BUREAU OF RECLAMATION

Finding of No Significant Impact and Environmental Assessment for the Turner & Lone Cabin Ditch Combination Salinity Reduction Project

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

U.S. Department of the Interior June 2024

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

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

Prepared for the Bureau of Reclamation by
Rare Earth Science, LLC

June 2024

Cover Photo: View toward Lone Cabin Reservoir in the Upper Lone Cabin Project Area in November 2021, Delta County, Colorado (Rare Earth Science, LLC).

FINDING OF NO SIGNIFICANT IMPACT

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

Turner & Lone Cabin Ditch Combination
Salinity Reduction Project

Introduction

In compliance with the National Environmental Policy Act of 1969, as amended (NEPA), the Council on Environmental Quality's (CEQ) NEPA regulations at 40 CFR Parts 1500 – 1508 (2022), the Bureau of Reclamation (Reclamation) has completed an environmental assessment (EA) for the Proposed Action of authorizing the use of federal funds to implement the Turner & Lone Cabin Ditch Combination Salinity Reduction Project (Project) in Delta and Gunnison Counties, Colorado. Under the authority of the Colorado River Basin Salinity Control Act, Reclamation will fund the Project and is the lead agency for purposes of compliance with the NEPA for this Proposed Action.

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

Alternatives

The EA analyzes the No Action Alternative and the Proposed Action Alternative to authorize federal funding to implement the Turner & Lone Cabin Ditch Combination Salinity Reduction Project.

Decision and Finding of No Significant Impact

Reclamation's decision is to implement the Proposed Action Alternative. Based upon a review of the EA, Reclamation has determined that implementing the Proposed Action will not significantly affect the quality of the human environment. Therefore, an environmental impact statement is not required for this proposed action. This finding is based on consideration of the degree of effects of the Proposed Action on the potentially affected environment, as analyzed in the EA.

Potentially Affected Environment

The Project is located in the North Fork of the Gunnison River watershed, east and southeast of the Town of Paonia, in southeastern Delta County, and western Gunnison County, Colorado. The affected locality is the Turner Ditch and Lone Cabin Ditch systems. Affected interests include Reclamation, Bureau of Land Management (BLM), the U.S. Forest Service (USFS), the Town of Paonia, Colorado Parks and Wildlife, Turner Ditch Company, Lone Cabin Ditch & Reservoir Company, and adjacent landowners. The EA evaluates the effects on the potentially affected environment, which includes physical, ecological, and socioeconomic factors.

Degree of the Effects
In determining the degree of effects of the Proposed Action, Reclamation has considered the following criteria as described in 40 CFR 1501.3(b)(2). These criteria were incorporated into the resource issues and analyses described in the EA.

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

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

3. **Effects on Public Health and Safety.** The Proposed Action will have minimal impacts on public health or safety. A full analysis can be found in Section 3.2.5 of the EA, and is incorporated by reference.

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

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

Approved by:

Ed Warner
2024.07.15
11:30:06 -06'00'

Ed Warner
Area Manager, Western Colorado Area Office
Bureau of Reclamation

LEVI BROYLES
Digitally signed by LEVI BROYLES
Date: 2024.07.17 08:08:36 -06'00'

Levi Broyles
Paonia District Ranger, Grand Mesa, Uncompahgre and Gunnison National Forests

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CHAPTER 1 - INTRODUCTION

This Environmental Assessment (EA) has been prepared to explain and evaluate the potential environmental effects of Turner Ditch Company's (Applicant's) proposed Turner and Lone Cabin Ditch Combination Salinity Reduction Project ("Project"). The Federal action evaluated in this EA is whether the U.S. Department of the Interior Bureau of Reclamation (Reclamation) would provide funding assistance to the Applicant for the Project. Reclamation is authorized by the Colorado River Basin Salinity Control Act's Colorado River Basinwide Salinity Control Program to fund the Project under the 2019-2020 Funding Opportunity Announcement (FOA) BOR-UC-20-F001. The Applicant has also secured funding from other entities to implement the Project, including the Colorado Water Conservation Board and the North Fork Water Conservancy District.

As the primary funder for the Project, Reclamation is the lead federal agency. The U.S. Department of the Interior Bureau of Land Management (BLM) and the U.S. Department of Agriculture Forest Service (USFS) are cooperating agencies for authorization of the Project, since parts of the Project are proposed on BLM and USFS lands.

As the lead agency, Reclamation has prepared this EA in compliance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality's (CEQ's) NEPA regulations at 40 Code of Federal Regulations (CFR) Parts 1500 – 1508 (2022). After a public review period for the Draft EA, Reclamation determined that a Finding of No Significant Impact (FONSI) for the Proposed Action is warranted.

1.1 – Project Location and Legal Description

The Project would take place in the southeastern part of Delta County and the western part of Gunnison County, Colorado, near the Town of Paonia (see Figure 1, below). The Project consists of a "piping component" and a "habitat replacement component."

The piping component would combine the operations of two existing ditch systems: the Turner Ditch system and the Lone Cabin Reservoir and Ditch system. The Upper Turner and Lone Cabin Project Areas are on a combination of private lands and public lands administered by the BLM and the USFS (Figure 1). The Lower Project Area lies mostly on private land in the Lamborn Mesa area, where most of the water users are located. Part of the Upper Lone Cabin Project Area is in a Colorado Roadless Area managed by the USFS, and part of the Upper Lone Cabin Project Area is on the Roeber State Wildlife Area (SWA), which is a private landholding in a conservation easement with limited public access managed by Colorado Parks and Wildlife (CPW).

The habitat replacement component of the Project includes an approximately 28-acre site where activities would be implemented to maintain the value of the riparian and wetland habitat which would be lost as a result from the piping component. The Habitat Replacement Site is on land owned by the Town of Paonia and partially occupied by the Town's sewage treatment facility. The

physical areas that would be affected by the Project (the Project Area) and their general physical locations are listed in Table 1 and depicted on Figure 1.

Figure 1. Map of project location.

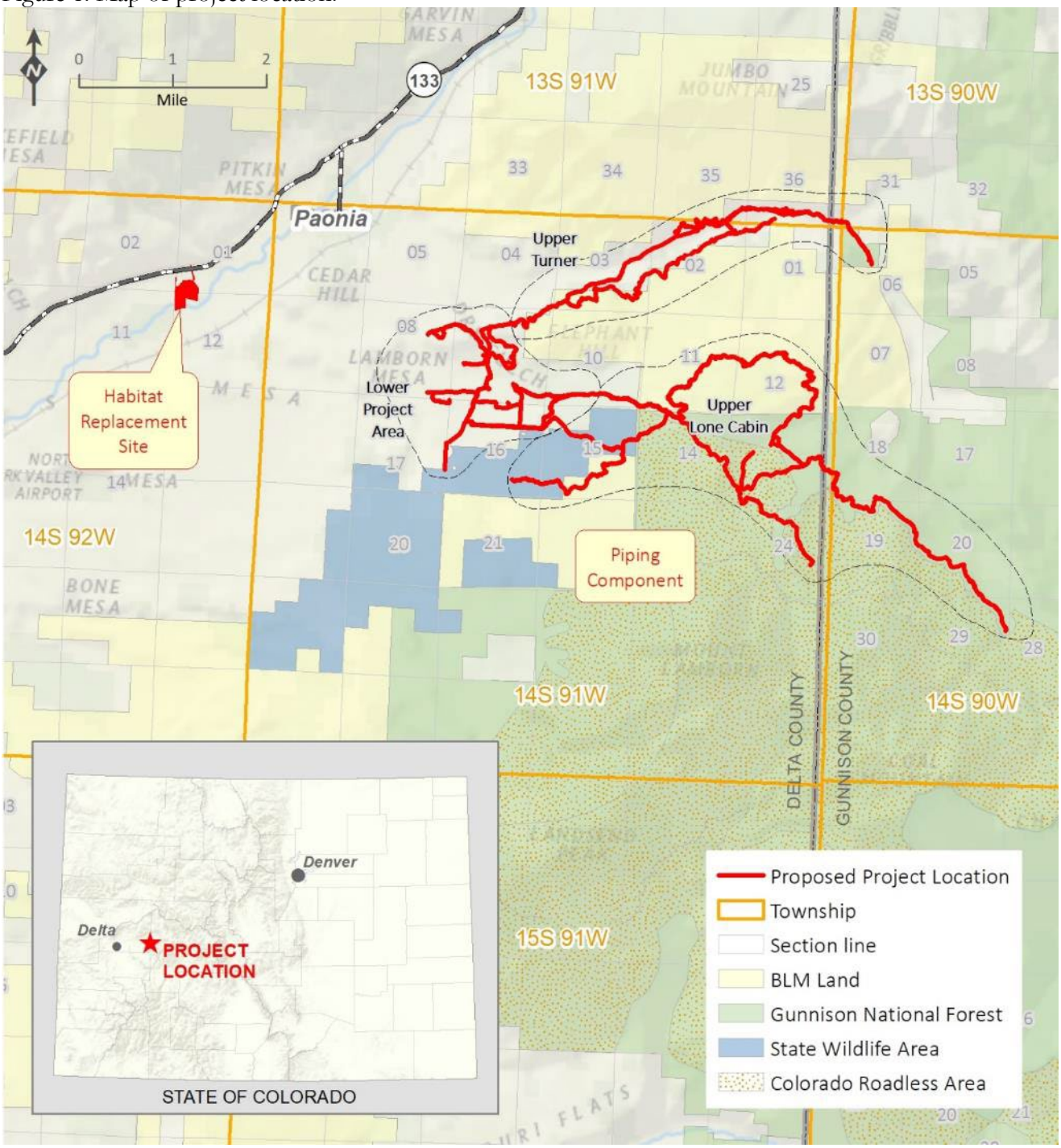


Table 1. Areas Involved in the Project

Project Area	Main Project Elements	General Physical Location
Upper Turner	The existing Turner Ditch from its current diversion on Minnesota Creek to the east boundary of Excelsior Orchard; the existing Sweezy-Turner Ditch diversion and existing Sweezy-Turner Ditch; the proposed new Turner diversion location (near the existing Sweezy-Turner Ditch diversion); the proposed Spurlock manifold pipeline; and the proposed Turner Ditch main pipeline alignment both within and outside the existing Turner Ditch prism. Includes access routes, staging, and borrow sites. Area is in a combination of National Forest, BLM, and private lands.	T14S R90W (6th Principal Meridian [6th PM]): Section 6, in Gunnison County; T13S R90W (6th PM): Section 31, in Gunnison County; T13S R91W (6th PM): Sections 35 & 36, in Delta County; and T14S R91W (6th PM): Sections 2, 3, 4 & 9, in Delta County
Upper Lone Cabin	The existing Lone Cabin Highline Ditch, the existing Lone Cabin Trade Ditch, the existing Lone Cabin Ditch (main lateral) and its north, middle, and south laterals. Includes access routes, staging, and borrow sites. Area is in a combination of National Forest, BLM, and private lands. Some elements are on the Roeber SWA and a Colorado Roadless Area.	T14S R90W (6th PM): Sections 18, 19, 20 & 29, in Gunnison County; and T14S R91W (6th PM): Sections 9 – 16, and 24, in Delta County
Lower (combined) Project Area	The existing Turner Ditch below (west of) the east boundary of Excelsior Orchard; the proposed Turner Ditch main pipeline alignment; the existing Turner Ditch Laterals (north, middle, and south); the proposed Turner pipe laterals (Miller Creek Pond, north, middle, south, and Laminger); the existing Lone Cabin Ditch north lateral below the first private land turnout and a part of the existing middle lateral; the proposed Lone Cabin lower main pipeline both within and outside the existing ditch prism; the proposed connector lateral pipelines 1 and 2, and the proposed Lowe manifold pipeline. Includes access routes and staging areas.	T14S R91W (6th PM): Sections 8, 9, 16 & 17, in Delta County
Habitat Replacement Site	Habitat Replacement Site. The Site is on land owned by the Town of Paonia and partially occupied by the Town's sewage treatment facility.	T14S R92W (6th PM): Sections 1 & 12, in Delta County

The BLM land that would be affected by the Project lies within an area managed by the BLM Uncompahgre Field Office (UFO). The USFS land lies within the Gunnison National Forest and is managed by the Paonia Ranger District Office of the Grand Mesa, Uncompahgre, and Gunnison (GMUG) National Forests.

1.2 – Need for and Purpose of the Proposed Action

The need and purpose for the Proposed Action is to reduce salinity concentrations in the Colorado River basin in compliance with the Colorado River Basin Salinity Control Act (Reclamation's federal nexus; 88 Stat. 266).

The need and purpose for BLM's connected action would be to respond to the Applicant's request to acknowledge existing historic prescriptive rights-of-way (ROWs) and/or grant a new ROW on BLM land to comply with the Federal Land Policy and Management Act of 1976 (BLM's federal nexus).

The need and purpose for USFS's connected action would be respond to the Applicant's request to issue a Temporary Construction Permit and Special Use Authorizations to comply with Title 36, Code of Federal Regulations, Part 251, Subpart B (36 CFR part 251, Subpart B) and the GMUG Resource Management Plan (USFS's federal nexus).

1.3 – Decisions to be Made

Reclamation will decide whether to provide funding to the Applicant to implement the Project. Since parts of the Project would take place on BLM and USFS lands, BLM and USFS will make related decisions. In the related decisions, BLM will decide whether to acknowledge historic prescriptive ROWs and whether to grant new ROWs on BLM land to the Applicant to allow for implementation of the Project. USFS will decide whether to grant a Temporary Construction Special Use Permit, whether to grant new Special Use Authorizations, whether to abandon no longer needed portions of historic Ditch Bill ditch easement, and whether to grant a Mineral Material Permit on the Gunnison National Forest, to allow for implementation of the Project.

1.4 – Background

1.4.1 – Salinity Control Program

The threat of salinity loading in the Colorado River basin is a major concern in both the United States and Mexico (Reclamation 2019a). Salinity affects water quality, which in turn affects downstream users, by threatening the productivity of crops, degrading wildlife habitat, and corroding residential and municipal plumbing. Irrigated agriculture contributes approximately 37 percent of the salinity in the system (Reclamation 2019a). Irrigation increases salinity in the system both by depleting in-stream flows, and by mobilizing salts found in underlying geologic formations into the system, especially during flood irrigation practices.

The Colorado River Basin Salinity Control Act of 1975 (Public Law 93-320), as amended, authorizes the Secretary of the Interior to proceed with a program to enhance and protect the quality of water available in the Colorado River for use in the United States and Republic of Mexico. Public Law 104-20 of July 28, 1995, authorizes the Secretary of the Interior, acting through the Bureau of Reclamation, to implement a Basinwide Salinity Control Program. The Secretary may carry out the purposes of this legislation directly, or make grants, enter into contracts, memoranda of agreement, commitments for grants, cooperative agreements, or advances of funds to non-federal entities under such terms and conditions as the Secretary may require (43 USC 1592).

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. The Project would eliminate water seepage from approximately 27.1 miles of earthen ditches collectively associated with the Turner Ditch system and the Lone Cabin Ditch and Reservoir system, reducing salinity loading by 3,398 tons per year in the Lower Gunnison Basin and the Colorado River Basin (Reclamation 2019b).

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 2022a).

1.4.2 – The Applicant

Turner Ditch Company, the Applicant, is representing both Turner Ditch Company (operating since the 1890s and incorporated in 1922) and the Lone Cabin Ditch and Reservoir Company (operating since the 1890s and incorporated in 1904), the primary entities that would implement the Project. The Applicant proposes to combine the irrigation water delivery operations of the two companies. Two additional unincorporated irrigation entities sourcing water from Minnesota Creek, the Sweezy-Turner Ditch and Spurlock Ranch would also assimilate into the Turner Ditch Company as part of the Project.

1.5 – Relationship to Other Projects

1.5.1 – 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. Figure 2 shows the general locations of these projects relative to the Project.

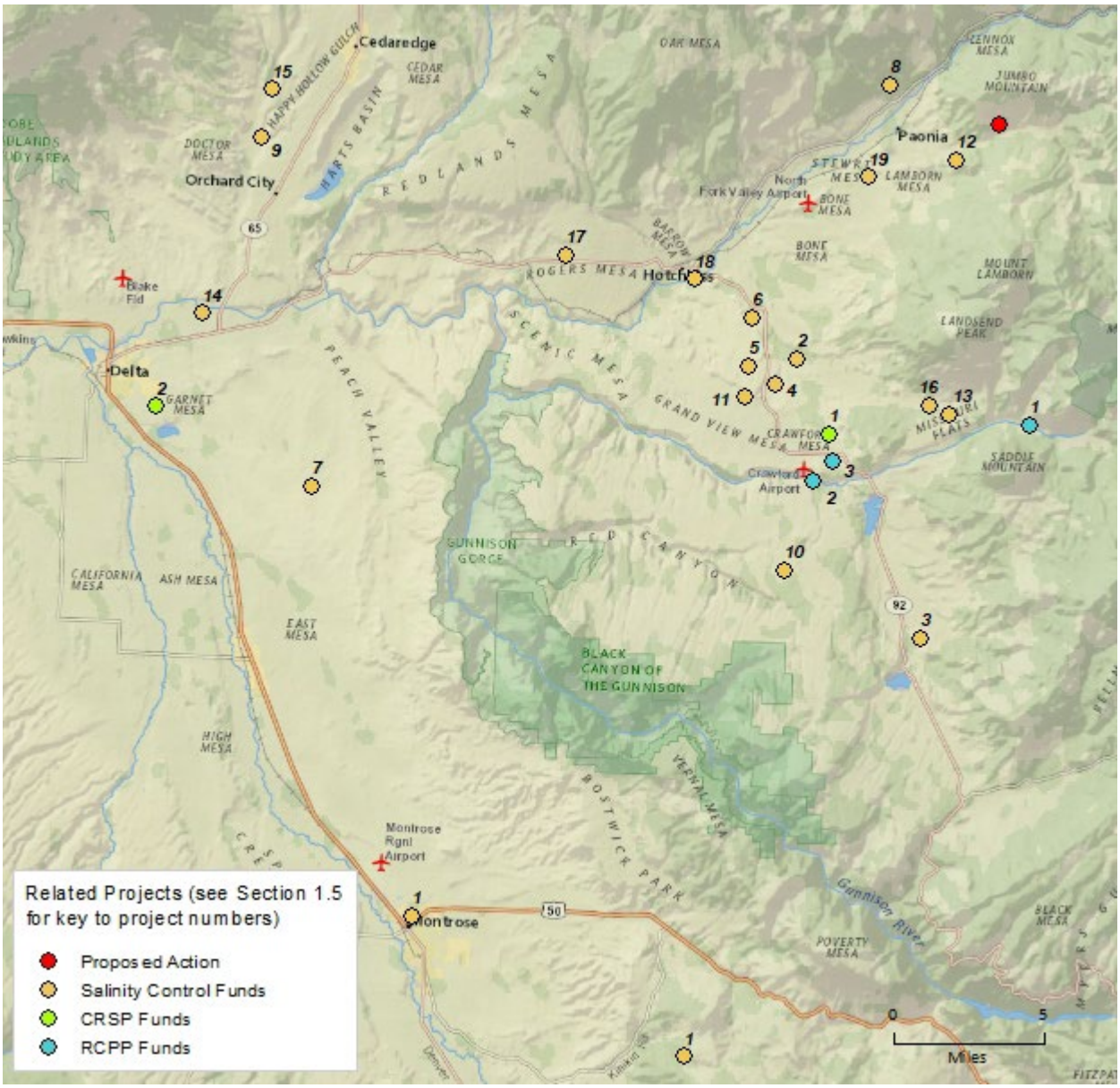
1. Bostwick Park Siphon Lateral and Waterdog & Shinn Park Laterals Piping Projects
2. C Ditch/Needle Rock Piping Project
3. Cattleman's Ditches Piping Project Phases I and II
4. Crawford Clipper Center Lateral Piping Project
5. Crawford Clipper Jerdon, West, Hamilton Piping Project
6. Crawford Clipper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

1.5.2 – CRSP Basin Funds

Reclamation's Western Colorado Area Office recently utilized Colorado River Storage Project (CRSP) Basin Funds to implement the following projects(see Figure 2 for general locations):

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

Figure 2. Regional salinity control projects & other related projects.



1.5.3 – RCPP Funds

The U.S. Dept. of Agriculture Natural Resources Conservation Service (NRCS) issued a Regional Conservation Partnership Program (RCPP) grant administered by the Colorado River Water Conservation District under the Lower Gunnison Watershed Plan. RCPP irrigation infrastructure improvement projects planned in the vicinity of the Project include (see Figure 2 for general locations):

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

1.6 – Scoping

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

- U.S. Bureau of Land Management, Uncompahgre Field Office, Montrose, CO
- U.S. Forest Service, GMUG National Forests, Paonia Ranger District, Paonia, CO
- Colorado State Historic Preservation Office, Denver, CO
- U.S. Army Corps of Engineers, Northwestern Colorado Branch, Grand Junction, CO
- Southern Ute Tribe, Ute Mountain Ute Tribe, and Ute Indian Tribe (Uintah and Ouray Reservation)
- U.S. Fish & Wildlife Service, Ecological Services, Grand Junction, CO
- Colorado Parks & Wildlife (CPW), Grand Junction, CO

Concerns raised during public comment periods on recent similar projects and related informal consultations with local CPW wildlife managers also helped identify potential concerns for the Project.

Resources analyzed in this EA are discussed in Chapter 3. The following resources were identified as ***not present or not affected***, and are not analyzed further in this EA:

Table 2. Resources or Potential Issues Eliminated from Further Analysis

Resource or Potential Issue	Rationale for Elimination from Further Analysis
Indian Trust Assets and Native American Religious Concerns	No Indian trust assets have been identified within the Project Area. No Native American sacred sites were identified within the Project Area. Neither the No Action Alternative, nor the Proposed Action Alternative, would affect Indian trust assets or Native American 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 July 11, 2022 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 were received.

Resource or Potential Issue	Rationale for Elimination from Further Analysis
Financial Impacts to Shareholders	The Turner Ditch Company, in coordination with the Lone Cabin Ditch and Reservoir Company, applied for the voluntary grant funding under the Salinity Control Program. The ditch company boards of directors make financial decisions related to management of the ditches, and operation and maintenance costs are assessed to the company shareholders. This process would not change under the Proposed Action. Future operation and maintenance costs are speculative. Therefore, this potential issue was eliminated from further analysis.
Environmental Justice & Socioeconomic Issues	The Project Area does not occur on Indian reservation lands or within disproportionately adversely affected minority or low-income populations. The Project would not involve population relocation, health hazards, hazardous waste, property takings, or substantial economic impacts. Therefore, neither the No Action Alternative nor the Proposed Action Alternative, would have an environmental justice effect.
Wild & Scenic Rivers, Land with Wilderness Characteristics, or Wilderness Study Areas	No Wild and Scenic Rivers, land with wilderness characteristics, or Wilderness Study Areas exist in the Project Area. Therefore, neither the No Action Alternative nor the Proposed Action Alternative, would have an effect on these resources.
Microplastics Impacts	While microplastics can originate from the degradation of larger plastic objects, it is speculative to assume the Project would measurably contribute to microplastics in the environment. Polyvinyl chloride (PVC) pipe typically degenerates when exposed to ultraviolet (UV) rays. Buried PVC, high-density polyethylene (HDPE), and plastic irrigation pipe (PIP) have life expectancies of 50-100 years (potentially more). Not only is the Applicant required as a condition of the grant to maintain the piping for the life of the Salinity Control Project, the piping must remain intact for the pipeline to deliver water. It is speculative to try to anticipate the eventual fate of the pipeline and therefore the generation of microplastics. For example, the pipeline could eventually be replaced with materials not yet developed, it could be removed, or it could be replaced with new PVC/HDPE/PIP. Therefore, this potential issue was eliminated from further analysis.

Resource or Potential Issue	Rationale for Elimination from Further Analysis
Desertification	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 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.
Climate Change	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.

1.7 – Alternatives Considered But Not Carried Forward

The Applicant entities, Turner Ditch Company and the Lone Cabin Ditch and Reservoir Company, submitted Salinity Control Program grant applications individually during the 2010 and 2012 FOA cycles. These proposed action alternatives were simpler piping installations than the currently-proposed combined system, but were rejected by Reclamation as cost-prohibitive and non-competitive.

Several other alternatives were considered during the conceptual design process for the Project, such as lining the ditches or using a combination of lining and piping. These alternatives were not proposed to Reclamation because they were determined to be technically challenging, lacked longevity, or were otherwise economically prohibitive, compared to the Proposed Alternative.

CHAPTER 2 PROPOSED ACTION AND ALTERNATIVES

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

2.1 – No Action Alternative

Under the No Action Alternative, Reclamation would not approve funding for the Project. The ditches proposed for piping would continue to flow in open, earthen ditches, and the resultant salt loading to the Lower Gunnison Basin and the Colorado River Basin would continue. The BLM would not go through their formal acknowledgement process to verify the applicant's historic prescriptive ditch ROW and would not grant a new ROW on BLM land. The USFS would not issue a Temporary Construction Permit, Special Use Authorizations, historic Ditch Bill ditch easement abandonments, or a Mineral Material Permit.

2.2 – Proposed Action

Under the Proposed Action Alternative, Reclamation would authorize funding to the Applicant to implement the Turner & Lone Cabin Ditch Combination Salinity Reduction Project, BLM would acknowledge existing historic ROWs and grant a new ROW to the Applicant to allow for implementation of the Proposed Action on BLM land, and USFS would issue a Temporary Construction Permit, Special Use Authorizations, historic Ditch Bill ditch easement abandonments, and a Mineral Material Permit to allow for implementation of the Proposed Action on the GMUG National Forests.

2.2.1 – Project Overview

The activities funded by the Proposed Action would include the conversion of approximately 27.1 miles of the existing open ditch systems to a system of approximately 18.9 miles of buried, pressurized pipe alignments (the "Piping Component") and establishment of an approximately 28.3-acre Habitat Replacement Site (the "Habitat Component") to maintain the value of the riparian and wetland habitat which would be lost as a result from the Piping Component.

Table 3, below, is a summary of project elements broken out by land status (distances and acreages are approximate). These elements were compiled from a review of the 90 percent design drawings (AECOM 2021) and a GIS analysis using Esri® ArcGIS Desktop software. Of the of 18.9 miles of buried pipe alignments proposed for installation, approximately 11.5 miles of pipeline would be installed in the existing ditch prisms (e.g., direct conversion of ditch to pipeline), about 7.4 miles of pipeline would be installed in re-alignments outside the existing ditch prisms, and 15.6 miles of existing ditches would be decommissioned. Five existing ditch diversions would be removed, one new ditch diversion would be established in a new location, and one existing ditch diversion would be replaced/upgraded at its current location.

The pressurized pipelines would be polyvinylchloride (PVC) irrigation pipe, high-density polyethylene (HDPE), plastic irrigation pipe (PIP) (or similar), and rated for 200 pounds per square inch (psi). Operating pressures would range from 165 to 90 psi. The pipe diameter would range from as large as 30 inches in main lines to as small as 1 inch in manifold lines. A variety of control structures (intakes, gate valves, air vents, drains, pressure reducing vaults, meters, and outlets ("taps")/farm turnouts) would be installed on the pipe system. Intakes (headgates) would be poured-in-place reinforced concrete with Coanda intake screens. Valves would be slow-close valves, meters would be electromagnetic flow meters. Outlets would be a combination of concrete boxes and standpipes depending on the amount of water delivery required. Up to four outlets would be provided along the pipelines to provide stock water and wildlife water to tanks on public lands. One stockwater outlet would be on National Forest in the east part of the Upper Turner Project Area, up to two would be on BLM land in the Oak Ridge area of the Upper Lone Cabin Project Area, and one would be on National Forest between the Lone Cabin headgate on the Lake Fork and Lone Cabin Reservoir. No new water storage, pump stations, compressor stations, or new irrigated farm areas would be associated with the Project.

Table 3. Summary of Project Elements

Project Element	Total Involved	On BLM Land	On USFS Land	On Private Land	Comment
Existing ditches involved with the Project	27.1 mi	6.8 mi	8.6 mi	11.7 mi	Includes all ditches directly maintained by the ditch companies. Some existing ditches would be converted to buried pipelines (pipe would be installed in the existing ditch prisms) and some existing ditches would be decommissioned.
Pipeline to be installed	18.9 mi (137.5 acres)	4.4 mi (32.3 acres)	2.8 mi (20.5 acres)	11.6 mi (84.6 acres)	The length of pipeline is based on total distance disturbed (manifold pipes installed alongside the main pipelines are not included in the distance). The width of the construction footprint would vary from approximately 40 to 60 feet depending on site characteristics (acreage is conservatively based on the 60-foot width)

Project Element	Total Involved	On BLM Land	On USFS Land	On Private Land	Comment
Pipe to be installed in the existing ditch prism (direct conversion from ditch to pipe)	11.5 mi (83.6 acres)	4.2 mi (30.6 acres)	2.4 mi (17.4 acres)	4.9 mi (35.6 acres)	The width of the construction footprint would vary from approximately 40 to 60 feet depending on site characteristics (acreage is conservatively based on the 60-foot width)
Pipe to be installed in a realignment path (outside the existing ditch prism)	7.4 mi (53.6 acres)	0.24 mi (1.7 acres)	0.4 mi (2.9 acres)	6.74 mi (49 acres)	Various route realignments for efficiency and systems connectivity (acreage is conservatively based on a 60-foot-wide construction footprint).
New primary diversion structures (2)	1 acre	--	1 acre	--	A new diversion (pipe inlet) structure in a new location on Minnesota Creek would replace the existing Turner Ditch, Sweezy-Turner Ditch, and Spurlock diversions. The existing Lone Cabin main ditch diversion structure on Lake Fork Creek would be replaced (upgraded) at its current location.
Existing points of diversion to be removed (5)	2.5 acres	--	1.5 acres	1 acre	The existing Lone Cabin Trade Ditch diversion on South Fork Creek; the existing Lone Cabin Highline Ditch diversion on Lake Fork Creek; and the existing Turner Ditch, Sweezy-Turner Ditch, and Spurlock diversions on Minnesota Creek would be removed.
Existing ditch to be abandoned / decommissioned	15.6 mi	2.6 mi	6.1 mi	6.9 mi	Ditches to be removed from service (where not being converted in place to pipelines)

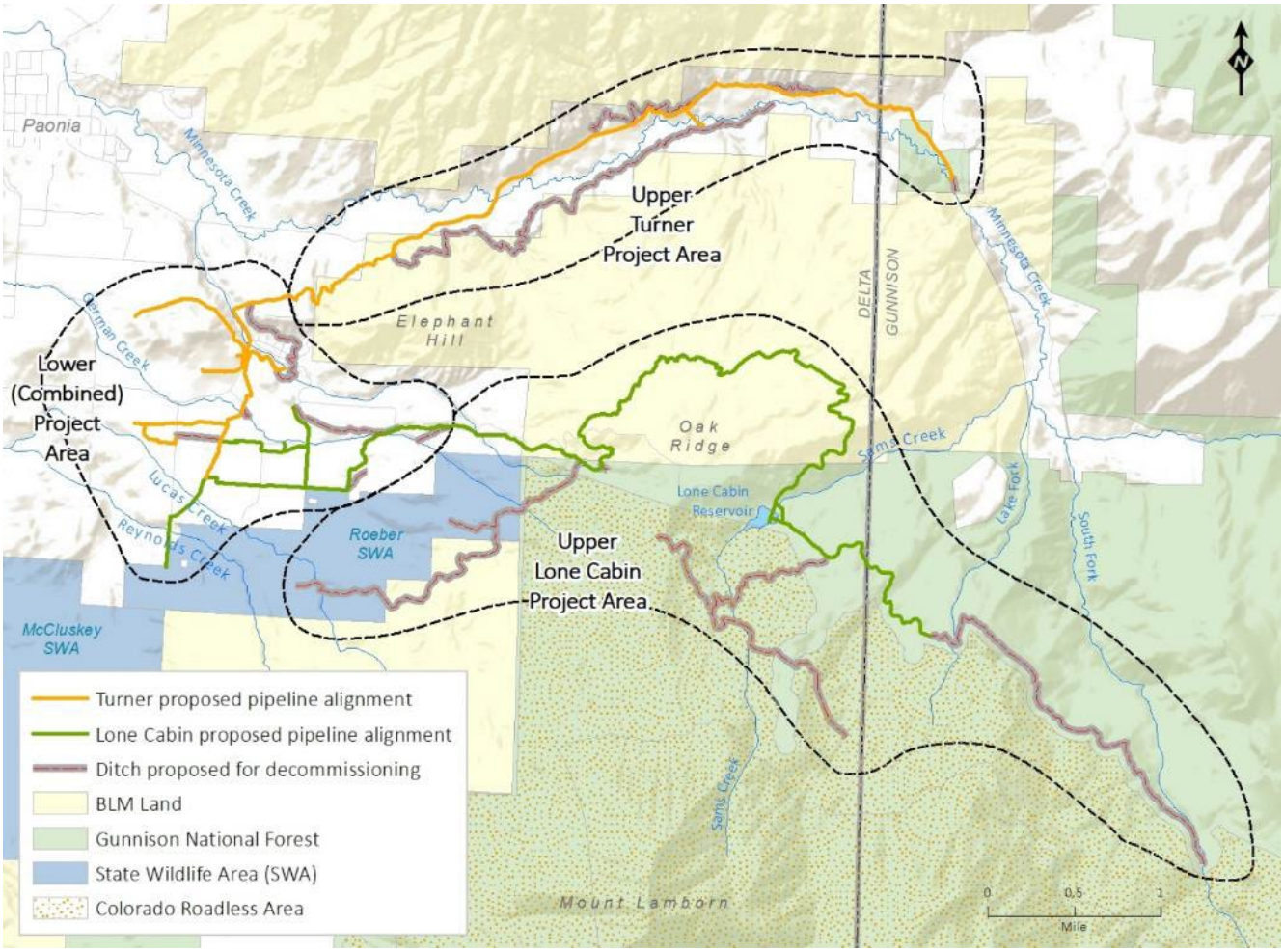
Project Element	Total Involved	On BLM Land	On USFS Land	On Private Land	Comment
Existing natural drainage used to convey irrigation water – use to be discontinued	1.8 mi	--	1.2 mi	0.6 mi	Certain segments of the existing Lone Cabin Ditch system use natural drainages as ditch conveyances – this use would be discontinued and any water control structures removed.
Staging areas (14 total)	29.5 acres total	3 sites (2 acres total)	4 sites (5.5 acres total)	7 sites (22 acres total)	Project materials would be stored on previously/historically disturbed and/or farmed ground.
Borrow areas (3 total)	4 acres total	--	2 sites (1.9 acres total)	1 site (2.1 acres total)	Material borrow would be on previously disturbed ground or ground within the pipeline construction footprint.
Access routes (total)	18.1 mi	4.7 mi	7.4 mi	6 mi	Includes backcountry public routes and private land roads that would be traveled by construction traffic (does not include regular county roads).
Access routes where road grading, graveling or widening may be required	9.7 mi	4.6 mi	2.5 mi	2.6 mi	Project access routes that may need improvement in order to support access of construction equipment and materials.
Stock and wildlife water taps	3 to 4	1 to 2	2	--	Stockwater/wildlife water taps would be installed on the pipelines to provide drinking water for animals in public land grazing allotments.

Project Element	Total Involved	On BLM Land	On USFS Land	On Private Land	Comment
Habitat Replacement	28.3 acres	--	--	28.3 acres	To be improved in accordance with a Habitat Replacement Plan, to replace riparian/wetland habitat values lost as a result of piping the ditches. Location includes Town of Paonia land near the Town's sewage treatment facility.

There are three main geographic areas involved with the Piping Component: the Upper Turner Area in the Minnesota Creek drainage; the Upper Lone Cabin Area in the Lake Fork Minnesota Creek, South Fork Minnesota Creek, Sams Creek, Reynolds Creek, Lucas Creek, German Creek, and Miller Creek drainages; and the Lower Project Area (where the systems combine) on Lamborn Mesa. The Habitat Replacement Component is on the North Fork of the Gunnison River, approximately 1.5 miles southwest of the Town of Paonia. (Figure 1 shows the general locations of these areas). Figure 3 is a schematic of the Piping Component Project Areas with existing major ditch locations and proposed pipeline locations. The following Project Area descriptions provide further detail.

The following subsections explain the construction methods and describe other aspects (staging, schedule, post-construction activities, habitat replacement) of the Project. For all aspects of the Project, Best Management Practices (BMPs) would minimize impacts of the project on the human and ecological environments. BMPs and other protective measures are incorporated as part of the Project, are described and analyzed as part of the Project in CHAPTER 3 (Affected Environment & Environmental Consequences), and are summarized in CHAPTER 4 (Environmental Commitments).

