



— BUREAU OF —
RECLAMATION

Environmental Assessment and Finding of No Significant Impact Hartland Ditch Company Hartland Ditch Improvement Project

**Colorado River Basin Salinity Control Program
Western Colorado Area Office
Interior Region 7: Upper Colorado Basin
WCAO-GJ-EA-2024-003**



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.

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Prepared for the Bureau of Reclamation by WestWater Engineering

March 2025

Cover Photo: View of Hartland Ditch, Delta, CO. (WestWater Engineering/Paul Gray)

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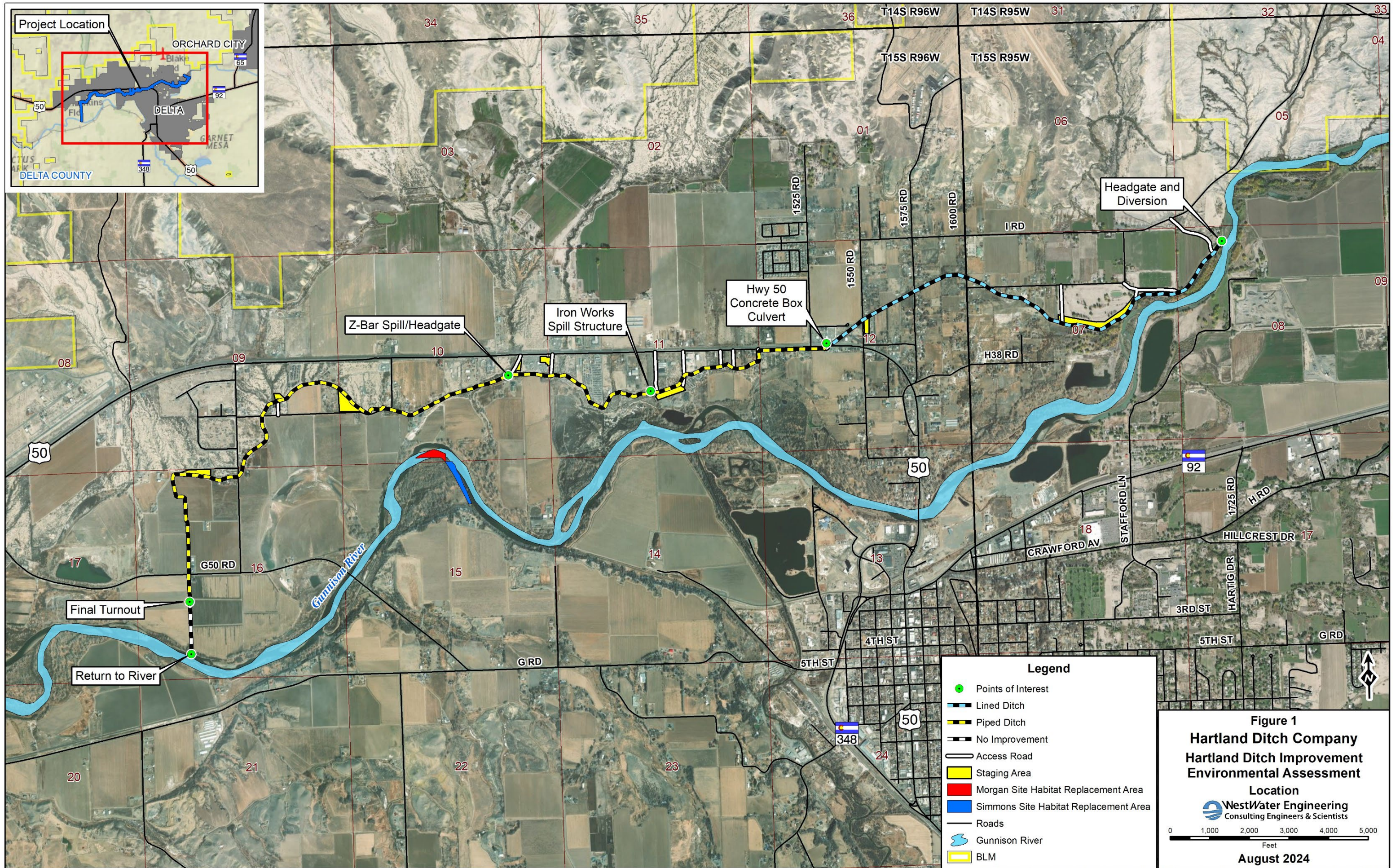


Figure 1: Hartland Ditch Improvement Project Area

CHAPTER 1 – INTRODUCTION

This Environmental Assessment (EA) has been prepared to disclose and evaluate the potential environmental effects of the Hartland Ditch Company’s Hartland Ditch Improvement Project (“Project” or “Proposed Action”). This document has been prepared in compliance with the National Environmental Policy Act of 1969 (NEPA) and the Department of the Interior’s NEPA regulations at 43 C.F.R. §§ 46.10-46.450.

1.1 – Project Location and Legal Description

The Project Area is located in Delta County, CO within Sections 5, 6, 7 and 8, of Township 15 South, Range 95 West, and Sections 9, 10, 11, 12, 15, and 16, of Township 15 South, Range 96 West (Figure 1). The Proposed Action involves the lining or piping of the entire approximately 6.7-mile length of the Hartland ditch. The Proposed Action also includes the implementation of a Habitat Replacement Plan to offset habitat losses that occur as a result of the lining and piping of the Hartland Ditch. The Habitat Replacement Area would be located on private property in Delta County in Sections 10 and 15, of Township 15 South, Range 96 West.

1.2 – Need for and Purpose of the Proposed Action

The need for the Proposed Action is to eliminate seepage along the Hartland Ditch to help reduce salinity in the Colorado River Basin by an estimated 3,472 tons per year. The reduction of salinity concentrations in the Colorado River Basin would provide benefits to downstream water users and wildlife habitat. In addition, the project would also help to reduce selenium loading into the basin by an unquantified amount. The purpose of the proposed action is to comply with the Colorado River Basin Salinity Control Act.

1.3 – Overview of Proposed Action

The Proposed Action is for the Bureau of Reclamation (Reclamation) Western Colorado Area Office (WCAO) to provide funding to Hartland Ditch Company to complete the Hartland Ditch Improvement Project. The project would involve the lining of approximately 2.24 miles of the Hartland ditch from the diversion from the Gunnison River to the Highway 50 concrete channel and box culvert and piping of the remaining approximately 4.42 miles of the ditch from the Highway 50 concrete channel and box culvert to the return to the Gunnison River. The project would also involve the implementation of a habitat replacement plan along the south bank of the Gunnison River to replace riparian and wetland habitat lost as a result of lining and piping the ditch. The Proposed Action is described in detail in Section 2.3 of this EA.

1.4 – Decision to be Made

Reclamation will decide whether to authorize funding to the Hartland Ditch Company to implement the Proposed Action under Cooperative Agreement No. R24AC00129.

1.5 – Background

The Colorado River Basin Salinity Control Act was enacted by Congress in 1974 to create a program to protect the quality of water available in the Colorado River for use by the U.S. and Mexico. The Colorado River and its tributaries provide water to approximately 40 million people and irrigation to approximately 5.5 million acres of land in the U.S. Salinity affects agricultural, municipal, and industrial water users (Reclamation 2024a). Salinity damages in the U.S. is estimated to be approximately \$382 million per year (Reclamation 2017).

Salinity loading in river systems degrades water quality which affects downstream water users by impacting crop production, degrading wildlife habitat, and causing corrosion on residential and municipal plumbing. Irrigation practices throughout the Colorado River Basin contribute approximately 37% of the salinity to the basin (Reclamation 2017).

The Salinity Control Program is designed to help fund and implement projects and measures to control salinity loading into the Upper Colorado River Basin. Reclamation is authorized under the Secretary of the Interior to implement the salinity control program and provide funding for projects that meet the salinity control program's goals and objectives with a one-time grant that is limited to an 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 Opportunities (NOFOs) (formerly called Funding Opportunity Announcements [FOAs]) issued by Reclamation. As part of the NOFOs, 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. Once constructed, the facilities are 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, geographic information system (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. 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 2023).

1.6 – Relationship to Other Projects

1.6.1 – Salinity Control Program

Reclamation, under the authority of the Colorado River Basin Salinity Control Act, Public Law 93-320, as amended, provides funding through the Basinwide Salinity Control Program and the Basin States Program to implement cost-effective salinity control projects in the Colorado River Basin. Reclamation's Western Colorado Area Office is in the process of or has recently utilized Salinity Control Program funds for the following salinity control projects in the vicinity of the Project.

- Bostwick Park Siphon Lateral and Waterdog & Shinn Park Laterals Piping Projects
- Bostwick Park Water Conservancy District's Hairpin Lateral Piping Project
- C Ditch/Needle Rock Piping Project
- Cattleman's Ditches Piping Project Phases I and II
- Crawford Clipper Center Lateral Piping Project
- Crawford Clipper Jerdon, West, Hamilton Piping Project
- Crawford Clipper Spurlin Mesa (Clipper 4) & Zanni Lateral
- Eastside Laterals Piping Projects, Phases 1 through 10, including GE, DK Laterals and Phase 9 Mod
- Fire Mountain Canal Piping Projects – Phases I and II
- Forked Tongue/Holman Ditch Piping Project
- Gould Canal Improvement Projects A & B
- Grandview Canal Upper, Middle and Lower Piping Projects
- Minnesota Canal Piping Project Phase I and II, and Minnesota L75 Piping Project
- Needle Rock/Lone Rock Piping Project
- North Delta Canal Piping Project – Phases I and II
- Orchard Ranch Ditch Piping Project
- Pilot Rock Ditch Piping Project
- Rogers Mesa Slack and Patterson Lateral Piping Project

- Short Ditch Extension Piping Project
- Stewart Ditch – Upper, Middle & Lower Piping Projects

1.6.2 – CRSP Basin Funds

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

- Aspen Canal Piping Project
- GK Lateral Piping Project

1.6.3 – 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. RCPP irrigation infrastructure improvement projects implemented or planned in the vicinity of the Project include:

- Need Rock Diversion Project
- Grandview Canal Piping Project
- Crawford Clipper Ditch Upper West Lateral Master Plan Projects (various)
- Bostick Park Water Conservancy District Watershed Plan (various)

1.7 – Scoping

Scoping for this EA was completed by Reclamation, in consultation with the following agencies and organizations, during the planning stages of the Proposed Action to identify the potential environmental and human environment issues and concerns associated with implementation of the Proposed Action and No Action Alternatives:

- Colorado State Historic Preservation Office, Denver, CO
- U.S. Fish and Wildlife Service, Ecological Services, Grand Junction, CO
- U.S. Army Corps of Engineers, Colorado West Regulatory Branch, Grand Junction, CO
- Southern Ute Tribe, Ute Mountain Ute Tribe, and Ute Indian Tribe (Uintah and Ouray Reservation)

Concerns raised during public comment periods on recent similar projects also helped identify potential concerns for the Project.

