & Reasonably Foreseeable	33.6[iv]	34
Minnesota Ditch – Phase 1	Past	11.17	22.73
Minnesota Ditch – Phase 2 and Minnesota L-75	Past	24.92	17.61 + Excess from previous project
Needle Rock/Lone Rock Ditch	Present	13.9	15.8
North Delta Canal – Phase 1 and Phase I Extension	Past	173.03	174.6
Orchard Ranch Ditch	Past	5.12	5.99
Pilot Rock Ditch	Past	16.9	20.9
Roger's Mesa Slack and Patterson Laterals	Past	20.34	39.93
Short Ditch Extension	Present	13.8	14.1
Stewart Ditch – Upper, Middle & Lower	Past	8.67	9.63
Turner/Lone Cabin Ditch	Reasonably Foreseeable	117.8	120.3
	TOTAL:	**697.8 units, 85.85 acres**	**784.3 credits, 126 acres**

[i] In late 1990's and early 2000's, the habitat replacement procedures focused on acres rather than credits.
[ii] East Side Laterals – Phase 6 was not a salinity control project, and therefore there is no habitat replacement project associated with that phase.
[iii] As Phase 10 is a potential future project and documentation has not been completed at this time, this figure is an estimate.
[iv] As the Middle & Lower Grandview project is a potential future project and documentation has not been completed at this time, this figure is an estimate. The Upper Grandview project resulted in the loss of 26 habitat units and the Middle & Lower is currently anticipated to result in the loss of an additional 7.6 habitat units.

	A	B	C	D	E
Species	Desired % of planting	Multiplier (A x 0.01)	PLS lbs for full stand	PLS lbs per acre needed for mix (B x C)	PLS lbs per acre for project (D x # acres)
Bottlebrush squirreltail *(Elymus elemoides)*	25	0.25	16	4	
Western Wheatgrass *(Pascopyrum smithii)* Variety Arriba	25	0.25	10	2.5	
Galleta Grass (*Hilaria* or *Pleuraphis jamesii*)	10	0.1	16	1.6	
Indian Ricegrass *(Acnatherum hymenoides)* Variety Paloma	10	0.1	32	3.2	
Salina Wildrye *(Leymus salinus)*	5	0.05	8	0.4	
Scarlet Globemallow *(Sphaeralcea coccinea)*	2	0.02	6	0.12	
Annual sunflower (*Helianthus annuus*)	3	0.03	10	0.3	
Winterfat (*Eurotia* or *Krascheninnikovia lanata)*	5	0.05	5	0.25	
Shadscale *(Atriplex confertifolia)*	5	0.05	5	0.25	
Mat saltbush (*Atriplex corrugate*)	5	0.05	6	0.3	
Gardner saltbush (*Atriplex gardneri*)	5	0.05	5	0.25	
Totals	100	1.0		13.17	