Figure 3. Overview of the Piping Component Project Areas



Upper Turner Project Area

In the Upper Turner Area (Figure 4 and Figure 5), the primary Project elements are Turner Ditch, Sweezy-Turner Ditch, and the Spurlock diversion. The existing Turner Ditch in the Upper Turner Project Area diverts from Minnesota Creek on private land and flows southwesterly for 4.2 miles on the south side of the Minnesota Creek valley, contouring through a combination of private and BLM lands to its first farm turnout on private land (Excelsior Orchard). The existing Sweezy-Turner Ditch is diverted from Minnesota Creek on National Forest land, and contours along the north side of the Minnesota Creek valley through a combination of National Forest, BLM, and private lands for approximately 3 miles, serving its shareholders in the Upper Turner Project Area.

Figure 4. Proposed Project Plan, Upper Turner Project Area – East Part

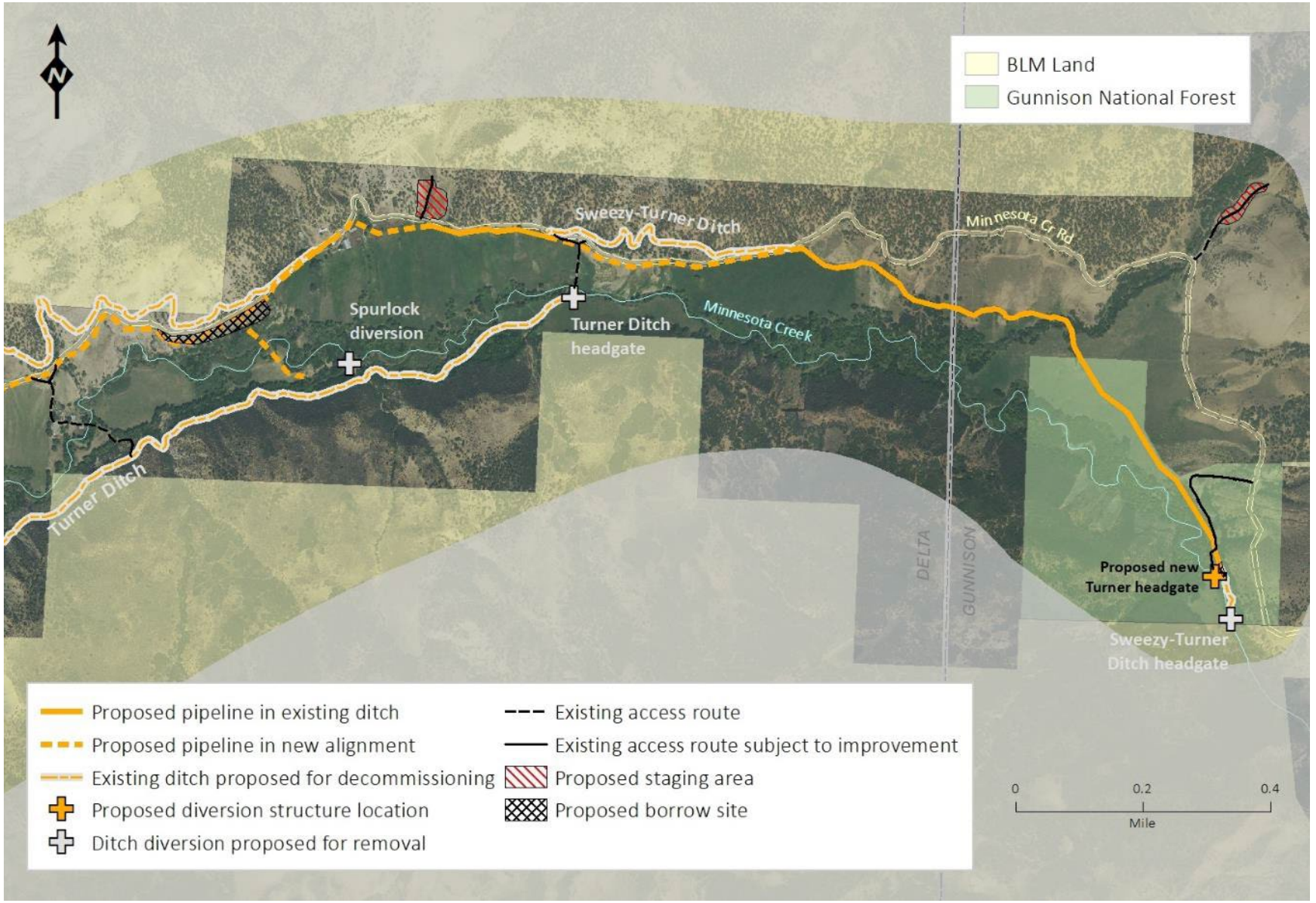
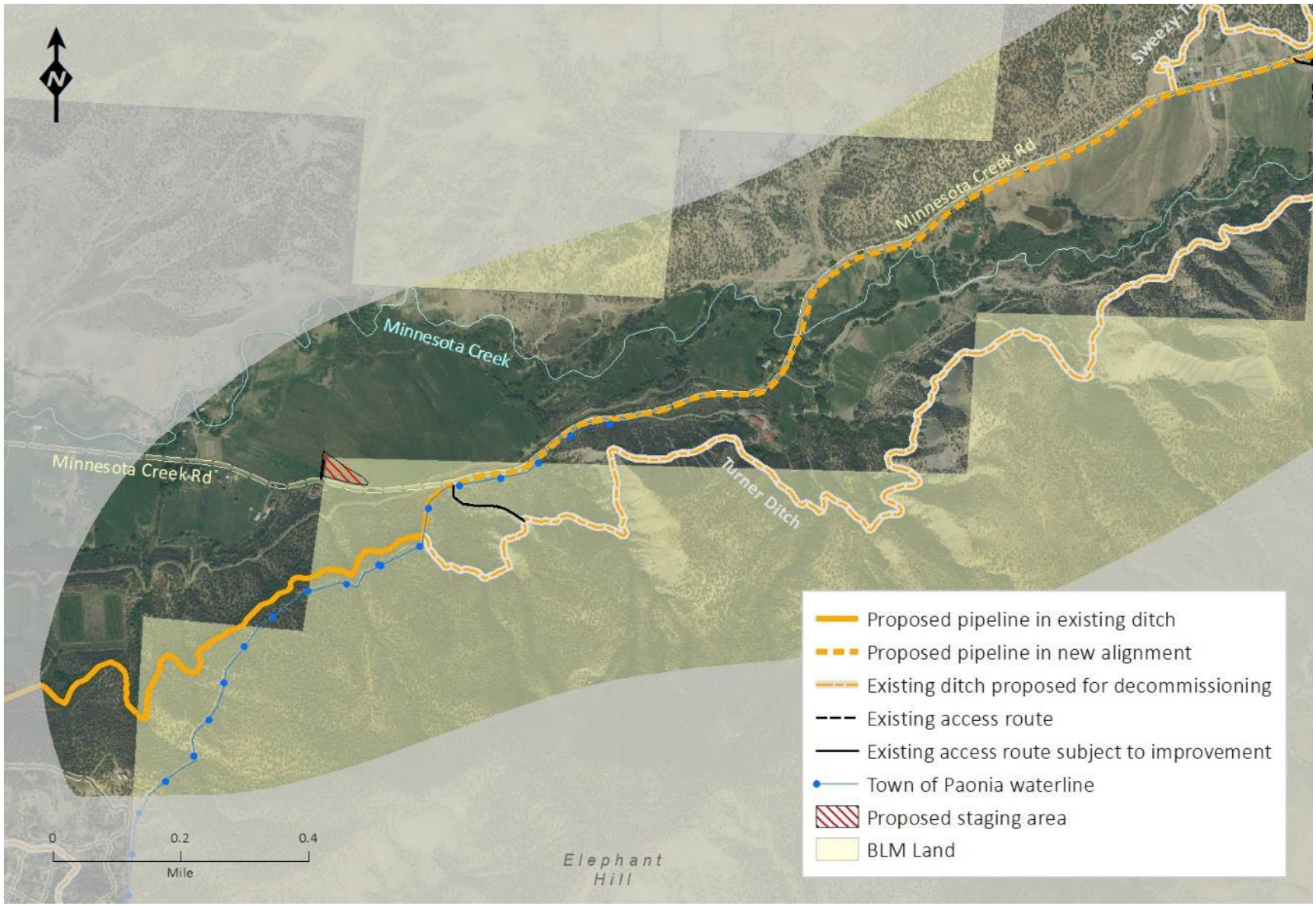


Figure 5. Proposed Project Plan, Upper Turner Project Area – West Part



The Spurlock water right provides early water from Minnesota Creek, diverted on private land to irrigate bottomlands on Spurlock Ranch in the Minnesota Creek valley.

The Applicant proposes to remove the existing Turner Ditch Company headgate, the existing Sweezy-Turner Ditch headgate, and the existing Spurlock diversion, and combine the points of diversion at a new Turner headgate structure on Minnesota Creek on National Forest, about 400 feet north downstream (north) of the existing the Sweeny-Turner Ditch diversion (Figure 4). From this point, a buried pipe would follow the existing Sweezy-Turner Ditch alignment northwesterly on National Forest and private land for approximately 1 mile to the Minnesota Creek Road corridor. Once in the Minnesota Creek Road corridor, the pipeline would proceed west and southwesterly in the Minnesota Creek Road right-of-way on the south side of the road across a combination of private and BLM lands for approximately 3.9 miles, to a point where it would leave the Minnesota Creek Road right-of-way, turn south and cross BLM land in an existing Town of Paonia waterline right-of-way for approximately 0.1 mile to rejoin the existing Turner Ditch alignment. From this point, the buried pipeline would extend approximately 1 mile in the existing Turner Ditch alignment across a combination of private and BLM lands to the east boundary of Excelsior Orchard. The new Turner pipeline in the Upper Turner Project Area would have turnouts for the existing shareholders of the Sweezy-Turner Ditch and a manifold pipeline to deliver the Spurlock water, integrating these shares into the Turner Ditch Company part of the new combination system.

There are three proposed equipment and materials staging areas and two proposed borrow areas in the Upper Turner Project Area (see Sections 2.2.5 and 2.2.6). Access to the Upper Turner Project Area is on existing roads or directly to the construction corridor off Minnesota Creek Road, a county-maintained road in Delta and Gunnison counties. A total of approximately 5 miles of the existing Turner Ditch and the existing Sweezy-Turner Ditch alignments in the Upper Turner Project Area would be abandoned and decommissioned using minimal disturbance methods (see Section 2.2.3).

Construction and future operations and maintenance access to the new Turner headgate structure would be from Minnesota Creek Road across National Forest using the current access route for the existing Sweezy-Turner diversion. Where the pipeline alignment is not adjacent to Minnesota Creek Road, an off-highway vehicle (OHV) trail or one lane (two-track) dirt road would be maintained on the alignment for operations and maintenance.

Upper Lone Cabin Project Area

In the Upper Lone Cabin Project Area (Figure 6 and Figure 7), the existing primary Project elements include the Lone Cabin Ditch (main lateral); the north, middle, and south delivery laterals; two secondary water collection ditches (the Lone Cabin Highline Ditch and the Lone Cabin Trade Ditch); and Lone Cabin Reservoir. The Project would pipe the main and north laterals of Lone Cabin Ditch to reach shareholder properties in the Lamborn Mesa Project Area, and abandon the middle lateral, south lateral, Highline, and Trade ditches, and part of the main ditch.

The existing Lone Cabin Ditch point of diversion is on Lake Fork Creek on the National Forest. From the Lake Fork Creek diversion, Lone Cabin Ditch contours northwesterly for 1.6 miles on National Forest to Lone Cabin Reservoir, and then north and westerly for approximately 4 miles around the north side of Oak Ridge on a combination of National Forest and BLM lands to the existing north lateral split.

Figure 6. Proposed Project Plan, Upper Lone Cabin Project Area – East Part

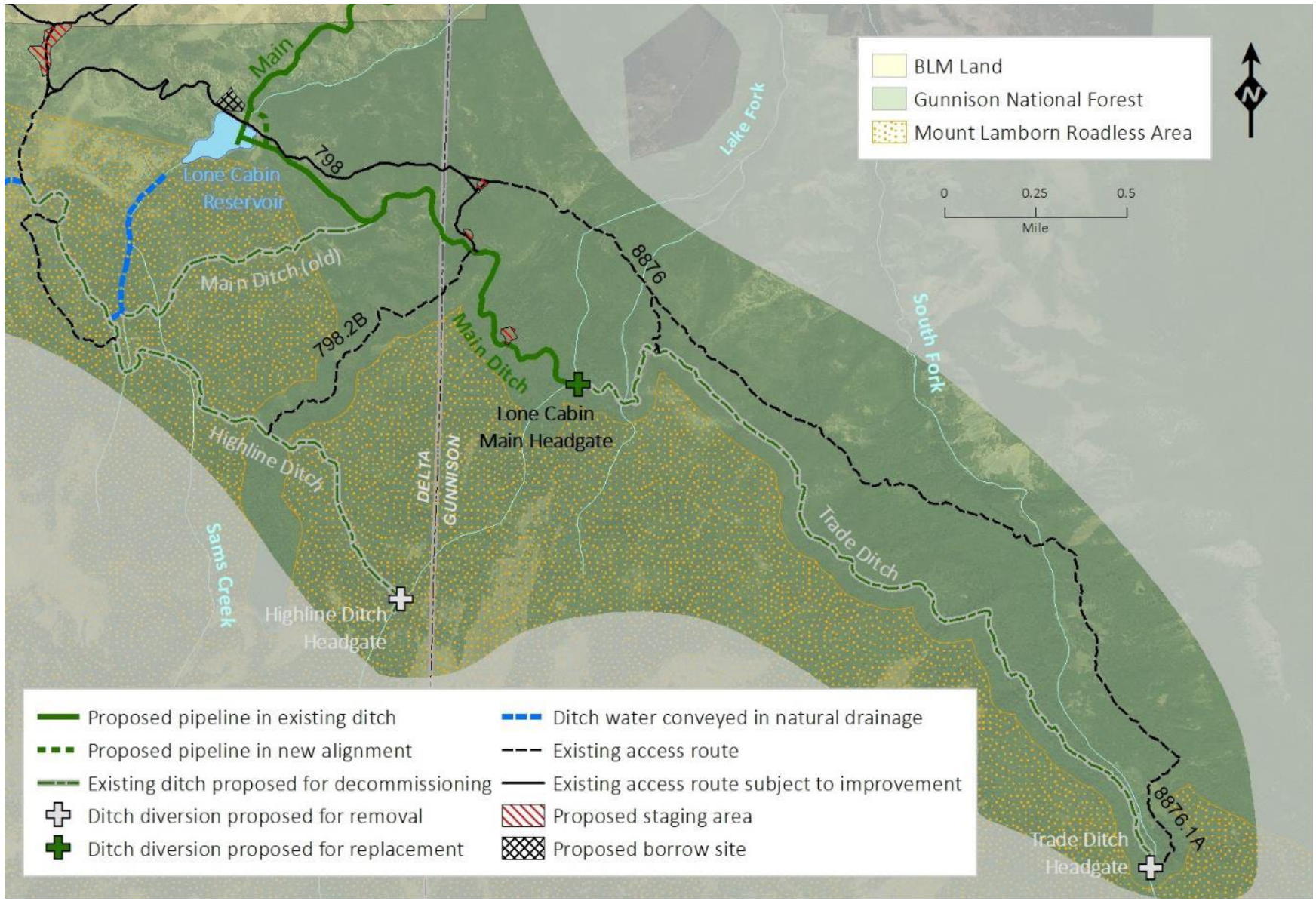
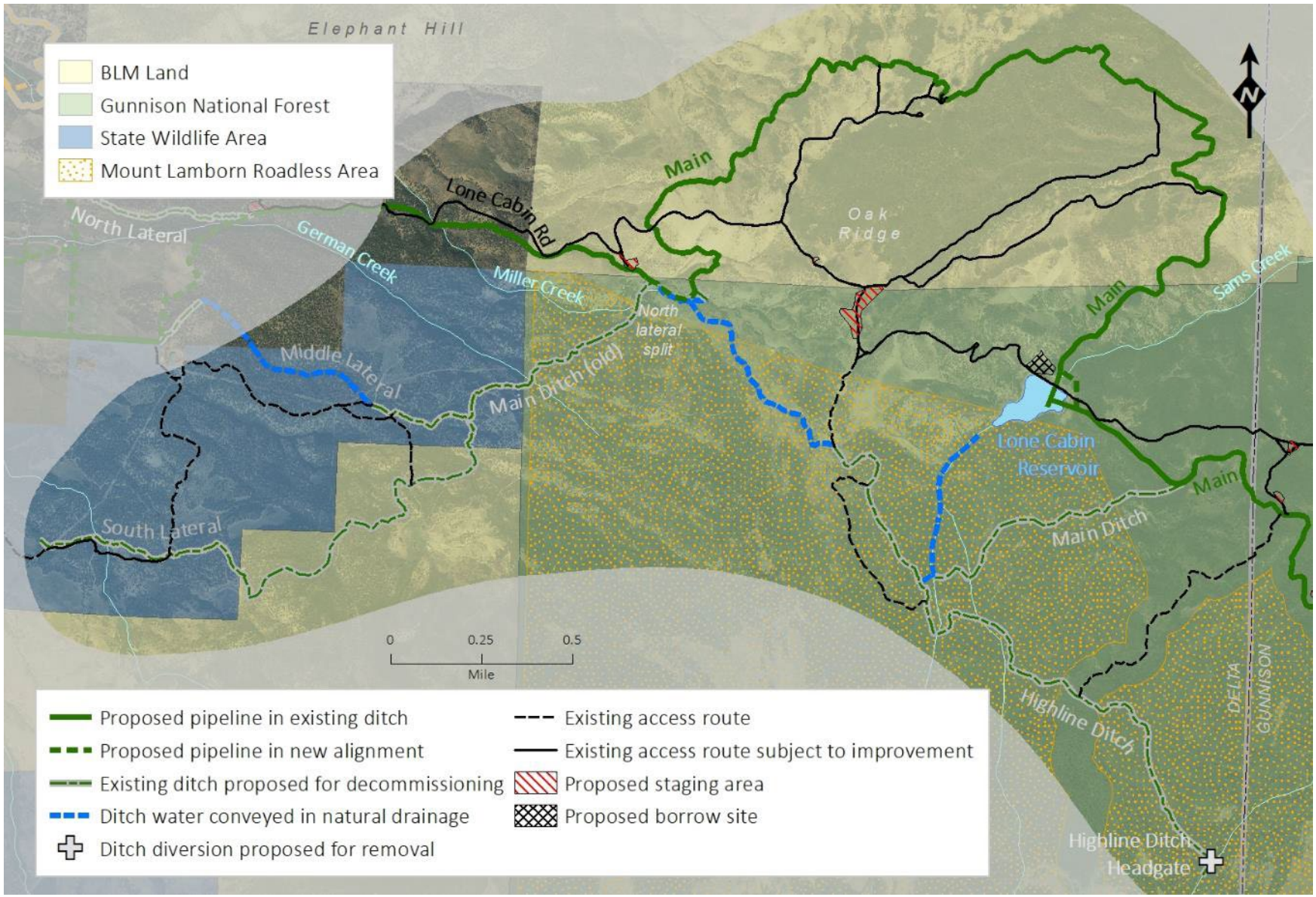


Figure 7. Proposed Project Plan, Upper Lone Cabin Project Area – West Part



From the north lateral split, the existing north lateral continues westerly in the Upper Lone Cabin Project Area for about 0.9 mile on a combination of National Forest, BLM, and private lands to the first private land turnout adjacent to Lone Cabin Road. From the north lateral split, the main lateral continues southwesterly on National Forest and private (Roeber SWA) lands for 0.8 miles, where it splits onto the existing middle and south laterals. From this split, the middle lateral trends west for approximately 0.3 mile before entering a natural drainage and exiting the Upper Lone Cabin Project Area. The south lateral trends southwesterly and westerly for about 1.5 miles and terminates within the Upper Lone Cabin Project Area, where it delivers water to a natural drainage and/or privately maintained delivery ditches for on-farm use.

The existing Lone Cabin Highline Ditch is a 2-mile-long water collection ditch on the National Forest that diverts water from the Lake Fork drainage upstream of the main lateral diversion, and either delivers it to the main lateral at a point west of Oak Ridge or to Lone Cabin Reservoir via the natural channel of a Sams Creek tributary and Sams Creek. The other secondary water collection lateral in the Lone Cabin system is the existing Trade Ditch. The Trade Ditch initiates on South Fork Minnesota Creek on the National Forest and 2.7 miles to the Lone Cabin Ditch main lateral. The purpose of the Trade Ditch is to deliver the Lone Cabin Ditch Company's storage right in Beaver Reservoir (also in the Minnesota Creek drainage basin but within a different sub-basin) to the Lone Cabin system through an inter-basin trade/exchange.

The Applicant proposes to pipe the Lone Cabin Ditch main and north laterals in their existing alignments in the Upper Lone Cabin Area, except in the area of the north lateral split and some stretches of the north lateral, where short lengths of the pipeline would bypass existing segments of ditch that incorporate natural drainages. Additionally, an approximately 700-foot-long segment of buried pipeline for the main lateral would bypass Lone Cabin Reservoir outside of an existing ditch alignment on the Gunnison National Forest.

The Project would abandon and decommission the Lone Cabin Highline Ditch, the Trade Ditch, the existing main lateral downstream of the north lateral split, and the south and middle laterals of the Lone Cabin system. Shareholders on the Lone Cabin system would instead be served by a piping network branching off of the existing Lone Cabin north lateral (see the Lower Project Area narrative, below). Trade Ditch water (the Beaver Reservoir storage right) would instead be delivered to shareholders in the Lower Project Area by the Turner system connection in the Lower Project Area. Water gathered by the Highline Ditch would no longer need to bypass Lone Cabin Reservoir early in the season, but would be collected at the main ditch headgate and delivered in the new piped system. Ditches proposed for abandonment in the Upper Lone Cabin Area would be decommissioned by minimal disturbance methods (see Section 2.2.3). Where natural drainages are currently used to convey irrigation water between segments of constructed ditch, this practice would be discontinued and the natural drainage would not be mechanically disturbed except for removal or decommissioning-in-place of water control structures.

Access to the Upper Lone Cabin Project Area would be from Lone Cabin Road, an unimproved county/public lands route that leads into the high country from Dry Gulch Road on Lamborn Mesa. From Lone Cabin Road, other existing public lands routes would be used the access the pipeline routes and existing ditches (Figure 6, Figure 7). Five equipment and materials staging areas (totaling 6.3 acres) and one borrow site (1.9 acres), all on public lands, are proposed for the Upper Lone Cabin Project Area (Figure 6, Figure 7; Sections 2.2.4, 2.2.5, and 2.2.6).

Lower (Combined) Project Area

In the Lower Project Area (Figure 8), the existing Turner Ditch extends west-by-southwest across private land (Excelsior Orchard) and south through Hidden Valley subdivision for about 1.4 miles to Foothills Road, then splits into the north, middle, and south laterals, conveying water to shareholders on Lamborn Mesa in the Foothills Road, Lamborn Mesa Road, German Creek Lane, and Minerich Road areas in approximately 1.9 miles of ditches. The existing Lone Cabin Ditch north, middle, and south laterals distribute water to shareholders on Lamborn Mesa in the Roeber Road, Lamborn Mesa Road, and Minerich Road areas.

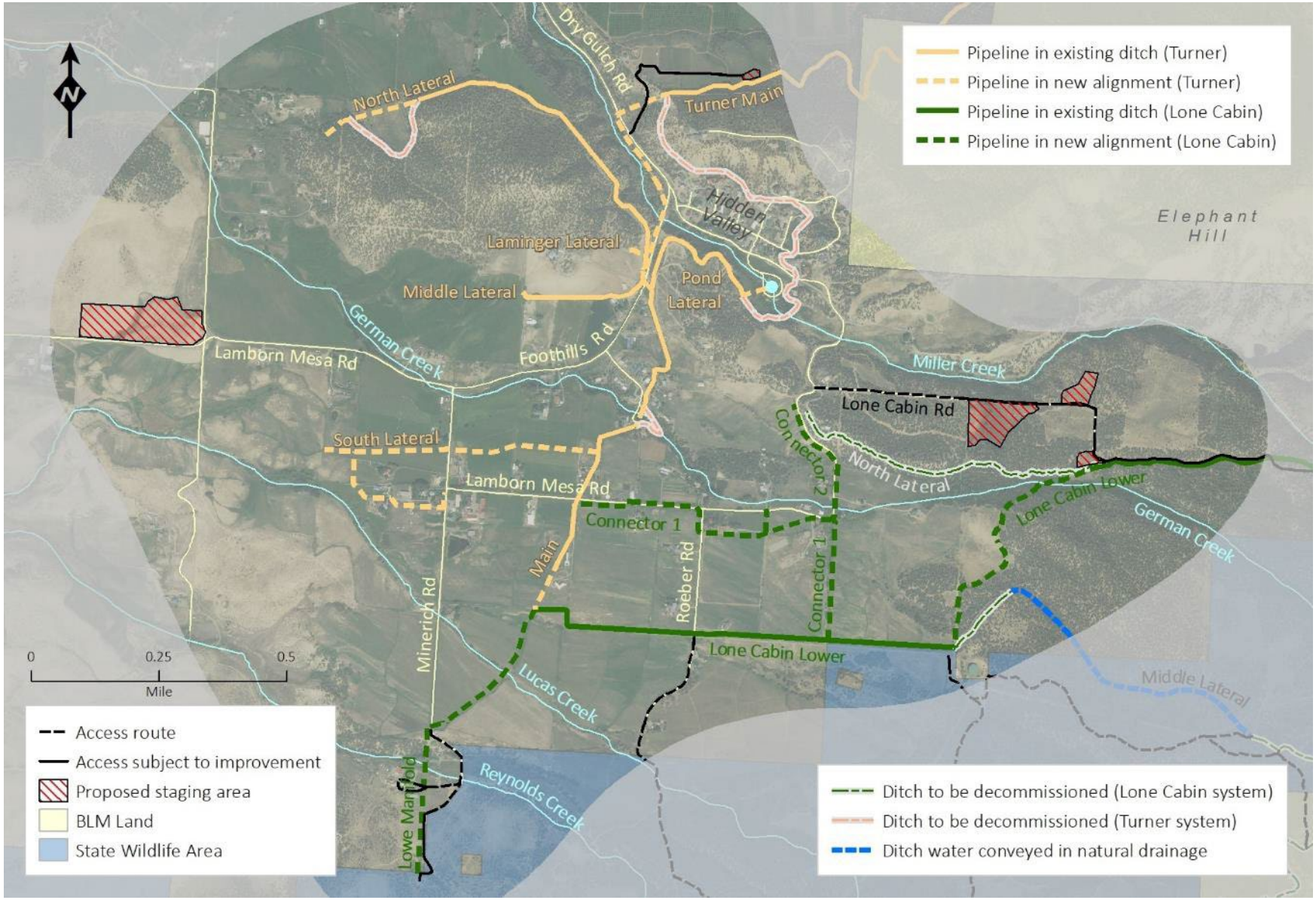
In the Lower Project Area, the Applicant proposes to establish a network of buried pipelines that would serve the respective shareholders and connect the Turner and Lone Cabin systems on Lamborn Mesa (Figure 8). The connected systems would allow the Lone Cabin shareholders to directly access their Beaver Reservoir water without transfers/trades.

The Project would pipe Turner Ditch in its existing alignment from where it enters the northeast part of the Lower Project Area to its south turn toward Hidden Valley Subdivision. From that point, the pipeline would depart from the existing ditch alignment, continue west-by-southwest across Dry Gulch Road, run east-by-southeast along the west side of Dry Gulch Road, then south-by-southwest along the west side of Foothills Road until reaching a split point on the "Foothills Road saddle." From the saddle area, the north, Laminger, middle, and pond laterals would split from the Turner main pipeline. The north and middle lateral pipelines would follow their existing ditch prism paths, except for an approximately 0.1-mile segment near the end of the north lateral, which would bypass a longer ditch contour in favor of a straight alignment. The pond lateral would be installed in the existing main Turner Ditch prism until reaching a point near the Miller Creek pond in the Hidden Valley Subdivision, from which a buried pipeline would extend outside the existing ditch prism the remaining approximately 200 feet to the pond. The Laminger lateral would be an approximately 500-foot long pipeline in a new alignment extending from the saddle area. The Turner main pipeline would extend south from the saddle area in its existing prism for about 0.8 miles to its connection with the Lone Cabin lower pipeline. The Turner south lateral pipeline would split off this stretch of the Turner main pipeline in a new alignment, and the Lone Cabin connector 1 pipeline would tie in to this stretch. Several local manifold pipelines would extend from the Turner south lateral pipeline.

The Project would pipe the existing Lone Cabin north lateral in its existing ditch path from where it enters the east part of the Lower Project Area for a distance of about 0.3 miles to the point where it departs from the south side of Lone Cabin Road. From this point, the remainder of the Lone Cabin north lateral would be abandoned, and the Lone Cabin lower pipeline would extend southwest and west partially in a new alignment and partially in the existing middle lateral alignment for 1.7 miles to its terminus and connection to the proposed Lowe manifold pipeline. The 0.3-mile-long Lowe manifold pipeline would furnish water to a shareholder currently served by the existing Lone Cabin south lateral, which would be abandoned by the Project. The proposed Lone Cabin connector 1 pipeline would split north from the Lone Cabin lower pipeline, delivering water to shareholders currently on the middle lateral, and would connect into the Turner main pipeline. The Lone Cabin connector 2 pipeline would split north from the connector 1 pipeline to furnish water to shareholders currently at or near the end of the existing north lateral.

The Project would abandon several ditch segments in the Lower Project Area, including Turner Ditch through the Hidden Valley Subdivision to the proposed Miller Creek Pond manifold, the last 0.6 mile of the Lone Cabin north lateral, and a 0.2 mile stretch of the Lone Cabin middle lateral.

Figure 8. Proposed Project Plan, Lower (Combined) Project Area



Other miscellaneous delivery lateral segments would either be abandoned or used as on-farm distribution ditches. The Tuner Ditch through Hidden Valley and the Lone Cabin north and middle laterals in the Lower Project Area would be decommissioned by minimal disturbance methods (see Section 2.2.3). Turner Ditch provides drainage/flood control in the Hidden Valley Subdivision and the homeowners association has asked that the ditch remain intact as much as possible through the area to continue to provide flood control. The existing Lone Cabin north and middle laterals are in areas with high natural character where minimal disturbance decommissioning methods are appropriate. The natural drainage that carries water for a portion of the existing Lone Cabin middle lateral would not be disturbed.

Access to the Lower Project Area would be directly from Delta County roads into the construction alignments, or into the construction alignments from designated access routes on private lands indicated on Figure 8. There are five staging areas in the Lower Project Area totaling 19.4 acres, all on private land in currently farmed or disturbed areas (areas previously cleared of brush).

Habitat Replacement Site

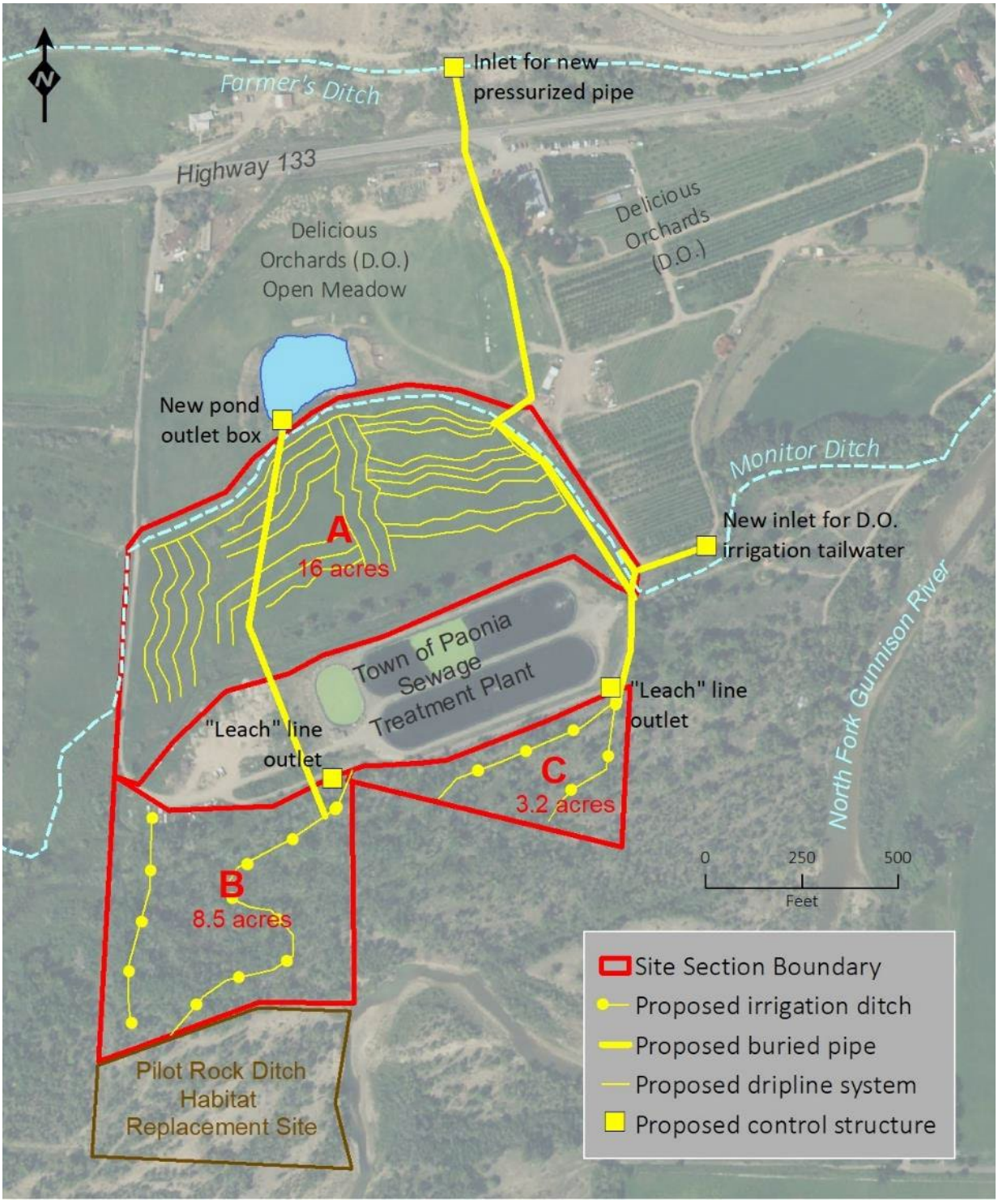
In accordance with the Colorado River Basin Salinity Control Act, habitat replacement would be implemented to maintain the value of the riparian and wetland habitat which would be lost as a result from the Piping Component. As part of the Project, the Applicant conducted a habitat loss assessment (WNRCS 2021) and developed a Habitat Replacement Plan (WNRCS 2022) for a site ("Habitat Replacement Site") at the general location shown on Figure 1. The habitat value of this site would be improved and enhanced in accordance with the Habitat Replacement Plan's goals of increasing native riparian vegetation structure and diversity and reducing noxious weed cover.

The Habitat Replacement Site is approximately 28 acres on a larger private parcel owned by the Town of Paonia and the site of the Town's Sewage Treatment Plant (STP). The STP has several treatment ponds that discharge to the nearby North Fork Gunnison River, to the south. Figure 9 shows a schematic of the Habitat Replacement Site. The Habitat Replacement Site is divided into three sections. Section A is 16 acres north of the STP, and consists of an irrigated grass pasture. Sections B (8.5 acres) and C (3.2 acres) are south of the STP in the wooded riparian corridor of the North Fork River. Section B encompasses a cottonwood woodland with understory vegetation dominated by non-native Russian olive and salt cedar. Section C encompasses a stressed cottonwood woodland. When the STP was constructed, water that normally reached Section C from irrigated lands to the north was routed to the southwest with "leach" drains to protect the STP pond liners from floating and inundation. Consequently, many riparian trees and shrubs in Section C have died due to lack of water and the area has lost some of its riparian character.

The Habitat Replacement Plan (WNRCS 2022) proposes to install a shelterbelt planting of about 2,000 riparian trees and shrubs in Section A. Russian olive and salt cedar would be removed from Sections B and C, and pole plantings of cottonwoods and riparian shrubs would be installed. Irrigation water for the Section A plantings would be the Town of Paonia's 2 shares of Farmer's Ditch. The existing pipeline from Farmer's Ditch would be replaced with a pressurized pipe so that the Section A plantings could be watered with an efficient drip system. Sections B and C would receive irrigation water from a combination of sources, including the Town of Paonia Farmer's Ditch irrigation water shares; overflow from a pond on Delicious Orchards property to the north (which currently flows into Monitor Ditch); irrigation tail water from Delicious Orchards lands to the northeast (which currently flows to Monitor Ditch); water from an existing spring drain tile in Section A (which percolates to Section B), and collection and redirection of the STP "leach" drain

waters (which currently reach only a part of Section B). Water to Sections B and C would be delivered to those areas via new buried lines and outlets, and distributed across those sections in new small earthen ditches. Herbaceous weeds would be treated in an ongoing manner with appropriate herbicides with appropriate timing for effectiveness.