Issues determined to be of potential significance, and therefore appropriate for further impact analysis under this EA, are discussed in Chapter 3. The following issues, described in Table 1, were identified as *not present or not affected*, and are not analyzed further in this EA¹:

Table 1. Resources Eliminated from Further Analysis.

Resource	Rationale for Elimination from Further Analysis
Indian Trust Assets and Native American Religious Concerns	No Indian trust assets or Native American religious sites are known to occur or have been identified within the Proposed Action area. Neither the No Action Alternative nor the Proposed Action would have an effect on Indian trust assets or Native American Religious sacred sites. To confirm this finding, Reclamation provided the Ute Mountain Ute Tribe, the Ute Indian Tribe (Uintah and Ouray Reservation), and the Southern Ute Indian Tribe on December 4, 2024, 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. No comments have been received to date.
Wild and Scenic Rivers, Land with Wilderness Characteristics, or Wilderness Study Areas	The Proposed Action area would not occur within any designated wild and scenic rivers, land with wilderness characteristics, or wilderness study areas. Therefore, neither the No Action Alternative nor the Proposed Action Alternative, would have an effect on these resources.
Recreation and Visual Resources	The Proposed Action would not change the existing recreation and/or visual characteristics of the surrounding landscape. The Proposed Action area would occur within an existing canal structure and no impacts are anticipated beyond the canal easement; thus, there would be no effects to recreation or visual resources.

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.

Resource	Rationale for Elimination from Further Analysis
Soils and Farmlands of Agricultural Significance	<p>No irrigated farmland or agricultural lands would be disturbed by the Proposed Action. All disturbance associated with the Proposed Action would occur within the ditch prism, existing disturbances areas at the staging locations, and along the ditch ROW. Irrigated farmland production would not be removed or added as a result of the Proposed Action. The water delivery system efficiencies would increase from the Proposed Action resulting in a potential increase in agricultural production. Surface disturbance at the habitat replacement project area would occur on soils designated as Prime Farmland if irrigated and either protected from flooding or not frequently flooded during the growing season (NRCS 2024); however, this area is not in agricultural production and no impacts to farmland would occur as a result of implementation of the plan. No surface disturbance would occur on farmlands irrigated by the Hartland Ditch. Disruption to the irrigation season would not occur as the Proposed Action would be implemented during the irrigation off-season. There would be no adverse impacts to soils and farmlands of agricultural significance as a result of the Proposed Action.</p>
Desertification	<p>Desertification is a type of land degradation in which fertile areas become arid. Biological and agricultural productivity are diminished due to drought, deforestation, overexploitation of soil and grasslands, or a combination of factors. No change to irrigated areas or farming practices would occur as a result of the Project. The purpose of the Project would prevent deep percolation of the canal water along the open ditches proposed for lining or piping, and this conserved water would be delivered to irrigated crops, which would continue to return water to the atmosphere through evapotranspiration, and return water to the aquifer through deep percolation. No water resources would be removed from the basin. Therefore, this potential issue was eliminated from further analysis.</p>
Climate Change	<p>The Project would not contribute to climate change. Climate change is a term that refers to long-term shifts in climate patterns—specifically, human-induced shifts driven by the burning of fossil fuels, a process which produces greenhouse gases. The minor short-term increase in greenhouse gas emissions during construction would not result in impacts that differ from the No Action Alternative, as heavy equipment is periodically utilized to maintain the open irrigation ditches.</p>

CHAPTER 2 – PROPOSED ACTION AND ALTERNATIVES

Alternatives evaluated in this EA include the No Action Alternative and the Proposed Action Alternative.

2.1 – Alternatives Considered but Not Carried Forward

Hartland Ditch considered two alternatives during the conceptual design process: 1) lining the entire ditch with shotcrete or 2) piping the entire ditch. Lining the entire ditch with shotcrete was determined to be uneconomical, particularly for the middle section which is located adjacent to U.S Highway 50 and the lower portion of the ditch near the Gunnison River. Piping this segment of the ditch allows for more flow to be carried in a smaller pipe and is therefore more economical than shotcrete lining this segment of the ditch. Piping the entire ditch also proved to be uneconomical. The upper portion of the ditch has a very low slope for the majority of the ditch profile which makes it inefficient to carry larger flow rates along this segment because the pipe sizing becomes uneconomical. Therefore, neither lining the entire ditch or piping the entire ditch proved to be economical and were dismissed from alternatives carried forward.

2.2 – No Action Alternative

Under the No Action Alternative, Reclamation would not provide funding to Hartland Ditch Company for their proposed Hartland Ditch Improvement Project. The ditch proposed for lining and piping would continue to flow in open, earthen ditches, and the resultant seepage and salt loading to the Lower Gunnison Basin and the Colorado River Basin would continue.

2.3 – Proposed Action

Under the Proposed Action, Reclamation would authorize federal funding to Hartland Ditch Company under Cooperative Agreement No. R24AC00129 to implement their Hartland Ditch Improvement Project, as shown on Figure 1.

2.3.1 – Ditch Lining and Piping

Hartland Ditch Company plans to line a portion of the Hartland Ditch and open-channel pipe the remainder for a combined total of 35,200 linear feet (approximate 6.7 miles) of ditch improvements. The portion of the canal that would be lined would be lined with an impermeable PVC and non-woven geotextile liner covered with a minimum of 3 inches of fiber-reinforced shotcrete. The portion of the ditch that would be open-channel piped would receive a 42” open channel pipe for approximately 5,000 linear feet and low-pressure HDPE or PVC pipe for the remaining approximately 18,350 linear feet. As part of the Hartland Ditch improvement project, new turnouts would be installed for all headgates along the ditch. Two spill structures would be replaced and

more accurate flow measuring structures would be installed. Additionally, three major tailwater intakes would be rerouted into a new approximately 2,200 foot 16” HDPE pipe. Construction details for the portion of the ditch to be lined and the portion of the ditch to be piped are described below:

- The first approximately 11,850 linear feet of the Hartland Ditch from the diversion from the Gunnison River to the Highway 50 Concrete Channel and Box Culvert would be lined (Figure 1). The liner would conform to Reclamation standards. The subgrade would be shaped and prepared using primarily on-site materials. A 30 mil PVC liner with layers of non-woven geotextile on either side would be keyed into the existing banks either two feet horizontally or using a key trench. A minimum of 3 inches of fiber reinforced shotcrete would be applied to the entire PVC liner. The diversion and headgate at the Gunnison River would remain. A spill structure approximately 3,000 feet downstream of the diversion would be replaced. A concrete section approximately 200 feet further downstream would be modified to accommodate a more accurate flow measurement device, and an existing culvert at H75 Rd would be replaced. New turnouts would be installed at all headgates along this portion of the ditch. The Highway 50 concrete channel and box culvert would remain.
- The remaining approximately 23,350 linear feet of the Hartland Ditch from the Highway 50 concrete channel and box culvert to the return to the Gunnison River would be piped (Figure 1). The first approximately 5,000 linear feet of the piped section would receive a 42” open channel pipe. The 42” open channel pipe would tie into the concrete channel with a new pipe headwall and be installed in the existing ditch downstream to the Iron Works Spill Structure, which would be replaced with a new screen and spill structure. All existing culverts would be replaced along this section. From the Iron Works Spill Structure downstream to the return to the Gunnison River, approximately 18,350 linear feet of low-pressure HDPE or PVC pipe would be installed in the existing ditch. Pipe diameter would range from 16” to 42” as needed to maintain working pressure at turnouts between 1.3-7.0 psi. with a maximum static pressure of 19 psi at the final turnout. Parallel to the last approximately 2,200 linear feet of the low-pressure HDPE or PVC pipe, a 16-inch HDPE or 15-inch PVC pipe would be installed to collect and reroute three major tailwater intakes upstream of H25 Road. The tailwater collection pipe would also return to the Gunnison River.

2.3.2 – Habitat Replacement

In accordance with the Colorado River Basin Salinity Control Act, habitat replacement would be implemented to maintain the value of the riparian and wetland habitat which would be lost as a result of the ditch improvement project. Hartland Ditch Company would offset the loss of habitat that results from lining and piping the Hartland Ditch by implementing a Habitat Replacement Plan (WestWater 2024a). Habitat losses associated with the Proposed Action were calculated based on Reclamation methodology as described in the April 2018 *Basinwide Salinity Control Program: Procedures for Habitat Replacement*. Habitat losses were calculated to be a total of 15.7 habitat units (WestWater 2024a).

The Habitat Replacement Plan would be implemented on private land located directly across the Gunnison River from where the ditch lining and piping would take place, in Sections 10 and 15, of Township 15 South, Range 96 West (Figure 1). The private parcels on which the project would be implemented total approximately 5.88 acres and have been entered into a Contract and Grant of Easement with Reclamation for the Endangered Species Act Habitat Recovery Program. The project area is along the Gunnison River floodplain, where invasive and noxious weed species have displaced a portion of the native riparian habitat, resulting in reduced habitat value. The objective of the Habitat Replacement Plan project would be to reduce or eliminate invasive and noxious tree, forb, and grass species and replace them with native tree and shrub species to increase vegetative diversity, increase stratification at the site, and restore the ecological characteristics at the site to a more natural state.

2.4 – Construction

2.4.1 – Equipment

Equipment that would be used during project construction would include the following:

- Track mounted excavators
- Bulldozers
- Front-end loader
- Rubber track mounted skidsteer
- Backhoe
- Grader
- Trailer mounted vac tank for utility potholing
- Dump trucks for aggregate delivery
- Side dump trailers for aggregate delivery
- Trailer air compressor and shotcrete pump for placing shotcrete
- Concrete delivery trucks

Equipment would be both Hartland Ditch Company-owned and subcontractor-owned and/or leased. All equipment would be properly maintained and operated during project construction activities.

2.4.2 – Access

Access to the Hartland Ditch would be provided by a combination of existing and maintained Delta County roads and existing private roads that currently provide reasonable access to the Hartland Ditch right-of-way (ROW). Delta County roads that provide direct access to portions of the project site include G50 Road, 1250 Road, H Lane, H25 Road, 1325 Road, 1550 Road, 1575 Road, 1600 Road, and H75 Road. A total of 10 private access roads provide additional access for implementation of the project. The 10 private access roads are located along the length of the ditch at points where no county roads provide convenient access. In between existing access points along the ditch, the Hartland Ditch Company would operate within the Hartland Ditch ROW, which is 20 feet on either side of the ditch.

Access to the habitat replacement site is available from G Road to Townsend Road (both Delta County Roads) and a private access road north to the project site.