Figure 9. Proposed Project Plan, Habitat Replacement Site



The timing of the construction work at the Habitat Replacement Site would correspond with construction of the piping project and with the most effective and appropriate times for seedings, plantings, weed control, irrigation, and other site maintenance, subject to protective timing restrictions specified in the Environmental Commitments (CHAPTER 4). The Applicant would be responsible for ongoing maintenance of the Habitat Replacement Site for 50 years after its establishment.

2.2.2 – Pipeline System Installation

Pipeline installation in the existing ditch prisms would first involve using trackhoes and bulldozers to grub ditch bank vegetation. Woody vegetation on the side-slopes of ditch prisms, especially in natural areas, would be left intact as much as possible. Grubbed shrubs, trees and stumps would be cut, chipped, or burned onsite or at one of the staging areas, or hauled to a local landfill. No burning would occur on public land.

Following grubbing, trackhoes and bulldozers would be used to reserve existing topsoil (or subsurface soil, depending on the post-construction revegetation method [either conventional or natural revegetation; see Section 2.2.7]) and fill the existing ditch. An excavator would then trench to the appropriate depth in the prism, adjacent to the previous location of the ditch, and prepare the pipe bed. Following installation of the pipe, an excavator would backfill the pipe trench and a dozer would grade the pipe alignment to match the surrounding land contours and restore drainage patterns. Reserved soil (topsoil or subsurface soil, depending on the post-construction revegetation method [Section 2.2.7]) would be replaced on the prepared surface using a trackhoe, without back-dragging the blade (i.e., without smoothing), to create microtopography for reseeding. A one-lane dirt maintenance road or OHV trail would remain on the pipe alignments following construction. Appropriately-sized culverts would be placed at drainage crossings.

Pipe and supplies would be transported to the construction site on flatbed trucks (or similar) and unloaded with front end loaders with pallet forks. A trackhoe would position the pipe in the trench, and segments of pipe would be fused or joined together in place or alongside the prepared pipe trench. The pipe would be bedded and buried with fill material from within the ditch prism or, if necessary, with bedding or fill obtained from one of the borrow areas proposed for the Project, or from a commercial source. The burial depth would be below frost line. For installation of pipeline segments in the realignment areas, the process would be similar, but without the step of first preparing the existing ditch prism for trenching.

There is the possibility of encountering large boulders or bedrock in pipe trenches that cannot be moved with excavating equipment. In this case, conventional blasting would be used to break rock into pieces manageable with heavy equipment. Blasting would be performed by a state-licensed blasting contractor. Blasting would entail drilling a hole or holes in the (below grade) rock, placing a charge and detonator in each drill hole, and detonating the charge. The blasting activity would take place below grade entirely within the pipeline trench.

There are 16 points where buried pipe alignments of the Turner and Lone Cabin systems would cross public roads. The public road crossings would either be trenched using methods described above, directionally drilled with special equipment, or sleeved in existing culvert crossings, depending on the characteristics of the crossings. Road surfaces would be restored to their preexisting condition, per Delta County Road and Bridge Department specifications or the managing public land entity, following construction.

There are 8 points where buried pipe alignments would cross creeks, including Minnesota Creek (1 crossing), Miller Creek (2 separate crossings), German Creek (3 separate crossings), Lucas Creek (1 crossing), and Reynolds Creek (1 crossing). To install the buried pipeline under a creek channel, the crossing area would first be dried by guiding the flow of the creek into a large-diameter approximately 40-foot-long corrugated culvert placed on the ground in or near the creek channel. A pipeline trench would then be excavated across (perpendicular to) the creek channel, and the pipeline buried in a pipe sleeve in bedding material with approximately two feet of overburden topped with approximately 6 inches of rock. Dewatering of the pipeline trench across the creek channel may be necessary and would be conducted in accordance the Colorado Department of Public Health & Environment's (CDPHE's) Water Quality Control Division dewatering general permit. A geotextile liner would then be placed over the buried pipe location and covered with riprap. The corrugated culvert carrying the creek flow would be removed and the creek returned to its original flowline.

2.2.3 – Abandoned Ditch Segments Decommissioning

Two different methods for decommissioning ditches proposed for abandonment would be used for the Project: conventional method (for ditches in farmed areas in the Lower Project Area) and the "minimal disturbance" method (for private land ditches where the underlying landowner requests this method in writing to Reclamation and all ditches proposed for abandonment on public lands).

In the conventional method, an excavator would be used to fill the abandoned ditch with material from the existing ditch prism, then a trackhoe would contour the filled ditch alignment to match the surrounding land, including natural drainage patterns that cross the alignment. In some cases, drainages may be rocked across the recontoured ditch alignment, or culverted through the recontoured ditch prism, if necessary, to maintain natural drainage patterns and control erosion. Surface disturbances in these areas would be finished with retained topsoil and reseeded using methods described in Section 2.2.7. Ditches decommissioned with conventional methods include reaches of ditch crossing farmed ground in the Lower Project Area. No maintenance access road or trail would remain on the decommissioned ditch alignment in these areas.

Minimal disturbance methods are proposed by USFS and BLM for ditches with significant growth of natural ditch-bank upland vegetation in mixed mountain shrub or pinyon-juniper woodland environments, and/or where ditch segments contour along the unstable steep side slopes of badland areas and earthwork could trigger excessive erosion or increase slope instability. These ditches would not be filled and re-contoured, but instead would remain mostly undisturbed in their current condition, except to breach their banks where they are intersected by natural drainages. These ditches include the Lone Cabin Trade, Highline, middle lateral, and south lateral ditches in the Upper Lone Cabin Project Area; and those portions of the Sweezy-Turner and Turner Ditches outside the proposed pipeline alignment in the Upper Turner Project Area. Table 3 summarizes the mileage of ditches proposed for decommissioning.

Some reaches of existing ditches proposed for the minimal disturbance method of decommissioning are in buried plastic or metal pipe to help prevent repeated ditch bank failures and erosion on steep slopes. These existing piped lengths include a total of approximately 2,500 feet of Turner Ditch and a total of approximately 3,000 feet of the Lone Cabin system. These buried pipes would be left in place to avoid disturbing natural vegetation that has established on the surface in these reaches. A trackhoe or similar equipment would be used to crush the pipe ends and block them with soil to render them incapable of transmitting water. Some ditch reaches in steep country are also conveyed

in short segments of elevated metal flumes. Such flumes would either be decommissioned in place or dismantled in accordance with landowner preference using a trackhoe and either hauled out for proper disposal, or crushed and buried onsite. Similarly, water diversion structures to be abandoned (South Fork and Lake Fork diversions in the Lone Cabin system on National Forest and the Sweezy-Turner, Turner, and Spurlock old headgates on National Forest and private land, respectively) would be dismantled using a trackhoe and hauled out for proper disposal or crushed and buried onsite. Instructions for handling old flumes and diversion structures would be indicated on the Project construction drawings per the underlying landowner's requirements or in accordance with public land permit stipulations.

Certain portions of the Lone Cabin Highline Ditch, middle lateral, and upper main ditch are conveyed in natural drainages. Transmission of ditch water in these drainages would be discontinued and the drainages themselves would not be mechanically disturbed.

The Applicant would have no ongoing responsibility for maintaining the abandoned and decommissioned ditch alignments following construction of the Project. Ongoing responsibility for maintaining the ditch alignments decommissioned with minimal disturbance methods would fall to the underlying landowner after construction or once permit stipulations are fulfilled.

2.2.4 – Access

The existing ditches involved with the Project are in historic prescriptive easements. All private landowners in the footprint of the Project where activities would take place outside the historic prescriptive easement have formally agreed to allow the activities of the Project to be conducted on their lands. On public lands, where pipeline construction widths, access routes, staging, and borrow sites are outside historic prescriptive easements, appropriate authorizations and/or ROW permits would be obtained (see Section 2.2.10).

The average width of the construction area for the pipeline component of the Project would be 30 to 40 feet, but could be as wide as 60 feet under certain conditions. The width of the construction footprint would depend on site conditions (slope, nearby infrastructure, nearby sensitive resources) and the ability to operate equipment safely. The authorized construction area widths would not be constrained by the existing ditch centerline, but rather would be adjustable to site conditions in order to complete the work safely and with the smallest possible disturbance footprint. Construction footprints would be limited to only those necessary to safely implement the Project. The authorized construction width would not be mechanically cleared to its maximum outer limits as a part of site preparation.

Access ways for construction of the pipeline system and ditch decommissioning would be along a combination of the existing ditch prisms and proposed new pipe alignments, or directly to these areas from existing access ways on private lands, public lands backcountry routes, or from county roads, and are limited to those access ways shown on Figures 4 - 9. These accessways have been traditionally used by the Applicant for operation and maintenance of the existing systems. Some access roads (see Figures 4-8) would require improvement (minor grading, smoothing, and widening up to 15 feet wide) in order to accommodate pipe hauling, especially certain stretches of Lone Cabin Road. Accessways and road crossings would be returned to the same or better condition than they were prior to construction. The access ways authorized for the Project would be clearly marked on the construction drawings.

Following construction, a one-lane dirt maintenance road or OHV trail would remain on the pipe alignments, similar in appearance to the maintenance road currently parallel to the existing ditches. Traditional access routes to the pipe alignments would continue to be used for operation and maintenance of the system.

2.2.5 – Staging

Fourteen staging areas have been identified for the Project, totaling 29.5 acres. Their locations are shown on Figures 4-8. The largest of these is an 11-acre grass pasture on private land in the Lower Project Area. The remaining staging areas vary in size from 0.1 acre to 5.4 acres, each on previously disturbed, open ground. No vegetation clearing would be performed to prepare staging areas for use. The staging areas would be used to store pipe and other project supplies and equipment. Pipe arriving and leaving the staging area would be transported on flatbed trucks (or similar). Front end loaders with pallet forks (or similar) would be used to handle pipe in the staging areas. As explained in Section 2.2.2, grubbed shrubs, trees and stumps (collectively, "slash") may be processed in private land staging areas (chipped or burned). Slash processing would only occur on public lands in accordance with permit stipulations. No burning would occur on public land.

To conserve fuel and for the sake of work efficiency, working equipment would remain at active construction locations overnight, on weekends, and during times of brief work gaps due to weather conditions or holidays. Equipment would be removed from public lands if construction work is idled for more than two consecutive weeks.

2.2.6 – Borrow Activities

The necessary pipe bedding and trench fill would be generated from within the construction footprint. To generate fill material onsite, a screening or portable crusher may be used in the construction footprint to prepare the fill material. If additional fill is required, fill would be obtained from any of three designated borrow sites for the Project (Figures 4-8). Borrow material would be loaded to end-dump trucks using an excavator and hauled to the construction site via approved access ways. Borrow material would be acquired from a commercial source and hauled to the Project Area as a last option.

One proposed 1.9-acre borrow site in the Upper Lone Cabin Project Area is near the Lone Cabin Reservoir dam, in a previously disturbed area on the National Forest (Figure 6). There are also two proposed borrow sites in the Upper Turner Project Area: one approximately 0.1-acre in size on National Forest near the current location of the Sweezy-Turner Ditch headgate where previously disturbed materials are stockpiled, and one 2.1-acre site on private land on an embankment within the proposed pipe alignment along Minnesota Creek Road near the proposed location of the Spurlock manifold pipeline split (Figure 4). Material borrowed from the borrow sites on National Forest would only be used on National Forest portions of the Project.

2.2.7 – Weed Control & Post-Construction Revegetation

To prevent the spread of weeds during construction, all equipment and vehicles would be cleaned prior to arriving on work sites. Woody noxious weeds within the Project Area would be mechanically removed during construction preparation. The Applicant would control noxious weeds in disturbed areas following construction in accordance with county standards and public land permit stipulations. The Applicant would coordinate with BLM and USFS on the use of herbicides

on public lands. The Applicant would provide BLM with Pesticide Use Proposals (PUPs) prior to treatments, as required.

Following construction (including conventional decommissioning of abandoned ditch segments), disturbed ground would be revegetated in one of two ways: the sterile topsoiling and natural revegetation method, or the conventional revegetation method. In irrigated pastures and hayfields, the conventional revegetation method would be used, wherein topsoil retained during construction would be respread on the site, and the site reseeded. In non-farmed areas, the sterile topsoiling and natural revegetation method would be used in order to minimize the spread of weeds following construction, unless the underlying landowner specifically requests the conventional revegetation method. Where conventional revegetation is required or requested, weed-free seed mixes appropriate for the surroundings would be used. For instance, roadsides and the margins of agricultural areas would be reseeded with regionally appropriate drought-tolerant grasses (Appendix A). Where irrigated lands are revegetated, the seed mix would be a weed-free hay mix (or similar) acceptable to the landowner. Where the disturbed ground is adjacent to natural vegetation, the weed-free seed mix would include drought-tolerant and locally ubiquitous native grass such as western wheatgrass. The seed mix used on public lands would be certified weed-free and approved by Reclamation, BLM and USFS (Appendix A). Revegetation success would be monitored subject to agreements between the Applicant and individual landowners or in accordance with public land permit stipulations. The Project construction drawings would indicate where each reclamation method is to be used, and to specify the seed mix, where appropriate.

2.2.8 – Habitat Replacement

The overall concept for habitat replacement is described in Section 2.2.1. The methods for various activities at the Habitat Replacement Site are described by the Reclamation-approved Habitat Replacement Plan (WNRCS 2022) and are summarized as follows:

Non-native trees would be removed mechanically with a skid-steer fitted with a cutting device, and the cut stumps treated with aquatic-safe herbicides. Vegetation slash would be chipped and mulched onsite with fuel-fired portable machinery and spread onsite and used to make OHV maintenance trails around the site. Native shrubs and trees would be planted by hand or with the assistance of a small tractor or similar equipment. Herbicide application to herbaceous weeds would be via a backpack sprayer or an OHV-mounted sprayer. New tree and shrub plantings would be irrigated as necessary and protected from livestock and wildlife damage using temporary fencing or webbing and wire cages. Irrigation would be accomplished by a pressurized drip system in Section A, and by ditches in Sections B and C, as explained in Section 2.2.8. Supplemental irrigation may be required for new plantings, which would be applied as necessary using an OHV-mounted water tank with a stinger sprayer.

Construction of the proposed buried irrigation lines for the Habitat Replacement Site would involve the use of a small backhoe or trencher to bury the small diameter lines. The new buried irrigation pipe from Farmers Ditch serving the Habitat Replacement Site would cross under State Highway 133 in a sleeve through an existing culvert crossing. Buried pipe alignments would be reseeded with appropriate grass and forb mixes by broadcast seeding or seed drilling methods.

2.2.9 – Schedule

Pipeline construction in existing ditch alignments would occur during the irrigation off-season, to avoid interrupting irrigation activities of the shareholders, while observing timing restrictions protective of wildlife and seasonal backcountry closures (described below). Irrigation off-season varies annually depending on weather patterns, but is typically October 1 through April 1 on the Turner Ditch system, August 1 through April 15 on the Sweezy-Turner Ditch and the Lone Cabin system, and mid-June through mid-April on Spurlock. Pipeline construction in the realignments, decommissioning of abandoned ditch alignments, and most activities at the Habitat Replacement Site would not need to avoid irrigation season and could occur during any time of the year, provided wildlife-protective timing restrictions and backcountry closures are observed. Non-native riparian tree and shrub removal, reseeding and weed treatments would occur during seasons when those activities have the best opportunity for success.

Table 4. Project Schedule Timing Restrictions Summary

Location	Activity	Timing Restriction	Reason
All Project Areas	Vegetation grubbing or clearing	Avoid April 1 - July 15	Protect migratory songbirds during their core nesting season
Upper Turner locations that are not adjacent to Minnesota Creek Road	All	Avoid December 1 - April 30	To protect big game on critical winter range
Upper Lone Cabin	All	Lone Cabin Road closure December 1 - April 30	To protect big game on critical winter range
Upper Lone Cabin Project Area, south of Lone Cabin Reservoir	Ditch abandonment and decommissioning, pipeline construction	Avoid May 15 - June 15	Avoid disturbance to a CPW-mapped elk production (calving) area during calving season
Buffered areas around documented raptor nests	All	Variable, between February 15 - July 31 See species-specific requirements in Section 3.2.13	Protect nesting raptors during their core nesting season (note: location information is restricted from publicly-available maps but would be displayed on construction drawings)
Habitat Replacement Site Sections B and C	Vegetation grubbing or clearing, operation of heavy equipment	Avoid June 1 - August 31	Avoid disturbance to western yellow-billed cuckoos and their habitat during nesting season

Location	Activity	Timing Restriction	Reason
Habitat Replacement Site Sections B and C	Weed treatment, irrigation activities, and other activities requiring human presence	Complete prior to 11am during the period of June 1 - August 31	Avoid disturbance to western yellow-billed cuckoos during nesting season
Habitat Replacement Site Sections B and C	Russian olive and tamarisk removal	Avoid December 1 - April 30	To protect big game on critical winter range

Pipeline construction would occur incrementally or in a sequenced fashion across the Project areas during suitable work periods over a span of approximately three years. When construction is underway, it would occur during daylight hours (typically 7 am to 5 pm), Monday through Saturday. Weather conditions could cause gaps in activity during active work periods.

Timing restrictions would apply to certain project activities and locations, to protect nesting migratory birds and raptors, and other special status species, as summarized in Table 4 and further explained in Wildlife Resources (Section 3.2.13) and Threatened & Endangered Species (Section 3.2.14). Specific areas with construction timing restrictions, and the nature of those restrictions, would be prominently marked on construction drawings, as required by the Environmental Commitments of this EA (CHAPTER 4).

2.2.10 – Permits & Authorizations

Agreements & Authorizations
The following interagency agreements or permits would be required prior to Project implementation:

- BLM historic prescriptive easement acknowledgment for construction in existing ditch alignments on BLM land, and a temporary construction ROW permit for construction activities outside existing ditch alignments on BLM land.
- A BLM ROW permit for ongoing operation and maintenance of pipeline segments installed on BLM land outside the existing ditch alignment.
- A USFS historic prescriptive easement acknowledgement or a Temporary Construction Permit for construction activities outside existing ditch alignments and/or historic prescriptive easement widths on National Forest.
- A USFS Special Use Permit for ongoing operation and maintenance of pipeline segments installed on National Forest outside the existing ditch alignment.
- A USFS Mineral Material Permit for borrow sites on the National Forest.
- Completed Endangered Species Act Informal Section 7 Consultation between Reclamation and U.S. Fish & Wildlife Service (FWS), including signed Recovery Agreements between the Applicant and FWS.

- Memorandum of Agreement executed between Reclamation and the Colorado SHPO.
- Clean Water Act (CWA) Section 404 Regional General Permit 5 for Ditch Related Activities in the State of Colorado: 30-Day Advance of Construction Submittal Package (to include "(1) the respective agency's documentation for compliance with the Endangered Species Act and National Historic Preservation Act and/or the lead Federal Agency NEPA document containing the same, (2) a project description, (3) project plans, and (4) a location map.").
- Turner Ditch Company is in the process of applying to the District Court, Water Division 4 for a change in point of diversion from its existing headgate on Minnesota Creek (to be abandoned by the Project), to the new proposed point of diversion on Minnesota Creek.

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

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

Compliance with the following federal laws and Executive Orders (E.O.)[1] are required prior to and during project implementation:

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)
- Federal Land Policy and Management Act of 1976 (FPMA) as amended (43 U.S.C. 1701-1785)

[1] This list is not intended to be all inclusive.

- The Act of October 27, 1986, amended Title V of FLPMA aka the Colorado Ditch Bill (43 U.S.C. 1761; 90 Stat. 2776)
- 2012 Colorado Roadless Rule (16 U.S.C. 472, 529, 551, 1608, 1613; 23 U.S.C. 201, 205.)
- 1866, July 26 – 14 Stat. 251, Act Granting Right of Way to Ditch and Canal Owners Over Public Land
- Farmland Protection Policy Act (P.L. 97-98, Sec. 1539-1549; 7 U.S.C. 4201, et seq.)

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)

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 would be affected by the Proposed Action Alternative and the No Action Alternative. For each resource, the affected area and/or interests are identified and the existing conditions and impacts are described under the No Action and Proposed Action Alternatives. This section concludes with a summary of impacts.

3.2 – Affected Environment & Environmental Consequences

3.2.1 – Water Rights & Use

The geographic scope of the analysis is the Project Area shown on Figure 1, which covers the area of potential effect for this recourse by construction of the Project. The following table summarizes the water rights involved with the Project.

Table 5. Water Rights Involved with the Project

Entity	Summary of Water Rights
Turner Ditch Company	• 12 cubic feet per second (cfs) of decreed water rights adjudicated in several filings between 1889 and 1986 (source is Minnesota Creek) • 4/16th interest (400 acre-ft storage right) in Beaver Reservoir (a 1,600 acre-foot reservoir on the East Fork Minnesota Creek) • 1.5 cfs of winter stock water (source is Minnesota Creek) – delivery is limited during winter months with freezing temperatures
Lone Cabin Ditch & Reservoir Company	• 19 cfs of decreed water adjudicated in three filings between 1914 and 2007 (source is Lake Fork and South Fork of Minnesota Creek) • 3/16th interest (300 acre-ft storage right) in Beaver Reservoir (the area served by Lone Cabin Ditch and Reservoir Company lies in a different sub-basin than Beaver Reservoir, so this water is diverted from the South Fork of Minnesota Creek via the Lone Cabin Trade Ditch and stored in Lone Cabin Reservoir)
Sweezy-Turner Ditch	7.035 cfs of decreed water rights adjudicated in several filings between 1889 and 1954 (source is Minnesota Creek).
Spurlock	2.0 cfs of decreed water rights adjudicated in two filings in 1954 (source is Minnesota Creek)
Town of Paonia	2 shares of North Fork Farmer's Ditch (this water right is associated with the Town of Paonia's Sewage Treatment Plant (STP) property and irrigates a 16-acre pasture on that property; source is North Fork Gunnison River

Together the Turner, Lone Cabin, Sweezy-Turner, and Spurlock water rights supply irrigation water to a total of 67 farms encompassing approximately 956 irrigated acres. Principal crops produced in the area include alfalfa and grass hay, pasture forage, and fruit orchards. Also produced are silage corn, hops, cut flowers, vegetables, and hops. Irrigation is primarily accomplished by flood methods directly from ditch laterals, and to a lesser extent with gated pipe. A portion of the irrigation water diverted by the ditch companies is lost during conveyance in the open, earthen ditch systems due to evaporation and seepage, resulting in less than the full amount of decreed water being delivered. The Turner Ditch system also diverts 1.5 cfs of winter stock water to its shareholders during the non-irrigation season, however delivery of this water is only possible during times when the water is not frozen.

The Town of Paonia Farmers Ditch irrigation water is delivered in an existing buried pipeline to an irrigated pasture on the town's STP property, the proposed Habitat Replacement Site for the Project. Other water input to the Town of Paonia property is an existing spring drain tile in the irrigated pasture. Irrigation tail water (excess irrigation water draining from an irrigated agricultural area, aka return flows) from the pasture and groundwater are captured in "leach" drain lines that guide the water around the lined STP ponds to prevent the liners from floating. Monitor Ditch runs through the Town of Paonia property but is not involved in actively irrigating the property. Monitor Ditch currently captures irrigation tail water from the Delicious Orchards property to the north and northeast.

There are other privately-owned adjudicated irrigation water rights that are diverted from streams in the general Project Area or that possess delivery infrastructure in the Project Area. The local area distribution of water is overseen by a Colorado Division of Water Resources Water Commissioner, an official who enforces the priority system of water rights and water laws of the State of Colorado.

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 (see Figure 2).

Currently, there are regional efforts underway in the Lower Gunnison and Colorado River watersheds to reduce water lost to seepage and evaporation, like that which is lost from open, unlined irrigation canals. These efforts are primarily focused on improving the efficiency of irrigation systems.

No Action Alternative: The No Action Alternative would have no effect on water rights and uses within the Project Area. The water delivery system would continue to function as it has in the past.

Proposed Action: Under the Proposed Action Alternative, the operations of Turner Ditch Company and Lone Cabin Ditch and Reservoir Company would be combined in two connected, pressurized pipeline systems. The Sweezy-Turner Ditch and Spurlock would join the Turner Ditch Company. The existing Sweezy-Turner and Spurlock diversions would be consolidated with the Turner Ditch diversion, which would be moved to a point farther upstream on Minnesota Creek. The proposed Lamborn Mesa connections between the Turner Ditch and Lone Cabin Ditch systems would allow the Lone Cabin system to directly access its Beaver Reservoir water from the Turner system, rather than by the Lone Cabin Trade Ditch. The new higher elevation diversion of Turner Ditch would allow the Turner system to equalize pressures to the Lone Cabin system on Lamborn Mesa when the Lone Cabin Reservoir storage is depleted.

As a result, the companies would collectively have the ability to better manage irrigation water with efficiencies gained from combining their operations. By eliminating ditch seepage and evaporative loss from the open ditches, the Project would result in more water (i.e. the saved seepage/evaporation water) delivered per share to irrigated crops—in other words, the full decreed amount of water would be delivered. The connection of the Lone Cabin and Turner systems would allow for improved management of Beaver and Lone Cabin Reservoirs, providing more reliable late-season irrigation. The new farm turnout structures would include adequate controls and measuring devices which would further improve overall water management in the systems. The availability of pressurized water to the stockholders would encourage future installation of high-efficiency on-farm sprinklers. The companies determined that 79 percent of their shareholders are interested in on-farm sprinkling.

Winter stock water delivery to Turner Ditch shareholders would be temporarily affected by the Project. Turner Ditch shareholders would be notified prior to construction activities affecting winter stock water delivery so they can make individual temporary arrangements for stock water during the construction period. Alternative arrangements for winter stock water are common due to the inability of the ditch to deliver the stock water when temperatures are low enough that the stock

water freezes. Winter stock water would be unavailable for Turner Ditch shareholders for one winter season. Following construction, winter stock water would be available to Turner Ditch shareholders throughout the winter season, including during periods of freezing. Due to the temporary nature of the unavailability of winter stock water and due to the availability of temporary alternative stock water arrangements, the Project's effects on winter stock water would not rise to the level of significant.

The plantings on the Habitat Replacement Site would be watered with the Town of Paonia's two Farmer's Ditch shares, redirection of spring drain tile and leach line waters, and with irrigation tail water from Delicious Orchards which currently flows to Monitor Ditch. The spring drain tile and irrigation tail waters have not been previously filed on and are not currently put to beneficial use. The Applicant and the Town of Paonia, and the Applicant and Delicious Orchards, have executed 50-year agreements for the Applicant's use of these water to maintain the Habitat Replacement Site. The Town of Paonia is in the process of filing for water rights on the spring captured in the drain tile and the irrigation tail water from Delicious Orchards. Because this water is not currently being utilized and because the water rights would be junior, there would be no significant adverse effect to water rights as a result of implementing the plantings at the Habitat Replacement Site.

Irrigation water rights owned by others in the Project Area would not be impacted by the Project. The Project has been designed such that it would not physically interfere with the diversion, delivery, or use of water rights owned by other entities. Two entities with water rights in the Project Area, the Sweezy-Turner Ditch and Spurlock Ranch, elected to assimilate into the Turner Ditch Company during the design phase of the Project because of the improvement it would bring to their water delivery efficiency.

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 groundwater[2].

There would be no significant adverse impacts to water rights and use as a result of the Project, because combining the systems would produce water delivery efficiencies beneficial to the shareholders of the ditch companies, and the new water rights to be put to use at the Habitat Replacement Site have not been previously filed on or put to beneficial use.

3.2.2 – Water Quality

The geographic scope of the analysis for water quality is the lower Gunnison River and the greater Colorado River Basin, because irrigation practices in the region and in the Project Area are contributing to elevated downstream salinity levels and create an adverse effect on the water quality of the Gunnison River and in the greater Colorado River Basin. In addition, selenium occurs in the region's soils in soluble forms such as selenate, which is leached into waterways by runoff and irrigation practices and is toxic to living organisms when present beyond trace amounts. There is a regional effort to reduce salinity in the lower Gunnison and Colorado River watersheds, resulting in improved water quality at a basinwide scale (see Section 1.4.1). There are also ongoing regional

[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.

efforts to reduce selenium loading in the lower Gunnison and Colorado river basins (SMPW 2011, Reclamation 2022a).

In 2021, the Corps 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, the estimated 3,398 tons of salt annually (Reclamation 2019b) contributed to the Colorado River Basin from the ditches involved with the Project would continue. Current selenium loading levels would continue.

Proposed Action: In the long term, the Project would eliminate seepage from the involved ditch systems, reducing salt loading to the Colorado River Basin at an estimated rate of 3,398 tons per year (Reclamation 2019b). The Project would reduce selenium loading into the Gunnison River basin, although the amount of selenium loading reduction that would result from the Project has not been quantified. Improved water quality would benefit downstream aquatic species by reducing salt and selenium loading in the Gunnison River, an important Colorado River Basin tributary. Maintenance or improvement of water quality in the Gunnison River is of high importance to users and to wildlife.

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

The use of HDPE and PVC pipe for water transport meets the American Water Works Association's safety standards for drinking water, and therefore would be safe for use as irrigation and stock water. The use of PIP pipe for water transport meets the Natural Resource Conservation Service's safety standards for use as irrigation and stock water. Therefore, any degradation of water quality due to the use of piping types proposed for the Project would not rise to the level of significant.

BMPs embedded in the Project description (Section 2.2) and listed in CHAPTER 4 would be implemented during construction to minimize erosion and further protect water quality. Project construction would take place in the ditch prism when water is not present. Pipeline creek crossings

would be conducted in accordance with CDPHE's Water Quality Control Division Dewatering General Permit to protect water quality in streams. The construction contractor would be required to operate under a Stormwater Management Plan, a Stormwater Discharge Permit, a Spill Response Plan, and a Dewatering Permit (when dewatering is conducted) (see Section 2.2.10 and CHAPTER 4).

There would be no significant adverse impacts to water quality as a result of the Project, because required permits and construction BMPs would be implemented, and because the overall result of the Project would be to improve water quality (reduce salinity) in the Colorado River Basin.

3.2.3 – Groundwater Recharge

Groundwater recharge or deep percolation is the hydrologic process in which surface water infiltrates downward through an unsaturated zone into a subsurface water table or aquifer. Rates of recharge vary regionally, and depend on several major factors, including precipitation (available water), soil and geologic characteristics (substrate permeability), and evapotranspiration of water by plants (which reduces water available for deep percolation). While the USGS has conducted studies on salinity loading in the upper Colorado River basin (see Section 1.4.1), comprehensive studies to determine the characteristics of groundwater and groundwater movement have not been conducted in the project area; however, the U.S. Geological Survey (USGS) developed a raster dataset (USGS 2003) to estimate average annual natural groundwater recharge in the conterminous United States (https://www.sciencebase.gov/catalog/item/63140610d34e36012efa3838). The dataset was created by multiplying a grid of base-flow index (BFI) values by a grid of mean annual runoff values. BFI is a measure of the proportion of river runoff that derives from stored sources; the more permeable the rock, superficial deposits and soils in a catchment, the higher the baseflow and the more sustained the river's flow during periods of dry weather. Thus, the BFI is an effective means of indexing catchment geology (https://nrfa.ceh.ac.uk/derived-flow-statistics). Annual runoff is that part of precipitation which appears as a flow of water in surface streams. When considered together, the BFI and annual runoff data that the USGS receives is sufficient for the USGS to produce a dataset containing a reasonable estimate of natural groundwater recharge.

The Project area falls within the boundaries of two HUC-12 sub-watersheds: 140200040503 and 140200040407). These two sub-watersheds contain a total of 61,259 acres, and constitute the geographic scope of this analysis as they are the sub-watersheds with the potential to be impacted by the Project. Watersheds are delineated by the USGS using a nationwide system based on surface hydrologic features. This system divides the country into 21 regions (2-digit), 222 subregions (4-digit), 370 basins (6-digit), 2,270 subbasins (8-digit), approximately 20,000 watersheds (10-digit), and approximately 100,000 sub-watersheds (12-digit). A hierarchical hydrologic unit code (HUC) consisting of 2 additional digits for each level in the hydrologic unit system is used to identify any hydrologic area. Each hydrologic unit is assigned a 2-digit to 12-digit number that uniquely identifies each of the six levels of classification within six two-digit fields.

The USGS estimates the average annual groundwater recharge rate in the two HUC sub-watershed areas to be 109.63 mm/year (https://www.sciencebase.gov/catalog/item/63140610d34e36012efa3838; Hernandez 2023).

No Action Alternative: Under the No Action Alternative, nothing would occur which would alter the BFI or annual runoff of HUC sub-watershed areas, so there would be no change in the estimated groundwater recharge in the area. Because the estimated amount of groundwater recharge into the

two HUC sub-watershed areas would not change, there would be no significant impact to groundwater associated with the No Action Alternative.

Proposed Action: Under the Proposed Action, there would be no change in the inputs utilized by USGS to estimate average annual groundwater recharge (BFI values or mean annual runoff values). The same water which currently precipitates into the two HUC sub-watershed areas would continue to precipitate within the areas after project implementation. The portion of the seepage which currently enters the groundwater through the canal prism would be redistributed within the general project area. While the specific area where the canal leakage would seep into the groundwater would be redistributed, it would be redistributed within the irrigated acres related to the canals associated with the project, and therefore it would remain in the general project area within the two HUC sub-watersheds. Therefore, the redistribution would not alter the BFI or annual runoff of the area, so there would be no change in the estimated groundwater recharge in the area.

Because the estimated amount of groundwater recharge into the two HUC sub-watershed areas would not change, there would be no significant impact to groundwater recharge as a result of implementing the Project.

3.2.4 – Air Quality

The geographic area of analysis is the airshed of the spatial extents of the Project Area (Figure 1), where people and the environment could potentially be affected by pollution emitted during construction activities. The Clean Air Act 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 pollutant in an area are higher than National Ambient Air Quality Standards (NAAQS), the airshed is designated as a "nonattainment area." Areas that meet the NAAQS for air pollutants are designated as "attainment areas." The level of analysis for NAAQS airsheds in Colorado is by county The entireties of Delta and Gunnison counties are in attainment for all criteria (monitored) pollutants (EPA 2024). Impacts to air quality occur from a variety of stationary and mobile pollution sources throughout Delta and Gunnison counties. Minor impacts to air quality from routine maintenance of the ditch system involved with the Project include dust and exhaust from occasional travel in light vehicles along the Project corridor, and occasional ditch cleaning and maintenance activities involving heavy equipment and occasional ditch burning. Together, these impacts have not historically risen to the level of non-attainment in either county.

No Action Alternative: There would be no effect on air quality in the Project Area from the No Action Alternative. The ditches would continue to operate in their current condition and dust and exhaust would occasionally be generated by vehicles and equipment conducting routine maintenance and operation.

Proposed Action: Exhaust and dust from construction activities, and occasional burning of slash within staging areas on private lands, would have a minor, short-term effect on the air quality in the immediate Project Area. There would be no long-term significant impacts to air quality from the Project, since following construction, air quality would return to its baseline level and Delta and Gunnison Counties would remain in attainment for all criteria pollutants. BMPs would be implemented to further minimize dust in the Project Area. Burning would be conducted in accordance with county burn ordinances and restrictions. Following construction, impacts to air quality from routine maintenance and operation activities along the pipeline corridor would be

insignificant, as they would be similar or less in magnitude to those currently occurring for the existing ditch.

There would be no significant adverse impacts to air quality as a result of the Project, 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).

3.2.5 – Access, Transportation, & Safety

The irrigation entities involved with the Project currently operate on private land, BLM land, and USFS land in historic prescriptive rights-of-way (collectively, the "right-of-way") in the Project Area. The Project Area (Figure 1) is the geographical scope of the access, transportation, and safety analysis, where construction has the potential to affect this resource.

Private roads, county roads, and public land routes generally provide access and mobility for residents traveling in and out of the pipeline Project Areas. Minnesota Creek Road is the public access route in the Upper Turner Project Area, and Lone Cabin Road is the main route into the Upper Lone Cabin Project Area. Minnesota Creek Road in the Upper Project Area is open year-round and receives moderate local traffic, and Lone Cabin Road is closed seasonally to motorized traffic from December 1 through April 30 to protect wintering big game. Lone Cabin Road receives daily light to moderate traffic mostly by recreators accessing public lands. The main public routes in the Lower Project Area are Lamborn Mesa, Foothills, and Dry Gulch roads – all with moderate local residential traffic. The Habitat Replacement Site is accessed off State Highway 133 using an unnamed private road to the Town of Paonia's STP. Highway 133 is the main regional route between the towns of Paonia and Hotchkiss and receives moderate to heavy traffic depending on time of day and time of year. The main public transportation routes that intersect the Project are listed in Table 6, below.

Table 6. Public Roads Intersected by the Project

Project Area	Total Number of Construction Crossings	Project Component/Road Crossing
Upper Lone Cabin	6	Lone Cabin main pipeline: USFS routes 798 and 798.2B (1 crossing each), Lone Cabin Road (4 separate crossings)
Lower (combined) Project Area	11	• Turner main pipeline: Dry Gulch Road, Foothills Road, German Creek Lane, Lamborn Mesa Road (1 crossing per road) • Turner south lateral pipeline: Minerich Road (1 crossing) • Lone Cabin lower main pipeline: Roeber Road, Minerich Road (1 crossing per road) • Lone Cabin connector 1 pipeline: Lamborn Mesa Road (2 separate crossings), Roeber Road (1 crossing) • Lone Cabin connector 2 pipeline: Dry Gulch Road (1 crossing)

Project Area	Total Number of Construction Crossings	Project Component/Road Crossing
Habitat Replacement Site	1	Town of Paonia irrigation pipe replacement from Farmer's Ditch: State Highway 133 (1 crossing)

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

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

No Action Alternative: There would be no effect to public safety, transportation, or public access from the No Action Alternative. The ditches would continue to operate in their current condition and the baseline status of public safety, transportation routes, utilities, and public access in the vicinity would remain unchanged.

Proposed Action: All construction activities related to the Project would take place entirely in the approved/authorized and prescriptive project rights-of-way and approved access routes. There would be no need for construction of new access roads outside of the construction areas. There are no known bridges with weight restrictions that would be used by construction vehicles.

Some short-term disruption of traffic at the involved public roads would occur when equipment and materials are hauled into a Project location, and when pipe crossings are constructed across public roads. Appropriate traffic signage would be used to notify drivers of active construction ingress/egress. The Applicant and/or the Applicant's contractor would coordinate with the county and sheriff departments when traffic or access would be delayed or substantially re-routed. 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.

A significant portion of the Turner pipeline would be buried in the Minnesota Creek Road right-of way. Any required construction, access, or use permits would be obtained from the Delta County Planning Department, County Engineering and County Road & Bridge District #3. The proposed irrigation pipe crossing from Farmer's Ditch through an existing culvert crossing of Highway 133 to the Habitat Replacement Site would be coordinated with the Colorado Department of Transportation.

All utilities would be located and marked and, if necessary, relocated or raised, prior to any construction activities in the Project area. 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 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.

3.2.6 – Colorado Roadless Area

Part of the Upper Lone Cabin Project Area falls within the 22,552-acre Lamborn Roadless Area, a Colorado Roadless Area on the Gunnison National Forest (see Figure 6 and Figure 7). Colorado Roadless Areas are regulated under the 2012 Colorado Roadless Rule to protect roadless values by restricting certain activities such as tree cutting, road construction and reconstruction, and linear construction zones. Under the 2012 Roadless Rule, permitted activities must be designed to conserve roadless area characteristics, which are listed in Table 7, below. The geographic scope of this analysis is where Project components intersect with the Lamborn Roadless Area and have the potential to affect the nine roadless area characteristics identified by the 2012 Roadless Rule.

No Action Alternative: There would be no effect to the Lamborn Roadless Area on the Gunnison National Forest from the No Action Alternative. The elements of the Project falling within the Lamborn Roadless Area would continue to operate as they have in the past.

Proposed Action: The elements of the Project in the Lamborn Roadless Area are the following Lone Cabin Ditch system elements to be decommissioned: two reaches of the Lone Cabin Main Ditch (totaling approximately 1.6 miles), two reaches of the Lone Cabin Highline Ditch (totaling approximately 1.2 miles), the Lone Cabin Highline Ditch headgate, and other minor appurtenances (i.e., flumes or small water control structures) on these ditches. The existing ditch segments and appurtenant structures occupy approximately 6.8 acres (based on a 20-foot corridor) in the roadless area. Two existing primitive roads (totaling approximately 0.8 mile) provide access to these features within the roadless area (see Figure 6 and Figure 7). The Project activities in the roadless area constitute a decommissioning of a linear construction zone under the 2012 Colorado Roadless Rule. The Project activities on the roadless area are consistent with the Rule, in that they would be done in a manner that minimizes ground disturbance and conserves the roadless area characteristics in the long-term.

Table 7. Analysis of Project Impacts on Roadless Area Characteristics

Roadless Characteristic	**Description of Effects of the Project on Roadless Area Characteristics**
1 – High quality or undisturbed soil, water or air resources	Project activities would cause temporary minor disturbance to soils in the roadless area, where ditches and appurtenant structures are proposed for decommissioning using minimal disturbance techniques. These soils in these locations are previously disturbed, are not high-quality, and are not in irrigated agricultural production. As described in Section 3.2.16, these impacts would not rise to the level of significant. Project activities in the roadless area would contribute to the overall purpose of the Project: to reduce salinity loading in the Colorado River basin, resulting in the beneficial effect of improved water quality (Sections 3.2.1, 3.2.2). Water resources in the roadless area itself would not be affected. Following the temporary insignificant impacts to air quality during Project construction, the beneficial effect of a net reduction of air quality impacts in the roadless area would result from the Project following decommissioning of the ditches and appurtenant structures, because no further ditch-related maintenance activities (that generate dust and vehicle exhaust) would be conducted there (as described in Section 3.2.4).
2 – Sources of public drinking water	The Project would have no effect on natural sources of public drinking water sourced from the roadless area[3].
3 – Diversity of plant and animal communities	Project construction would entail incremental activity, and vegetation and ground disturbance throughout most of the Project area. Within the roadless area, Project activities would be limited to decommissioning of ditches and ditch-related structures with minimal disturbance methods. In the roadless area, these activities would result in minor temporary disturbance to big game. Construction impacts to small animals would occur; however, population-level significant impacts would not occur (Section 3.2.13). There would be no effect to migratory birds or raptors (Section 3.2.13). Therefore, there would be no effect on the diversity of animal communities in the roadless area. The Project would have no effect on the diversity of the plant communities in the roadless area (Sections 3.2.11) because the Project activities in the roadless area are limited to decommissioning ditches and related structures using minimal disturbance methods, and the preponderance of vegetation along these ditches and structures is upland vegetation that is abundant in the surrounding area.

[3] Note that domestic water well owners cannot rely on canal seepage water to recharge domestic water wells (Sections 3.2.1, 3.2.2, 3.2.3).

Roadless Characteristic	Description of Effects of the Project on Roadless Area Characteristics
4 – Habitat for threatened, endangered, proposed, candidate, and sensitive species, and for those species dependent on large undisturbed areas of land	No threatened, endangered, proposed, or candidate, or sensitive species occur or have critical habitat within or near that part of the roadless area intersected by the Project (Section 3.2.14). Therefore, there would be no effect to threatened, endangered, proposed, candidate, and sensitive species in the Roadless Area as a result of the Project. Project activities in the roadless area include ditch and appurtenant structure decommissioning using minimal disturbance techniques, with the purpose of maintaining the current characteristics of the habitat as much as possible (Section 3.2.11).
5 – Primitive and semi-primitive non-motorized, and semi-primitive motorized classes of dispersed recreation	Public recreation activities would be temporarily interrupted, and the quality of experience temporarily decreased by construction noise, construction traffic, and the visual presence of equipment and machinery working and idled on the construction site in or near the roadless area or in staging areas. These disruptions would be minor as they would not prohibit recreational activities in the roadless area, and the disruptions would end following the completion of construction (Section 3.2.9). Noise associated with construction of the Project would be short-term and would not raise the noise level of the area above the moderate noise baseline (Section 3.2.7).
6 – Reference landscapes for research study or interpretation	No effect. Reference landscapes are not present in the roadless area.
7 – Naturally appearing landscapes with high scenic quality	Ditches planned for decommissioning and abandonment in the roadless area would undergo negligible visual change, since decommissioning would be by minimal disturbance methods with the objective of maintaining the ground condition and native vegetation that currently attends these ditches as much as possible (Sections 3.2.8 and 3.2.11).
8 – Traditional cultural properties and sacred sites	No effect. There are no traditional cultural properties or sacred sites in the Project Area (Section 1.6).
9 – Other locally unique characteristics	The ditches planned for decommissioning on the roadless area have been inventoried as cultural resources eligible for listing on the NRHP (Section 3.2.15). An MOA between Reclamation, BLM, USFS, and the Colorado SHPO outlines stipulations to conserve the value of the eligible cultural resources, and therefore the effect on cultural resources would not rise to the level of significant. There are no other locally unique characteristics within the project area.

No significant impacts to Colorado Roadless Areas would occur as a result of the Project, because the Project is consistent with the 2012 Colorado Roadless Rule, in that it constitutes the decommissioning of a linear construction zone, it would be done in a manner that minimizes ground disturbance, and it conserves the roadless area characteristics in the long-term.

3.2.7 – Noise

A moderate baseline level of detectable noise occurs in the Project Area (Figure 1), associated with farming and ranching activities, regular traffic on public roads, county road maintenance activities, and the Applicant's operation and routine maintenance of the ditch systems. The geographic scope of analysis for noise is the Project Area (Figure 1), where people and wildlife could potentially be affected by Project construction noise. Operation and maintenance involve the use of light-duty trucks and, occasionally, heavy equipment. Farming and ranching activities involving the use of farming equipment, light vehicles, all-terrain vehicles, and occasionally heavy equipment are ongoing in the immediate area and surroundings of the Project. OHV and other recreational motorized travel are also a popular uses of Lone Cabin Road in the Upper Lone Cabin Project Area from May through November.

No Action Alternative: There would be no effect from the No Action Alternative, because there would be no construction noise related to ditch piping in the Project Area. Noise related to ditch operation and maintenance activities would continue as it has in the past.

Proposed Action: Project construction activities would generate a temporary source of noise audible to residents near the Project. Sources of noise would include heavy equipment moving earth or crushing rock, trucks hauling pipe and other materials, and heavy equipment grubbing vegetation. As explained in Section 2.2.2, blasting may also be required to help prepare the pipe trench if bedrock is encountered. Blasting would occur inside the trench and below grade. The noise associated with such blasting would resemble a muffled "pop" from a firearm. These disturbances would occur during daylight hours (typically 7 am to 5 pm), Monday through Saturday, on a sequenced basis along the ditch section involved with the Project. Activities at the Habitat Replacement Site would occasionally result in a temporary source of noise generated by heavy equipment, such as when trees are mechanically removed. Such noise would occur on a periodic, as-needed basis during daylight hours, for several days at a time when in progress. Once the removal of noxious weed trees is completed during the initiation of Site work, some repeated grubbing may be necessary during coming years to maintain the Site.

No significant impacts to noise would occur as a result of the Project, because noise associated with construction of the Project would be short-term and would not raise the noise level of the area above the moderate noise baseline; therefore, the short-term increase in noise would not be significant.

3.2.8 – Visual Resources

The Project is in an area of pastoral beauty, with a pleasing array of colors and textures across the relatively open landscape—a mosaic of irrigated agricultural areas, rural residential areas, natural shrublands and badlands, and wooded riparian corridors—against a backdrop of near and distant foothills and mountains. The geographic scope of analysis is the Project Area and public lands visible from and near the Project Area. A baseline level of visual disturbance occurs in the Project Area (Figure 1), associated with residential and farmstead developments, local ranching and farming

activities, local construction projects, and the Applicant's operation and routine maintenance of the ditch system. Regular operating activities can involve vehicles, machinery, earth moving, field and ditch burning, and can generate dust and smoke. The ditches that traverse the area are linear features, often bermed and/or contouring along steep hillsides, and with an attendant access road and soil spoil piles remaining alongside or on the bermed area (ditch prism). The ditches support occasional mature cottonwood trees which are visible on the relatively open landscape.

BLM's UFO Resource Management Plan (RMP) characterizes the BLM land on the north side of the Minnesota Creek valley in the Upper Turner Project Area as Visual Resource Management (VRM) Class II and the BLM land on the south side of the Minnesota Creek valley as VRM Class IV (BLM 2020). In the Upper Lone Cabin Project Area, the RMP characterizes BLM land involved with the Project as VRM Class IV. BLM's management objective for VRM Class II lands is to retain the existing character of the landscape. The management objective for VRM Class IV lands is to allow for modification of the existing character of the landscape while minimizing visual impacts. The Forest Plan (USFS 1983, as amended) does not specify management restrictions for the visual resource aspect of National Forest lands involved with the Project.

No Action Alternative: There would be no visual impacts from the No Action Alternative. The baseline level of visual disturbance in the Project Area associated with residential and farmstead developments, local ranching and farming activities, local construction projects, and the Applicant's operation and routine maintenance of the ditch systems would continue.

Proposed Action: Temporary impacts related to visual disturbance during and after construction would result from the Project. Machinery would be operating on the landscape and highly visible from public roads in certain locations on a spatially incremental basis mostly during fall and early winter months during construction, and would be utilized sporadically for future maintenance of the pipeline. Following construction in the pipeline alignment and certain abandoned ditch reaches in the Lower Project Area, the disturbance footprint would be a linear area of bare ground, rather than an open earthen ditch. Within a few growing seasons, revegetation would help the disturbed ground blend with the surroundings. Ditches planned for decommissioning and abandonment in the Upper Turner and Upper Lone Cabin Project Areas would have negligible visual change, since the objective is to maintain the ground condition and native vegetation that currently attends these ditches as much as possible. The Habitat Replacement Site is not visible from public lands and not highly visible from public roads.

Overall, the long-term level of change to the visual characteristics of the landscape in and around the Project Area during and following construction would be minor and not out of character with the surrounding landforms or with the rural and agricultural character of the vicinity. Project activities on the VRM Class II area on BLM involve abandoning and decommissioning about 0.1 mile of Sweezy-Turner Ditch using minimal disturbance methods and would therefore maintain the existing character of the landscape. The remainder of Project activities on public lands would take place on BLM VRM Class IV lands or on lands under National Forest general management and would not lead to visible changes significantly different or more dominant in the long-term than what is already present on the landscape. The Project would maintain the existing character of the surrounding landforms or the rural and agricultural character of the vicinity, and therefore would not result in long-term adverse visual effects.

No significant impacts to visual resources would occur as a result of the Project, because construction impacts would be temporary and the visual characteristics of the landscape in and around the Project Area during and following construction would be minor and not out of character with the surrounding landforms or with the rural and agricultural character of the vicinity.

3.2.9 – Public Recreation

Public lands involved in the Project Area (Figure 3) provide dispersed outdoor recreational opportunities for the public, mostly in the Upper Lone Cabin Project Area. These include big game hunting during established hunting seasons, dispersed camping, motorized and non-motorized travel on designated routes, horseback riding, and hiking. Lone Cabin Road is closed to motorized travel from December 1 through April 30. Part of the Upper Lone Cabin Project Area intersects the Roeber State Wildlife Area, private land with limited public access during big game hunting seasons. Some motorized and unmotorized travel occurs on public lands, including on the ditch banks on public lands; however, the ditch banks are not authorized public routes. The geographic scope of analysis for this resource is public lands intersecting the Project Area, where the Project could potentially affect public recreation activities.

No Action Alternative: There would be no impacts to public recreation from the No Action Alternative. Disbursed public recreation activities including hunting, dispersed camping, hiking, walking, horseback riding, and motorized travel on designated routes would continue on public lands as they have in the past.

Proposed Action: The pipeline aspect of the Project would take place on BLM and USFS lands with designated travel routes, dispersed camping, and big game hunting opportunities for the public, especially in the Upper Lone Cabin Project Area. Public recreation activities would be temporarily interrupted, and the quality of experience would be temporarily decreased by construction noise, construction traffic, and the visual presence of equipment and machinery working and idled on the construction site or in staging areas. These disruptions would be minor as they would not prohibit recreational activities in the Action Area, and they would end following the completion of construction. The Project would not cause any long-term effects on hunting opportunities or experiences on public lands in the Project Area (CPW District Wildlife Manager [Codi Inloes-Williams], pers. comm. May 2023), because the impacts on game species would be short-term and temporary (Section 3.2.13) and CPW-recommended construction timing restrictions would be in place to protect big game (Table 4). In the long-term, the Project would eliminate some unauthorized ditch-bank travel routes on public land alongside seasonally flowing water. However, the Project would have no effect on the authorized recreational activities on public lands, and there are other sources of open water on public lands in these areas where authorized recreational activities may continue. The ditch banks involved with the Project are not authorized public routes. The Project would not result in a change in authorized motorized and non-motorized routes and travel on public lands.

No significant impacts to public recreation would occur as a result of the Project, because minor disruptions to recreational activities would cease immediately following construction, no long-term impacts to hunting opportunities or experience would occur, and authorized recreational activities and travel routes on public lands would not change.

3.2.10 – Grazing

Public lands involved within the Project Area fall within four public lands grazing allotments (Table 8) administered by either BLM or USFS. The allotments are used seasonally for cattle grazing by local permit holders or pools of permit holders. Livestock may water out of the ditches that intersect public lands when water is present in the ditches. The geographic scope of analysis for grazing is the intersection of public grazing allotments with the Project Area, where the Project could potentially affect livestock grazing.

Table 8. Public Land Grazing Allotments Intersected by the Project

Allotment Name	Allotment Size/Capacity	Project Area	Comments
BLM Oak Ridge Common	3,700 acres/417 animal unit months (AUMs)	Upper Lone Cabin, Upper Turner	The Lone Cabin Ditch (main lateral) intersects this grazing allotment for a total of about 3.5 miles.
BLM Reynolds-McDonald	4,550 acres/271 AUMs	Upper Lone Cabin	An approximately 1 mile section of the Lone Cabin south lateral (to be decommissioned) intersects this allotment
BLM Jumbo Mountain	5,920 acres/120 AUMs	Upper Turner	About 0.1 mile total of the Sweezy-Turner Ditch (to be decommissioned) intersects the south boundary of this allotment
USFS West Elk	96,150 acres/approximately 1,025 cow-calf pairs	Upper Lone Cabin	Lone Cabin Ditch (main) from the Lake Fork headgate to the National Forest boundary 0.4 mile downstream of Lone Cabin Reservoir and 0.4-mile of the main from the north lateral split to the forest boundary, and the entirety of the Lone Cabin Highline Ditch, Trade Ditch, and the Lone Cabin Reservoir.

No Action Alternative: There would be no impacts to livestock grazing from the No Action Alternative. Livestock would continue to have the opportunity to water out of the ditches intersecting public lands when water is present in the ditches.

Proposed Action: A total of approximately 30.6 acres of grazing rangelands within the BLM grazing allotments and 20.5 acres within the USFS allotment would experience a temporary impact. Impacts from construction on the grazing allotments and grazing livestock would be negligible, as the Project Area represents a total of only 0.1 percent of the combined grazing allotment acreage and the impact is short-term in nature. Surface disturbances would be reclaimed as explained in Sections 2.2.2 and 2.2.7, and additional grazing would become available where pipelines would be installed in existing ditch prisms and backfilled. Approximately 2.6 linear miles of ditches to be decommissioned and abandoned are on BLM grazing allotments and 6.1 linear miles are on the USFS allotment.

Decommissioning and abandonment would require very little ground and vegetation disturbance (Section 2.2.3) and would not have a measurable effect on the grazing allotments or grazing activities. There are no public land grazing allotments affected in the Lower Project Area or the Habitat Replacement Site. No public lands currently capable of being grazed in the Project Area would be rendered permanently incapable of being grazed as result of the Project.

Piping of the ditches through public land grazing allotments would remove a source of stock water that the permittees are accustomed to relying on; however, there are other sources of stock water available throughout the grazing allotments, and therefore this impact does not rise to the level of significant. As a courtesy, the Applicant is installing stock watering taps on the pipelines at up to 4 locations on public lands to make stock water available in the immediate area.

The allotment permittee would be notified of activities under the Project. During construction, pipeline trenches left open overnight would be kept to a minimum and covered to reduce potential for entrainment of livestock. Covers would be secured in place and strong enough to prevent livestock or wildlife from falling through. Where trench covers would not be practical, animal escape ramps would be utilized.

No significant impacts to grazing would occur as a result of the Project, because measures would be taken to prevent livestock from becoming entrained in pipeline trenches during construction, livestock watering taps would be installed on the pipelines to augment stock water on public lands, and no public lands currently capable of being grazed in the Project Area would be rendered permanently incapable of being grazed as result of the Project.

3.2.11 – Vegetation

The geographic scope of analysis for upland vegetation is the construction alignments plus an approximately 1-mile buffer, and the geographic scope of analysis for wetland/riparian vegetation is the construction alignment and the general North Fork Valley, the context within which physical disturbance or changes to vegetation would take place because of Project construction.

There are three broad classes of vegetation in the Project Area: native upland vegetation, agricultural vegetation (pasture and crops), and riparian vegetation. The ditches involved with the Project in the Upper Turner Project Area are surrounded primarily by upland native pinyon (*Pinus edulis*)-juniper (*Juniperus osteosperma*) woodlands and mixed mountain shrublands. In the east part of the Upper Lone Cabin Project Area, the surrounding vegetation community is native upland mixed mountain shrublands dominated by Gambel oak (*Quercus gambelii*), with scattered stringers of aspen (*Populus tremuloides*) and Douglas fir (*Pseudotsuga menziesii*) in the far reaches and in intersecting drainages (see the cover photograph of this EA). The west part of the Upper Lone Cabin Project Area is a mosaic of Gambel-oak dominated mixed mountain shrublands, big sagebrush (*Artemisia tridentata*) shrublands, and pinyon-juniper woodlands, with interstitial grassy or shrub-steppe type meadows. The Lower Project Area intersects previously disturbed irrigated farmlands and residential areas, with pockets of pinyon-juniper woodlands and sagebrush shrublands. The Habitat Replacement Site is located in riparian cottonwood (*Populus deltoides* and *P. angustifolia*) woodlands and an irrigated grass pasture near the North Fork Gunnison River. The proposed staging areas are on farmed or previously disturbed ground or ground previously cleared of brush.

The Lone Cabin Trade, Highline, middle, and south laterals in the Upper Lone Cabin Project Area, and the west end of the existing Lone Cabin north lateral in the Lower Project Area support very

little riparian vegetation, due to the short time they carry water (see Photograph 1). The ditches are relatively shallow and narrow, often contouring on steep slopes. Similarly, the existing Sweezy-Turner Ditch and some upper parts of the Turner Ditch support very little riparian vegetation. A total of approximately 1 mile of reaches of the above-described ditches collectively are already in plastic or metal pipe where they pass through landslide-prone areas and ditch-bank failure has been a problem in the past. The piped reaches, with the exception of the attendant access roads, are grown over with native upland vegetation (see Photograph 2).

In the Lower Project Area and the west parts of the Upper Lone Cabin and Upper Turner Project Areas, the ditch banks of the main ditches support a narrow margin of discontinuous riparian vegetation dominated by coyote willow (*Salix exigua*), but also including cattails (*Typha* sp.), sedges (*Carex* and *Eliocharis* spp.), and rushes (*Juncus* spp.), pasture grasses, and occasional cottonwoods (*Populus* spp.), boxelder (*Acer negundo*), chokecherry (*Prunus virginiana*) and scattered non-native Russian olive (*Elaeagnus angustifolia*). The water flowing in the ditches helps transport seeds from these species downstream and to other areas, along with animals and wind.

Vegetation along the ditches involved with the Project, especially in the Lower Project Area, is disturbed by routine maintenance, which includes periodic mechanical clearing with heavy equipment and occasional burning or application of herbicides.

Photograph 1. Example of a reach of Lone Cabin Highline Ditch, and typical appearance of a ditch proposed for decommissioning using minimal disturbance methods (Rare Earth Science, November 2021)

Photograph 2. Example of a reach of Turner Ditch that is already piped in a problematic landslide area and proposed for decommissioning using minimal disturbance methods (Rare Earth Science, November 2021)

No Action Alternative: There would be no effect on existing vegetation from the No Action Alternative. The ditch companies would continue to routinely manage vegetation along the ditches, which includes periodic mechanical clearing with heavy equipment, burning, or application of herbicides.

Proposed Action: Construction of the pipeline 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 pipeline construction, disturbed areas in the pipeline alignment would be recontoured and either topsoiled and reseeded with a seed mix appropriate for the surrounding vegetation community ("conventional revegetation") or finished with sterile subsurface soil and unseeded ("natural revegetation"), depending on the preference of the underlying landowner. Where applicable, the seed mix for the conventional revegetation areas would be a native drought-tolerant weed-free seed mix approved by Reclamation, BLM, USFS, or the underlying private landowner and appropriate for the surrounding habitat (the agency-approved seed mix is in Appendix A). Disturbed agricultural areas would be contoured to the surrounding grade and reseeded with compatible hay or pasture seed mixes. Agricultural areas are expected to return to a condition similar to or better than their pre-construction condition within a year of construction. Natural areas selected for natural revegetation would require several years to recolonize the subsurface sterile soil that would be placed on the final graded surface. Natural colonization of native plants is preferable to reseeding on reserved topsoil in these areas. Redistributed topsoil has a low probability of success in germinating commercial seed mixes following construction, especially in drought conditions, and instead has germinated its own existing seed banks of ruderal weeds adapted to ground disturbance. Finishing

the ground surface with subsurface soil would help eliminate the weed seed bank in the construction area. Surrounding native vegetation would colonize the construction corridor over a period of several years as the new topsoil becomes weathered. Evidence of the recolonization process can be seen around the area, where native vegetation communities adapted to the local soil and climate regime are propagating by seed, clone rhizomes, root sprouts, and tillers into landslide areas (for example, see Photograph 2). Because the upland native vegetation is abundant in the surrounding areas (exceeding several thousand acres in patch sizes) and would colonize the relatively small (116.3-acre) upland vegetation area of the construction corridor, the minor impact to upland native vegetation would not rise to the level of significant.

A habitat evaluation was performed within the Action Area to quantify the fish and wildlife values that would be lost due to implementation of the Project (WNRCS 2021). The evaluation followed the standardized protocol outlined in Reclamation's April 2018 *Basinwide Salinity Control Program: Procedures for Habitat Replacement* (Reclamation 2018). In accordance with the protocol, the habitat value is calculated for each affected wetland or riparian habitat area by multiplying its acreage by its habitat quality score, which is assigned based on evaluation of a series of ten physical and biological criteria. These criteria include vegetative diversity, vegetative stratification, presence of noxious weeds, overall vegetative condition, interspersion of open water with vegetation, connectivity and proximity of other wildlife habitat areas, wildlife use, uniqueness or abundance, water supply, and degree of human-caused alteration. The value of the habitat loss which would occur due to the Project is 117.8 habitat value units across a total of 21.2 acres (WNRCS 2021). 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 Project. The Habitat Replacement Site to be developed for the Project would generate 120.3 habitat units to fully maintain (or exceed) the value of the fish and wildlife values to be lost as a result of the Project. Because there would be no net loss of riparian and wetland values associated with implementation of the Project, the effects of the loss of riparian and wetland vegetation would be insignificant.

Piping of the ditches associated with the Project would eliminate flowing water that helps transport seeds of wetland and riparian species to downstream areas. This is not a significant impact to downstream wetland or riparian habitats, which readily propagate from their own local seedbanks and rhizomes, and from seeds carried by animals and wind.

Construction activities would directly disturb the staging areas, irrigated agricultural areas, and roadsides. These areas experience routine disturbance, and their post-project conditions would not significantly differ from their pre-project conditions. Dust from operating equipment and vehicles would also temporarily affect nearby vegetation, however increased dust would be minor and temporary (see Section 3.2.4), and therefore the impact to nearby vegetation would be minor and temporary. Across the entire project, vegetation removal and construction footprints would be confined to the smallest portion of the ditch prism or construction ROW necessary for safe completion of the work. Construction of the Project, including the Habitat Replacement Site, would follow BMPs to further minimize temporary impacts, to protect water quality, and to further minimize dust and soil erosion.

Ditches to be abandoned on private lands would be decommissioned using conventional methods unless the underlying landowner submits a request in writing for the minimal disturbance method (see Section 2.2.3). BLM and USFS have indicated their preference for decommissioning ditches on

public lands using minimal disturbance methods (rather than conventional surface-disturbing methods), since native upland vegetation is already well established along these ditches. Decommissioning the ditches in these locations would have no effect on the established native upland vegetation as it is not dependent on ditch seepage.

No significant impacts to vegetation would occur as a result of the Project, because the riparian and wetland values related to the ditches involved with the Project would be maintained with the implementation of the Habitat Replacement Site, and the construction footprint would be revegetated with upland plants found in the existing well-established adjacent plant communities.

3.2.12 – Noxious Weeds

The geographic scope of analysis for noxious weeds is the Project Area plus a one mile buffer, the context within which Project activities have the potential to affect this resource. The most conspicuous noxious weeds present within the Project Area are whitetop (*Lepidium draba*), perennial pepperweed (*Lepidium latifolium*), Russian knapweed (*Acroptilon repens*), and Canada thistle (*Cirsium arvense*) (WNRCS 2021). These weeds are associated with ditches in the Lower Project Area, and to some extent along Lone Cabin Ditch on Oak Ridge in the Upper Lone Cabin Project Area. The Applicant manages noxious weeds on the ditch prisms by spot-spraying or mowing seasonally, or by mechanical removal with heavy equipment, as resources permit. BLM also has inventoried and manages weeds on BLM lands in the Lone Cabin area. Vehicles, people and their dogs, livestock, and wildlife traveling on the ditch prism can contribute to the spread of weeds. Flowing water in irrigation ditches is also a vector for the continued spread of weeds. Disbursed recreation and livestock grazing, especially in the west part of the Upper Lone Cabin Project Area, contributes to the propagation of weeds in that area.

Common weeds in the Habitat Replacement Site are Russian olive (*Elaeagnus angustifolia*) and salt cedar (*Tamarisk* spp.), as well as Canada thistle, whitetop, and houndstongue (*Cynoglossum officinale*). These weeds are mainly in riparian woodland Sections (B and C) of the Habitat Replacement Site (Section A is an irrigated pasture).

No Action Alternative: There would be no effect on noxious weeds from the No Action Alternative. Noxious weeds would continue to exist in the general area, and flowing water in the irrigation ditches, along with animals traveling along the ditch corridors would continue to serve as vectors for the spread of noxious weeds in the area.

Proposed Action: The Project would remove segments of open water, a key element of invasive seed transport. Finishing the ground surface with subsurface soil would help eliminate the weed seed bank in the construction area. 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 Project Area. Because noxious weeds are currently present in the Project Area, their ongoing presence within the Project Area would not constitute a significant impact.

To further curtail the spread of noxious weeds, environmental commitments (CHAPTER 4) 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 Project Area, noxious weed presence would be monitored subject to agreements between the Applicant and BLM, USFS, and individual landowners, and regulated by Delta and Gunnison Counties in accordance with county standards (Delta County 2020, Gunnison County 2013).

The Habitat Replacement Site weed infestations would be treated as part of the Habitat Replacement Plan (WNRCS 2022), with goals for maintaining total weed cover below 5 percent in Section A and below 10 percent in Sections B and C of the Habitat Replacement Site.

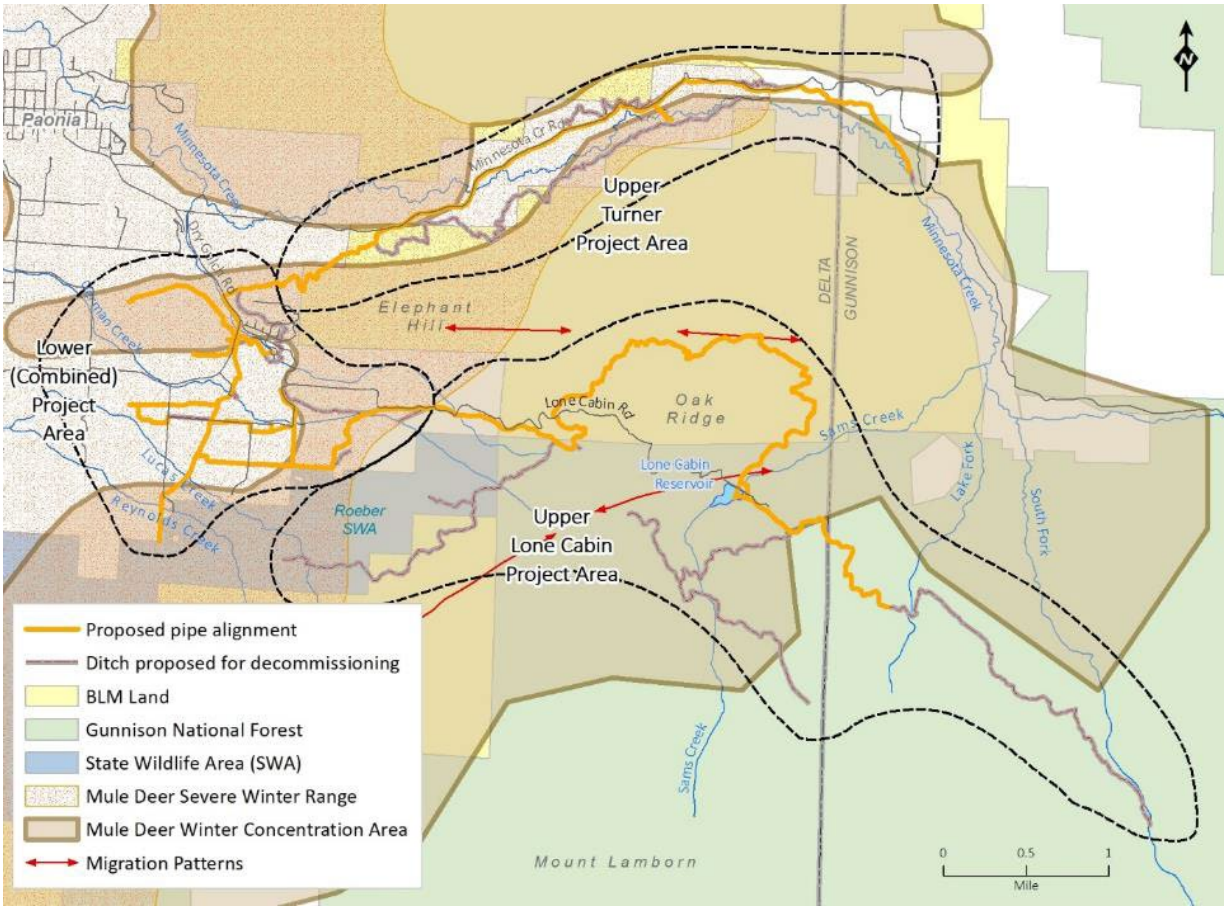
No significant impacts related to noxious weeds would occur as a result of the Project, because design features and construction BMPs would be employed to curtail the spread of existing noxious weeds and prevent the introduction of new noxious weeds to the area. Noxious weeds which rely on ditch seepage for growing conditions and water for seed transport would no longer be supported.

3.2.13 – Wildlife Resources

The geographic scope of analysis for wildlife is the Project Area plus an approximately one mile buffer, the approximate context within which the Project has the potential to affect this resource. A variety of mammals, reptiles, and amphibians inhabit the general Project Area. Those that would be likely to use the ditch corridor or adjacent areas include elk, mule deer, black bear and mountain lion, as well as red fox, coyote, bobcat, badger, beaver, white-tailed prairie dog, cottontail rabbit, white-tailed jackrabbit, woodrat, striped skunk, raccoon, several species of mice, voles, and shrews, several species of bats, western terrestrial garter snake, smooth green snake, Woodhouse's toad, chorus frog, northern leopard frog, and tiger salamander. Many species of neotropical migratory songbirds and raptors inhabit the area, as well as wild turkey. Fish such as brook trout and native sculpins and suckers may be present in the creeks in the Project Area. Big game and other wildlife may drink water out of the ditches when water is present in them.

The Upper Turner, Upper Lone Cabin, and Lower Project Areas intersect critical ranges of mule deer and elk in Game Management Unit 53, which include severe winter range (where 90 percent of animals are located when snowpack is at maximum and temperatures are at minimum in the two worst winters of ten); winter concentration areas (where animal densities are at least 200 percent greater than surrounding winter range, from first heavy snowfall through spring green-up); and an elk calving area (Figure 10 and Figure 11). The Habitat Replacement Site lies entirely within an elk winter concentration area and mule deer winter range.