2.4.3 – Staging and Borrow Areas

Material and equipment used during project construction would be staged at one or more of seven proposed staging areas along the length of the Hartland Ditch (Figure 1). Temporary staging areas proposed as a part of this project are all located on private land adjacent to the Hartland Ditch right-of-way and include an approximately 2 acre staging area accessed from H Lane, an approximately 0.75 acre staging area accessed across private land north of H25 Road, an approximately 3 acre staging area accessed from H25 Road, an approximately 0.75 acre staging area accessed across private land south of U.S. Hwy 50, an approximately 1 acre staging area accessed across private land south of U.S. Hwy 50, an approximately 2.5 acre staging area accessed across private land south of U.S. Hwy 50, an approximately 1 acre staging area accessed from 1550 Road, and an approximately 7 acre staging area accessed across private land south of H75 Road. No material would be borrowed from on-site.

2.4.4 – Construction Timeframe

Project construction along the Hartland Ditch would occur outside the irrigation season, from November through March, over a period of three years. Typical hours of construction work would be 7 am to 5:30 pm Monday through Friday. The portion of the ditch that would be lined (Headgate Diversion to Hwy 50 Box Culvert) would be completed during Year 1. The portion of the ditch that would be piped downstream of the Iron Works Spill Structure would be completed during Year 2. The portion of the ditch that would be piped between the Hwy 50 Concrete Channel and Box Culvert and the Iron Works Spill Structure would be completed during Year 3.

Implementation of the Habitat Replacement Plan would occur in Year 1 of the ditch improvement project during the fall and spring seasons. Work would take place during similar daylight hours, from 7:00 a.m. to 5:30 p.m. Monday through Friday. During the fall of Year 1, Hartland Ditch Company or their designated contractor would conduct tree removal (Russian olive and tamarisk), noxious weed treatment, seeding and planting of desirable grasses, forbs, and shrubs, followed by fence installation. Willow pole plantings would be completed during the spring (prior to spring run-off). Monitoring of the project site would be conducted on an annual basis thereafter by Reclamation and the Hartland Ditch Company for five years and then the Hartland Ditch company for 45 years after that. Biannual weed control would be conducted by the Hartland Ditch Company or their designated contractor during spring and late summer for the life of the project.

2.4.5 Project Schedule

Project construction would occur over the course of three years during the late fall and winter (November through March) in order to avoid disruption in irrigation services to shareholders. A summary of the project schedule including timing restrictions to protect sensitive wildlife are outlined in Table 2 below. Please note the project construction activities (including the Habitat Replacement Site) would occur outside the annual nesting and breeding season for migratory birds, including the yellow-billed cuckoo; therefore, timing restrictions for these species were not listed in Table 2.

Table 2. Project Schedule and Timing Restrictions

Location	Activity	Timeframe	Timing Restriction (if applicable)
Headgate diversion to Hwy 50 Concrete Channel and Box Culvert (approximately 2.27 miles)	Shotcrete lining	Year 1 – November through March	May 15 th through August 31 st for migratory birds (including Yellow-billed Cuckoo)
Iron Works Spill Structure to Final Turnout	Installation of pipe along ditch	Year 2 – November through March	Feb. 1 st to July 31 st for segments of the ditch within ½ mile Bald Eagle nest buffer. Ditch Station 20,650 to 25,500. May 15 th through August 31 st for migratory birds (including Yellow-billed Cuckoo)
Hwy 50 Concrete Channel and Box Culvert to Iron Works Spill Structure	Installation of pipe along ditch	Year 3 – November through March	May 15 th through August 31 st for migratory birds (including Yellow-billed Cuckoo)
Habitat Replacement Site	Tree removal, seeding/planting, fencing	Year 1- mid-October through November and February/March (willow pole planting)	May 15 th through August 31 st for migratory birds (including Yellow-billed Cuckoo)

2.4.6 Weed Control

Prior to delivery to the job site, all equipment and vehicles would be thoroughly cleaned of soils remaining from previous construction sites which may be contaminated with noxious weeds. If working in areas with weed-seed contaminated soil, equipment would be cleaned of potentially seed-bearing soils and vegetative debris at the infested area prior to moving to uncontaminated areas. All equipment and vehicles would be regularly cleaned of soil.

Noxious weeds would continue to be chemically treated by Hartland Ditch upon completion of project construction as part of their routine maintenance activities along the ditch. Routine chemical treatment of weeds would aid in the reestablishment of native grasses.

2.4.7 Post-Construction

After project construction activities are completed, any disturbed areas not needed for routine maintenance activities along the ditch (i.e. access road) would be reclaimed. The disturbed areas would be recontoured to blend with the natural topography. Prior to seeding, topsoil would be spread to a uniform depth (approximately 6 inches) to promote the establishment of desirable vegetation. Reseeding would be completed using broadcast seeding methods with a drought tolerant dryland native seed mix. Seeding would occur during the fall in order to achieve desirable germination rates.

2.5 – Permits and Authorizations

If the Proposed Action is approved, the following permits would be required prior to project implementation:

- Colorado Department of Transportation Utility Permit
- Colorado Department of Health and Environment Stormwater Discharge General Permit
- United States Corps of Engineers Regional General Permit-5
- Authorization under the existing Colorado Programmatic Agreement (PA) between Reclamation, and the Colorado State Historic Preservation Office (SHPO), including the proposed cultural mitigation plan from the Hartland Ditch Company

Hartland Ditch Company would acquire and comply with all necessary federal, state, county, and local permits.

Compliance with the following laws and Executive Orders (E.O.) are required prior to and during project implementation:

2.5.1 – Natural Resource Protection Laws

- Clean Air Act of 1963 (42 U.S.C. § 7401)
- Endangered Species Act of 1973 as amended (16 U.S.C. 1531-1544, 87 Stat. 884)
- Clean Water Act 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)

2.5.2 – Cultural Resource Laws

- National Historic Preservation Act of 1966 (16 U.S.C. 470 et seq.)
- Archaeological Resources Protection Act of 1979 (16 U.S.C. 470aa-470mm et seq.)
- Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. 3001 et seq.)
- American Indian Religious Freedom Act of 1978 (42 U.S.C. Public Law 95-341)

- Archaeology and Historic Preservation: Secretary of the Interior’s Standards and Guidelines (48 FR 44716)

2.5.3 – Paleontological Resource Laws

- Paleontological Resources Preservation Act of 2009 [Section 6301-6312 of the Omnibus Land Management Act of 2009 (Public Law 111-11 123 Stat. 991-1456)]

CHAPTER 3 – AFFECTED ENVIRONMENT & ENVIRONMENTAL CONSEQUENCES

3.1 - Introduction

This chapter discusses resources that may be affected by the Proposed Action Alternative and the No Action Alternative. For each resource, the affected area and/or interests are identified, existing conditions described, and impacts are disclosed under the No Action and Proposed Action Alternatives. This section is concluded with a summary of impacts and a list of environmental commitments.

3.2 – Affected Environment and Environmental Consequences

3.2.1 – Water Rights & Use

The Hartland Ditch delivers water diverted from the Gunnison River to farms and households on the north side of the river along its approximately 6.9-mile length. The Hartland Ditch was appropriated in 1881 and 1882 and was adjudicated in 1903 with a total of 47.37 cfs entitled. The ditch supplies water to irrigate approximately 1,030 acres, most of which are planted in hay and pasture crops, though some grain crops are also grown. Flood and furrow irrigation practices are mostly used with very few sprinkler systems. The irrigation season typically runs from April through October.

There may be domestic wells in the area permitted by the State of Colorado to draw on natural sources of groundwater. Ditch water which has seeped from the canal prism is not a natural source of groundwater. Pursuant to Colorado Revised Statute (CRS) § 37-86-103, “...a ditch right-of-way includes the right to construct, operate, clean, maintain, repair, and replace the ditch and appurtenant structures, to improve the efficiency of the ditch, including by lining or piping the ditch...” There is an ongoing trend to pipe earthen irrigation ditches in the region.

No Action Alternative: The No Action Alternative would have no effect on water rights and uses within the Upper Colorado River Basin. The Hartland Ditch system would continue to function as it has in the past.

Proposed Action: The existing water rights and uses of Hartland Ditch Company’s current system would not be altered under the Proposed Action. The Hartland Ditch would gain efficiencies with managing their current water rights under the Proposed Action. The Proposed Action does not include new storage and/or new diversions. No new lands would be irrigated as a result of the Proposed Action. The Project would not alter natural sources of groundwater. Therefore, there would be no significant adverse effect on domestic well permits, which authorize wells to draw on natural sources of groundwater².

Activities associated with the Habitat Replacement Plan include noxious tree removal, seeding/planting, fencing, and noxious weed control. Tree plantings would be watered with available irrigation water associated with the private parcels that the project would be located on. There would be no direct or indirect impacts to water rights nor would the project alter natural sources of groundwater; therefore, the habitat replacement project would not have an impact on water rights and/or groundwater.

There would be no significant adverse effects on water rights in the Colorado River Basin as a result of the Proposed Action.

3.2.2 – Water Quality

Regional and local irrigation practices in the Colorado River Basin contribute to downstream salinity and selenium levels which negatively impact water quality in the Colorado River Basin. The primary source of salts is from marine shale and shale residuum underlying the soils in much of the basin. Selenium is a naturally occurring trace element commonly found throughout the western United States in marine sedimentary rocks. The Hartland Ditch is located in the lower Gunnison Basin, in an area that has been identified as having very high selenium loading levels, and selenium mobility in the environment can be increased by irrigation practices (Reclamation 2024b). Applied irrigation water can leach salts and selenium out of the soils, increasing salt and selenium loading for receiving ground and surface water resources.

In 2021, the U.S. Army Corps of Engineers (USACE) issued Regional General Permit 5 (RGP-5) for Ditch Related Activities in the State of Colorado. RGP-5 “authorizes discharges into ditches that have minimal individual or cumulative adverse effects on the aquatic environment,” and covers construction, realignment, and relocation of existing ditches and conversion of such ditches into pipes.

No Action Alternative: Under the No Action Alternative, an estimated 3,472 tons of salt per year would continue to load into the Colorado River. Current selenium loading levels would continue.

Proposed Action: The Proposed Action would eliminate seepage from approximately 6.7 miles of the Hartland Ditch, reducing annual salt loading to the Gunnison River at an estimated rate of 3,472 tons per year at an estimated cost effectiveness of approximately \$79.02 per ton per year (Roberts, M. “Notice of Funding Opportunity, No. R23AS00353 – Colorado River Basinwide and Basin

² Ditch companies have the right to improve the efficiency of their ditches pursuant to CRS § 37-86-103. Consequently, domestic water well owners cannot rely on canal seepage water to recharge domestic water wells.