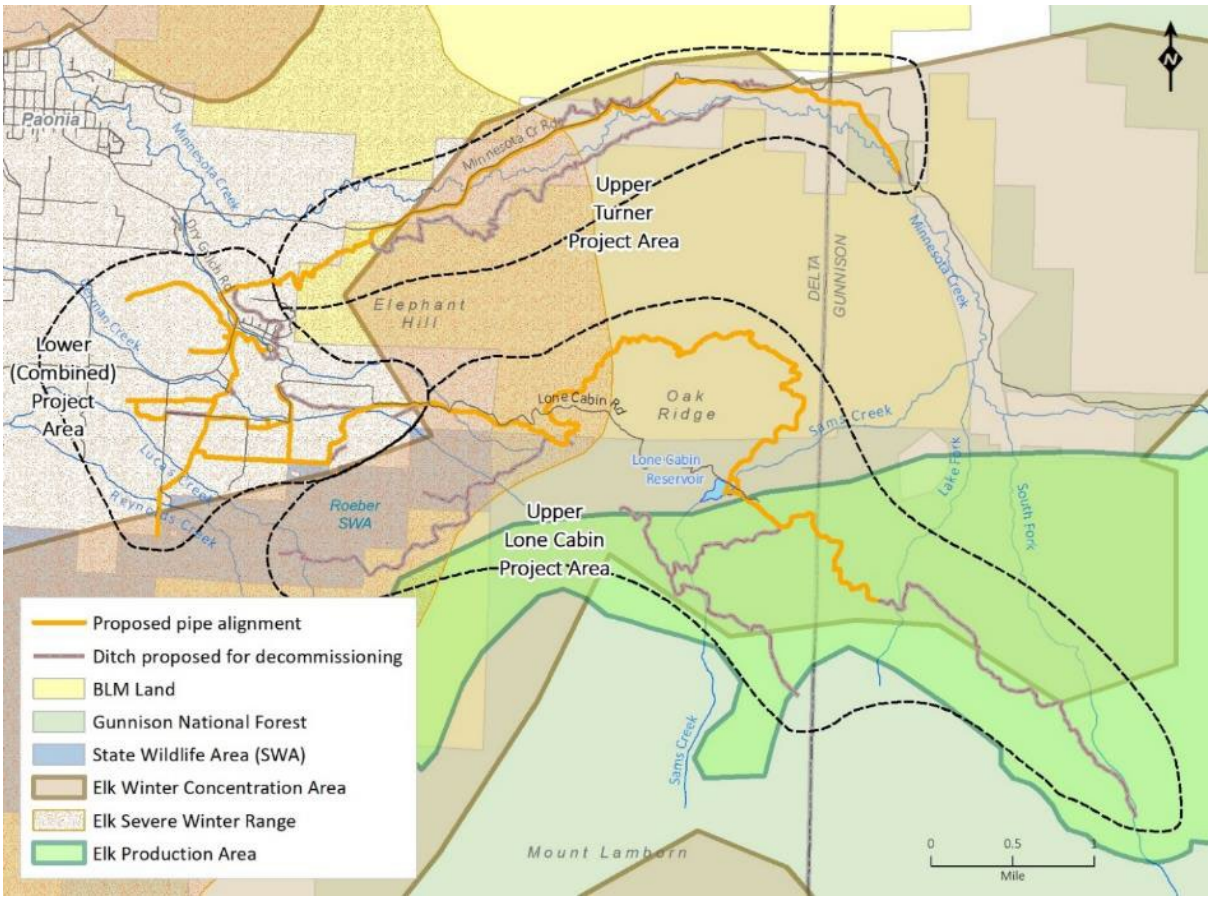
Figure 10. Mule Deer Critical Range in the Piping Component Areas of the Project



The primary nesting season for migratory songbirds in the Project Area is April 1 through July 15. The core nesting season for raptors in the area is also April 1 through July 15; however, individuals—especially red-tailed hawk and great-horned owl—may begin courtship and nest construction as early as February 15 (CPW 2020). A nesting raptor survey conducted for the Project Area during Spring of 2020, 2021, and 2024 identified three red-tailed hawk nests within 1/3 mile of the construction corridor, and one Cooper's hawk nest within ¼ mile of the construction corridor. Nearly the entire Project lies within CPW-mapped bald eagle winter range, the Lower Project Area, the Upper Turner Project Area, and the west part of the Upper Lone Cabin Project Area are in bald eagle winter forage range. The Habitat Replacement Site is in a bald eagle winter concentration area and winter foraging range (CPW 2022). The Upper Turner Project Area lies within a wild turkey winter concentration area (CPW 2022).

Wildlife in the Project Area experiences a baseline level of disturbance from suburban residential activities, domestic pets, people and vehicles traveling on public and private roads, and ranching and farming activities. The Habitat Replacement Area is in the forested riparian corridor of the North Fork River, which is closely flanked by open agricultural fields and areas with light industrial and light commercial use (the Paonia Water Treatment Plant and Delicious Orchards).

Figure 11. Elk Critical Range in the Piping Component Areas of the Project



No Action Alternative: There would be no effect on wildlife resources from the No Action Alternative. Wildlife would continue to use the habitat and water resources in the area as in the past. Salt and selenium loading from the area would continue to affect aquatic dependent species.

Proposed Action: Construction would create incremental activity and ground disturbance throughout the Project area, resulting in minor temporary impacts to mule deer and elk within the Project area. Reclamation consulted with CPW to assign appropriate timing restrictions protective of big game to each Project Area. These timing restrictions consider the quality and importance of specific areas of the critical range and level of baseline human activity already present in each Project Area and ensure the temporary impacts to mule deer and elk are minor. The timing restrictions are summarized in Table 4 and incorporated into the Environmental Commitments (CHAPTER 4) for the Project and would be prominently marked on the project construction drawings. To further reduce the potential for direct effects on big game from pipeline construction, pipeline trenches left open overnight during construction would be kept to a minimum and covered to reduce potential for entrainment of deer, elk, and other wildlife. Covers would be secured in place and strong enough to prevent wildlife from falling through. Where trench covers would not be practical, wildlife escape ramps would be utilized.

There would be a short-term loss of vegetative cover in big game critical winter habitat until the areas are revegetated. However, the construction footprint of the Project represents less than approximately 0.1 percent of the total amount of elk and mule deer critical winter habitat in Game

Management Unit 53, and this temporary loss of vegetative cover would result in negligible effects to big game critical winter habitat.

Piping of the ditches involved with the Project would remove a seasonal source of drinking water for big game and other wildlife. Up to four water outlets would be provided along the pipelines to provide stock water and wildlife water to tanks on public lands in the Upper Project Areas (see Section 2.2.1). Additionally, the Applicant is installing water taps to make winter stock water available to wildlife along the pipeline alignments and at shareholder locations when it was previously unavailable (Section 3.2.1). Other existing wildlife water resources would remain in the Upper Project Areas, including natural creeks (Minnesota Creek, Lake Fork Creek, Sams Creek, South Fork Creek), seasonal stock ponds, and Lone Cabin Reservoir. In the Lower Project Area, numerous on-farm open irrigation lateral ditches and stock ponds, a pond in the Hidden Valley subdivision, as well as natural creeks (Lucas Creek, German Creek, Miller Creek, Reynolds Creek) would continue to provide wildlife water.

There would be no direct effect to nesting songbirds as pre-construction vegetation grubbing would occur outside the primary nesting season (potential nesting habitat including shrubs and trees along the ditch would be grubbed and removed outside the period of April 1 through July 15). Vegetation grubbing timing restrictions would be clearly noted on the Project construction drawings.

There would be no effect to the active raptor nests identified near the Project Area as they would be avoided with sensitive area buffers and construction timing restrictions per CPW recommendations (CPW 2020). The red-tailed hawk nest protective buffer would be established as a 1/3-mile radius, excluding those areas where the nest is shielded by topography. Construction activities would not occur within a red-tailed hawk sensitive area buffer during February 15 to July 15 with the following exception: construction may be initiated prior to February 15, but must operate on a daily basis until completion through the sensitive area. Construction activities would not occur within 0.25-mile of a Coopers hawk nest during the period of April 15 to July 31. These restrictions may be lifted on the National Forest if the USFS biologist determines that the nest is not active that year, and on private land if a Reclamation-approved biologist determines that the nest is not active that year. If a new active raptor nest is discovered within 1/2 mile of the Project during construction, construction would cease until Reclamation could complete evaluations and consultations with FWS and CPW, and BLM or USFS as appropriate. Sensitive areas for raptors would be prominently marked on the construction drawings with their timing restrictions. The same timing restrictions applied to the respective Project Areas to protect wintering deer and elk would also be protective of wintering bald eagles and wild turkey.

Construction impacts to small animals with relatively small territory sizes or that do not disperse long distances, especially burrowing amphibians, reptiles, and small rodents, would include direct mortality and displacement in the construction footprint. These species would experience a short-term (less than 5 years) modification of their upland habitat in the less than approximately 53 acres of the construction footprint while revegetation is underway. However, as explained in Section 3.2.11, the upland habitat types are common in the approximately 8,000 acres in the Project Area, the impacts to upland habitat would be temporary, and the construction footprint represents a small fraction of a percent (0.007%) of the habitat patches within which the Project would take place. 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 FWS, and would continue to propagate in the region. Based on the principles of ecological succession, small animals

in the surrounding areas would recolonize the construction footprint following the disturbance. 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. Bird, bat, small mammals (such as fox, coyote, bobcat, badger), mountain lion and black bear—species dependent on upland habitat types within the construction footprint—have the ability to disperse to other similar habitat in the area, both during construction and during the period of upland revegetation in the construction footprint. Food chain impacts from the loss of small prey animals within the construction footprint would be short-term (less than 2 years) and localized, and would not rise to a level of significant effect on predators in the local area given the diminishingly small size of the construction footprint in comparison to surrounding habitat that would remain undisturbed.

Bird, bat, reptile, and amphibian species dependent on wetland and riparian habitats would experience a long-term (greater than five years) loss of habitat in the Project Area. These species are relatively common in wetland and riparian habitat throughout the region. Many of these species are mobile and able to relocate to other areas appropriate habitat. These species would continue to propagate in the area and population-level significant impacts would not occur, because other similar habitat is available in the Project Area (in the form of streams, irrigation ditches, and stock ponds), and the habitat value associated with the lost wetland and riparian habitat due to the Project (WNRCS 2021) would be fully maintained with the implementation of the Habitat Replacement Site (see Section 2.2.8). Less mobile riparian and wetland-dependent species may experience displacement or mortality in the approximately 21.2 acres of riparian habitat within the construction footprint. Following implementation, the 28.3-acre Habitat Replacement Site would contain more diversity and density of native riparian vegetation, increasing its capacity to support bird, bat, reptile, and amphibian species dependent on wetland and riparian habitats. The increase in habitat capacity (aka habitat value) of the Habitat Replacement Site would also provide for a commensurate increase in the local populations of less-mobile common riparian species, following the principals of ecology (wherein an increase in habitat structural heterogeneity and plant species diversity is predictive of increased species richness and abundance). Because the value of riparian wildlife habitat would be fully maintained in the Habitat Replacement Site, there would not be a significant impact to riparian wildlife species resulting from the loss of the ditch-induced wetland and riparian habitat in the Project Area. Down-watershed aquatic-dependent species would benefit from the Project because salt and selenium loading would be reduced.

No significant impacts to wildlife resources would occur as a result of the Project, because construction impacts would be temporary and relatively small in comparison with surrounding available habitat, timing restrictions would protect big game and nesting birds during sensitive periods, 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 a Habitat Replacement Site.

3.2.14 – Threatened & Endangered Species

The species listed as threatened or endangered under the Endangered Species Act of 1973, as amended, with the potential to be affected by the Project are the western yellow-billed cuckoo (*Coccyzus americanus*), and four endemic Colorado River Basin fish species: bonytail chub (*Gila elegans*), Colorado pikeminnow (*Ptychocheilus lucius*), the humpback chub (*Gila cypha*), and the razorback sucker (*Xyrauchen texanus*). Since the public review period of this EA, one species has been downlisted from

endangered to threatened (humpback chub), one new species has become a candidate for listing (monarch butterfly [(*Danaus Plexippus*]), one new species has been listed as threatened (silverspot [*Speyeria nokomis nokomis*]), and one new endangered species is now recognized as potentially having range in the Project area (gray wolf [*Canis lupus*]). There are no Endangered Species Act consultation requirements for Candidate species.

Sections B and C (a total of 11.7 acres) of the Habitat Replacement Site lie within designated critical habitat for the western yellow-billed cuckoo and contain potentially suitable nesting and foraging areas for this species. The western yellow-billed cuckoo is a migratory songbird requiring large patches of continuous forested riparian habitat with significant vegetative structural diversity for nesting success. Their breeding season is June 1 through August 31. Yellow-billed cuckoos could be using the Habitat Replacement Site from late May through early September. Foraging or migrating individuals could also occur incidentally in the Lower Project Area during this time.

None of the four listed endemic Colorado River fishes occurs in the Project Area and the Project Area does not occur within or adjacent to designated critical habitat. However, because 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 the Turner Ditch Company's system operations is estimated as 2,083 acre-feet per year (including Sweezy-Turner and Spurlock depletions), and the average historic depletion rate from Lone Cabin Ditch and Reservoir Company's system is estimated as 1,103 acre-feet per year. At the Habitat Replacement Site, historic depletions are estimated as 53.3 acre-feet per year, and new depletions are estimated 52.7 acre-feet per year. Different historic depletion rates for the Lone Cabin Ditch and Reservoir Company's system and the Habitat Replacement Site were reported in the public review draft of the EA because the calculations were provisional at that time.

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 Turner Ditch Company and Lone Cabin Ditch and Reservoir Company 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, a consultation with FWS is completed to consider whether the related depletions fit under the umbrella of the PBO and the Recovery Program. In order to be covered under the PBO and the Recovery Program, the project proponent signs a Recovery Agreement with FWS.

The Project Area is mapped within the overall range of the silverspot (a butterfly) listed as threatened under the U.S. Endangered Species Act in February 2024. No documented populations of silverspot occur in or near the Project Area (FWS 2023b). Reclamation conducted an informal technical consultation with FWS to confirm that the silverspot's larval host plant, bog violet, is not present in the Project area (Reclamation 2024).

The gray wolf is a wide-ranging habitat generalist and keystone predator that requires landscape-scale areas of minimal human disturbance and a sufficient prey base of large ungulates. Historically, wolves occurred across the state, but were extirpated (exterminated) from Colorado in the 1940s, mainly to protect domestic livestock. Documented reports of lone wolves sporadically dispersing into northern Colorado began in 2004, following the re-establishment of populations in Idaho, Montana, and Wyoming. In 2020, CPW confirmed an active pack of 6 wolves in extreme northwestern (Moffat County) Colorado. In 2020, Colorado citizens voted to restore the gray wolf in Colorado by the end of 2023. In 2023, the U.S. Fish & Wildlife Service designated the Colorado wolf population as "experimental" under the U.S. Endangered Species Act, to provide management flexibility to CPW. CPW completed the first re-introduction of wolves in northern Colorado (Grand and Summit counties) in December 2023. The primary threats to wolves are vehicle collisions, illegal poaching, or accidental take (such as by poisoning targeted to other livestock predators such as coyote). The Project Area is not in gray wolf designated critical habitat.

While western Colorado has not been home to large numbers of monarch butterflies relative to other areas in its range, the species occurs in the Project Area during the warm season where milkweed plants are available in riparian areas, wetlands, irrigated pastures, and roadsides. Showy milkweed is sparsely scattered along certain ditches involved with the Project, specifically the Turner Ditch and ditch laterals in the Lower Project Area. Ongoing ditch maintenance activities would potentially continue to affect milkweed habitat, the larval host plant of the candidate monarch butterfly.

No Action Alternative: There would be no effect on the listed western yellow-billed cuckoo and its designated critical habitat, or the four Colorado River Basin listed fishes or their designated downstream critical habitat from the No Action Alternative. Historic depletions and salt and selenium loading from the Project Area would continue to affect the four Colorado River Basin listed fishes and their critical habitat downstream. Ditch maintenance activities would potentially continue to affect milkweed habitat, the larval host plant of the candidate monarch butterfly.

Proposed Action: Based on Reclamation's August 10, 2022 informal technical consultation with FWS, the Project may affect but is not likely to adversely affect, the western yellow-billed cuckoo and its designated critical habitat. In order to avoid direct impacts to western yellow-billed cuckoo at the Habitat Replacement Site, the use of machinery to remove and mulch non-native trees and shrubs and to conduct new vegetation plantings in Habitat Replacement Site Sections B and C would avoid

yellow-billed cuckoo breeding season, and human presence in Habitat Replacement Site Sections B and C during breeding season (to irrigate or control herbaceous weeds) would be restricted to the morning hours before 11 am. While removal of non-native understory vegetation would temporarily affect the structure of yellow-billed cuckoo critical habitat, the amount of cuckoo habitat affected by the Project (11.7 acres) is relatively small compared to the designated critical habitat unit within which it lies (2,300 acres). The planned vegetation plantings would improve nesting and foraging conditions for cuckoo within a few growing seasons. At the pipeline construction sites elsewhere in the Project Area, suitable cuckoo breeding habitat is not present, nor is there any designated critical habitat. Because the Project would avoid direct impacts to the yellow-billed cuckoo and would ultimately improve yellow-billed cuckoo critical habitat, the Project would not have a significant impact on the yellow-billed cuckoo or its critical habitat.

No change to the Turner Ditch Company or Lone Cabin Ditch and Reservoir Company's historic annual consumptive use rate or historic water depletions from operations of their systems within the Colorado River Basin would occur as a result of the Project. Historic water depletions associated with the Town of Paonia's Farmer's Ditch water right for irrigation of the Habitat Replacement Site would remain unchanged. New water rights filed by the Town of Paonia and leased by the Turner Ditch Company or Lone Cabin Ditch and Reservoir Company to maintain the Habitat Replacement Site would constitute a new depletion. Based on previously issued biological opinions, including the Gunnison Basin PBO, that all depletions within the Upper Colorado River Basin may adversely affect these fish species and their critical habitat, it is determined that the Project may adversely affect the bonytail chub, Colorado pikeminnow, humpback chub, and razorback sucker and their critical habitat. However, the Recovery Program ensures impacts to the listed fishes or adverse modification of their designated critical habitat resulting from projects covered under the Gunnison Basin PBO would not result in jeopardy to the species. To ensure Turner Ditch Company's (including Sweezy-Turner and Spurlock's) and Lone Cabin Ditch and Reservoir Company's depletions are covered under the Gunnison Basin PBO, each company has executed Recovery Agreements with FWS (see Appendix B). Because the Project is covered under the Gunnison Basin PBO due to execution of the Recovery Agreements, the Project would not result in jeopardy to the species, and there would be no significant impact to the endangered fishes or their designated critical habitat.

Direct effects to individual monarch butterflies in larval or chrysalis stages on milkweed plants could occur during construction. Because the Project Area is not within a core migration area or core population area for the monarch butterfly and would therefore not affect those areas, direct effects would not rise to the level of significant. Implementation of the Habitat Replacement Project would potentially create or enhance host plant (milkweed) habitat affected by the Project, maintaining its habitat in the area. Therefore, the Project would not adversely or significantly affect the monarch butterfly's habitat or population in western Colorado.

There would be no effect to silverspot from the Project, because the Project does not overlap with the documented population occurrences of silverspot, and its host plant is not present in the Project Area.

Given the current understanding that wolves are not present or documented in the Project Area, the Project would have no effect on the gray wolf. If wolves dispersed into or near the Project Area during construction of the Project, the Project activities would not measurably affect wolves, because the Project does not include a predator management program, and wolves could disperse

away from the Project area. Since the Project is not in gray wolf designated critical habitat, there would be no effect to gray wolf critical habitat.

No significant impacts to listed threatened and endangered (or proposed or candidate) species and their critical habitat would occur as a result of the Project, because the Project would avoid direct impacts to the listed yellow-billed cuckoo and would ultimately improve yellow-billed cuckoo critical habitat; because the execution of Recovery Agreements in accordance with the Gunnison Basin PBO would ensure the Project has no significant impact on the Upper Colorado River listed fishes or their designated critical habitat; and because habitat for the monarch butterfly (a listing candidate) would potentially be enhanced by the habitat replacement project.

3.2.15 – Cultural Resources

Cultural resources are defined as physical or other expressions of human activity or occupation. Such resources include culturally significant landscapes, prehistoric and historic archaeological sites, isolated artifacts or features, traditional cultural properties, Native American and other sacred places, and artifacts and documents of cultural and historical significance.

Alpine Archaeological Consultants conducted Class III cultural resource inventories of the Project Area (Prouty et al. 2022). The geographic area of analysis for these inventories were the ditches and ground disturbance areas involved with the Project, plus a 100-foot buffer (e.g. the Area of Potential Effect). All ditch reaches involved with the Project were inventoried, as well as the habitat replacement site, roads subject to improvement, and staging/borrow areas. The inventories resulted in the documentation of several sites within the Project Area that are eligible for listing in the National Register of Historic Places (NRHP).

There is an ongoing trend of piping earthen irrigation ditches in the region (see Figure 2), many of which are eligible for listing in the NRHP. This conversion is typically viewed as an adverse effect on the eligible cultural resource.

No Action Alternative: The No Action Alternative would have no effect on cultural resources. The cultural resources documented as eligible for listing in the NRHP would continue to exist in their current condition on the landscape.

Proposed Action: As a result of the Class III cultural resources inventory of the Project Area, and in consultation with the Colorado State Historic Preservation Officer (Colorado SHPO), Reclamation has determined that the Project would have an adverse effect on several ditch elements involved with the Project, which are resources eligible for listing in the NRHP. A Memorandum of Agreement (MOA) (Appendix C) has been executed between Reclamation, BLM, USFS, and the Colorado SHPO, with the Applicant participating as an invited party, regarding the management of cultural resources related to the Project. The MOA outlines stipulations designed to maintain the cultural heritage of irrigation history through public interpretation and/or documentation. Maintaining the cultural heritage of irrigation history would ensure that piping the ditches would not result in the loss of knowledge of early irrigation systems, their design, or reduce the ability to gain knowledge of early irrigation systems into the future.

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

3.2.16 – Soils & Farmlands of Agricultural Significance

The soils units mapped by the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) in the Project Area are generally clay loams that have Mancos shale parent material and are a source of salinity in irrigation water in the region. There is an ongoing trend to pipe earthen irrigation ditches in such soils in the region (see Figure 2).

The Project Area (Figure 1) is the geographic scope of analysis for soils and farmlands of agricultural significance, the context within which Project activities have the potential to affect this resource. Several soils in the Project Area are agriculturally significant since they are classified by NRCS (NRCS 2022) as "prime farmland if irrigated," "farmland of unique importance," or "farmland of statewide importance" under the Farmland Protection Policy Act.

The Lone Cabin Trade, Highline, middle, and south laterals in the Upper Lone Cabin Project Area, and the west end of the existing Lone Cabin north lateral in the Lower Project Area are relatively shallow and narrow, often contouring on steep slopes where they pass through landslide-prone areas where erosion has led to ditch-bank failure in the past.

No Action Alternative: The No Action Alternative would have no effect on soils characterized by NRCS as agriculturally significant. Farmlands in the Project Area would continue to produce as in the past. Salinity loading from deep percolation of irrigation water through saline soils along the ditches related to the Project would continue as it has in the past.

Proposed Action: Installation of the buried pipelines would temporarily disturb soils in or near the previously-disturbed ditch prisms. Staging activities would take place on existing irrigated pastures or existing disturbed areas. Project activities would cause temporary disturbance to soils that are either not in irrigated agricultural production, or soils directly adjacent to irrigated agricultural lands, or soils of irrigated lands. Some currently farmed agriculturally significant soils would be temporarily directly disturbed by the Project but would be put back into production prior to the following irrigation season. No farmlands would be permanently altered or removed from production as a result of the Project, and no interruption to agricultural production would occur. Therefore, there would be no significant impact to soils, farmlands, or agricultural production as a result of implementing the Project.

The ditches involved with the Project also convey irrigation water to agriculturally significant soils downstream of the Project Area; however, no change to or effect on the configuration of irrigated lands would occur because of the Project. No part of the irrigation season would be lost during implementation of the Project.

The Project would have a beneficial effect on the Applicant's ability to manage irrigation water with efficiencies gained from piping the systems. This would in turn benefit shareholders on the systems because more water would be available per share of irrigation water (Section 3.2.1), allowing shareholders to continue managing their soils for vitality and fertility.

Soil erosion from irrigation water conveyances would be substantially reduced where ditch reaches are proposed for replacement with buried pipe. Therefore, no adverse effects on soil erosion would occur due to implementation of the Project.

No significant impacts to Soils & Farmlands of Agricultural Significance would occur as a result of the Project, because no Soils or Farmlands of Agricultural Significance would be permanently removed from production. Soils affected by construction would be protected with BMPs and agricultural soils returned to production the following growing season.

3.2.17 – Cumulative Impacts

Cumulative impacts are direct and indirect impacts on the resources affected by the Project which result from the incremental impact of the Project when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. Cumulative impacts can also be characterized as additive or interactive. An additive impact emerges from persistent additions from one kind of source, whether through time or space. An interactive—or synergistic—impact results from more than one kind of source.

The analysis of cumulative impacts (Table 9) for the Project considers both spatial (geographic) boundaries and temporal limits of impacts, on a resource-by-resource basis. Spatial and temporal analysis limits vary by resource. Spatial limits were selected to be commensurate with the impacts on, and realm of influence of, each resource type. The temporal limits of analysis were established as 50 years for each resource type (a standard timeframe for cumulative impacts analysis), except for resource types perceived to have only temporary impacts (impacts that end following construction of the Project or within a few seasons following construction).

The direct and indirect effects of past and ongoing (present) actions are reflected in the current conditions described in the affected environment above in each of the resource topics of CHAPTER 3, and take into account ongoing cumulative effects from the past and present projects listed in Section 1.5. Reasonably foreseeable future actions are specific actions, and not speculative actions, in that they have approved NEPA documentation or approved plans with the potential to impact the same resources affected by the Project. Reasonably foreseeable future actions potentially affecting resources within the spatial and temporal limits of this analysis (Table 9) the Project are as follows:

- BLM's UFO Resource Management Plan (RMP) (BLM 2020). The authorized ongoing and future activities of Public Recreation and Grazing are the affected resources relevant to this analysis.

- USFS' GMUG RMP (USFS 1983). The authorized ongoing and future activities of Public Recreation and Grazing are the affected resources relevant to this analysis.

- The Paonia Winter Wildlife Habitat Improvement Project (PWWHIP) on the National Forest. The PWWHIP is expected to initiate in 2024 and will involve controlled burns and mechanical treatments of oak and mountain shrub and pinyon juniper vegetation types around the flanks of Mount Lamborn and Landsend Peak at some point during the next 10 years, as conditions permit. Part of the Habitat Improvement Project's target area is within the Upper Lone Cabin Project Area of the Project. The purpose of the PWWHIP is to improve winter range habitat for elk and deer and reduce fuels available for wildfires which could threaten municipal and irrigation water systems. The resources affected by the

PWWHIP relevant to this analysis are Air Quality, Colorado Roadless Area, Visual Resources, Public Recreation, Grazing, Vegetation, Noxious Weeds, and Wildlife.

- The Pilot Rock Ditch Habitat Replacement Project (PRHRP). The PRHRP is directly adjacent to the Habitat Replacement Site for the Project (Figure 9). The implementation plan for the PRHRP is similar to that of the Project (see Section 2.2.8), and both sites will be implemented by the same work crew consecutively. The resources affected by the PRHRP and relevant to this analysis are Air Quality, Vegetation, Noxious Weeds, Wildlife, and Threatened & Endangered Species.

- Salinity Control Program. Projects that may be occurring simultaneously with the Project are the Crawford Clipper Jerdon/West/Hamilton Laterals Piping Project (J/W/H) and the Grandview (Middle and Lower) Piping Project (Grandview M&L). Water Quality, Vegetation, Noxious Weeds, Wildlife Resources, Threatened & Endangered Species, and Cultural Resources are the affected resources relevant to this analysis.

- Gunnison Basin Selenium Management Program (SMP)(see Sections 1.4.1 and 3.2.14). The resources affected by this program relevant to this analysis are Water Quality and Threatened & Endangered Species.

- The Colorado River Endangered Fish Recovery Program ("Recovery Program")(see Section 3.2.14). The resource affected by this program relevant to this analysis is Threatened & Endangered Species.

Table 9 describes the cumulative impacts incrementally cumulative effects, if any, of the reasonably foreseeable future actions in combination with the Project on the resources carried forward for analysis in this EA.

Table 9. Cumulative Impacts Analysis Spatial & Temporal Limits by Resource

Resource	**Reasonably Foreseeable Future Action with Impacts on this Resource**	**Spatial & Temporal Limits of Analysis**	**Cumulative Impacts Analysis**
Water Rights and Use (Section 3.2.1)	None	Project Area (areas of Lamborn Mesa and the Minnesota Creek drainage); 50 years	There are no known reasonably foreseeable future actions which would have an impact on water rights and use and would incrementally contribute to a cumulative impact on this resource. Therefore, there are no cumulative impacts to water rights or use associated with implementation of the Project.

Resource	Reasonably Foreseeable Future Action with Impacts on this Resource	Spatial & Temporal Limits of Analysis	Cumulative Impacts Analysis
Water Quality (Section 3.2.2)	1) None 2) Salinity Control Program and Gunnison Basin SMP	1) Project Area; 50 years 2) Upper Colorado River Basin; 50 years	1) There are no other reasonably foreseeable future actions in the local Project Area that would together with the Project incrementally contribute to a cumulative impact on this resource. 2) The beneficial effects of improved water quality resulting from the Project and other similar projects in the Upper Colorado region would contribute to the regional efforts underway to reduce salinity and selenium in the lower Gunnison and Colorado River watersheds.
Groundwater Recharge (Section 3.2.3)	None	A 61,259-acre area of two sub-watershed units encompassing the Project Area; 50 years	Under the Project, the estimated amount of groundwater recharge into the two HUC sub-watershed area would not change. Therefore, there would be no impacts resulting from the Project which would incrementally contribute to a cumulative impact on this resource.
Air Quality (Section 3.2.4)	PWWHIP	The airshed in the immediate Project Area; for the duration of Project construction	The adjacent PRHRP would be implemented consecutively with the Project's Habitat Replacement Site, so air quality impacts from operating equipment would not occur concurrently. The potential exists for controlled burn and mechanical brush treatment activities related to the PWWHIP on the National Forest to be conducted concurrently with slash burning and other construction activities for the Project. Even if other projects occur concurrently with the Project, the cumulative impact on air quality in the area would be temporary and minor and would not rise to the level of significant because 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).

Resource	Reasonably Foreseeable Future Action with Impacts on this Resource	Spatial & Temporal Limits of Analysis	Cumulative Impacts Analysis
Access, Transportation, and Safety (Section 3.2.5)	PRHRP	Project Area; for the duration of Project construction	The PRHRP would be constructed by the same work crew that would construct the Habitat Replacement Site for the Project. Although more than one action would be implemented, there would not be more than one crew mobilization effort, meaning traffic associated with these actions would only occur once even cumulatively. Therefore, there are no cumulative impacts to access, transportation, and safety associated with implementation of the Project.
Colorado Roadless Area (Section 3.2.6)	PWWHIP	Elements of the Project in the Colorado Roadless Area; 10 years	Some controlled burns or mechanical treatments of brush could take place in the roadless area within or near the Project Area concurrently or near the time of construction of the Project. Because of the short-term and temporary nature of the Project's construction, and because of the small size of the construction footprint relative to the size of the roadless area, and because of the minimal disturbance decommissioning method planned for the Project elements in the roadless area, the Project would not contribute significant cumulative effects to roadless characteristics in the Colorado Roadless Area.
Noise (Section 3.2.7)	PRHRP	Project Area plus 1-mile buffer; for the duration of Project construction	Construction activities associated with the PRHRP would create short-term elevations in noise; however, work completed at the PRHRP would be implemented consecutively with the Project's Habitat Replacement Site, rather than concurrently. Noise associated with implementation of either of the projects would not occur at the same time, and therefore, there are no cumulative impacts to noise associated with implementation of the Project.

Resource	Reasonably Foreseeable Future Action with Impacts on this Resource	Spatial & Temporal Limits of Analysis	Cumulative Impacts Analysis
Visual Resources (Section 3.2.8)	PWWHIP	Public lands visible from and near the Project Area; 50 years	Some controlled burns or mechanical treatments of brush could take place on the National Forest within or near the Project Area concurrently or near the time of construction of the Project. These burns or treatments would be visible on the landscape as mosaic patches absent of vegetation for a period of a few years while revegetation is occurring. Vegetation clearing and the linear disturbance from pipeline installations on or near public lands would create a similar visual effect for a period of a few years until revegetation is accomplished. Because activities on public lands would take place on BLM VRM Class IV lands or on lands under National Forest general management and would not lead to visible changes significantly different or more dominant in the long-term than what is already present on the landscape, the Project would not contribute significantly to long-term cumulative effects to visual resources.

Resource	Reasonably Foreseeable Future Action with Impacts on this Resource	Spatial & Temporal Limits of Analysis	Cumulative Impacts Analysis
Public Recreation (Section 3.2.9)	UFO RMP GMUG RMP	Public lands within the Project Area; for the duration of Proposed Action construction	Public recreation activities on public lands would be temporarily interrupted and the quality of experience temporarily decreased by construction noise, construction traffic, and the visual presence of equipment and machinery working and idled on the construction site or in staging areas. The Proposed Action would not result in long-term impacts to recreational lands, as any disruptions to the recreational experience would cease after Project completion, and access to recreation opportunities on public lands would be unchanged. There are no known reasonably foreseeable future actions which would be implemented concurrently with the Project, and therefore there are no short-term impacts from reasonably foreseeable future action which would incrementally contribute to a cumulative impact on this resource. Because there are no long-term impacts to recreation associated with the Project, the Project would not incrementally contribute to long-term impacts on public recreation.

Resource	Reasonably Foreseeable Future Action with Impacts on this Resource	Spatial & Temporal Limits of Analysis	Cumulative Impacts Analysis
Grazing (Section 3.2.10)	PWWHIP	Public lands within the Project Area; for the duration of Project construction	The Project would have a short-term impacts on 0.1 percent of the combined grazing allotment acreages associated with the Project Area. There are no long-term impacts to grazing associated with the Project. The PWWHIP on the National Forest is expected to initiate in 2024 and would involve controlled burns and mechanical treatments of brush around the flanks of Mount Lamborn and Landsend Peak at some point during the next approximately 10 years, as conditions permit. Activities of the Project may occur concurrently with the PWWHIP in the Upper Lamborn Project Area, in which case there would be a temporary cumulative impact due to the combined disruption of grazing in the PWWHIP vegetation treatment areas and the Project Area. However, the impact to grazing associated with the Project is nearly negligible (0.1 percent of the combined grazing allotment acreage), and therefore any cumulative impact to grazing contributed by the Project would not rise to the level of significant.

Resource	Reasonably Foreseeable Future Action with Impacts on this Resource	Spatial & Temporal Limits of Analysis	Cumulative Impacts Analysis
Vegetation – Wetland and Riparian (Section 3.2.11)	PWWHIP J/W/H Grandview M&L	For wetland and riparian vegetation: the North Fork watershed; 50 years	There is a regional effort to reduce salinity in the lower Gunnison and Colorado River watersheds, resulting in an ongoing area-wide conversion of artificially-created riparian and wetland habitat to uplands over the past 15 to 20 years. Consistent with the Colorado River Basin Salinity Control Act, habitat replacement projects maintain riparian and wetland habitat values in the region. While all past, present, and reasonably foreseeable future actions associated with Salinity Control Program result in the permanent loss of riparian and wetland vegetation associated with ditch seepage, habitat replacement projects have been or will be implemented to maintain the habitat values associated with those projects (see Appendix G for a table detailing habitat losses and credits generated for each Salinity Control project). Because there would be no net loss of riparian and wetland values associated with implementation of the Project, the Project would not contribute significantly to cumulative effects on riparian and wetland vegetation within the North Fork watershed.

Resource	Reasonably Foreseeable Future Action with Impacts on this Resource	Spatial & Temporal Limits of Analysis	Cumulative Impacts Analysis
Vegetation – Upland (Section 3.2.11)	PWWHIP	For upland vegetation: the Project Area plus 1-mile buffer; 50 years	Some PWWHIP controlled burns or mechanical treatments of brush could take place on the National Forest within or near the Upper Lone Cabin part of the Project Area concurrently or near the time of construction of the Project. The estimated area for PWWHIP treatments in the Limits of Analysis is within an approximately 3,000-acre perimeter. These burns or treatments would be patches absent of vegetation for a period of a few years while revegetation is occurring. Vegetation clearing and the linear disturbance from pipeline installations on or near public lands would create a similar effect on less than a total of 53 acres for a period of a few years until revegetation is accomplished. Because the area of impact for the Project is less than 2 percent of the potential PWWHIP treatment area, and because revegetation will occur following the Project and PWWHIP, the Project would not contribute significantly to cumulative impacts to upland vegetation.

Resource	Reasonably Foreseeable Future Action with Impacts on this Resource	Spatial & Temporal Limits of Analysis	Cumulative Impacts Analysis
Noxious Weeds (Section 3.2.12)	GMUG RMP UFO RMP PWWHIP PRHRP	Project Area plus 1-mile buffer; 50 years	The Project would remove an important vector of weed seed transport in the vicinity—open water flowing in ditches. Seeps from the earthen ditches that currently support noxious weeds would be dried and the ability of the environment to support these weeds would be diminished. During and after construction of the Project, design features and BMPs would be implemented to control the spread of weeds from ground disturbance. Construction and right-of-way permitting required by the GMUG and UFO RMPs require control of noxious weeds in permit stipulations. Activities related to the PWWHIP may cause ground disturbance that could lead to the spread of noxious weeds, and therefore the PWWHIP includes BMPs to control the spread of weeds. As a part of the Project, weeds which are currently not controlled would be actively controlled at the Habitat Replacement Site for 50 years. Weed control would also be implemented in the adjacent PRHRP. Noxious weeds are present in the Project Area and surroundings as a baseline condition. Because the Project would implement design features, construction BMPs, and BLM and USFS permit stipulations, the Project would not contribute significantly to adverse cumulative impacts related to noxious weeds.