States Salinity Control Programs - Salt Load Reduction Estimate”, Received by Steven Morris, July 20, 2023 via email). The Proposed Action would also reduce selenium loading to the Gunnison River; however, this reduction has not been quantified. Water quality improvements resulting from the Proposed Action would benefit downstream aquatic species by reducing salt and selenium loading in the Gunnison and Colorado Rivers, including Threatened and Endangered fish as well as occupied Critical Habitat.

The Proposed Action area would affect surface and shallow subsurface hydrology supplied to wetland and riparian areas in the Proposed Action Area associated with the ditch and ditch seepage. The proposed project would impact waters under the jurisdiction of CWA Section 404 (the Hartland Ditch) and disturb irrigation-induced wetland and riparian vegetation along the ditch banks of Hartland Ditch. This activity would be authorized under USACE Regional General Permit 5 for compliance with the CWA Section 404. As a “ditch related activity in the State of Colorado” that is “conducted under a binding agreement with the USBR” (Reclamation), the Proposed Action would be authorized under RGP-5, by submitting documentation required by RGP-5 to USACE 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 as follows: “(1) the respective agency’s documentation for compliance with the Endangered Species Act and National Historic Preservation Act and/or 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 would 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 authorized use of RGP-5 for the Proposed Action, the USACE has determined that the Proposed Action would have minimal individual or cumulative effects on the aquatic environment. Therefore, there would be no significant impact to waters under the jurisdiction of CWA Section 404.

There would be no impact to water quality from activities associated with the Habitat Replacement Plan. No dredge or fill material would occur below the ordinary high-water mark of the Gunnison River and no dredge or fill material would be placed within any wetland areas.

All applicable CDPHE Water Quality Control Division Permits would be obtained and adhered to by Hartland Ditch and/or their selected contractor. There would be no significant adverse impacts to water quality as a result of the Proposed Action, because required permits would be obtained and adhered to and construction BMPs would be implemented. The overall result of the Proposed Action would be to improve water quality (reduce salinity) in the Colorado River Basin.

3.2.3 – Air Quality

The National Ambient Air Quality Standards (NAAQS) established by the U.S. Environmental Protection Agency (EPA) under the Clean Air Act (CAA) specify limits for criteria air pollutants. Criteria pollutants include carbon monoxide, particulate matter (PM 10 and PM 2.5), ozone, sulfur dioxide, lead, and nitrogen. The CAA regulates emissions of air pollutants from stationary and mobile sources, and enforcement is at the state level under the Code of Colorado Regulations (CCR) at 5 CCR 1001-5. If the levels of a criteria pollutant in an area exceed the NAAQS, the airshed is designated as a nonattainment area. Areas that meet the NAAQS for criteria pollutants are designated as attainment areas. Delta County currently meets NAAQS for criteria pollutants and is

designated as an attainment area (CDPHE 2022). Air quality impacts occur from a variety of stationary and mobile sources throughout Delta County. Pollutant sources in the vicinity of the Proposed Action include exhaust from equipment and vehicles, wood stove and fireplaces during the winter months, and ditch/agricultural field burning during the spring. These combined impacts have not caused Delta County to reach non-attainment levels for criteria pollutants.

No Action Alternative: There would be no effect on air quality under the No Action Alternative. Operation and maintenance of the canal system would continue to function under current conditions.

Proposed Action: There would be short-term impacts to air quality associated with dust and exhaust fumes generated during construction activities associated with the Proposed Action. Contractors completing the work would be required to follow State of Colorado air quality regulations established to protect the airshed from significant impacts (5 CCR 1001-5). There would be no long-term significant impacts to air quality from the Proposed Action, since following construction, air quality would return to its baseline level and Delta County would remain in attainment for all criteria pollutants. The project is temporary in nature and dust abatement would be implemented as needed along access roads and staging areas. Hartland Ditch would coordinate with the appropriate municipality for city and county roads to ensure dust does not become an issue. Earthwork along the ditch alignment requires compact fill material to specified compaction densities; therefore, fill material would be wet to achieve optimal moisture levels for soil compaction. The project would eliminate the need for ditch burning on the Hartland Ditch, which would result in a beneficial impact to air quality in the long term.

Air quality impacts from activities associated with the Habitat Replacement Plan would be short in duration and similar in magnitude to those currently occurring in the general vicinity along private lands (i.e. field burning, heavy equipment used for agricultural production). Hartland Ditch would coordinate with the private landowners to ensure dust does not become an issue during project activities. Implementation of the Habitat Replacement Plan would not cause Delta County to reach non-attainment levels. Activities associated with the Habitat Replacement Plan would contribute an incremental increase to dust and exhaust generated by equipment; however, this would be short term and wouldn't be a significant increase.

There would be no significant adverse impacts to air quality as a result of the Proposed Action, because the impact on air quality in the area would be temporary and minor and the contractors completing the work would be required to follow State of Colorado air quality regulations established to protect the airshed from significant impacts (5 CCR 1001-5).

3.2.4 – Access, Transportation, Utilities, & Public Safety

Access to the project site would be provided by a combination of existing and maintained Delta County roads and existing private roads that currently provide reasonable access to the Hartland Ditch right-of-way and habitat replacement site. Delta County roads that provide direct access to portions of the project site include G50 Road, 1250 Road, H Lane, H25 Road, 1325 Road, 1550 Road, 1575 Road, 1600 Road, and H75 Road. A total of 10 private access roads provide additional access for implementation of the ditch improvement project and one private access road for implementation of the Habitat Replacement Plan.

The Delta County Roads used to provide access to the canal ROW are maintained by the County, while the private access roads are maintained by the Hartland Ditch Company and private landowners for access to the habitat replacement site. The access points used for construction of the project and the Hartland Ditch ROW are currently used for occasional truck and equipment traffic for routine maintenance and operation of the ditch throughout the year. There are no weight restrictions on bridges or overpasses along routes that would be used to access the Proposed Action.

Underground utilities may be present within and near the Proposed Action area.

There are safety risks associated with sources of open, moving water. The Proposed Action area is served by the Delta County Sheriff, the Delta County Ambulance District, and the Delta County Fire Protection District 5.

No Action Alternative: Residential and commercial traffic would continue to use the county roads present near the Proposed Action area. Hartland Ditch Company would continue routine maintenance and operation activities along the canal ROW utilizing the existing County Road and private road access points. There would be no effects to access and transportation in the project area related to construction activities under the No Action Alternative.

Proposed Action: Access to the Proposed Action area would occur at existing access points and within the Hartland Ditch ROW. No new roads would be constructed as a result of this project. During piping and lining of the ditch, Hartland Ditch Company would use their existing access points and the ditch ROW for access, staging, and construction activities. No new access roads or staging areas would be constructed as a result of the Proposed Action. The Proposed Action would incrementally increase truck traffic along county roads to access the ditch ROW and habitat replacement site. This would result in a short-term term effect on local roads and transportation. The increase in traffic would occur when accessing the site during the morning hours and when leaving the site during the evening hours. Appropriate signage would be placed at ingress/egress locations along the canal to notify traffic of construction activities. Traffic control would be utilized when necessary, such as when culverts are replaced under existing public roads. If traffic delays are anticipated as a result of the Proposed Action, appropriate signage would be installed to notify the public. Once project construction is completed, traffic and transportation use along the county roads is expected to return to pre-construction levels. Hartland Ditch Company would coordinate with the Delta County and the City of Delta Road and Bridge Departments for any construction activities that would occur within their ROWs and for coordination of appropriate traffic control and signage at construction ingress and egress locations. Due to the temporary nature of the traffic disruptions and the traffic management provided by coordination with the county and sheriff departments, the impacts on traffic would not rise to the level of significant.

Prior to the initiation of project construction activities, all utilities would be located and marked, and if necessary, relocated or raised. 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.

The safety risks associated with sources of open, moving water would no longer occur within piped portion of the Project Area. The Delta County Sheriff, Delta County Ambulance District, and the Delta Fire Protection District 5 would continue to cover the Project Area for emergency response,

and would not be hindered in their response. Active construction areas would be adequately marked and barricaded to prevent public access. Trenches left open overnight would be limited to the extent practicable. In the case that a trench is left open overnight, it would be covered to adequately prevent entrapment of people, livestock, or wildlife. Therefore, there would be no significant effect on public safety.

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.

3.2.5 – Noise

The Proposed Action would occur in Delta County adjacent to residential housing, U.S. Highway 50, agricultural lands, city and county roads where there exists a moderate level of detectable noise. Noise within the project area consists of traffic on local roads, heavy machinery and tractor equipment associated with agricultural production, routine operation and maintenance on Hartland Ditch and lateral ditches, and other anthropogenic noises associated with the Town of Delta.

No Action Alternative: Under the No Action Alternative current levels of moderate noise in the general area would continue to occur at their current levels.

Proposed Action Alternative: The Proposed Action would generate moderate noise during project construction activities to nearby residents and wildlife within the immediate vicinity of the ditch ROW. All project construction activities would occur during daylight hours (typically 7am to 5pm), Monday through Friday. Activities associated with tree removal (i.e. heavy equipment, chainsaws, etc.) at the habitat replacement site would increase the level of noise in the project area for nearby residents and wildlife; however, this incremental increase in noise is not anticipated to cause significant adverse impacts to surrounding residents and wildlife due to the distance of the project site from nearby houses and the project schedule (i.e. daylight hours). Tree removal is expected to take approximately 2-weeks to complete.

No significant adverse noise impacts would occur as a result of the Proposed Action. Noise generated would be short in duration and not exceed moderate baseline noise levels.

3.2.6 – Vegetative Resources & Weeds

Existing vegetation communities adjacent to the ditch consist largely of wetland and riparian vegetation at varying widths along the edges of the ditch. Approximately 4.86 acres of riparian and wetland habitat occurs along the ditch banks. The dominant species along the ditch banks include reed canary grass intermixed with field horsetail. Cottonwood, Siberian elm, Russian olives, tamarisk, and willows are present as isolated occurrences along the ditch. Upland vegetation is also present, which includes fourwing saltbush, greasewood, and rabbitbrush with an understory of cheatgrass, smooth brome, whitetop (aka hoary cress), and Russian knapweed. Common plant species observed during the habitat assessment are provided in Table 2. Habitat types present along the ditch provide marginal nesting, foraging, and cover for various wildlife species including: waterfowl and other migratory bird species, amphibians, small mammal species, and mule deer. The surrounding areas are composed of irrigated agricultural fields, City of Delta property, residential areas, and

cottonwood stands with an understory of Russian olive and tamarisk along the floodplain of the Gunnison River (WestWater, 2024b).