Resource	Reasonably Foreseeable Future Action with Impacts on this Resource	Spatial & Temporal Limits of Analysis	Cumulative Impacts Analysis
Wildlife Resources (Section 3.2.13)	UFO RMP PWWHIP PRHRP	The Project Area plus a 1-mile buffer; 50 years	The Project would contribute to a regional trend resulting in the relocation of artificially-created riparian and wetland values from earthen irrigation conveyances to habitat replacement sites. These activities are incrementally influencing small changes in the spatial distribution of riparian and wetland-dependent wildlife across the landscape. The changes are small, because although piping earthen ditch systems removes local wetland and riparian habitat, other wetland and riparian habitat exists in the piping project areas in the form of natural drainages, on-farm irrigation distribution ditches, and on-farm stock ponds and irrigation ponds. Up to four water outlets would be provided along the pipelines to provide stock water and wildlife water to tanks on public lands in the Upper Project Areas. Additionally, the Applicant is installing water taps to make winter stock water available to wildlife along the pipeline alignments and at shareholder locations when it was previously unavailable. This change in spatial distribution of riparian and wetland-dependent wildlife does not rise to the level of significant, because it does not result in a net loss of habitat value or a reduction of wildlife populations. Therefore, the Project would not generate effects which would contribute to a significant cumulative effect on wildlife resources.

Resource	Reasonably Foreseeable Future Action with Impacts on this Resource	Spatial & Temporal Limits of Analysis	Cumulative Impacts Analysis
Threatened and Endangered Species (Section 3.2.14)	PRHRP SMP and Recovery Program	Project Area & downstream critical habitat for endangered fishes; 50 years	The Project and the PRHRP would ultimately improve yellow-billed cuckoo critical habitat; therefore, there would not be an adverse cumulative impact on the yellow-billed cuckoo or its critical habitat. Because the Project Area is not within a core migration area or core population area for the monarch butterfly, direct effects would not rise to the level of significant and would therefore not contribute significantly to cumulative impacts on threatened and endangered species. Habitat replacement for the Project and the PRHRP would both potentially enhance habitat for the monarch butterfly's larval host plant. While the Project would adversely affect the listed Colorado river fishes due to Turner Ditch Company's and Lone Cabin Ditch and Reservoir Company's historic depletion rates and due to historic and new depletions at the Habitat Replacement Site, the Recovery Program ensures cumulative effects to the fishes and their designated critical habitat do not occur due to projects covered under the PBO. The reduction in selenium loading to the Colorado River and Gunnison River basins as a result of the Project would contribute to the cumulative beneficial effects of the Gunnison Basin SMP in improving water quality within designated critical habitat for the Colorado pikeminnow, razorback sucker, humpback chub, and bonytail throughout the Colorado River and lower Gunnison River basins.

Resource	Reasonably Foreseeable Future Action with Impacts on this Resource	Spatial & Temporal Limits of Analysis	Cumulative Impacts Analysis
Cultural Resources (Section 3.2.15)	Salinity Control Program	Project Area; 50 years	The cultural heritage of irrigation history associated with the Project would continue to be maintained due to the project stipulations developed with the Colorado SHPO. There would be no loss of cultural heritage associated with cultural resources, and therefore there would be no incremental impacts resulting from the lost value of cultural resources due to the Project.
Soils & Farmlands of Agricultural Significance (Section 3.2.16)	UFO RMP	Project Area; 50 years	The UFO RMP authorizes ongoing livestock grazing, motorized travel on unimproved roads, and dispersed public recreation on soils in the Project Area—activities potentially causing soil erosion. Due to the nature of the soils on public lands, the ditches involved with the Project have experienced erosional events (washouts), and this issue would be eliminated by converting the ditches to buried pipelines. Because the Project would be conducted using design features and construction BMPs to prevent soil erosion, and would comply with BLM permit stipulations, the Project would not contribute significantly to cumulative effects on soils in the Project Area. There are no reasonably foreseeable future actions in the Project Area that would affect farmlands of agricultural significance. Due to the temporary nature of impacts to agricultural soils from construction, the Project would not contribute to cumulative effects on Farmlands of Agricultural Significance.

3.3 – Summary

Table 10 provides a summary of environmental impacts, including cumulative impacts, for each of the resources evaluated in this EA. Resource impacts are outlined for both the No Action and the Proposed Action Alternatives. As described throughout Chapter 3, environmental impacts of the Action Alternative were not determined to be significant.

Table 10. Summary of Impacts for the No Action Alternative and Proposed Action Alternative.

Resource	**Impacts:** **No Action Alternative**	**Impacts:** **Proposed Action Alternative**
Water Rights and Use (Section 3.2.1)	No Effect; the Project would not be completed, and ditch seepage and irrigation inefficiencies would continue as they have in the past, and salt and selenium loading from the Project Area would continue to affect the Colorado River Basin.	The companies would collectively have the ability to better manage irrigation water with efficiencies gained from combining their operations. By eliminating ditch seepage and evaporative loss, the Project would result in more water delivered per share. Winter stock water delivery to Turner Ditch shareholders would be temporarily affected by the Project; however, following construction, winter stock water would be available to Turner Ditch shareholders throughout the winter season, including during periods of freezing. The Project contributes to the growing amount of piped irrigation conveyances in the region, which are collectively reducing water seepage and improving irrigation water delivery efficiency on a larger scale. No cumulative effect.
Water Quality (Section 3.2.2)	No Effect; the Project would not be completed, and salt and selenium loading from the Project Area would continue to affect water quality in the Colorado River Basin.	An estimated salt loading reduction of 3,398 tons per year to the Colorado River Basin would result from implementation of the Proposed Action. The Project would reduce selenium loading into the Gunnison River (the amount has not been quantified). Improved water quality would benefit downstream aquatic species by reducing salt and selenium loading in the Gunnison and Colorado rivers. The beneficial effects of improved water quality resulting from the Project would contribute to the regional efforts underway to reduce salinity and selenium in the lower Gunnison and Colorado River watersheds.
Groundwater Recharge (Section 3.2.3)	No Effect, because nothing would occur which would alter the BFI or annual runoff of the area, so there would be no change in the estimated groundwater recharge in the area.	Because the estimated amount of groundwater recharge into the two HUC sub-watershed area where the Project is location would not change, there would be no significant impact to groundwater recharge as a result of implementing the Project. No cumulative effect.

Resource	Impacts: No Action Alternative	Impacts: Proposed Action Alternative
Air Quality (Section 3.2.4)	No Effect; the Project would not be completed, and the ditches would continue to operate in their current condition and dust and exhaust would occasionally be generated by vehicles and equipment conducting routine maintenance and operation.	Exhaust and dust from construction activities would have a minor, short-term effect on the air quality in the immediate Project Area. Following construction, impacts to air quality from routine maintenance and operation activities along the pipeline corridor would be similar or less in magnitude to those currently occurring for the existing ditch. If other construction projects occur concurrently with the Project, the impact on air quality in the area would not rise to the level of significance as the impacts 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).
Access, Transportation & Safety (Section 3.2.5)	No Effect: the Project would not be completed, and the ditches would continue to operate in their current condition and the baseline status of public safety, transportation routes, utilities, and public access in the vicinity would remain unchanged.	Some short-term disruption of traffic at the involved public roads would occur when equipment and materials are hauled into a Project location, and when pipe crossings are constructed across public roads. If relocation or raising of utilities is necessary during construction, a brief interruption of utility services would occur. No cumulative effects.

Resource	Impacts: No Action Alternative	Impacts: Proposed Action Alternative
Colorado Roadless Area (Section 3.2.6)	No Effect; the Project would not be completed, and the elements of the Project falling within the Lamborn Roadless Area would continue to operate as they have in the past.	Insignificant temporary impacts would occur on resources associated with the following Roadless Area Characteristics: high quality or undisturbed soil, water or air resources; diversity of plants and animal communities; primitive and semi-primitive non-motorized, and semi-primitive motorized classes of dispersed recreation; naturally appearing landscapes with high scenic quality; and other locally unique characteristics. Insignificant long-term impacts would occur on resources associated with the following Roadless Area Characteristics: diversity of plants and animal communities, other locally unique characteristics. Beneficial impacts would occur on resources associated with the following Roadless Area Characteristics: high quality or undisturbed soil, water or air resources. No cumulative effects to Roadless Area Characteristics would occur.
Noise (Section 3.2.7)	No Effect; there would be no construction noise related to ditch piping in the Project Area, and noise related to ditch operation and maintenance activities would continue as it has in the past.	Project construction activities would generate a temporary source of noise audible to residents near the Project. No cumulative effects.
Visual Resources (Section 3.2.8)	No Effect; the Project would not be completed, and the baseline level of visual disturbance in the Project Area associated with residential and farmstead developments, local ranching and farming activities, local construction projects, and the Applicant's operation and routine maintenance of the ditch systems would continue.	Machinery would be operating on the landscape and highly visible from public roads in certain locations on a spatially incremental basis mostly during fall and early winter months. Following construction in the pipeline alignment and certain abandoned ditch reaches in the Lower Project Area, the disturbance footprint would be a linear area of bare ground, rather than an open earthen ditch. Within a few growing seasons, revegetation would help the disturbed ground blend with the surroundings. No cumulative effects.

Resource	Impacts: No Action Alternative	Impacts: Proposed Action Alternative
Public Recreation (Section 3.2.9)	No Effect: the Project would not be completed, and disbursed public recreation activities including hunting, dispersed camping, hiking, horseback riding, and motorized travel on designated routes would continue on public lands as they have in the past.	Public recreation activities would be temporarily interrupted and the quality of experience temporarily decreased by construction noise, construction traffic, and the visual presence of equipment and machinery working and idled on the construction site or in staging areas. No significant impacts to public recreation would occur as a result of the Project, because minor disruptions to recreational activities would cease immediately following construction, no long-term impacts to hunting opportunities or experience would occur, and authorized travel routes on public lands would not change. No cumulative effects.
Grazing (Section3.2.10)	No Effect: the Project would not be completed, and livestock would continue to have the opportunity to water out of the ditches intersecting public lands when water is present in the ditches.	A total of approximately 30.6 acres of grazing rangelands within the BLM grazing allotments and 20.5 acres within the USFS allotment would experience a temporary impact. Piping of the ditches through public land grazing allotments would remove a source of stock water that the permittees are accustomed to relying on. No cumulative effects.
Vegetation (Section 3.2.11)	No Effect: the Project would not be completed, and the ditch companies would continue to routinely manage vegetation along the ditches, which includes periodic mechanical clearing with heavy equipment, burning, or application of herbicides.	Construction of the pipeline would result in a minor 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 Project would result in the permanent loss of approximately 21.2 acres of riparian and wetland vegetation associated with the unlined ditches. The value of the habitat loss which would occur due to the Project is 117.8 habitat units (WNRCS 2021). The Habitat Replacement Site to be developed for the Project would generate 120.3 habitat units to fully maintain the value of the fish and wildlife values to be lost as a result of the Project. No cumulative effects.

Resource	Impacts: No Action Alternative	Impacts: Proposed Action Alternative
Noxious Weeds (Section 3.2.12)	No Effect: the Project would not be completed, and noxious weeds would continue to exist in the general area, and flowing water in the irrigation ditches, along with animals traveling along the ditch corridors would continue to serve as vectors for the spread of noxious weeds in the area.	The Project would remove segments of open water, a key element of invasive seed transport. Finishing the ground surface with subsurface soil would help eliminate the weed seed bank in the construction area. 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. Noxious weeds would continue to be present throughout the Project Area. Piping the ditch laterals involved with the Project, along with other salinity control projects in the region, would cumulatively remove an important vector of weed seed transport in the vicinity—open water. Seeps from the earthen ditches that currently support herbaceous and woody noxious weeds would be dried and the cumulative ability of the environment to support these weeds would be diminished.

Resource	Impacts: No Action Alternative	Impacts: Proposed Action Alternative
Wildlife Resources (Section 3.2.13)	No Effect; the Project would not be completed, and wildlife would continue to use the area as in the past. Salt and selenium loading from the Project Area would continue to affect aquatic dependent species.	Construction would create incremental activity and ground disturbance throughout the Project area, resulting in minor temporary impacts to mule deer and elk within the Project area. There would be a short-term loss of vegetative cover in big game critical winter habitat until the areas are revegetated. Construction impacts to small animals, especially burrowing amphibians, reptiles, and small mammals, would include direct mortality and displacement during construction activities, both in the existing ditch alignment and new pipe alignments. Bird, bat, reptile, and amphibian species dependent on wetland and riparian habitats would experience a long-term (greater than five years) loss of habitat due to the Project. However, the habitat value associated with the lost wetland and riparian habitat would be fully maintained with the implementation of the Habitat Replacement Site. The Project would contribute to a regional trend resulting in the relocation of artificially-created riparian and wetland values from earthen irrigation conveyances to habitat replacement sites.

Resource	Impacts: No Action Alternative	Impacts: Proposed Action Alternative
Threatened & Endangered Species (Section 3.2.14)	The Project would not be completed, and historic depletions and salt and selenium loading from the Project Area would continue to affect the four Colorado River basin listed fishes and their critical habitat downstream.	The Project may affect but is not likely to adversely affect, the western yellow-billed cuckoo and its designated critical habitat. The Habitat Replacement Site contains potential nesting and foraging habitat for cuckoo, and one of the intentions of the habitat work there is to improve conditions for cuckoo. The Project may adversely affect the bonytail chub, Colorado pikeminnow, humpback chub, and razorback sucker and their critical habitat. However, Turner Ditch Company's and Lone Cabin Ditch and Reservoir Company's historic and new depletions are covered under the PBO, and the Recovery Program ensures impacts to endangered fishes or adverse modification of their designated critical habitat resulting from projects covered under the PBO would not result in jeopardy to the species. The reduction in selenium loading to the Colorado River and Gunnison River basins resulting from the Project would contribute to the cumulative beneficial effects of the Gunnison Basin SMP in improving water quality within designated critical habitat for the Colorado pikeminnow, razorback sucker, humpback chub, and bonytail throughout the Colorado River and lower Gunnison River basins.

Resource	Impacts: No Action Alternative	Impacts: Proposed Action Alternative
Cultural Resources (Section 3.2.15)	No Effect: the Project would not be completed, and the cultural resources documented as eligible for listing in the NRHP would continue to exist in their current condition on the landscape.	The Project would have an adverse effect on NRHP-eligible cultural resources. An MOA (Appendix C) between Reclamation, BLM, USFS, and the Colorado SHPO, with the Applicant participating as an invited party, outlines stipulations designed to maintain the cultural heritage of irrigation history through public interpretation and/or documentation. The Project would contribute to an area-wide adverse effect on NRHP eligible cultural resources which is occurring as a result of irrigation piping projects. The cultural heritage of irrigation history in the area which have been or may be affected due to federally funded irrigation piping projects have been and would continue to be maintained due to the project stipulations developed with the Colorado SHPO, and therefore the adverse cumulative effect of the piping projects on cultural resources would not rise to the level of significant.
Soils & Farmlands of Agricultural Significance (Section 3.2.16)	No Effect. the Project would not be completed, and soils and farmlands of significance in the Project Area would continue to produce as in the past. Salinity loading from deep percolation of irrigation water through saline soils along the ditches would continue.	Installation of the buried pipelines would temporarily disturb soils in or near the previously-disturbed ditch prisms, and in new alignments along roadsides and in a Town of Paonia utility easement. Project activities would cause temporary disturbance to soils that are either not in irrigated agricultural production, or soils directly adjacent to irrigated agricultural lands, or irrigated lands. Some currently farmed agriculturally significant soils would be temporarily directly disturbed by the Project, but would be put back into production prior to the following irrigation season. The Project would have a beneficial effect on the Applicant's ability to manage irrigation water and soil vitality and fertility with efficiencies gained from piping the systems. The Project contributes to the growing amount of piped irrigation conveyances in the region, which are collectively having a beneficial cumulative effect on the reduction of soil erosion on a larger scale.

CHAPTER 4 – ENVIRONMENTAL COMMITMENTS

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

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

Table 11. Environmental Commitments

Type	**Environmental Commitment**	**Affected Resource**	**Authority**
Construction Contractor Plan or Certification Requirement	A Spill Response Plan shall be prepared in advance of construction by the contractor for areas of work where spilled contaminants could flow into water bodies.	Water Quality	Clean Water Act of 1972 as amended
Construction Contractor Plan or Certification Requirement	A Stormwater Management Plan shall be prepared and submitted to CDPHE by the construction contractor prior to construction disturbance.	Water Quality	Clean Water Act of 1972 as amended
Construction Contractor Plan or Certification Requirement	A 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

Type	Environmental Commitment	Affected Resource	Authority
Construction Contractor Plan or Certification Requirement	Certification under CDPHE Water Quality Division Construction Dewatering Discharges Permit COG070000 shall be obtained by the construction contractor prior to any dewatering activities related to construction.	Water Quality	Clean Water Act of 1972 as amended
Construction Contractor Plan or Certification Requirement	Any construction, access, or use permits required by the Delta County Planning Department, County Engineering and County Road & Bridge District #3, or the Montrose County Planning & Development Department, shall be obtained in advance of road crossings.	Access, Transportation & Safety	County Ordinances and Regulations
Construction Contractor Requirement	Required (if any) air quality emissions inventories, record-keeping, or reporting for construction equipment shall be on file with CDPHE prior to commencing construction.	Air Quality	Clean Air Act of 1963 and 5 CCR 1001-5 Part I.B.10 (Allowable Emissions), Part II.A (Air Pollutant Emission Notices for New, Modified, and Existing Sources), Part II.D (Exemptions from Air Pollutant Emission Notice Requirements
General NEPA Compliance	To satisfy the requirements of RGP-5, submit the following package to the Army Corps at least 30 days in advance of construction: (1) documentation for compliance with the Endangered Species Act and National Historic Preservation Act and/or the lead Federal Agency NEPA document containing the same, (2) a project description, (3) project plans, and (4) a location map."	Wetlands	RGP-5, Section 404, Clean Water Act of 1972 as amended

Type	Environmental Commitment	Affected Resource	Authority
General BMP	Construction limits shall be clearly flagged or marked onsite to avoid unnecessary plant loss or ground disturbance. No grading or blading shall occur inside the project ROW other than that necessary within the actual construction footprint.	Vegetation, Weeds, Habitat, Wildlife	Delta & Gunnison County Weed Management Plans (Delta County 2020; Gunnison County 2013); BLM ROW Permit Stipulation
General BMP	All equipment shall be power-washed before it is brought to the construction area, to minimize transport of new weed species to the construction area.	Vegetation, Weeds, Habitat, Wildlife	Delta & Gunnison County Weed Management Plans (Delta County 2020; Gunnison County 2013); BLM ROW Permit Stipulation
General BMP	Prior to construction, vegetative material ("slash") shall be removed by mowing or chopping, and either reserved for mulch onsite, or hauled to the County landfill or to a staging area to be processed (burned, chipped, and/or mulched).Stumps shall be grubbed and hauled to the County landfill or a proposed staging area to be burned. Slash processing would only occur on public lands in accordance with permit stipulations. No burning shall occur on federal public lands.	Soil, Vegetation, Weeds, Habitat	Delta & Gunnison County Weed Management Plans (Delta County 2020; Gunnison County 2013); Public Land Permit Stipulations; County burn ordinances and restrictions

Type	Environmental Commitment	Affected Resource	Authority
General BMP	Vegetation removal shall be confined to the smallest portion of the Project Area necessary for completion of the work.	Soil, Vegetation, Weeds, Habitat	Delta & Gunnison County Weed Management Plans (Delta County 2020; Gunnison County 2013); BLM ROW Permit Stipulation
General NEPA Requirement	Tree grubbing and vegetation removal in all project areas shall avoid the primary nesting season of migratory birds (April 1 – July 15). This timing restriction shall be noted on Project construction drawings.	Wildlife	Migratory Bird Treaty Act of 1918
Conservation Measure	Tree grubbing and other activities involving heavy equipment in Sections B and C of the Habitat Replacement Site shall avoid the breeding season of western yellow-billed cuckoo (June 1 – August 31). Irrigation and herbaceous weed control activities in Sections B and C during breeding season shall be limited to morning hours before 11 am. These restrictions shall be noted in the Habitat Replacement Plan (WNRCS 2022).	Threatened & Endangered Species	Endangered Species Act of 1973 as amended
General BMP and Design Feature	Following pipeline construction, disturbed areas in the pipeline alignment shall be recontoured and either topsoiled and reseeded with a seed mix appropriate for the surrounding vegetation community or finished with sterile subsurface soil and unseeded, depending on the wishes of the underlying landowner. Reseeding success shall be monitored subject to public land permit stipulations and agreements between the Applicant and individual landowners.	Soil, Vegetation, Weeds, Habitat	Delta & Gunnison County Weed Management Plans (Delta County 2020; Gunnison County 2013); Public Land ROW Permit Stipulations

Type	Environmental Commitment	Affected Resource	Authority
General BMP	Weed control shall be implemented by the Applicant or its contractor in accordance with the most current Delta County and Gunnison County weed control standards and public lands permit stipulations. Noxious weed presence shall be monitored subject to agreements between the Applicant, BLM, USFS, and individual landowners, and regulated by Delta and Gunnison Counties in accordance with county standards.	Soil, Vegetation, Weeds, Habitat	Delta & Gunnison County Weed Management Plans (Delta County 2020; Gunnison County 2013)
General BMP	Straw wattles, silt curtains, cofferdams, dikes, straw bales, or other suitable erosion control measures shall be used to prevent erosion from entering water bodies during construction.	Water Quality	Clean Water Act of 1972 as amended
General BMP	Any concrete pours shall occur in forms and/or behind cofferdams to prevent discharge into waterways. Any wastewater from concrete-batching, vehicle wash down, and aggregate processing shall be contained and treated or removed for off-site disposal.	Water Quality	Clean Water Act of 1972 as amended
General BMP	The construction contractor shall transport, handle, and store any fuels, lubricants, or other hazardous substances involved with the Project in an appropriate manner that prevents them from contaminating soil and water resources.	Water Quality, Soil	Clean Water Act of 1972 as amended
General BMP	Equipment shall be inspected daily and immediately repaired as necessary to ensure equipment is free of petrochemical leaks.	Water Quality, Soil	Clean Water Act of 1972 as amended

Type	Environmental Commitment	Affected Resource	Authority
General BMP	Ground disturbances and construction areas shall be limited to only those areas necessary to safely implement the Project.	Soil, Vegetation, Weeds, Habitat, Wildlife	Archaeological Resources Protection Act of 1979; Paleontological Resources Preservation Act of 2009
General BMP	Pipeline trenches left open overnight shall be kept to a minimum and covered to reduce potential for hazards to the public and to wildlife. Covers shall be secured in place and strong enough to prevent people, livestock, or wildlife from falling through. Where trench covers would not be practical, wildlife escape ramps shall be used.	Wildlife, Public Safety	C.R.S. 33-1-101 to 125 Parks and Wildlife Article 1: Wildlife
General NEPA Compliance	If previously undiscovered cultural or paleontological resources are discovered during construction, construction activities must immediately cease in the vicinity of the discovery and Reclamation must be notified. In this event, the SHPO shall be consulted, and work shall not be resumed until consultation has been completed, as outlined in the Unanticipated Discovery Plan in the MOA (see Appendix C). Stipulations in the MOA are incorporated into this Final EA by reference. Additional surveys shall be required for cultural resources if construction plans, or proposed disturbance areas are changed.	Cultural Resources	National Historic Preservation Act of 1966 Archaeological Resources Protection Act of 1979 Paleontological Resources Preservation Act of 2009
General NEPA Compliance	In the event that previously undocumented threatened or endangered species are encountered during construction, the contractor shall stop construction activities until Reclamation has consulted with FWS to ensure that adequate measures are in place to avoid or reduce impacts to the species.	Threatened & Endangered Species	Endangered Species Act of 1973 as amended

Type	Environmental Commitment	Affected Resource	Authority
General NEPA Compliance	Construction activities shall take place only in accordance with the schedule restrictions outlined in this EA and summarized in Table 4. These schedule restrictions and their spatial extents shall be clearly marked on the project construction drawings.	Wildlife	Migratory Bird Treaty Act of 1918; Bald and Golden Eagle Protection Act of 1940
General NEPA Compliance	To avoid disturbance to nesting raptors, construction activities within species-specific CPW-recommended (CPW 2020) buffer distances are time-restricted as follows: Red-tailed hawk: no construction activity within 1/3 mile of a nest February 15 through July 15, with the following exception: pipeline construction within 1/3 mile of a nest could begin prior to February 15, so long as the construction activities were initiated prior to February 15, and operated on a daily basis until completion (it is assumed that red-tailed hawks that initiate nesting during ongoing construction activities are tolerant to such activities). Coopers hawk: no construction activity within ¼ mile of an active nest April 15 through July 31, except on the National Forest if the USFS biologist determines that the nest is not active that year, or on private land if a Reclamation-approved biologist determines the nest is not active that year These timing restrictions and sensitive areas shall be noted on Project construction drawings.	Wildlife	Migratory Bird Treaty Act of 1918 Bald and Golden Eagle Protection Act of 1940
General NEPA Compliance	If a previously undocumented active raptor nest is discovered within 1/2 mile of the Project Area during construction, construction shall cease until Reclamation can complete consultations with CPW, FWS, and BLM or USFS as appropriate.	Wildlife	Migratory Bird Treaty Act of 1918 Bald and Golden Eagle Protection Act of 1940

Type	Environmental Commitment	Affected Resource	Authority
General BMP	Following construction, except where other finishing techniques indicated on the construction drawings, all disturbed areas shall be smoothed with tracked equipment (without back dragging blade), shaped, and contoured to as near to their pre-project conditions as practicable.	Soil, Vegetation, Weeds, Habitat	Clean Water Act of 1972 as amended
Design Feature	All drainage patterns that intersect the ditch shall be shaped to their natural flow patterns following ditch piping.	Soil, Vegetation, Habitat	Clean Water Act of 1972 as amended
General BMP	All equipment shall be cleaned before it is transported to another job site, to avoid introducing weed species from the construction area to another job site.	Vegetation, Weeds, Habitat	Delta & Gunnison County Weed Management Plans (Delta County 2020; Gunnison County 2013)

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 was distributed to private landowners adjacent to the Project, and the organizations and agencies listed in Appendix D. The public review period extended from December 2, 2022 to January 6, 2023. During this period, Reclamation received 16 comment documents. A summary of the comments and Reclamation's

responses to the comments are provided in Appendix F, along with a copy of the comment documents.

5.3 – Distribution

The publicly-available electronic version of the Final EA is available on Reclamation's website, and meets 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 individuals who participated in the preparation of this EA.

Table 12. List of Preparers

Name	Agency	Title	Areas of Responsibility
Jenny Ward	Reclamation	Environmental Protection Specialist	EA review, general authorship, cultural resources
Dawn Reeder	Rare Earth Science (Consultant to the Applicant)	Principal Biologist	General authorship, mapping
Levi Broyles	USFS	District Ranger	EA review
Abigail Rader	USFS	Lands & Special Uses Program Manager	EA review
Niccole Mortenson	USFS	NEPA Specialist/FOIA Coordinator	EA review
Valerie Horncastle	USFS	Wildlife Biologist	EA review
Jedd Sondergard	BLM	Hydrologist	EA review
Emily Latta	BLM	Wildlife Biologist	EA review

CHAPTER 7 – REFERENCES

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CHAPTER 8 – ABBREVIATIONS AND ACRONYMS

Abbreviation or Acronym	Definition
BFI	Base-flow index
BLM	U.S. Bureau of Land Management
BMP	Best management practice
CAA	Clean Air Act
CDPHE	Colorado Department of Public Health and Environment
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
cfs	cubic feet per second
CPW	Colorado Parks and Wildlife
C.R.S.	Colorado Revised Statute
CRSP	Colorado River Storage Project
CWA	Clean Water Act
EA	Environmental Assessment
EIS	Environmental Impact Statement
E.O.	Executive Order
EPA	Environmental Protection Agency
ESA	U.S. Endangered Species Act
FOA	Funding Opportunity Announcement
FONSI	Finding of No Significant Impact
FWS	U.S. Fish & Wildlife Service
GIS	Geographic information system
GMUG	Grand Mesa, Uncompahgre, and Gunnison National Forests
HDPE	High-density polyethylene
HUC	Hierarchical hydrologic unit code
Interior	U.S. Department of the Interior
lbs	Pounds
mi	mile
MOA	Memorandum of Agreement
NAAQS	National Ambient Air Quality Standards
NCA	National Conservation Area
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMPM	New Mexico Principal Meridian
NOFO	Notice of Funding Opportunity
NPDES	National Pollutant Discharge Elimination System
NRCS	U.S. Department of Agriculture Natural Resources Conservation Service
NRHP	National Register of Historic Places
OHV	Off-highway vehicle

Abbreviation or Acronym	Definition
PBO	Programmatic Biological Opinion
PIP	Plastic irrigation pipe
PLS	Pounds of live seed
PM	Principal meridian
PRHRP	Pilot Rock Habitat Replacement Project
psi	Pounds per square inch
PUP	Pesticide Use Proposal
PVC	Polyvinylchloride
PWWHIP	Paonia Winter Wildlife Habitat Improvement Project
RCPP	Regional Conservation Partnership Program
Reclamation	U.S. Bureau of Reclamation (also USBR)
RMP	Resource Management Plan (see BLM 2020 reference)
ROW	Right-of-way
SHPO	State Historic Preservation Officer
SMP	Gunnison Basin Selenium Management Program
SMPW	Selenium Management Program Workgroup
STP	Sewage treatment plant
USACE	U.S. Army Corps of Engineers
USBR	U.S. Bureau of Reclamation
U.S.C.	United States Code
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USGS	U.S. Geological Survey
UV	Ultraviolet
VRM	Visual Resource Management
WNRCS	Wildlife and Natural Resource Concepts & Solutions, LLC

APPENDIX A – SEED LIST

The following certified weed-free seed mix is approved by BLM/USFS/Reclamation and required for revegetating natural areas planned for reseeding. The recommended seeding rate is 40 seeds per square foot, and the pounds of live seed (PLS) per acre are calculated on published data for seeds per pound of the recommended species.

Code	Common Name	Suggested Cultivar	Genus	Species	Mix Proportion	PLS/acre
PASM	Western wheatgrass	X-ARRIBA	*Pascopyrum*	*smithii*	25%	3.5
ELTR	Slender wheatgrass	White River	*Elymus*	*trachycaulus*	25%	3
POSE	Sandburg bluegrass	UP	*Poa*	*secunda*	40%	0.75
POFE	Muttongrass	UP/Ruin Canyon	*Poa*	*fendleriana*	10%	0.2
				TOTAL		**7.45**

APPENDIX B – ESA COMPLIANCE DOCUMENTATION

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Colorado Ecological Services Field Office, Western Team
445 W. Gunnison Ave Suite 240
Grand Junction, Colorado 81501

In Reply Refer to:
FWS/R6/CO/ES/Western Team
Ecosphere Project Number: 2022-0056005

Memorandum

To: Area Manager, Bureau of Reclamation Grand Junction Area Office, Grand Junction, Colorado

Acting

From: Western Team Supervisor, Colorado Field Office, U.S. Fish and Wildlife Service, Grand Junction, CO

JOHN CLAYTON Digitally signed by JOHN CLAYTON Date: 2023.02.08 10:35:07 -07'00'

Subject: Consultation under Section 7 of the Endangered Species Act for the Turner and Lone Cabin Ditch Combination Salinity Reduction Project (Agreement No. R20AC00018)

In accordance with section 7 of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 et seq.), and the Interagency Cooperation Regulations (50 CFR 402), the Fish and Wildlife Service (Service) transmits this correspondence to serve as concurrence for your determination that the proposed action may affect, but is not likely to adversely affect the western yellow-billed cuckoo (*Coccyzus americanus*) and its designated critical habitat, and the final biological opinion (BO) for the Turner and Lone Cabin Ditch Combination Salinity Reduction and Habitat Replacement project.

The proposed Turner & Lone Cabin Ditch Combination Salinity Reduction Project is located in Delta and Gunnison Counties, Colorado. The piping portion of the project is located approximately 2 miles southeast of the Town of Paonia. The project will replace approximately 27.1 miles of laterals with buried irrigation pipe, which will eliminate ditch seepage and reduce salinity in the Colorado River basin by an estimated 3,398 tons of salt per year. An additional beneficial effect of the proposed action is the expected reduction of selenium into the Gunnison River system. The ditch traverses private land and land administered by the U.S. Bureau of Land Management (BLM) and U.S. Forest Service. BLM has connected actions of acknowledging historical prescriptive rights-of-way and granting new rights-of-way on BLM managed lands. The U.S. Forest Service has connected actions of granting a temporary construction permit and special use authorizations on the Gunnison National Forest.

In addition, the proposed action includes a habitat replacement project on approximately 28.3 acres along the North Fork Gunnison River. The habitat replacement site is located on Town of

Paonia land approximately 1.6 miles southwest of the Town of Paonia at the Town's sewage treatment plant. This area will be improved by removing salt cedar and Russian olive, planting riparian trees and shrubs, and reestablishing a water source throughout the habitat project area.

A Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin was initiated on January 22, 1988. The Recovery Program was intended to be the reasonable and prudent alternative for individual projects to avoid the likelihood of jeopardy to the endangered fishes from impacts of depletions to the Upper Colorado River Basin. In order to further define and clarify the process in the Recovery Program, a section 7 agreement was implemented on October 15, 1993, by the Recovery Program participants. Incorporated into this agreement is a Recovery Implementation Program Recovery Action Plan (RIPRAP) which identifies actions currently believed to be required to recover the endangered fishes in the most expeditious manner.

On December 4, 2009, the Service issued a final Gunnison River Basin Programmatic Biological Opinion (PBO) (this document is available for viewing at the following internet address:). The Service has determined that projects that fit under the umbrella of the Gunnison River PBO would avoid the likelihood of jeopardy and/or adverse modification of critical habitat for depletion impacts. The Gunnison River PBO states that in order for actions to fall within the umbrella of the PBO and rely on the RIPRAP to offset its depletion, the following criteria must be met.

1. A Recovery Agreement must be offered and signed prior to conclusion of section 7 consultation.

2. A fee to fund recovery actions will be submitted as described in the proposed action for new depletion projects greater than 100 acre-feet/year (AF/yr). The 2023 fee is $23.87 per AF and is adjusted each year for inflation.

3. Reinitiation stipulations will be included in all individual consultations under the umbrella of this programmatic.

4. The Service and project proponents will request that discretionary Federal control be retained for all consultations under this programmatic.

The Recovery Agreement was signed by the Service and the Water User. Water depletions associated with this project include historical (3,039.3 AF/yr) and new (52.7 AF/yr), which do not make contributions to fund recovery actions. The Bureau or Reclamation has agreed to condition its approval documents to retain jurisdiction should section 7 consultation need to be reinitiated. Therefore, the Service concludes that the subject project meets the criteria to rely on the Gunnison PBO to offset depletion impacts and is not likely to jeopardize the continued existence of the species and is not likely to destroy or adversely modify designated critical habitat. The reinitiation criteria, outlined in the Gunnison PBO, apply to all projects under the umbrella of the PBO. Therefore, if the PBO is reinitiated, reinitiation of this biological opinion would follow as well.

The Service and the Recovery Program track all water depletions that are covered under the Gunnison PBO and other water depletion PBOs within the Upper Colorado River Basin on a quarterly basis. A summary of those depletions are available at: https://coloradoriverrecovery.org/uc/documents/section-7-consultations/consultation-list/. Also, in accordance with the Section 7, Sufficient Progress, and Historic Projects Agreement, the Service reviews cumulative accomplishments and shortcomings of the Recovery Program in the upper Colorado River basin. Per that Agreement, the Service uses the following criteria to evaluate whether the Recovery Program is making "sufficient progress" toward recovery of the four listed fish species:

- actions which result in a measurable population response, a measurable improvement in habitat for the fishes, legal protection of flows needed for recovery, or a reduction in the threat of immediate extinction;
- status of the fish populations;
- adequacy of flows;
- and magnitude of the impact of projects.

Through these bi-annual Sufficient Progress reviews the Service evaluates the best available and current information to determine if the Recovery Program continues to offset depletion effects identified in existing Section 7 consultations including the depletions covered by these PBOs. In the most recent assessment (dated March 25, 2022), the Service determined that sufficient progress has been made towards recovery. Sufficient Progress reports can be found at: https://coloradoriverrecovery.org/uc/documents/recovery-action-plan-riprap/sufficient-progress-memo/.

If you have any questions regarding this consultation or would like to discuss it in more detail, please contact Kurt Broderdorp of our Field Office Western Team at (970) 628-7186, Email: kurt_broderdorp@fws.gov.