Table 3. Vegetation Species Observed within the Hartland Ditch Improvement Project area

<i>Scientific Name</i>	Common Name	Abundance*
<i>Asclepias speciosa</i>	Showy milkweed	x
<i>Atriplex confertifolia</i>	Shadscale saltbush	xxx
<i>Bassia scoparia</i>	Kochia	xx
<i>Bromus inermis</i>	Smooth brome	xxx
<i>Bromus tectorum</i>	Cheatgrass	xxx
<i>Carex utriculata</i>	Beaked sedge	xx
<i>Chenopodium album</i>	Lambsquarters	x
<i>Convolvulus arvensis</i>	Field bindweed	xx
<i>Distichlis spicata</i>	Inland saltgrass	xx
<i>Elaeagnus angustifolia</i>	Russian olive	xx
<i>Elaeagnus angustifolia</i>	Siberian elm	x
<i>Elytrigia repens</i>	Quackgrass	xx
<i>Equisetum arvense</i>	Field horsetail	xxx
<i>Eremopyrum triticeum</i>	Annual wheatgrass	xx
<i>Ericameria nauseosa</i>	Rubber rabbitbrush	xxx
<i>Glycyrrhiza lepidota</i>	Wild licorice	xx
<i>Hordeum jubatum</i>	Foxtail barley	xx
<i>Juncus arcticus</i>	Artic rush	xx
<i>Lactuca serriola</i>	Prickly lettuce	x
<i>Lepidium draba</i>	Whitetop (hoary cress)	xxx
<i>Phalaris arundinacea</i>	Reed canarygrass	xxx
<i>Phragmites australis</i>	Common reed	xx
<i>Polygogon monspeliensis</i>	Annual rabbitsfoot grass	xx
<i>Populus fremontii</i>	Fremont cottonwood	xx
<i>Rhaponticum repens</i>	Russian knapweed	xxx
<i>Rosa woodsia</i>	Wood's rose	xx
<i>Rumex crispus</i>	Curly dock	xx
<i>Sarcobatus vermiculatus</i>	Greasewood	xxx
<i>Shoenoplectus pungens</i>	Common threesquare	x
<i>Sorghum halepense</i>	Johnsongrass	xx
<i>Tamarix</i> spp.	Tamarisk	xx

<i>Scientific Name</i>	Common Name	Abundance*
<i>Taraxacum officinale</i>	Common dandelion	x
<i>Thinopyrum intermedium</i>	Intermediate wheatgrass	xx
<i>Thinopyrum ponticum</i>	Tall wheatgrass	xx
<i>Typha latifolia</i>	Broadleaf cattail	xx

*Abundance:

x= low occurrence throughout project area

xx= moderate occurrence throughout project area

xxx= common occurrence throughout project area

Noxious weeds observed within the Proposed Action area include Russian olive, tamarisk, Russian knapweed, whitetop, Johnsongrass, quackgrass, field bindweed, and cheatgrass. Noxious weeds were scattered and present in low densities along the ditch ROW. Hartland Ditch Company currently treats noxious weeds along their ROW throughout the growing season using mechanical and chemical treatments.

The habitat replacement site would be located along the floodplain of the Gunnison River in vegetation communities comprised primarily of riparian vegetation including: cottonwoods, with an understory of rubber rabbitbrush, greasewood, Wood's rose, skunkbush sumac, quackgrass, Russian knapweed, reed canarygrass, and nuisance annual weed species. Dense infestations of Russian olives and tamarisk are present along the riverbanks.

No Action Alternative: Under the No Action Alternative, current vegetation conditions would remain unaltered. Hartland Ditch Company would continue to manage and control noxious weeds annually along the Hartland Ditch ROW.

Proposed Action: Construction of the Proposed Action would result in a minor, temporary impact to upland native vegetation located within the construction corridor. The impact would be evident in the project area for a period of several years. The impacted upland native vegetation is abundant in the surrounding areas. Following project construction, all disturbed areas not needed for routine maintenance (i.e. access road along ditch bank) would be recontoured to match the surrounding topography, topsoiled and reseeded with a seed mix appropriate for the surrounding vegetation community. The seed mix would be a native drought-tolerant weed-free seed mix approved by Reclamation or the underlying private landowner and appropriate for the surrounding habitat. The Proposed Action would not disturb any agricultural areas during project construction activities. All activities would occur within the ditch prism, exiting disturbance areas for staging equipment and materials, adjacent access roads and the ditch ROW.

The Proposed Action would contribute to the long-term loss or deterioration of approximately 4.86 acres of riparian and emergent wetland vegetation along the banks of the Hartland Ditch (WestWater 2024a). As stipulated by the Salinity Control Act, a habitat replacement project is included as a component of the Project to ensure there would be no net loss of fish and wildlife values (in this case, riparian and wetland vegetation) associated with implementation of the Proposed Action. Habitat losses associated with the Proposed Action were calculated based on Reclamation methodology as described in the April 2018 *Basinwide Salinity Control Program: Procedures*

for Habitat Replacement. Habitat losses associated with the Proposed Action were calculated to be a total of 15.7 habitat units.

Implementation of the Habitat Replacement Plan would convert approximately 5.88 acres of weed infested riparian riverbank habitat into a native, diverse, and more structurally stratified riparian vegetation community. Weedy and listed noxious species of grass, forbs, and trees would be treated and removed, and native grasses, forbs, shrubs, and trees would be seeded and planted. Successful implementation of the Habitat Replacement Plan is expected to yield an increased in habitat value on the site of approximately 26.46 habitat units. Because there would be no net loss of riparian and wetland values associated with implementation of the Proposed Action, the effects of the loss of riparian and wetland vegetation would be insignificant.

There is the potential that the piping and lining of the canal would reduce water supply to nearby cottonwood and Siberian elm trees; however, the depth to groundwater in these areas is estimated to be only 12 to 15 feet, and the groundwater would continue to supply the trees with a sufficient water source. Because the trees would continue to receive an adequate source of water, there would be no significant impact to the trees.

The Proposed Action would remove segments of open water, a key element of invasive seed transport. Certain segments of the ditch would no longer require regular maintenance, lowering the potential for the continued spread and establishment of weeds. Downgradient herbaceous and woody noxious weeds which rely on ditch seepage would no longer be supported. Despite these beneficial effects to noxious weed presence, noxious weeds would continue to be present throughout the Proposed Action area. Because noxious weeds are currently present in the Proposed Action area, their ongoing presence within the Proposed Action area would not constitute a significant impact.

To further curtail the spread of noxious weeds, environmental commitments such as power washing vehicles and equipment prior to bringing them onsite and conducting weed management following construction would help minimize the risk of increasing weed infestations. After construction and reclamation of the Proposed Action area, noxious weed presence would be monitored subject to agreements between the Applicant and individual landowners, and regulated by Delta County in accordance with county standards (Delta County 2020).

The objective of the Habitat Replacement Plan is to enhance and maintain a portion of riparian habitat along the Gunnison River floodplain; therefore, with implementation of the plan there would be an overall improvement to vegetative resources in the project area. Weed infestations would be treated as part of the Habitat Replacement Plan (WestWater 2024b), with goals for maintaining total weed cover below 5 percent at the site.

No significant impacts to vegetation would occur as a result of the Proposed Action, because the riparian and wetland values related to the ditch involved with the Proposed Action would be maintained with the implementation of the Habitat Replacement Plan, and the construction footprint would be revegetated with upland plants suitable for the vegetative communities found in the adjacent plant communities. No significant impacts related to noxious weeds would occur as a result of the Proposed Action, because design features and construction BMPs would be employed

to curtail the spread of existing noxious weeds and prevent the introduction of new noxious weeds to the area.

3.2.7 – Wildlife Resources

The Proposed Action is primarily situated in a rural/residential setting in the alluvial valley of the Gunnison River. Wildlife habitat in the project area includes the Gunnison River floodplain and adjacent agricultural fields. The eastern half of the Proposed Action area is surrounded by more dense residential development that reduces wildlife habitat quality but the western half of the project area provides moderate quality wildlife habitat where agricultural land uses dominate the landscape.

The Proposed Action would be located within overall range for mule deer, black bear, mountain lion, and white-tailed prairie dog (CPW 2024). The Proposed Action would not be located within any sensitive wildlife habitat areas (i.e. winter concentration area, production areas, etc.) for mule deer, bighorn sheep, black bear, or mountain lion. Terrestrial wildlife species utilize portions of the Proposed Action area throughout the year.

The trees and shrubs present along the edges of the ditch ROW and within the Habitat Replacement Plan implementation area provide suitable nesting and foraging habitat for a variety of migratory birds, including raptors. Raptor surveys and migratory bird surveys were completed during the Habitat Assessment for Hartland Ditch in the spring of 2024 (WestWater 2024a). A Cooper's Hawk was observed during surveys at the habitat replacement site; however, no nest was identified. The bird did display behavior indicative of nesting in the general area. The bird was observed outside the area where tree removal would occur and it is likely that the nest was beyond the Habitat Replacement Plan implementation area based on the bird's location and direction of flight. No raptor nests were observed where direct disturbance would occur to a nest tree within the ditch improvement project area or within the boundaries of the habitat replacement site.

One Bald Eagle nest occurs within ¼ mile of the ditch improvement project and the habitat replacement site (WestWater 2024c). The known nest within the Proposed Action area is located in the SW1/4SE1/4 of Section 10, of Township 15 South, Range 96 West (CPW 2024). No other raptor nests were identified within ½ mile of the Proposed Action.

The trees and shrubs along the edges of the canal ROW and within the Habitat Replacement Plan implementation area provide suitable foraging habitat for bats including one species listed as a Species of Concern by CPW. Townsend's big-eared bats roost and breed in caves, mines, abandoned buildings, and rocky outcrops (Armstrong et al. 2011). Suitable roosting and hibernacula habitat does not occur within the Proposed Action area.

Northern river otter inhabits riparian areas along rivers across a variety of ecosystems from semidesert shrublands to montane subalpine forests (Armstrong et al. 2011). Otters are active year-round and require streams and river segments that are ice-free during the winter months. Other important features include stream depth, width, and suitable access to shoreline. There is the potential that river otters could den and forage within the vicinity of the Habitat Replacement Plan project area along the banks of the Gunnison River. It is unlikely that river otters occur along the Hartland Ditch due to the lack of suitable habitat and the ditch is actively managed with a head gate structure at the diversion with the Gunnison River.

Colorado roundtail chub and mountain sucker are listed as Species of Concern by the State of Colorado and likely occur downstream of the Proposed Action area in the Gunnison River. Both of these species occur in mid-size to large rivers and streams with riffle and pool complexes where debris is present to provide cover over a variety of substrates.

Small mammals, amphibians, birds, and reptiles utilize the project area at various times of year for breeding, foraging, cover, and passage. The northern leopard frog, a Colorado State Species of Concern, occurs along the banks of irrigation ditches/canals, reservoirs, ponds, streams and rivers throughout the western slope of Colorado. Northern leopard frog likely occurs along the Hartland Ditch and banks of the Gunnison River within the Proposed Action area.

No Action Alternative: Wildlife resources within the Proposed Action area would not be altered under the No Action Alternative. However, salinity and selenium loading contributed to the Colorado River Basin from the Proposed Action would continue to occur and have an adverse effect on water quality and wildlife habitat downstream in the Gunnison and Colorado Rivers.

Proposed Action: There would be a long-term loss of approximately 4.86 acres of fringe wetland/riparian habitat along the ditch banks as a result of the Proposed Action. Successful implementation of the Habitat Replacement Plan would maintain the value of the fringe wetland/riparian habitat by improving habitat conditions on approximately 5.88 acres of Gunnison River floodplain directly across the river from the Hartland Ditch. Because there would be no net loss of riparian and wetland values associated with implementation of the Project, the effects of the loss on wildlife resources would be insignificant. Agricultural fields are adjacent to much of the ditch and would continue to provide wildlife habitat. No trees or shrubs would be removed as a result of the Proposed Action and trees nearby are expected to be able to continue accessing shallow groundwater. Therefore, there would be negligible impacts on wildlife species that utilize this habitat type for foraging, cover, and passage.

The planned construction for the Proposed Action would occur outside the typical nesting season for most migratory bird (including raptors) with potential to occur in the Proposed Action area. Construction activities would occur annually for three years from November through March, which is outside the typical nesting season for most migratory birds in this region. Due to the timing of the project construction, the abundance of hunting and foraging habitat in the surrounding area, and the distance from known raptor nests, it is unlikely that the Proposed Action would have any direct or indirect effects to migratory birds. Some individual raptors are habituated to anthropogenic activities; therefore, if a raptor initiates nesting activities within 1/3 mile of the Proposed Action area during project construction, it is likely that these birds would be tolerant to current land uses and levels of human activity in the project area.

A Bald Eagle nest occurs within 0.25 mile of a portion of the Hartland Ditch, and within 300 feet of the habitat replacement site. Construction associated with improvements to the Hartland Ditch would not affect nesting Bald Eagles due to the current land uses and baseline levels of human activity that typically occur near the nest from one year to the next. Construction activities along the portions of the ditch within 0.5 mile of the nest and construction activities at the habitat replacement site that require the use of heavy equipment would not be scheduled to occur from Feb. 1st through July 31st in order to avoid the potential for adverse impacts to the nest.

There is the potential for direct mortality and displacement to small mammals, reptiles, amphibians, and birds that utilize the canal banks for crucial life functions during project construction. The relatively immobile small mammal, reptile and amphibian species occurring in the construction footprint are common throughout the region, and are not species of concern to USFWS, and would continue to propagate in the region. The loss of individuals of these species through direct mortality in the construction footprint would not constitute significant population-level impacts since the affected area is diminishingly small in comparison to surrounding habitat that would remain undisturbed.

There is the potential for short-term wildlife displacement and avoidance of the Proposed Action area during project construction due to increased human presence and activity. However, wildlife in the area would relocate to similar habitat nearby along portions of the ditch that aren't undergoing construction. Once project construction activities are completed, the wildlife that utilize the project area for passage, cover, and forage would continue to do so, and therefore this effect does not rise to the level of significant.

In the long-term, the reduction of salinity and selenium loading to downstream habitat areas as a result of this project would help to enhance aquatic wildlife habitat.

No significant impacts to wildlife resources would occur as a result of the Proposed Action, because construction impacts would be temporary and relatively small in comparison with surrounding available habitat, disturbed upland habitats would be revegetated and recolonized by wildlife, and wetland and riparian habitat values would be maintained in the region with the implementation of the Habitat Replacement Plan.

3.2.8 – Threatened & Endangered Species

Special status wildlife species include threatened, endangered, proposed, and candidate species listed under the Endangered Species Act, migratory birds including Birds of Conservation Concern (USFWS 2021a) and raptors, and threatened, endangered, and Species of Concern listed by Colorado Parks and Wildlife (CPW). Literature reviews were conducted to determine the species that might occur in the project area and to help evaluate potential effects from the project. Threatened and endangered species with potential to occur were generated from the Information for Planning and Consultation (IPAC) website for the Proposed Action area (USFWS 2025). A Biological Assessment was completed for this project for species with potential to occur in the Proposed Action area and/or those species that would be impacted by the Proposed Action (WestWater 2024c). Species that may occur in the project area are summarized in Table 3.

Table 4. Threatened & Endangered Species with Potential to Occur in the Proposed Action area.

Species Name (<i>Scientific Name</i>)	Status *	Habitat Description	Habitat or Species Potentially Occurring Within Landscape Area	Effect Determination
MAMMALS				
Gray Wolf (<i>Canis lupus</i>)	EXP	Capable of inhabiting a wide variety of habitats from the mountains to the plains.	No reintroduced gray wolves have been documented in Delta County, though suitable habitat likely exists outside of the project area.	No Effect
BIRDS				
Mexican Spotted Owl (<i>Strix occidentalis lucida</i>)	T	Occurs in rocky canyons and mountains with old-growth conifer forests, including pinyon-juniper woodlands.	No suitable nesting habitat within ½mile of project features.	No Effect
Yellow-billed Cuckoo (<i>Coccyzus americanus</i>)	T	Found in old-growth riparian woodlands (cottonwood) with dense understories and low in elevation. Has been observed on the Colorado, Uncompahgre, Yampa, and North Fork of the Gunnison Rivers.	Potential to occur; suitable and marginal habitat is present within the Proposed Action area.	May Affect, Not Likely to Adversely Affect
FISH				
Bonytail (<i>Gila elegans</i>)	E	Warmer water reaches of large main-stem rivers in the Western U.S. No self-sustaining populations in the wild. Fish have been captured in the Gunnison, Green, Yampa and Colorado Rivers.	Occurs downstream of the project in the Gunnison River.	No New Effect

Species Name (<i>Scientific Name</i>)	Status *	Habitat Description	Habitat or Species Potentially Occurring Within Landscape Area	Effect Determination
Colorado pikeminnow (<i>Ptychocheilus lucius</i>)	E	Adults require pools, deep runs, and eddy habitats and high spring run-off flows that flush sediment from spawning areas. Spawn on gravel and cobble substrates. Nursery habitat includes backwaters and flooded lowlands. Known to inhabit Colorado, Gunnison, Green, San Juan, White and Yampa Rivers.	Occurs downstream of project area in the Gunnison River. Mapped critical habitat occurs adjacent to habitat replacement project area.	No New Effect
Humpback chub (<i>Gila cypha</i>)	T	Versatile in habitat preference; associated with fast currents as well as deep pools with large boulders. Canyon habitat with swift flows and deep water seems important in the Upper Colorado River Basin. Known in the Colorado, Green and Yampa Rivers.	Occurs downstream of the project in the Colorado River.	No New Effect
Razorback sucker (<i>Xyrauchen texanus</i>)	E	Seasonal pattern to habitat use by adult fish; fall/winter preference for pools and slow eddies, runs and backwater in early spring, backwaters and flooded lowlands in June, and runs and pools in late summer and early fall. May also utilized reservoir habitats. Known in the Colorado, Green, Gunnison, San Juan, White and Yampa River basins.	Occurs downstream of the project in the Gunnison River. Mapped critical habitat occurs adjacent to habitat replacement project area.	No New Effect

Species Name (<i>Scientific Name</i>)	Status *	Habitat Description	Habitat or Species Potentially Occurring Within Landscape Area	Effect Determination
		Colorado River Fish Critical Habitat	Occurs downstream along the Gunnison River and the 100-year floodplain downstream of the confluence with the Uncompahgre River. Mapped critical habitat occurs adjacent to habitat replacement project area.	No Effect, the Proposed Action would not destroy or adversely modify
INSECTS				
Monarch butterfly (<i>Danaus Plexippus</i>)	PT	Monarchs occur in rangelands, farms, riparian areas, deserts, prairies, meadows, and roadsides where milkweed is available. Monarchs rely on milkweed plants to lay their eggs and feed the larvae upon hatching. Monarchs occur throughout the western U.S. including Colorado.	Potential to occur occasionally in the project area.	N/A, Effect Determination not made for candidate species
Silerspot (<i>Speyeria nokomis Nokomis</i>)	T	Occurs in wet meadows supported by springs, seeps, streams, or irrigated areas that contain the bog violet host plant for eggs and larvae and other herbaceous vegetation for cover and food resources. Colony known to occur in Unaweep Canyon in Mesa County.	Unlikely to occur in project area due to lack of suitable habitat; therefore, no effect to this species.	No Effect
Suckley's cuckoo bumble bee (<i>Bombus suckleyi</i>)	PE	This species is a generalist pollinator and a rare, obligate, parasitic bumblebee which invades nests of other bees.	No longer known to occur in Colorado.	No Effect

Species Name (<i>Scientific Name</i>)	Status *	Habitat Description	Habitat or Species Potentially Occurring Within Landscape Area	Effect Determination
PLANTS				
Clay-loving wild buckwheat (<i>Eriogonum pelinophilum</i>)	E	Endemic to the rolling clay hills and flats immediately adjacent to the community of Delta. White alkaline clay barrens derived from the Mancos Shale Formation.	Unlikely to occur in the project area due to lack of suitable habitat.	No Effect
Colorado hookless cactus (<i>Sclerocactus glaucus</i>)	T	Rocky hills, mesa slopes, and alluvial benches; in desert shrub communities.	Unlikely to occur in project area due to lack of suitable habitat.	No Effect

* T = Federally Threatened, E= Federally Endangered, PT = Proposed Threatened, PE = Proposed Endangered, EXP = Experimental Population

The Western Yellow-billed Cuckoo occurs in western Colorado along the Uncompahgre, Yampa, Rio Grande, Conejos, San Miguel, Colorado, and Gunnison River corridors (RMBO 2012). Critical habitat for this species is located approximately 17 miles east of the project area along the North Fork of the Gunnison River upstream of Hotchkiss, CO (USFWS 2021b). They typically nest in willow thickets and old growth cottonwood galleries with dense understories (Wickersham 2016). The nesting season typically occurs from June through August for this species (Wickersham 2016). It is possible that the Yellow-billed Cuckoo would utilize riparian habitats in the project area, though USFWS did not determine that this stretch of the Gunnison River was essential to the conservation of the species or otherwise essential for its conservation when Critical Habitat was designated in 2021 (USFWS 2021b).