Attachment(s): Signed Recovery Agreements

cc: Jenny Ward, Bureau of Reclamation, jward@usbr.gov

GUNNISON BASIN RECOVERY AGREEMENT

This RECOVERY AGREEMENT is entered into this 9 day of February, 2023, by and between the **United States Fish and Wildlife Service** (Service) and **The Turner Ditch Company** (Water User).

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

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

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

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

WHEREAS, Water User is the owner of the **Turner Ditch** system, which causes or will cause depletions to the Gunnison River subbasin from its diversion of water from the North Fork of the Gunnison River and tributaries with the implementation of a **Salinity Control Project** (Water Project); and

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

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

NOW THEREFORE, Water User and the Service agree as follows[1]:

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

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

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

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

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

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

[1]Individual Recovery Agreement may be changed to fit specific circumstances.

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

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

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

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

SJK Steven J. Kassler
~~Paul J. Maudlin,~~ President
The Turner Ditch Company

12/1/22
Date

JOHN CLAYTON
Digitally signed by JOHN CLAYTON
Date: 2023.02.09 07:54:00 -07'00'

Acting Western Slope Supervisor
U.S. Fish and Wildlife Service

Date

GUNNISON BASIN RECOVERY AGREEMENT

This RECOVERY AGREEMENT is entered into this 8 day of February, 2023, by and between the **United States Fish and Wildlife Service** (Service) and **The Lone Cabin Ditch and Reservoir Company** (Water User).

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

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

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

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

WHEREAS, Water User is the owner of **Lone Cabin Ditch and Reservoir** system, which causes or will cause depletions to the Gunnison River subbasin from its diversion of water from the North Fork of the Gunnison River and tributaries with the implementation of a **Salinity Control Project** (Water Project); and

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

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

NOW THEREFORE, Water User and the Service agree as follows[1]:

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

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

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

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

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

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

[1]Individual Recovery Agreement may be changed to fit specific circumstances.

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

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

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

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

Steven J. Kossler, President
The Lone Cabin Ditch and Reservoir Company

12/1/22
Date

JOHN CLAYTON
Digitally signed by JOHN CLAYTON
Date: 2023.02.08 11:43:55 -07'00'

Western Slope Supervisor
U.S. Fish and Wildlife Service

Date

APPENDIX C – CULTURAL RESOURCE COMPLIANCE DOCUMENTATION

MEMORANDUM OF AGREEMENT
AMONG
THE BUREAU OF RECLAMATION WESTERN COLORADO AREA OFFICE, THE BUREAU OF LAND MANAGEMENT UNCOMPAHGRE FIELD OFFICE, THE UNITED STATES FOREST SERVICE'S GRAND MESA, UNCOMPAHGRE, AND GUNNISON NATIONAL FORESTS, THE TURNER DITCH COMPANY, AND THE COLORADO STATE HISTORIC PRESERVATION OFFICER
REGARDING
THE TURNER AND LONE CABIN DITCH COMBINATION PIPING PROJECT (R20AC00018), COLORADO RIVER BASIN SALINITY CONTROL PROGRAM, LOCATED IN DELTA AND GUNNISON COUNTIES, COLORADO

WHEREAS, the Bureau of Reclamation (Reclamation) plans to fund the Turner Ditch Company's Turner and Lone Cabin Ditch Combination Piping Project (undertaking) pursuant to the Basinwide Program under the Colorado River Basin Salinity Control Act; and

WHEREAS, the undertaking consists of the decommissioning of 9.5 miles of open earthen ditches, piping 15.5 miles of open ditches, building a new diversion structure, pressurizing the combined system, creating direct access for the new Lone Cabin System to the Beaver Reservoir, and filtering vegetative matter from the irrigated water; and

WHEREAS, Reclamation has defined the undertaking's area of potential effect (APE) as a 1,128 acres, including a 200-foot-wide corridor centered on 39.1 miles of the Lone Cabin, Turner, Sweezy-Turner ditches and laterals, the proposed new route pipeline centerline, and access roads, as well as a 100-foot buffer around proposed staging yards and habitat replacement areas as illustrated in Appendix A, the APE includes private property (585 acres) and federal lands managed by the United States Forest Service's Grand Mesa, Uncompahgre, and Gunnison National Forests (GMUG) (277), Bureau of Land Management Uncompahgre Field Office (UFO) (266 acres); and

WHEREAS, Reclamation in conjunction with GMUG and UFO has determined that the undertaking will result in an adverse effect on the Lone Cabin Reservoir (5DT.1646) and Ditch (5DT.1999), and the Turner Ditch (5DT.2792), which are eligible for inclusion in the National Register of Historic Places under Criterion A, and has consulted with the Colorado State Historic Preservation Officer (SHPO) pursuant to 36 C.F.R. Part 800, of the regulations implementing Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108); and

WHEREAS, Reclamation has consulted with the Southern Ute Indian Tribe, the Ute Indian Tribe of the Uintah and Ouray Reservation, and the Ute Mountain Ute Tribe via letters sent July 13, 2022, and as of the signing of this MOA the tribes did not respond; and

WHEREAS, Reclamation has consulted with the project proponent, the Turner Ditch Company, and they have agreed to participate in the MOA as a Concurring Party; and

WHEREAS, the GMUG and UFO, as federal agencies and landowners for this undertaking, have elected to participate in the execution of this MOA as Signatories to fulfill their own responsibilities under Section 106 of the National Historic Preservation Act; and

WHEREAS, Reclamation has consulted with the Delta County Commissioners, the Delta County Historic Landmarks Board, and the Gunnison County Historic Preservation Commission regarding the effects of the undertaking on historic properties via letters sent on July 13, 2022, and as of the signing of this MOA did not respond; and

WHEREAS, in accordance with 36 C.F.R. § 800.6(a)(1), Reclamation notified the Advisory Council on Historic Preservation (ACHP) of its adverse effect determination with specified documentation on July 13, 2022, and the ACHP has chosen not to participate in the consultation pursuant to 36 CFR § 800.6(a)(1)(iii); and

NOW, THEREFORE, Reclamation, the GMUG, the UFO, and the SHPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

STIPULATIONS

Reclamation shall ensure that the following measures are carried out:

I. MITIGATION

A. On behalf of Reclamation the Turner Ditch Company will develop an interactive ArcGIS Storymap website (website) on the Lone Cabin Ditch and Turner Ditch irrigation systems.
   a. Website interpretation will target the general public and historic researchers.
   b. The website will include:
      i. a narrative history,
      ii. an interactive map,
      iii. current resource overview and feature photographs,
      iv. historic photographs (when available),
      v. archival records,
      vi. historic maps,
      vii. videos (when available),
      viii. and/or scaled drawings (if appropriate).
   c. The narrative history will cover the following information:
      i. The role of the Lone Cabin Ditch and Turner Ditch irrigation systems in the region's agricultural development.
      ii. How the irrigation systems have impacted the local economy.
      iii. Technological changes in the resources from construction to the proposed piping.

d. Interpretation will highlight adversely impacted resources the Lone Cabin Ditch Reservoir (5DT.1646) and Ditch Segments (5DT.1999.1, 5DT.1999.3, and 5DT.1999.6) and the Turner Ditch Mainline Segment (5DT.2792.1).

B. Prior to any modification of the Lone Cabin Ditch Reservoir (5DT.1646) and Ditch Segments (5DT.1999.1, 5DT.1999.3, and 5DT.1999.6) and the Turner Ditch Mainline Segment (5DT.2792.1), Reclamation shall ensure that necessary documentation for website development is collected.

C. All signatories will have 30 days to review the draft content and approve the final website. Drafts will be provided in either digital format (such as pdf documents) or as links to the draft website.

D. Website dissemination will include:

a. Hosting on the ArcGIS Storymap platform for at least five (5) years after the signatories receive the live website link.

b. All signatories will receive a link to the final/ live website within three (3) years of executing this MOA.

c. Website links will be placed on Reclamation's cultural resources webpage for a period of no less than five (5) years and the National Resources Conservation Service's Irrigation Ditches and Canals: Historical Water Management in Colorado Storymap.

d. Emails providing website links will be sent to the Delta County Commissioners, Delta County Historic Landmarks Board, and the Gunnison County Historic Preservation Commission.

e. The website will be saved as a pdf document and provided to the SHPO and any other parties to this agreement who request a copy.

f. The website pdf will be printed on archival paper and provided to the Delta Public Library, Gunnison County Public Library, Hotchkiss-Crawford Museum free of charge for public dissemination.

II. GENERAL REQUIREMENTS AND STANDARDS

A. Professional Qualifications. Pursuant to Section 112(a)(1)(A) of the NHPA (54 USC § 306131(a)(1)(A)) and 36 CFR § 800.2(a)(1), Reclamation shall ensure that all cultural resources work carried out pursuant to this MOA will be completed by or under the direct supervision of appropriate historic preservation professionals meeting the federal qualifications in the discipline appropriate to the properties being treated, as established by the *Secretary of the Interior's Professional Qualifications Standards* and published in 48 Federal Register (FR) 44738–44739 (1983) (see also 36 CFR Part 61, Appendix A (1998)).

B. Standards and Guidelines. Reclamation shall ensure that all cultural resources work carried out pursuant to this MOA will meet the *Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* (48 FR 44716–44742, September 23, 1983) and *Secretary of the Interior's Standards for the Treatment of Historic Properties* (36 CFR Part 68; 60 FR 35842–35844, July 12, 1995).

III. DURATION

This Agreement shall expire if the final/live website is not completed and disseminated within three (3) years from the date of its execution. Prior to such time, Reclamation may consult with the other signatories to reconsider the terms of the Agreement and amend it in accordance with Stipulation VII below.

IV. POST-REVIEW DISCOVERIES

If potential historic properties are discovered or unanticipated effects on historic properties are found, the Turner Ditch Company on behalf of Reclamation shall implement the discovery plan included as attachment B of this MOA.

V. MONITORING AND REPORTING

No later than December 31st of each year following the execution of this MOA until its stipulations are carried out, expires, or is terminated, the Turner Ditch Company on behalf of Reclamation shall provide all parties to this MOA a summary report detailing work undertaken pursuant to its terms. Such report shall include any scheduling changes proposed, any problems encountered, and any disputes and objections received in the Turner Ditch Company's efforts on behalf of Reclamation to carry out the terms of this MOA.

VI. DISPUTE RESOLUTION

Should any signatory or concurring party to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, Reclamation shall consult with such party to resolve the objection. If Reclamation determines that such objection cannot be resolved, Reclamation will:

A. Forward all documentation relevant to the dispute, including the Reclamation's proposed resolution, to the ACHP. The ACHP shall provide Reclamation with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, Reclamation shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories, and concurring parties, and provide them with a copy of this written response. Reclamation will then proceed according to its final decision.

B. If the ACHP does not provide its advice regarding the dispute within the thirty (30) day-time period, Reclamation may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, Reclamation shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the MOA and provide them and the ACHP with a copy of such written response.

C. Reclamation's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remains unchanged.

VII. AMENDMENTS

This MOA may be amended when such an amendment is agreed to in writing by all signatories. The amendment will be effective on the date a copy signed by all of the signatories is filed with the ACHP.

VIII. TERMINATION

If any signatory to this MOA determines that its terms will not or cannot be carried out, that party shall immediately consult with the other parties to attempt to develop an amendment per Stipulation VIII, above. If within thirty (30) days (or another time period agreed to by all signatories) an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories.

Once the MOA is terminated, and prior to work continuing on the undertaking, Reclamation must either (a) execute an MOA pursuant to 36 CFR § 800.6 or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR § 800.7. Reclamation shall notify the signatories as to the course of action it will pursue.

This MOA may be terminated if Reclamation and all other signatories and consulting parties agree in writing that the terms of this MOA have been fulfilled. In this event, the agreement shall be terminated on the date the last signatory or consulting party provides written agreement to that effect. Also, in this event, the terms for monitoring and reporting included in Stipulation V shall no longer be required.

Execution of this MOA by Reclamation, the SHPO, the BLM, the GMUG, and the Turner Ditch Company and implementation of its terms evidence that Reclamation has taken into account the effects of this undertaking on historic properties and afforded the ACHP an opportunity to comment.

LIST OF ATTACHMENTS

Attachment A: Area of Potential Effects and Site Locations
Attachment B: Unanticipated Discovery Plan

SIGNATORIES:

Colorado State Historic Preservation Office
Bureau of Reclamation, Western Colorado Area Office
United States Forest Service's Grand Mesa, Uncompahgre, and Gunnison National Forests
Bureau of Land Management Uncompahgre Field Office

INVITED SIGNATORY: Turner Ditch Company

SIGNATORY PAGE

MEMORANDUM OF AGREEMENT
AMONG
THE BUREAU OF RECLAMATION WESTERN COLORADO AREA OFFICE, THE BUREAU OF LAND MANAGEMENT UNCOMPAHGRE FIELD OFFICE, THE UNITED STATES FOREST SERVICE'S GRAND MESA, UNCOMPAHGRE, AND GUNNISON NATIONAL FORESTS, THE TURNER DITCH COMPANY, AND THE COLORADO STATE HISTORIC PRESERVATION OFFICER
REGARDING
THE TURNER AND LONE CABIN DITCH COMBINATION PIPING PROJECT (R20AC00018), COLORADO RIVER BASIN SALINITY CONTROL PROGRAM, LOCATED IN DELTA AND GUNNISON COUNTIES, COLORADO

Bureau of Reclamation, Western Colorado Area Office

By: _____ Ed Warner 2023.05.08 10:21:02 -06'00' Date: _____

Ed Warner, Area Manager

SIGNATORY PAGE

MEMORANDUM OF AGREEMENT
AMONG
THE BUREAU OF RECLAMATION WESTERN COLORADO AREA OFFICE, THE BUREAU OF LAND MANAGEMENT UNCOMPAHGRE FIELD OFFICE, THE UNITED STATES FOREST SERVICE'S GRAND MESA, UNCOMPAHGRE, AND GUNNISON NATIONAL FORESTS, THE TURNER DITCH COMPANY, AND THE COLORADO STATE HISTORIC PRESERVATION OFFICER
REGARDING
THE TURNER AND LONE CABIN DITCH COMBINATION PIPING PROJECT (R20AC00018), COLORADO RIVER BASIN SALINITY CONTROL PROGRAM, LOCATED IN DELTA AND GUNNISON COUNTIES, COLORADO

Colorado State Historic Preservation Officer

Dr. Holly Kathryn Norton

Digitally signed by Dr. Holly Kathryn Norton
Date: 2023.05.03 19:07:22 -06'00'

By: _____ Date: _____

Dawn DiPrince, State Historic Preservation Officer

SIGNATORY PAGE

MEMORANDUM OF AGREEMENT
AMONG
THE BUREAU OF RECLAMATION WESTERN COLORADO AREA OFFICE, THE BUREAU OF LAND MANAGEMENT UNCOMPAHGRE FIELD OFFICE, THE UNITED STATES FOREST SERVICE'S GRAND MESA, UNCOMPAHGRE, AND GUNNISON NATIONAL FORESTS, THE TURNER DITCH COMPANY, AND THE COLORADO STATE HISTORIC PRESERVATION OFFICER
REGARDING
THE TURNER AND LONE CABIN DITCH COMBINATION PIPING PROJECT (R20AC00018), COLORADO RIVER BASIN SALINITY CONTROL PROGRAM, LOCATED IN DELTA AND GUNNISON COUNTIES, COLORADO

Grand Mesa, Uncompahgre, and Gunnison National Forests

By: LEVI BROYLES Digitally signed by LEVI BROYLES Date: 2023.04.27 10:55:36 -06'00' Date: _____

Levi Broyles, Paonia District Ranger

SIGNATORY PAGE

MEMORANDUM OF AGREEMENT
AMONG
THE BUREAU OF RECLAMATION WESTERN COLORADO AREA OFFICE, THE BUREAU OF LAND MANAGEMENT UNCOMPAHGRE FIELD OFFICE, THE UNITED STATES FOREST SERVICE'S GRAND MESA, UNCOMPAHGRE, AND GUNNISON NATIONAL FORESTS, THE TURNER DITCH COMPANY, AND THE COLORADO STATE HISTORIC PRESERVATION OFFICER
REGARDING
THE TURNER AND LONE CABIN DITCH COMBINATION PIPING PROJECT (R20AC00018), COLORADO RIVER BASIN SALINITY CONTROL PROGRAM, LOCATED IN DELTA AND GUNNISON COUNTIES, COLORADO

Bureau of Land Management Uncompahgre Field Office

By: SUZANNE COPPING Digitally signed by SUZANNE COPPING Date: 2023.03.27 09:28:28 -06'00' Date: _____

Suzanne Copping, Field Manager

INVITED SIGNATORIES PAGE

MEMORANDUM OF AGREEMENT
AMONG
THE BUREAU OF RECLAMATION WESTERN COLORADO AREA OFFICE, THE BUREAU OF LAND MANAGEMENT UNCOMPAHGRE FIELD OFFICE, THE UNITED STATES FOREST SERVICE'S GRAND MESA, UNCOMPAHGRE, AND GUNNISON NATIONAL FORESTS, THE TURNER DITCH COMPANY, AND THE COLORADO STATE HISTORIC PRESERVATION OFFICER
REGARDING
THE TURNER AND LONE CABIN DITCH COMBINATION PIPING PROJECT (R20AC00018), COLORADO RIVER BASIN SALINITY CONTROL PROGRAM, LOCATED IN DELTA AND GUNNISON COUNTIES, COLORADO