The Colorado pikeminnow, razorback sucker, bonytail, and the humpback chub are federally listed fish species that occur in the Colorado River Basin; collectively they are referred to as the Colorado River threatened and endangered fishes. The Hartland Ditch ROW where improvements are planned would not occur within designated critical habitat for these species of fish. Designated critical habitat for the Colorado pikeminnow and the razorback sucker includes the Gunnison River and its 100-year floodplain downstream from the confluence with the Uncompahgre River. One population of humpback chub occurs at Black Rocks within the Colorado River west of Grand Junction, Colorado (USFWS 1994). Humpback chub and bonytail critical habitat occurs downstream from Black Rocks in the Colorado River. The project area where the Habitat Replacement Plan would be implemented would be located within the 100-year floodplain of the Gunnison River which is considered critical habitat for the razorback sucker and the Colorado pikeminnow.

Water depletions in the Gunnison Basin diminish backwater spawning areas for the four listed Colorado River fishes in downstream designated critical habitat, impacts to the fishes result from continuing irrigation practices in the Gunnison Basin. The average historic depletion rate from Hartland Ditch's system operations is estimated as 2,391 acre-feet per year.

The Upper Colorado River Endangered Fish Recovery Program ("Recovery Program") is a partnership of public and private organizations (including Reclamation) working since 1988 to recover the four species while allowing continued water uses 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 2009, Reclamation completed a consultation for changes in operation (aka "reoperation") of the Aspinall Unit (the three dams on the Gunnison River in the upper part of the Black Canyon of the Gunnison) in coordination with other federal water project dams in the Gunnison watershed to address the needs of the downstream endangered fishes by creating a flow regime that more closely represents the natural conditions. The consultation considered all other federal and non-federal existing water depletions in the Gunnison River Basin (an estimated annual average of 602,700 acre-feet per year), along with projected new future depletions of up to 37,900 acre-feet per year. Following the consultation, FWS issued the 2009 Gunnison River Basin Programmatic Biological Opinion (PBO)(FWS 2009). The PBO found that although the reoperation of the Aspinall Unit and the continued operation of other federal and non-federal operations in the Gunnison Basin may adversely affect the endangered fishes and their critical habitat, the ongoing Recovery Program remains the reasonable and prudent alternative to avoid jeopardy to the endangered Colorado River fishes and avoid adverse modification of designated critical habitat. On an annual basis, the FWS determines whether the Recovery Program continues to make "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" (FWS 2023a). Non-federal existing depletions such as those depletions from the operations of the Hartland Ditch are not required to consult with FWS under Section 7 of the ESA regarding the listed fishes until there is a "federal nexus" (e.g., a federally-funded project requiring the NEPA process and the analysis of impacts). At that time, FWS has provided direction that historic depletions can be reported to them along with a description of the Proposed Action rather than having to initiate consultation. FWS' response to this notification serves as FWS' concurrence that the historic depletions are covered under the PBO and no further coordination on the historic depletions is necessary.

The monarch butterfly is currently proposed threatened species for listing under the Endangered Species Act (ESA). The USFWS announced in December of 2020 that the species warrants listing but has been precluded by higher priority actions at this time (USFWS 2020). Monarch butterflies occur throughout North America along a variety of habitats including rangelands, farms, riparian areas, deserts, prairies, meadows, open forests, woodlands, gardens, and roadsides where milkweed grows (Jepsen, et. al. 2015). Showy milkweed was observed along the banks of the Hartland Ditch during surveys.

The silverspot occurs in mountain valleys or near the base of mountains and floodplains where a variety of herbaceous and woody vegetation is available to provide breeding, feeding, and sheltering sites. The silverspot requires the presence of the bog violet (*Viola nephrophylla*/*V. sororia* var. *affinis*), which the larvae feed on exclusively. Silverspots require a sufficient number of individuals in close

proximity for breeding and to maintain genetic diversity. There are no known silverspot populations within 10 miles of the project area.

Suckley's cuckoo bumble bee was proposed for listing on December 17, 2024 under ESA (89 FR 102074). Suckley's is an obligate social parasite of social bumble bees in the genus *Bombus*. This species cannot successfully reproduce without the availability of suitable host colonies. It is a semi-specialist parasite and confirmed to usurp nests of Western bumble bee (*Bombus occidentalis*) and Nevada bumble bees (*Bombus nevadensis*) (USFWS 2024b). Based on the best available information, only 10 Suckley's have been observed in Colorado since 2010 (Dolan 2025, pers. comm), and none since 2014 despite ongoing surveys. The Species Status Assessment (SSA) shows recent observations (since 2018) occur only in northern latitudes, primarily in Canada (USFWS 2024b). Based on this information, Suckley's cuckoo bumble bee is believed to be extirpated from Colorado. Because the species is not currently known to occur in Colorado, projects and activities will have "no effect" on the species.

The Colorado hookless cactus occurs in upland desert shrublands north of the Proposed Action area. The Proposed Action takes place along an existing ditch that undergoes routine maintenance and within the floodplain of the Gunnison River. No Colorado hookless cactus were observed during the threatened and endangered species assessment and it is unlikely they would occur along the Hartland Ditch due to the lack of suitable habitat and anthropogenic influences occurring in the project area (i.e. active agricultural farming, canal maintenance, residential and urban development) (WestWater 2024a). Likewise, Colorado hookless cactus habitat requirements are not met within the Habitat Replacement Plan project area.

The clay-loving wild buckwheat is endemic to western Colorado on adobe clay hills and flats on soils derived from the Mancos Shale Formation. This species is known to occur in Delta County north of U.S. Highway 50. The proposed project consists of improvements along an existing irrigation ditch that is currently maintained. The proposed access road(s) and staging area(s) would be located within existing disturbance areas (i.e. vacant lots and existing ingress/egress points). The existing Hartland Ditch is situated adjacent rural residential housing, agricultural fields, the floodplain of the Gunnison River, and city parks. No clay-loving wild buckwheat and/or suitable habitat was present within or adjacent to the Proposed Action. It is unlikely this species would occur within the Proposed Action due to the lack of suitable habitat; therefore, this species would not be impacted by the Proposed Action (WestWater 2024b).

No Action Alternative: Under the No Action Alternative there would be no direct impacts to threatened and endangered species with potential to occur in the project area. Hartland Ditch Company would continue routine maintenance and operation of the canal system. The Habitat Replacement Plan would not be implemented and downstream water quality in the Colorado River would continue to be affected by the salinity and selenium loading to the Colorado River Basin, thus the Colorado River endangered fish species that occur downstream of the project area would not see improved water quality as a result of the Proposed Action.

Proposed Action:

No direct impacts to the Yellow-billed Cuckoo are expected as a result of this project as construction activities would occur outside the period when cuckoos are present. There may be a

reduction of suitable habitat within the Habitat Replacement Plan implementation area. Approximately 4.2 acres of mature non-native noxious weed tree species would be removed as part of the Habitat Replacement Plan. Approximately 2.05 acres is considered suitable habitat for the Yellow-billed Cuckoo. The removed non-native trees would be replaced with immature native tree and shrub species. Once the native trees and shrubs mature, the Habitat Replacement Plan would provide improved habitat for Yellow-billed Cuckoo, but this is expected to take several years. Critical habitat does not occur within or near the Proposed Action and would therefore not be impacted.

There would be no direct impact to the Colorado River threatened and endangered fishes, since project construction would occur when the ditch is dewatered from November through March and no construction would occur within the Gunnison River itself.

Water use due to the operation of the Hartland Ditch results in an average annual depletion from the Gunnison River of approximately 2,391 acre-feet. No new water depletions would occur as a result of the Hartland Ditch Improvement project.

The Proposed Action would ultimately improve water quality and habitat for the Colorado River threatened and endangered fishes. The estimated salt load reduction of the Hartland Ditch Improvement Project is 3,472 tons per year. The project is also expected to reduce selenium loading to the Gunnison River. Over the long-term, the project would have a positive effect on the Colorado River endangered fish species and their designated critical habitat areas.

There would be a direct loss of monarch butterfly habitat along the Hartland Ditch. Showy milkweed occurs along the ditch bank at low frequency. Adjacent irrigated fields, ditch laterals, tailwaters, and numerous lakes and ponds in the project area provide similar habitat for milkweed and, by extension, monarch butterfly. The loss of habitat as a result of the Hartland Ditch Improvement Project would be negligible in the context of the abundant habitat surrounding the project area.

3.2.9 – Cultural Resources

A cultural resource inventory was completed for the Proposed Action during the spring of 2024 to identify and assess cultural resources within the project area and to evaluate their historical significance under applicable federal cultural resource laws (GRI 2024).

The Hartland Ditch system has been a water delivery system in Delta County since the 1880's. A water rights claim for the Hartland Ditch was filed with Delta County Recorder on 2/17/1886 (GRI 2024). Articles of incorporation for the Hartland Ditch and Irrigation Water Company were filed with Delta County Recorder on May 11, 1883. The purpose of the corporation to be formed and organized was for the purpose to provide irrigation water to lands on the north bank of the Gunnison River in Delta County (GRI 2024). The majority of the ditch system operates and appears as it did when it was first constructed. The ditch system (Site 5DT1323) qualifies as an eligible resource for listing under the National Register of Historic Places (NHRP).

No Action Alternative: There would be no impact to cultural resources. Hartland Ditch Company would continue to operate and maintain the ditch system in its current status.

Proposed Action: The Hartland Ditch as proposed is to be lined and piped along the majority of its length. Reclamation has consulted with the Colorado State Historic Preservation Officer (SHPO) and has determined the proposed action would have an adverse effect on the ditch. Hartland Ditch Company would fulfill stipulations under 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 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”. The stipulations are designed to 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.

3.4 – Summary

Table 6 provides a summary of environmental impacts for the resources evaluated in this EA. Resource impacts are outlined for both the No Action and the Proposed Action Alternatives.

Table 5. Summary of Impacts for the No Action Alternative and Proposed Action Alternative.

Resource	Impacts: No Action Alternative	Impacts: Proposed Action Alternative
Water Rights & Use	There would be no effects.	There would be no change in water rights and/or use under the Proposed Action. The Hartland Ditch would continue to operate with its current water rights and there would be no change in water use.
Water Quality	Salt and selenium loading from the Project Area would continue to affect water quality in the Gunnison River and Colorado River Basin.	Salt loading into the Gunnison River would be reduced by an estimated 3,472 tons per year. The Proposed Action is also expected to reduce selenium loading in the Gunnison River; however, these benefits have not been quantified. Improved water quality would likely benefit downstream water users and aquatic species in the Colorado River.

Resource	Impacts: No Action Alternative	Impacts: Proposed Action Alternative
Air Quality	There would be no direct or indirect effects.	There would be a short-term increase in particulate matter and exhaust gases generated during project construction activities; however, these impacts would not cause Delta County to reach non-attainment air quality levels. Dust control measures would be implemented to help mitigate fugitive dust during project construction. Post- construction air quality would be improved due to the reduction or elimination of the need to burn the ditch regularly.
Access, Transportation, Utilities, & Public Safety	There would be no direct or indirect effects.	There would be a short-term incremental increase in vehicle traffic along public roads near the project area during project construction. Impacts to traffic and transportation would be short in duration and appropriate signage would be placed to notify the public of construction activity. There would also be an increase in noise and activity during daylight hours while project construction is occurring. Post-construction, traffic patterns and noise levels would return to pre-construction conditions.
Noise	There would be no direct or indirect effects.	There would be a short-term incremental increase in noise levels for residents and wildlife immediately adjacent to the ditch ROW and habitat replacement project area. Noise levels would return to pre-construction conditions and should not significantly impact the public and wildlife in the vicinity of the Proposed Action

Resource	Impacts: No Action Alternative	Impacts: Proposed Action Alternative
Vegetative Resources & Weeds	There would be no direct or indirect effects.	There would be a loss of approximately 4.86 acres of riparian and emergent wetland vegetation with a habitat value of 15.7 units along the Hartland Ditch. Implementation of the Habitat Replacement Plan is anticipated to replace the 15.7 lost habitat units with 26.46 habitat units. All equipment would be cleaned of debris and Hartland Ditch Company would continue to monitor and control noxious weeds along their ROW post-construction of the Proposed Action.
Wildlife Resources	There would be no direct or indirect effects to terrestrial wildlife species. However, downstream aquatic habitats would not see an improvement in water quality under the no action alternative. Salinity and selenium loading would continue to occur at current rates.	There would be a long-term loss of approximately 4.86 acres of fringe wetland/riparian habitat along the ditch banks as a result of the Proposed Action. Successful implementation of the Habitat Replacement Plan would offset these losses by improving habitat conditions on approximately 5.88 acres of Gunnison River floodplain directly across the river from the Hartland Ditch. The loss of this habitat would be minimal compared to the amount of available habitat nearby and at a landscape scale. Due to the existing level of anthropogenic disturbances and/or timing of project construction, there would be no impacts to migratory birds and Bald Eagles, or their habitat. There is the potential that project construction activities would cause temporary displacement of wildlife species. However, there would be a long-term improvement to downstream aquatic habitat areas as a result of the Proposed Action by decreasing salinity and selenium loading to the Gunnison River.

Resource	Impacts: No Action Alternative	Impacts: Proposed Action Alternative
Threatened & Endangered Species	There would be no direct or indirect effects to terrestrial threatened and endangered species. However, downstream aquatic habitats for the Colorado River threatened and endangered fishes would not see an improvement in water quality under the no action alternative. Salinity and selenium loading would continue to occur at current rates.	Due to the timing of project construction, there would be no impacts to the Yellow-billed Cuckoo. The Proposed Action would help to improve downstream water quality habitat for the Colorado River threatened and endangered fishes by reducing salinity and selenium loading to the Gunnison River. No other threatened and endangered species would be impacted as a result of the Proposed Action.
Cultural Resources	There would be no direct or indirect effects to cultural resources. Hartland Ditch Company would continue to maintain and operate their canal system.	The proposed action would have an adverse effect on the irrigation ditch, and stipulations have been identified to maintain the cultural heritage of irrigation history. Consultation documentation is included in Appendix C.

CHAPTER 4 – ENVIRONMENTAL COMMITMENTS

This section discusses the environmental commitments developed to lessen the potential adverse insignificant effects of the Project. The environmental commitments would be included in the contractor bid specifications.

Note that any construction activities proposed outside of the inventoried Proposed Action Area or the planned timeframes would first require additional review by Reclamation to determine if the existing surveys and information are adequate to evaluate additional impacts to special status plants and wildlife, including threatened, endangered, or migratory bird species. Additional NEPA documentation may be required.

Environmental Commitment	Affected Resource	Authority
<i>Pre-construction</i>		
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	Clean Water Act of 1972 as amended
A Stormwater Management Plan shall be prepared and submitted to Colorado Department of Public Health & Environment (CDPHE) by the construction contractor prior to construction disturbance.	Water Quality	Clean Water Act of 1972 as amended
A Clean Water Act (CWA) Section 402 Storm Water Discharge Permit compliant with the National Pollutant Discharge Elimination System (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	Clean Water Act of 1972 as amended
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	Clean Water Act of 1972 as amended
Construction limits shall be clearly flagged onsite to avoid unnecessary plant loss or ground disturbance.	Vegetation, Weeds, and Wildlife Habitat	N/A
Utility clearances must be obtained by the construction contractor prior to construction activities from local utility companies.	Transportation and Access	County Ordinances and Regulations
All equipment shall be cleaned before it is brought to the construction area, to minimize transport of new weed species to the construction area.	Vegetation, Weeds, Wildlife Habitat	Delta County Weed Management Plan
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	Water Quality	RGP-5, Section 404, Clean Water Act of 1972 as amended

Environmental Commitment	Affected Resource	Authority
the lead Federal Agency NEPA document containing the same, (2) a project description, (3) project plans, and (4) a location map.)”		
A Colorado Department of Transportation Utility and Access Permit shall be obtained prior to project construction activities.	Access and Transportation	Colorado Department of Transportation Regulations
Any construction, access, or use permits required by Delta County Planning Department, County Engineering and County Road and Bridge Department, shall be obtained in advance of road crossings.	Access and Transportation	County Ordinances and Regulations
<i>During Construction</i>		
Project construction activities (including tree and vegetation removal associated with the ditch ROW and Habitat Replacement Plan) will occur during daylight hours (typically 7am to 5pm), Monday through Friday.	Noise, Wildlife	County Ordinances and Regulations
During construction, the use, storage, and disposal of hazardous materials and wastes within the project area will be managed in accordance with all federal, state, and local standards, including. Any trash or solid wastes generated during the project will be properly disposed offsite.	Water Quality, Wildlife Habitat, Soils	Toxic Substances Control Act of 1976, as amended (15 USC 2601, et seq., 40 CFR Part 702-799, and 40 CFR 761.1-761.193)
Equipment shall be inspected daily and immediately repaired as necessary to ensure equipment is free of petrochemical leaks.	Water Quality, Soil	Clean Water Act of 1972, as amended
Construction equipment shall be parked, stored, and serviced only at an approved staging area.	Water Quality, Soil	Clean Water Act of 1972, as amended
Dust abatement shall be conducted when visible dust plumes are present within the construction area (including access roads and staging areas). Dust abatement will be conducted in coordination with city and county municipalities.	Air Quality	Clean Air Act of 1963, County Regulations and Ordinances
Ground disturbances and construction areas shall be limited to only those areas necessary to safely implement the Proposed Action.	Soil, Vegetation, Weeds, Wildlife Habitat	Delta County Weed Management Plan

Environmental Commitment	Affected Resource	Authority
All equipment shall be cleaned before it is brought to the construction site and/or habitat replacement site to minimize the transport of noxious weed species.	Vegetation, Weeds, and Wildlife	Delta County Weed Management Plan
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.	Cultural Resources	National Historic Preservation Act; Archeological Resources Protection Act; Paleontological Resources Preservation Act
In the event that threatened or endangered species are encountered during construction, the Company shall stop construction activities until Reclamation has consulted with FWS to ensure that adequate measures are in place to avoid or reduce impacts to the species.	Special Status Species	Endangered Species Act
Construction activities shall take place only in accordance with the schedule and any timing restrictions outlined in Sections 2.4 and 3.2 of this EA (no vegetation grubbing during the core migratory bird nesting season of April 1 through July 15; no construction work during June 1 through September 15 in potentially sensitive areas for Western Yellow-billed Cuckoo).	Special Status Species	Endangered Species Act
No construction activity will occur within ½ mile of an active bald eagle nest or bald eagle roost site from February 1 st through July 31 st for segments of the ditch from Station 20,650 to Station 25,500.	Special Status Species	Migratory Bird Treaty Act and Bald & Golden Eagle Protection Act
If any active raptor (excluding Bald Eagles) nest is discovered within 1/3-mile of the Proposed Action Area during construction, construction shall cease until Reclamation can complete consultations with FWS and CPW.	Special Status Species and Wildlife	Migratory Bird Treaty Act
All open trenches if left open overnight, will be covered to adequately prevent entrapment of people, livestock, or wildlife.	Public Safety and Wildlife	C.R.S. 33-1-101 to 125 Colorado Parks and Wildlife Article 1: Wildlife

Environmental Commitment	Affected Resource	Authority
<i>Post-Construction</i>		
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, Wildlife Habitat	Delta County Weed Management Plan
Weed control shall be implemented by the Company or a contractor in accordance with current County weed control standards.	Vegetation, Weeds, Wildlife Habitat	Delta County Weed Management Plan
Following project construction activities along the ditch alignment all disturbed areas will be recontoured, topsoiled, and reseeded with an appropriate seed mix for the surrounding vegetation community.	Vegetation, Weeds, and Wildlife	Delta County Weed Management Plan

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 and availability of the Draft EA will be 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 will meet the technical standards of Section 508 of the Rehabilitation Act of 1973, so that the document can be accessed by people with disabilities using accessibility software tools.

CHAPTER 6 – PREPARERS

The following list contains the WestWater Engineering staff and Reclamation employees who participated in the preparation of this EA.

Name	Title	Areas of Responsibility
Amie Wilsey	Principal Environmental Scientist/Biologist	NEPA Lead, Air Quality, Access, Transportation, and Construction Impacts, Vegetative Resources and Weeds, Wildlife Resources, Special Status Species, Cultural Resources
Dean Goebel	Hydrogeologist	Water Rights and Use, Water Quality, Agricultural Resource and Soils
Leah Weckworth	Principal Environmental Scientist/Biologist	Vegetative Resources and Weeds, Wildlife Resources, Special Status Species
Kent Rider	Environmental Scientist/Biologist	Wildlife Resources, Special Status Species, Access, Transportation, and Construction Impacts
Jenny Ward	Reclamation WCAO Environmental Group Chief	EA review
Christina Wyatt	Reclamation WCAO Natural Resource Specialist	EA review
Don Merritt	Archaeologist (former)	Cultural Resources review
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CHAPTER 8 – ABBREVIATIONS AND ACRONYMS

Abbreviation or Acronym	Definition
BLM	U.S. Bureau of Land Management
BMP	Best management practice
CAA	Clean Air Act
CDPHE	Colorado Department of Public Health and Environment
CPW	Colorado Parks and Wildlife
CRSP	Colorado River Storage Project
CWA	Clean Water Act
EA	Environmental Assessment
EIS	Environmental Impact Statement
E.O.	Executive Order
EPA	Environmental Protection Agency
FONSI	Finding of No Significant Impact
Interior	U.S. Department of the Interior
MOA	Memorandum of Agreement
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
PM	Particulate Matter

Abbreviation or Acronym	Definition
Reclamation	U.S. Bureau of Reclamation
SHPO	State Historic Preservation Officer
USACE	U.S. Army Corps of Engineers