Turner Ditch Company

By: _____ Date: 4-22-2023
Paul Maudlin

ATTACHMENT A – AREA OF POTENTIAL EFFECTS

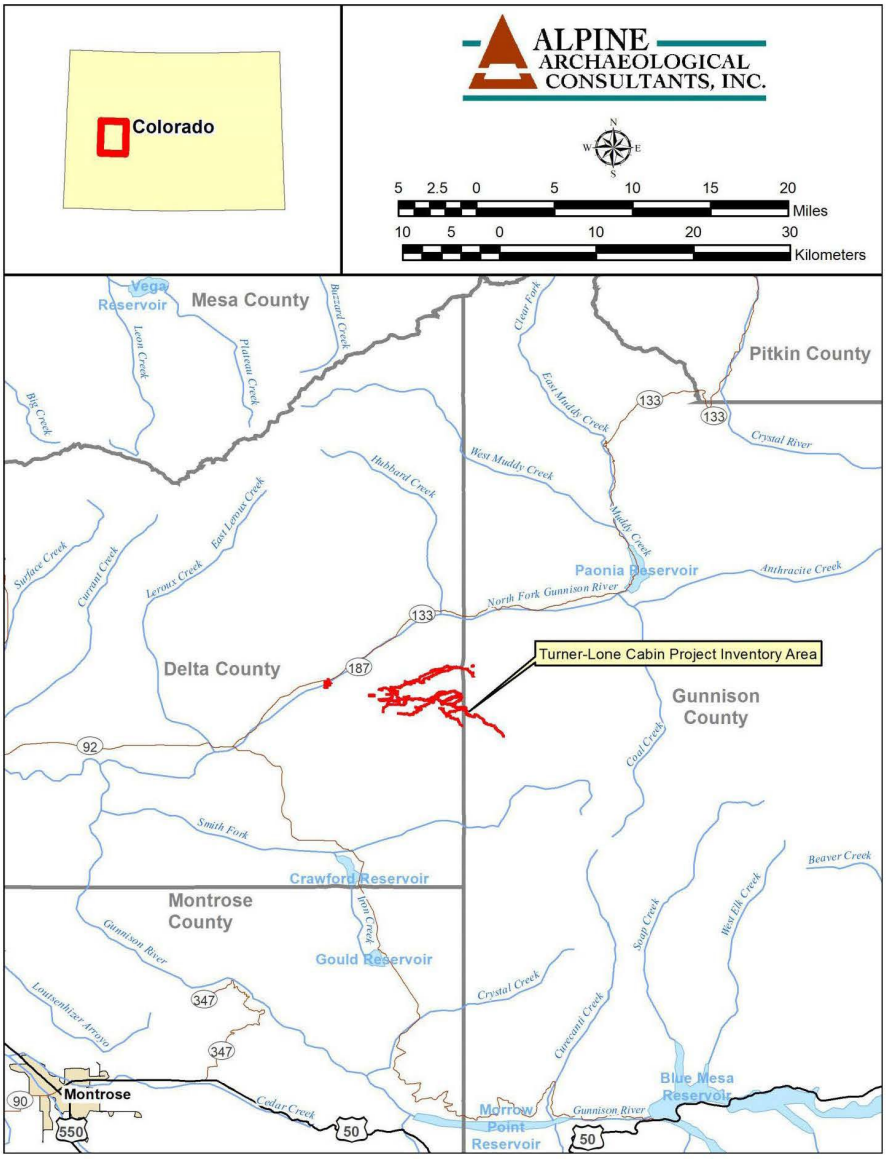


Figure 1: Project Location Map

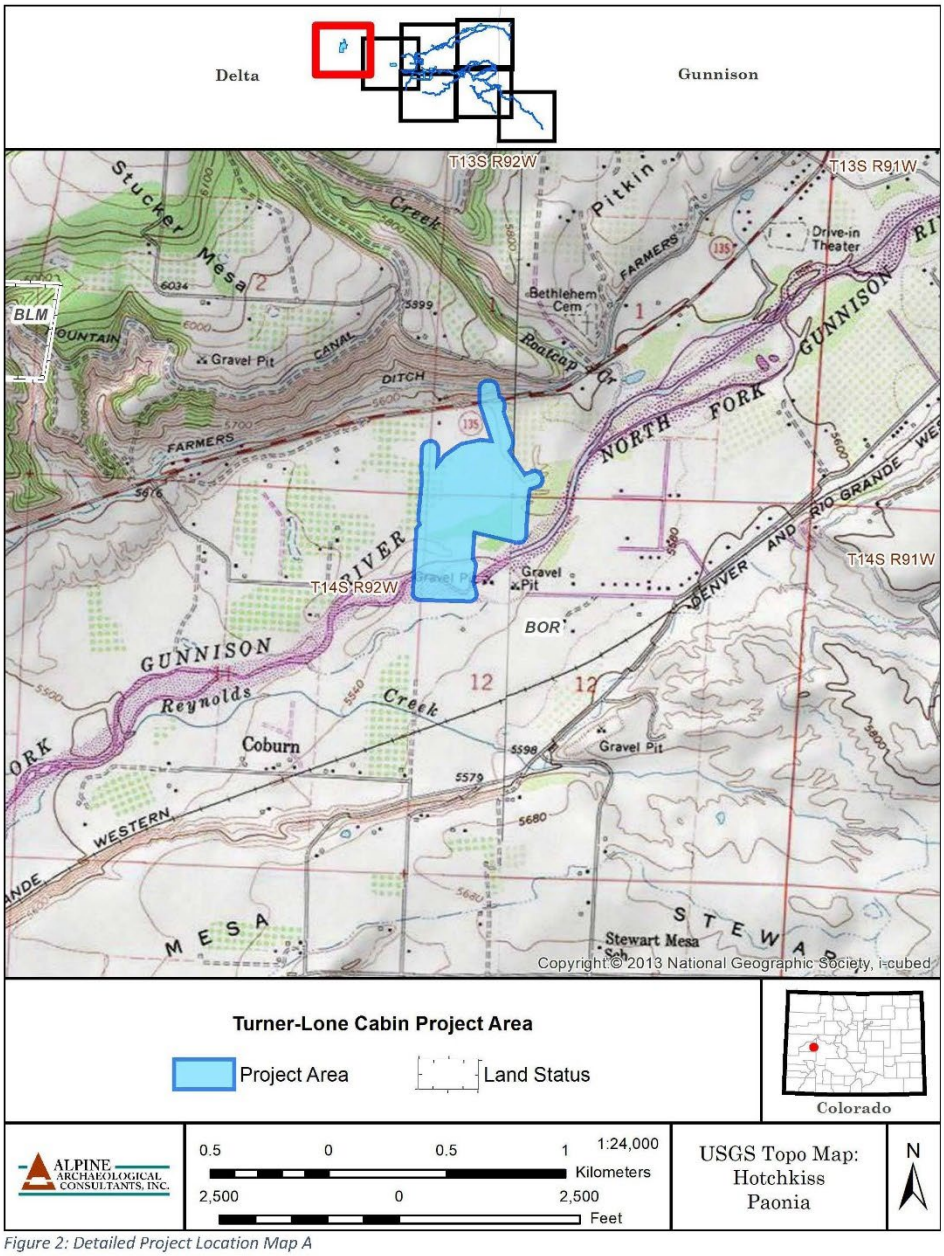


Figure 2: Detailed Project Location Map A

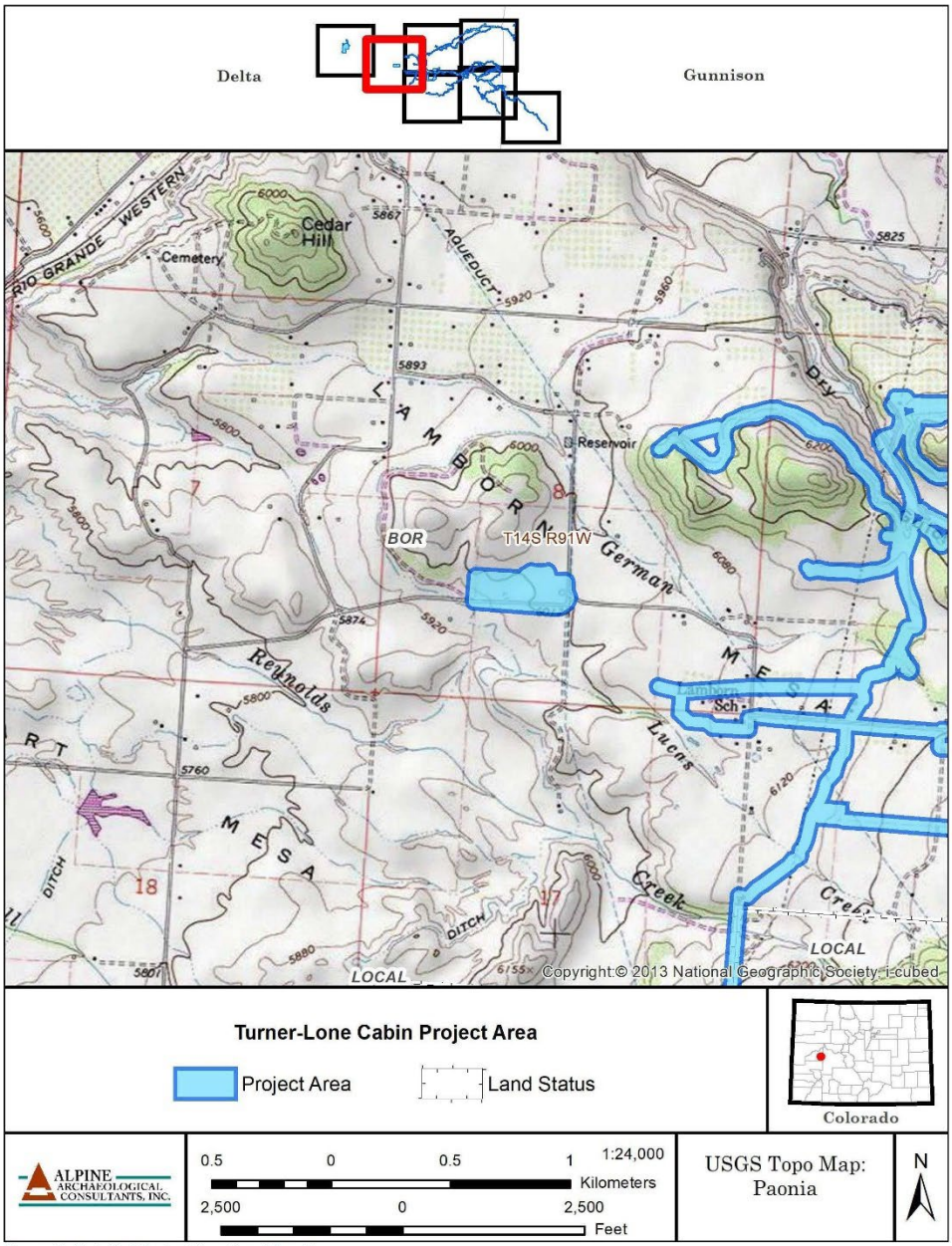


Figure 3: Detailed Project Location Map B

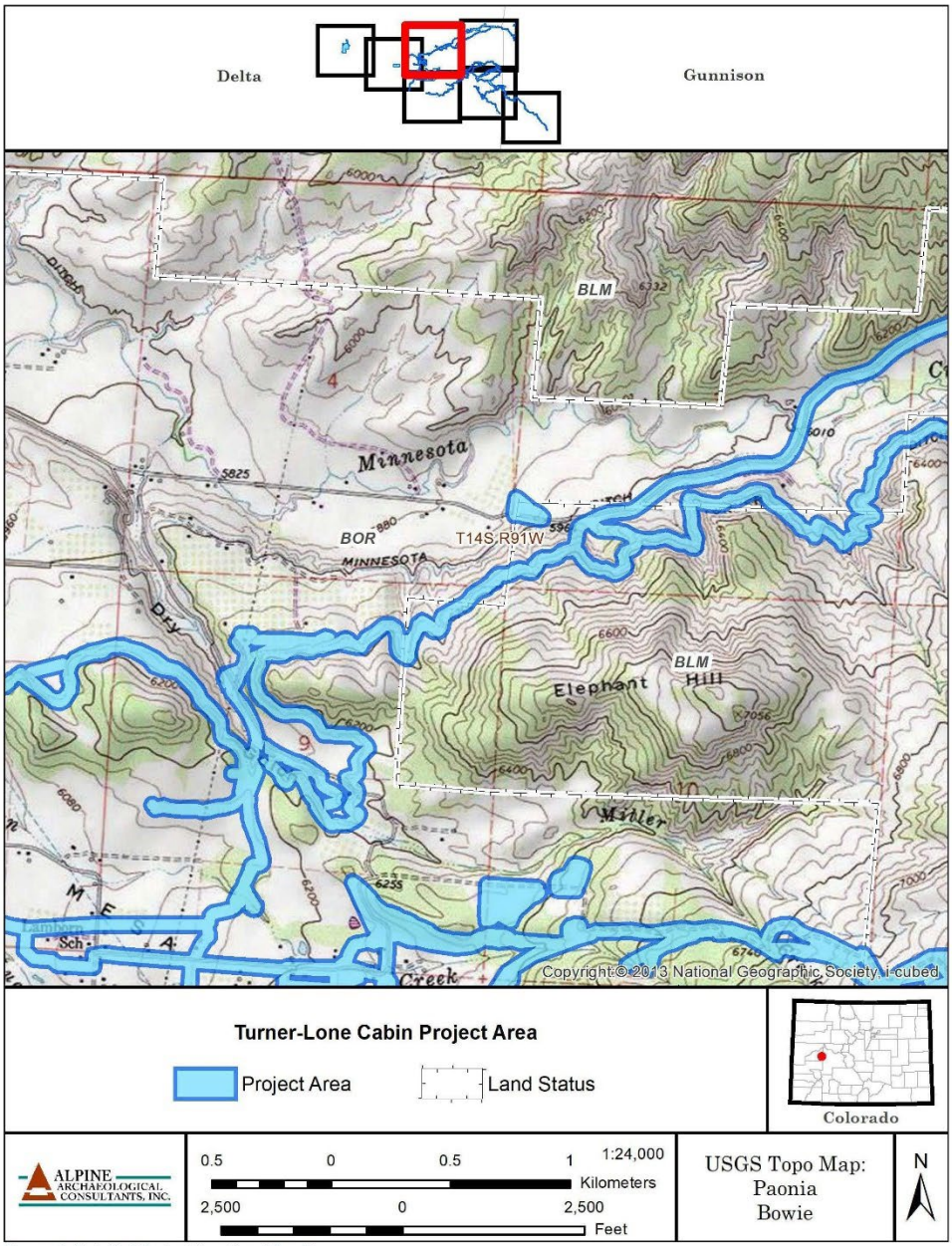


Figure 4: Detailed Project Location Map C

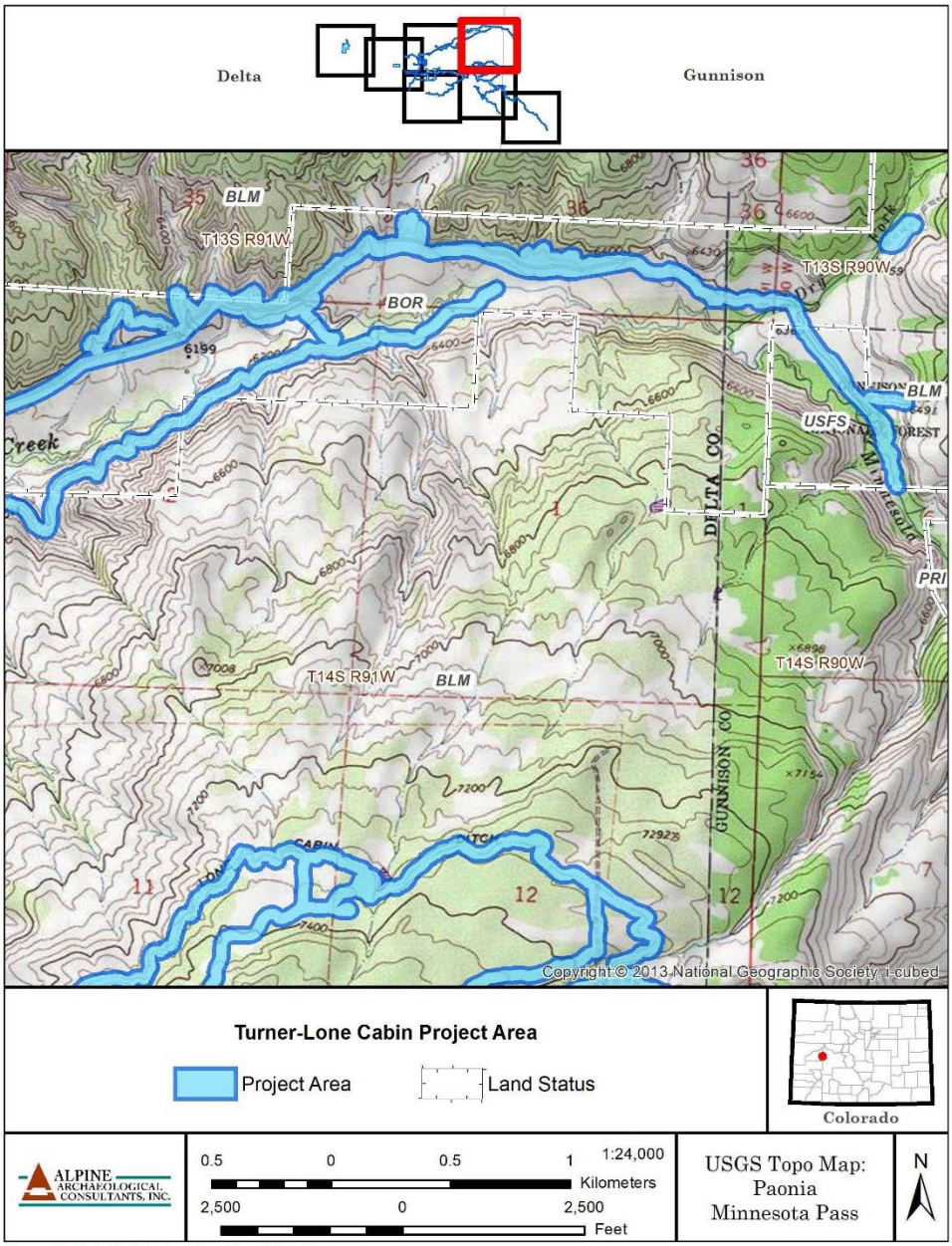


Figure 5: Detailed Project Location Map D

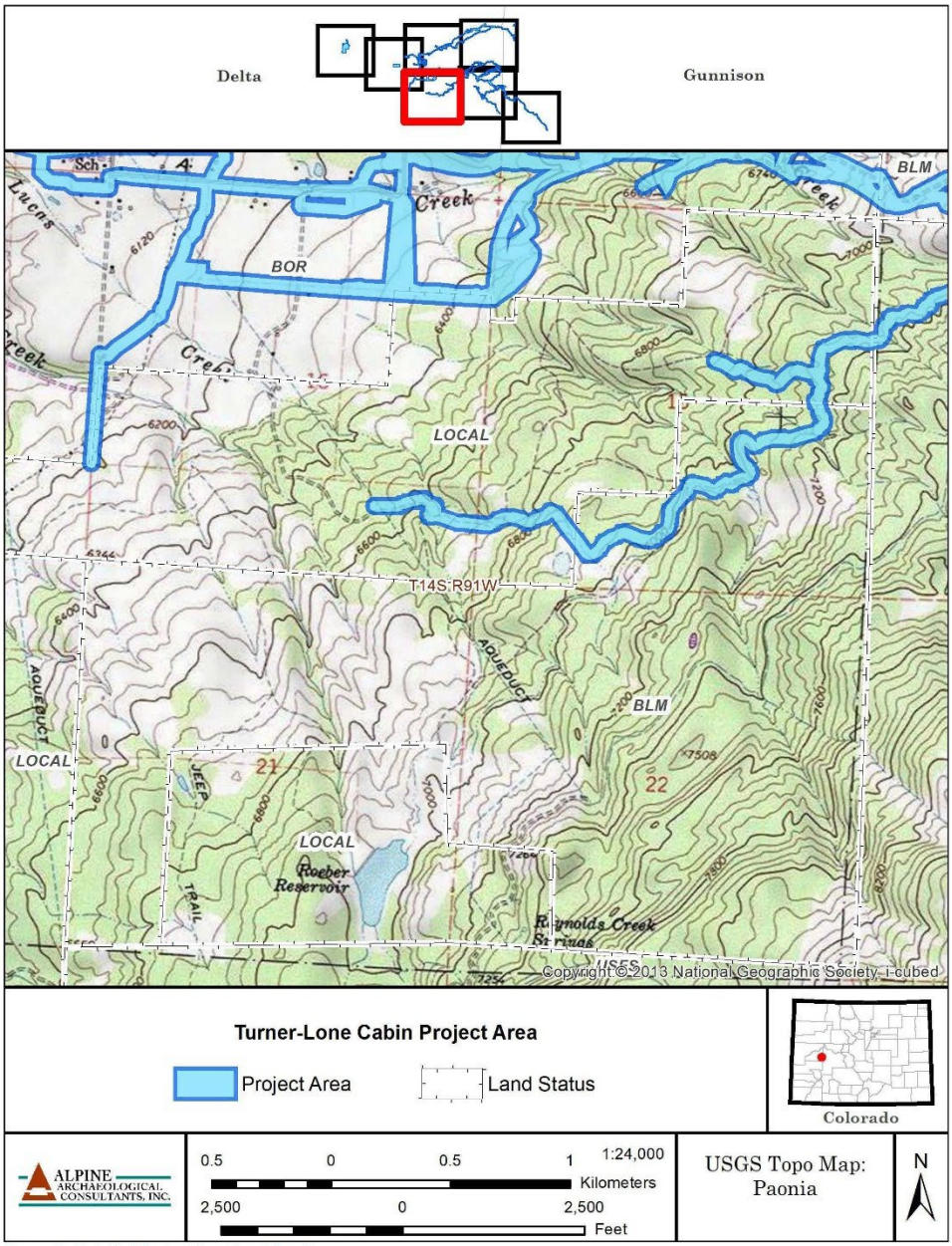


Figure 6: Detailed Project Location Map E

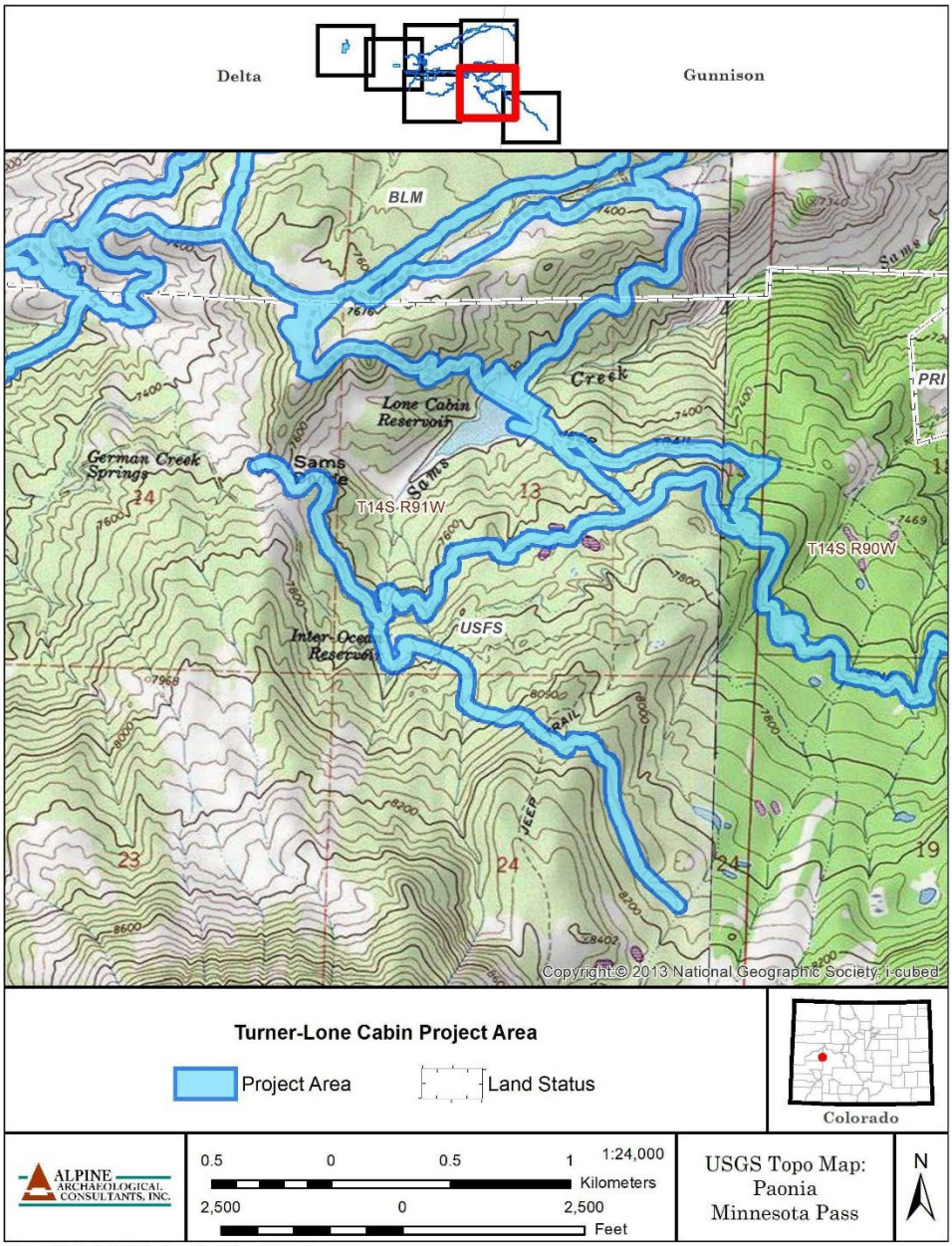


Figure 7: Detailed Project Location Map F

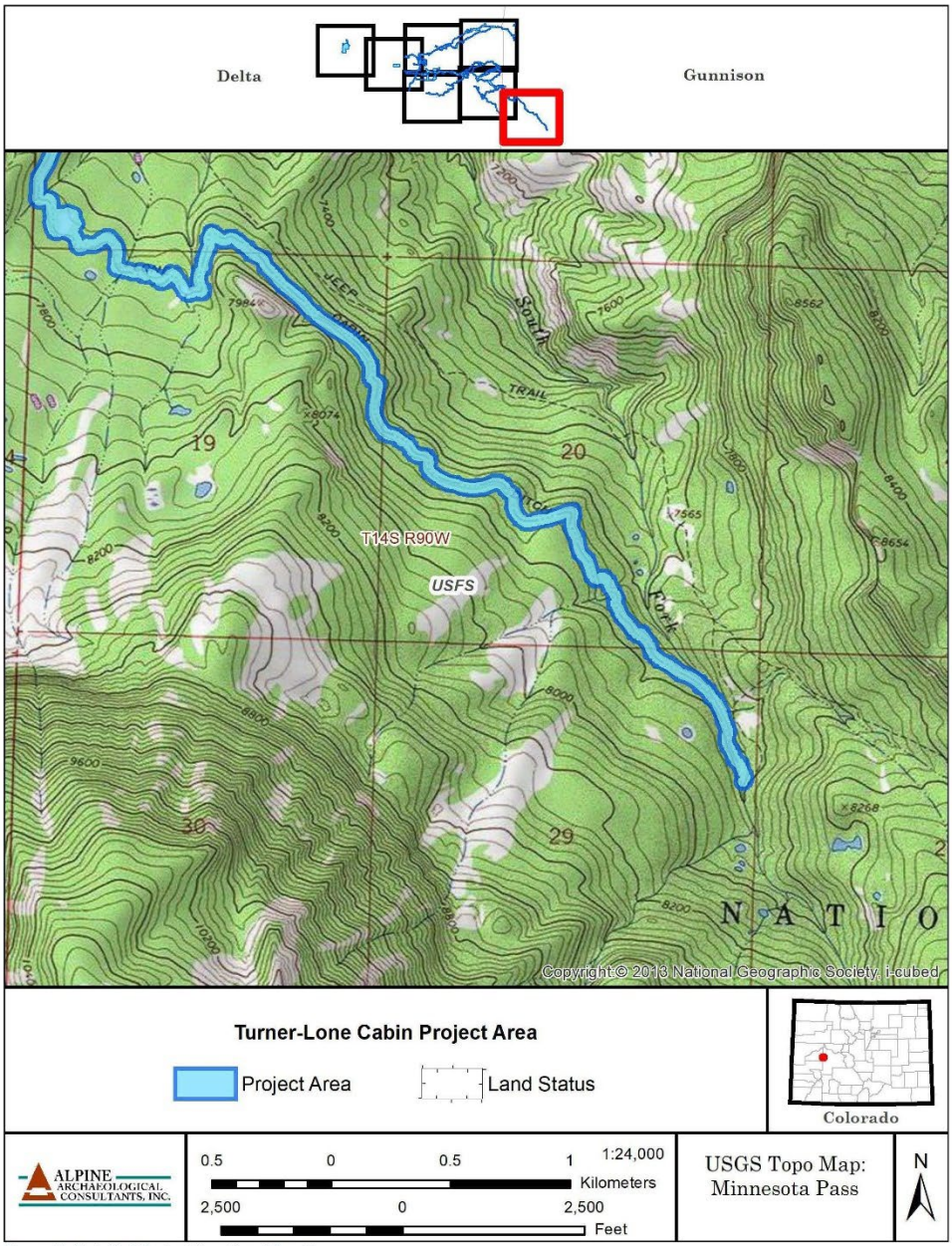


Figure 8: Detailed Project Location Map G

ATTACHMENT B – UNANTICIPATED DISCOVERY PLAN

PLAN AND PROCEDURES FOR THE UNANTICIPATED DISCOVERY OF CULTURAL RESOURCES

THE TURNER DITCH COMPANY
TURNER AND LONE CABIN DITCH COMBINATION PIPING PROJECT
COLORADO RIVER BASIN SALINITY CONTROL PROGRAM,
DELTA AND GUNNISON COUNTIES, COLORADO

1. INTRODUCTION

The Turner Ditch Company plans to decommission 9.5 miles of open earthen ditches, pipe 15.5 miles of open ditches, build a new diversion structure, pressurize the combined system, create direct access for the new Lone Cabin System to the Beaver Reservoir, and filter vegetative matter from the irrigated water. The purpose of this project is to reduce the salt load in the Colorado River Basin. The following Unanticipated Discovery Plan outlines procedures to follow, in accordance with state and federal laws, if archaeological materials are discovered.

2. CONTACT LIST

Project Manager
The Turner Ditch Company
Paul Maudlin
970-333-2190
excelsior@paonia.com

Cultural Resource Manager
(CR Manager)
Bureau of Reclamation WCAO
Katie Arntzen
(970) 248-0631
karntzen@usbr.gov

Deputy State Historic Preservation
Officer and State Archaeologist
Dr. Holly Norton
(303) 866-2736
holly.norton@state.co.us

BLM UFO Archaeologist
Collin Price
970-240-5303
cprice@blm.gov

GMUG Archaeologist
Leticia Neal
970-263-5815
leticia.neal@usda.gov

Delta County Coroner
(970) 874-5918

Delta County Sheriff
(970) 874-2000

Gunnison County Coroner
(970) 641-9213

Gunnison County Sheriff
(970) 641-1113

3. RECOGNIZING CULTURAL RESOURCES

A cultural resource is any object or feature over 50 years old that was created or used by humans. Examples include, but are not limited to:

- Areas of charcoal, dark stained soil, and/or burned rocks
- Stone tools
- Ceramics
- Bottles, cans, or other manufactured products
- Mining structures, agricultural equipment, railroad tracks, and/or road alignments

When in doubt, assume the material is a cultural resource.

4. ON-SITE RESPONSIBILITIES

A. **STOP WORK**. If any employee, contractor or subcontractor believes that he or she has uncovered a cultural resource at any point in the project, all work adjacent to the discovery must immediately stop and not resume until authorized by the CR Manager. The potential cultural resource should be secured at all times.

B. **NOTIFY THE BUREAU OF RECLAMATION**. Contact the Reclamation CR Manager at the Bureau of Reclamation immediately upon becoming aware of the discovery. The CR Manager will make all other calls and notifications.

C. **INADVERTENT DISCOVERY OF HUMAN REMAINS.** See Section 6.

5. FURTHER CONSULTATION

A. CR Manager's Responsibilities

- Direct Construction Elsewhere On-site: The CR Manager may direct construction away from cultural resources to work in other areas.
- Identify Find: The CR Manager will ensure that a qualified professional archaeologist examines the find to determine if it is archaeological.
    - If it is not archaeological, work may proceed with no further delay.
    - If archaeological, the CR Manager will continue with notification.
    - If the discovery may represent human skeletal remains or associated funerary objects, the CR Manager will immediately notify the county coroner and the sheriff or police chief. If the county coroner and local law enforcement determine that the skeletal remains are human remains, the

procedure described in Section 6 will be followed.

- Notify SHPO: The CR Manager will notify the Colorado State Historic Preservation Office (SHPO) within 48 hours of the discovery.

- Notify Federal Archaeologist: If the discovery is determined to be located on Federally managed land, the CR Manager will contact the archaeologist with jurisdiction within 48 hours of the discovery.

6. SPECIAL PROCEDURES FOR THE DISCOVERY OF HUMAN REMAINS
Any human skeletal remains, regardless of antiquity or ethnic origin, will at all times be treated with dignity and respect.

A. Stop work immediately if suspected human skeletal remains or associated funerary objects are discovered.
B. Secure the site. If the remains are at risk of disturbance, cover them to minimize exposure with a tarp or similar removable material.
C. Do not take, or allow anyone to take, any photographs of the suspected human remain.
D. Do not call 911 or speak with the media.
E. The CR Manager will verify that they are human remains within 48 hours of the discovery.
F. The CR Manager will notify the appropriate County Coroner, Sheriff, or police officer based on the location of the discovery. Local law enforcement will determine if the remains have any forensic value.
G. If the remains are not forensic, a qualified professional will determine whether the remains are Native American. The State Archaeologists is responsible for this determination on non-Federal lands according to CRS-24-80-1302.
H. The following steps will be determined based on where the remains were discovered and if they are determined to be Native American as follows:

		Jurisdiction of Discovery	
		Federal Lands	**Non-Federal Lands**
Remains	**Native American**	The Federal Agency will follow the regulations outlined in CFR Part 10.4. They will develop and implement a NAGPRA Plan of Action in consultation with the appropriate Indian tribes.	The coroner and/or the CR Manager shall notify the State Archaeologist. A plan of action shall be developed by the State Archaeologist and in consultation with the appropriate Indian tribes, the Colorado Commission of Indian Affairs, and the landowner following the Process for Consultation, Transfer, and Reburial of Culturally Unidentifiable Native American Human Remains and Associated Funerary Objects Originating from Inadvertent Discoveries on Colorado State and Private Lands in accordance with CRS-24-80-1302.
	Non- Native American	The appropriate authority shall be consulted to determine the final disposition of the remains.	The State Archaeologist will determine the final disposition of the remains according to CRS-24-80-1302.

7. DOCUMENTATION OF ARCHAEOLOGICAL MATERIALS

Archaeological deposits discovered during construction will be assumed eligible for inclusion in the National Register of Historic Places under Criterion D until a formal determination of eligibility is made.

The CR Manager will ensure the proper documentation and assessment of any discovered cultural resources in consultation with all signatories, and affiliated tribes. All cultural material discovered during project construction will be recorded by a professional archaeologist in accordance with all state and federal laws discussed in Stipulation II.

8. PROCEEDING WITH CONSTRUCTION

Project construction outside the discovery location may continue while documentation and assessment of the cultural resources proceed. A professional archaeologist must determine the boundaries of the discovery location. In consultation with all signatories and affiliated tribes, the CR Manager will determine the appropriate level of documentation actions to resolve adverse effects. The CR Manager will take into account responses received regarding the resolution of adverse effects and implement the actions accordingly.

Construction may continue at the discovery location only after the process outlined in this plan is followed and all signatories determine that compliance with state and federal laws is complete.

APPENDIX D – DISTRIBUTION LIST

All landowners adjacent to the Project
Black Hills Natural Energy
Citizens for a Healthy Community
Colorado Department of Transportation
Colorado Office of Archaeology and Historic Preservation
Colorado Parks and Wildlife
Colorado River Water Conservation District
Colorado Water Conservation Board
Colorado West Land Trust
Delta Montrose Electric Association
Delta County Road & Bridge Department District #3
Delta County Planning Department
Delta County Independent
Grazing Permit Holder, BLM Jumbo Mountain Allotment
Grazing Permit Holder, BLM Oak Ridge Common Allotment
Grazing Permit Holder, BLM Reynolds-McDonald Allotment
Grazing Permit Holder, USFS West Elk Allotment
Gunnison County Community & Economic Development Department
Gunnison County Public Works Department
North Fork Water Conservancy District
TDS Telecom
Town of Paonia
Trout Unlimited
U.S. Army Corps of Engineers
U.S. Department of the Interior Bureau of Land Management, Uncompahgre Field Office
U.S. Department of Agriculture Forest Service, Paonia Ranger District
U.S. Department of Agriculture Natural Resources Conservation Service
U.S. Fish and Wildlife Service
Western Slope Conservation Center

APPENDIX E – BLM ROW PERMIT STIPULATIONS

A. Construction Plans

A1 The holder shall construct, operate, and maintain the facilities, improvements, and structures within this right-of-way in strict conformity with the Environmental Assessment (EA) and Finding of No Significant Impact – Turner and Lone Cabin Ditch Combination Salinity Reduction Project. Any relocation, additional construction, or use that is not in accord with the EA shall not be initiated without the prior written approval of the authorized officer. If there are any conflicts between the EA and the stipulations, the EA would prevail. A copy of the complete right-of-way grant, including all stipulations and approved plan(s) of development, shall be made available on the right-of-way area during construction, operation, and termination. Noncompliance with the above will be grounds for an immediate temporary suspension of activities if it constitutes a threat to public health and safety or the environment.

A3 The holder shall contact the authorized officer at least 14 days prior to the anticipated start of construction and/or any surface disturbing activities. The authorized officer may require and schedule a preconstruction conference with the holder prior to the holder's commencing construction and/or surface disturbing activities on the right-of-way. The holder and/or his representative shall attend this conference. The holder's contractor, or agents involved with construction and/or any surface disturbing activities associated with the right-of-way, shall also attend this conference to review the stipulations of the grant including the plans(s) of development.

A4 The holder shall designate a representative(s) who shall have the authority to act upon and to implement instructions from the authorized officer. The holder's representative shall be available for communication with the authorized officer within a reasonable time when construction or other surface disturbing activities are underway.

A5 The authorized officer may suspend or terminate in whole, or in part, any notice to proceed which has been issued when, in his judgment, unforeseen conditions arise which result in the approved terms and conditions being inadequate to protect the public health and safety or to protect the environment.

A16 No signs or advertising devices shall be placed on the premises or on adjacent public lands, except those posted by or at the direction of the authorized officer.

B. Cultural/Pesticides/Weeds/Survey Monuments

B1 Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

B2 Use of pesticides shall comply with the applicable Federal and state laws. Pesticides shall be used only in accordance with their registered uses and within limitations imposed by the Secretary of the Interior. Prior to the use of pesticides, the holder shall obtain from the authorized officer written approval of a plan showing the type and quantity of material to be used, pest(s) to be controlled, method of application, location of storage and disposal of containers, and any other information deemed necessary by the authorized officer. Emergency use of pesticides shall be approved in writing by the authorized officer prior to such use.

a. As of the date of this grant, the following is deemed necessary by the authorized officer if using herbicides:

i. If herbicides are to be used, a Pesticide Use Proposal (PUP) will be applied for from the BLM 30 days prior to treating any noxious weeds (they are good for 3 years).

ii. If herbicides were approved and used, a Pesticide Application Record (PAR) will be turned into the BLM 24 hours post-application.

B3 The holder shall be responsible for weed control on disturbed areas within the limits of the right-of-way. The holder is responsible for consultation with the authorized officer and/or local authorities for acceptable weed control methods (within limits imposed in the grant stipulations).

a. As of the date of this grant, the authorized officer's acceptable weed control methods include:

i. All vehicles and heavy equipment will be free of dirt and debris before engaging in maintenance or new construction on BLM lands.

ii. A noxious/invasive species inventory will be completed of the area prior to new construction or maintenance or significant disturbance.

iii. Noxious weeds will be treated annually for a minimum of three years following construction and then for the life of the right-of-way as necessary.

B4 The holder shall protect all survey monuments found within the right-of-way. Survey monuments include, but are not limited to, General Land Office and Bureau of Land Management Cadastral Survey Corners, reference corners, witness points, U.S. Coastal and Geodetic benchmarks and triangulation stations, military control monuments, and recognizable civil (both public and private) survey monuments. In the event of obliteration or disturbance of any of the above, the holder shall immediately report the incident, in writing, to the authorized officer and the respective installing authority if known. Where General Land Office or Bureau of Land Management right-of-way monuments or references are obliterated during operations, the holder shall secure the services of a registered land surveyor or a Bureau cadastral surveyor to restore the disturbed monuments and references using surveying procedures found in the Manual of Surveying Instructions for the Survey of the Public Lands in the United States, latest edition. The holder shall record such survey in the appropriate county and send a copy to the authorized officer. If the Bureau cadastral surveyors or other Federal surveyors are used to restore the disturbed survey monument, the holder shall be responsible for the survey cost.

C. Civil Rights/Corp of Engineers 404 Permits

C1 The holder of this right-of-way grant or the holder's successor in interest shall comply with Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d et seq.) and the regulations of the Secretary of Interior issued pursuant thereto.

C2 The holder shall comply with the construction practices and mitigating measures established by 33 CFR 323.4, which sets forth the parameters of the "nationwide permit" required by Section 404 of the Clean Water Act. If the proposed action exceeds the parameters of the nationwide permit, the holder shall obtain an individual permit from the appropriate office of the Army Corps of Engineers and provide the authorized officer with a copy of same. Failure to comply with this requirement shall be cause for suspension or termination of this right-of-way grant.

F. Construction

F1 No construction or routine maintenance activities shall be performed during periods when the soil is too wet to adequately support construction equipment. If such equipment creates ruts in excess of 3 inches deep, the soil shall be deemed too wet to adequately support construction equipment.

F3 The holder shall conduct all activities associated with the construction, operation, and termination of the right-of-way within the authorized limits of the right-of-way.

F4 Construction holes left open overnight shall be covered. Covers shall be secured in place and shall be strong enough to prevent livestock or wildlife from falling through and into a hole.

F5 All design, material, and construction, operation, maintenance, and termination practices shall be in accordance with safe and proven engineering practices.

G. Cattleguards/Fences

G4 When construction activity in connection with the right-of-way breaks or destroys a natural barrier used for livestock control, the gap, thus opened, shall be fenced to prevent the drift of livestock. The subject natural barrier shall be identified by the authorized officer and fenced by the holder as per instruction of the authorized officer.

H. Drainage Structures

H6 The holder shall construct low-water crossings in a manner that will prevent any blockage or restriction of the existing channel. Material removed shall be stockpiled for use in rehabilitation of the crossings.

H7 The holder shall design and construct adequate water-control structures in each drainage crossing to prevent excessive erosion along the pipeline and protect the pipeline from the natural erosion process within the drainage.

I. Construction Access

I1 Specific sites as identified by the authorized officer (e.g., archaeological sites, areas with threatened and endangered species, or fragile watersheds) where construction equipment and vehicles shall not be allowed, shall be clearly marked onsite by the holder before any construction or surface disturbing activities begin. The holder shall be responsible for assuring that construction personnel are well trained to recognize these markers and understand the equipment movement restrictions involved.

I2 The holder shall provide for the safety of the public entering the right-of-way. This includes, but is not limited to, barricades for open trenches, flagmen/women with communication systems for single-lane roads without intervisible turnouts and attended gates for blasting operations.

I3 The holder shall permit free and unrestricted public access to and upon the right-of-way for all lawful purposes except for those specific areas designated as restricted by the authorized officer to protect the public, wildlife, livestock, or facilities constructed within the right-of-way.

I4 Construction-related traffic shall be restricted to routes approved by the authorized officer. New access roads or cross-country vehicle travel will not be permitted unless prior written approval is given by the authorized officer. Authorized roads used by the holder shall be rehabilitated or maintained when construction activities are complete as approved by the authorized officer.

I7 If "cross country" access is necessary, clearing vegetation or grading a roadbed will be avoided whenever practicable. All construction and vehicular traffic shall be confined to the right-of- way or designated access routes, roads, or trails unless otherwise authorized in writing by the authorized officer. All temporary roads used for construction shall be rehabilitated after construction is completed. Only one road or access route will be permitted to each site requiring access.

N. Fire

N3 During conditions of extreme fire danger, operations shall be limited or suspended in specific areas, or additional measures may be required by the authorized officer.

Q. Right-of-Way Maintenance

Q2 Holder shall maintain the right-of-way in a safe, usable condition, as directed by the authorized officer. (A regular maintenance program shall include, but is not limited to, blading, ditching, culvert installation, and surfacing).

Q3 Except rights-of-way expressly authorizing a road after construction of the facility is completed, the holder shall not use the right-of-way as a road for purposes other than routine maintenance as determined necessary by the authorized officer in consultation with the holder.

R. Hazardous Waste/Liability/Waste Disposal

R1 Construction sites shall be maintained in a sanitary condition at all times; waste materials at those sites shall be disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.

R2 A litter policing program shall be implemented by the holder, and approved of in writing by the authorized officer, which covers all roads and sites associated with the right-of-way.

R3 The holder(s) shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder(s) shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, et seq.) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act of 1980, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

R4 The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C 9601, et.seq. or the Resource Conservation and Recovery Act of 1976, 42
U.S.C. 6901, et. seq.) on the right-of-way (unless the release or threatened release is wholly unrelated to the right-of-way holder’s activity on the right-of-way). This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

X. Air Quality

X2 The holder shall meet Federal, State, and local emission standards for air quality.

Fire Prevention and Control Stipulations
1.The Holder shall indemnify the United States for any and all injury, loss or damage to life or property, including fire suppression costs, the United States may suffer as a result of losses, claims, demands or judgments caused by Holder’s use or occupancy of public lands under this grant or permit.

2.The Authorized Officer may suspend or terminate in whole, or in part, any notice to proceed which has been issued when, in his or her judgment, conditions arise which result in the approved terms and conditions being inadequate to protect the public health and safety or to protect the environment.

3.Holder shall maintain the ROW in a safe, usable condition.

5.When performing construction and maintenance (including emergency repairs) activities during the "closed" fire season (May 10 – October 20), as set by Colorado State Law, or during any other closed fire season prescribed by the BLM Colorado State Director, the Holder, including any persons such as contractors, etc. working on their behalf, shall equip at least one on-site vehicle with firefighting equipment, including, but not limited to, fire suppression hand tools (i.e. shovels, rakes, Pulaski's, etc.), a 16-20 pound fire extinguisher, and a sufficient supply of water for initial attack, with a mechanism to effectively spray the water (i.e. backpack pumps, water sprayer, etc.).

7.During conditions of extreme fire danger or when the State of Colorado and/or the BLM Colorado State Director issues a fire restriction order, operations shall be limited or suspended in specific areas, or additional mitigation measures may be required by the BLM Authorized Officer.

8.In accordance with 43 CFR 2805.12(d) (or subsequent revisions), the Holder shall do everything reasonable to prevent fires on or in the immediate vicinity of the ROW. The Holder will immediately report fires to the BLM local fire dispatch at 970-249-1010 and take all necessary fire suppression actions, when safe to do so, with their personnel and equipment on any fires they cause to ignite.

9.Holder shall maintain the condition of the origin area of the fire from further damage to enable the Fire Investigator to properly assess the origin area and cause of the fire. The Holder shall report to the Fire Investigator or BLM Incident Commander and shall not enter into the origin area on fires unless given permission to do so.

10. The Holder will cooperate with the BLM in its efforts to investigate, suppress and respond to all future fires. The duty to "cooperate" includes, but is not limited to, the following duties regardless of whether BLM is on the scene:

i. The duty to provide the BLM local fire dispatch 970-249-1010 with reasonable and timely notice concerning all fires involving the Holder's facilities, or discovered during routine operations.

ii. The duty to share factual information with the BLM concerning fires, including but not limited to the names of Holder's employees and/or contractors with knowledge of the incident; and to allow employees and/or contractors to be interviewed by BLM's investigators regarding factual information relating to a fire.

iii. It is the duty of the Holder to preserve the point of ignition, fire scene and reasonably account to the BLM for Holders actions taken at the scene of a fire.

iv. The duty to minimize disturbance of potential evidence located at the scene; to not engage in any evidence collection or destructive testing without BLM and or its counsel's express written consent; to properly handle and preserve any evidence collected and to make all documents and evidence, including expert reports, available to the BLM in a rapid and timely manner upon request of BLM and/or its counsel.

v. The duty to not hamper the BLM investigation of origin and cause of the fire; and to reasonably assist BLM's investigation at the scene.

vi. The duty to provide information upon request of BLM and/or its counsel concerning the construction, monitoring, inspection, maintenance and/or repairs of any of Holder's facilities located at or adjacent to a fire.

vii. The duty to provide information upon request of BLM and/or its counsel concerning the monitoring, inspection, and or alteration by Holder of any condition on public land, including but not limited to, public land adjacent to any of the Holder's facilities.

viii. The duty, during BLM fire suppression efforts: to defer to and follow the instructions of the BLM's Incident Commander regarding activities within the boundaries of the fire and checking in and out of the fire; and to recognize BLM's primary authority over the incident scene.

APPENDIX F – SUMMARY OF COMMENTS ON THE DRAFT EA & RESPONSES

Sixteen comment documents consisting of eight unique comment letters and eight "form" comment letters (i.e. letters with comments which were identically or similarly worded) were received during the comment period. The comment documents contained 31 distinct, substantive comments. The comments were primarily focused on the NEPA process, the loss of riparian habitat, impacts to wildlife, changes in recreation opportunities, and desertification of the area. In compliance with 40 CFR 1503.4, possible responses to these comments include:

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

Reclamation reviewed the comments and classified them according to topic or comment category below. Summary comments and consolidated responses follow. Changes were made to supplement, improve, or modify the EA as a result of these comments and the reader is referred to the section of the EA where the changes occurred. Copies of the original comment documents follow this summary.

Category: NEPA Process
Comment Numbers: 1, 18, 28
Summary comment: The commenters are concerned about the disclosure of long-term impacts associated with the Project. The commenters request a comprehensive study disclosing the effects of the Project so the public can be informed of the implications.
Response: The Final EA analyzes short-term, long-term, and cumulative impacts associated with the Project throughout the resource analyses contained in Chapter 3. Table 10 in the Final EA provides a summary of all impacts associated with the Project. The Environmental Assessment itself serves as a comprehensive study disclosing the effects of the Project. As described in Section 5.2 of the Final EA, the public was notified of the availability of the Draft EA and a 30 day public comment period was held to give the public an opportunity to review the document and provide comments.

Category: Environmental Commitments
Comment Numbers: 14
Summary comment: Colorado Parks and Wildlife indicated that as a result of Reclamation's consultation efforts with their agency, CPW feels that the Draft EA addresses their wildlife concerns associated with the Project provided that the following actions are carried forward into the Final EA:

- Abide by appropriate timing restrictions and buffers to protect big game, small game, nesting raptors, and migratory birds as stated in Table 4 of Section 2.2.9 of the Draft EA.
- Conduct the habitat replacement project as stated in the Draft EA Preferred Alternative to offset loss of riparian and wetland that would result from the implementation of this project.
- Install 3 to 4 water taps to provide water sources for stock and wildlife on public lands as stated in Table 3 of Section 2.2.1 of the Draft EA.

Response: All three of the described actions have been carried forward in the Final EA. Timing restrictions and buffers are identified in Table 4 of Section 2.2.9 of the Final EA. The habitat replacement project continues to be a component of the Preferred Alternative, and is described in Section 2.2.8 of the Final EA. The water taps to provide water sources for stock and wildlife on public lands is still a component of the Preferred Alternative, and is described in Section 2.2.1 of the Final EA.

Category: Financial Impacts
Comment Numbers: 9, 29
Summary comment: The commenters are concerned about the financial burden to the shareholders of the ditches to pay for the maintenance and repair of the pipeline into the future.
Response: The Salinity Control Program is a grant program which awards money to applicants to partially fund projects which would reduce salt loading into the Colorado River Basin. The Turner Ditch Company, in coordination with the Lone Cabin Ditch and Reservoir Company, applied for the voluntary grant program. The ditch company boards make financial decisions related to management of the ditch, and operation and maintenance costs are assessed to the canal shareholders. This process would not change under the Proposed Action. Future operation and maintenance costs are speculative. This discussion on financial impacts to the canal shareholders has been added to Table 2 in Section 1.6 of the Final EA. The Final EA also includes a discussion on Environmental Justice & Socioeconomic Issues in in Section 1.6.

Category: Salt Calculations and Selenium Benefits
Comment Numbers: 20, 30
Summary comment: The commenters question whether there is scientific data to support the salinity control value of 3,398 tons/year associated with the Project, as well as the selenium reduction benefit.
Response: 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. This information is included in Section 1.4.1 of the Final EA. While the Project is not a selenium reduction project, the analysis contained in the Final EA anticipates an unquantified reduction in selenium loading 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% decrease in selenium levels in the Gunnison River near Whitewater between 1986 and 2020 (Henneberg 2021). The Gunnison Basin Selenium Management Program at least partially associates a 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 2022a). A discussion on observed selenium reduction has been added to Section 1.4.1 of the Final EA.

Category: Beaver Reservoir
Comment Numbers: 17
Summary comment: Colorado Parks and Wildlife is concerned about a 1959 agreement with whom they believe to be the Proposed Action Applicant to maintain a minimum 20-foot conservation pool in Beaver Reservoir in order to provide a recreational fishing opportunity to the public and to maintain a conservation population of Colorado River cutthroat trout (CRCT) upstream of Beaver Reservoir. CPW requested that a new bathymetric survey be conducted at

Beaver Reservoir and the elevation of the conservation pool be clearly marked in order to assist water managers in abiding by the agreement, and to include a plan in the Final EA outlining how these commitments will be fulfilled.
Response: The 1959 agreement referenced is between Colorado Parks and Wildlife and Beaver Reservoir Company, not the Applicants involved in the Proposed Action. Therefore, this comment is out of the scope of the Proposed Action, and the requested actions are not included in the Final EA.

Category: Riparian Habitat Loss
Comment Numbers: 3, 4, 21, 22, 31
Summary comment: The commenters are concerned about the loss of the riparian habitat corridor along the canal prisms and the effect of that loss on wildlife. It was questioned how riparian habitat value could be replaced.
Response: The Final EA discloses the permanent loss of approximately 15.5 acres of riparian and wetland vegetation associated with the unlined ditches in Section 3.2.11. Effects of the long-term (greater than five years) loss of riparian and wetland habitat on wildlife are disclosed in Section 3.2.13 of the Final EA. Cumulative impacts resulting from the loss of riparian and wetland habitat are disclosed in Section 3.2.17 of the Final EA. 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 Project. Because there would be no loss of riparian and wetland values associated with implementation of the Project, the effects of the loss of riparian and wetland vegetation would be insignificant. Reclamation's April 2018 *Basinwide Salinity Control Program: Procedures for Habitat Replacement* are the evaluation procedures used to determine the appropriate level of habitat replacement for the Project. The existing riparian and wetland habitat associated with the open canal ditches are mapped and a numeric value is generated for the habitat based on ten criteria such as vegetative diversity, stratification, open water, wildlife use, and noxious weeds. The habitat replacement project is required to increase the value of currently degraded riparian and wetland habitat by the numeric value of habitat to be lost by the project. This explanation of the habitat evaluation procedures has been added to Section 3.2.11 of the Final EA.

Category: Vegetation
Comment Numbers: 7, 10
Summary comment: The commenters are concerned with the loss of the open water channel as an important seed vector for native plants. There was a concern about the loss of vegetative diversity once the open canals are piped, namely the diversity of riparian plants supported by canal seepage.
Response: The Final EA discloses the permanent loss of approximately 21.2 acres of riparian and wetland vegetation associated with the unlined ditches in Section 3.2.11. A discussion on how those acres would no longer contribute to the riparian and wetland seedbank downstream has been added to Section 3.2.11 of the Final EA. The upland seedbank does not rely on open water transport for distribution, so there would be no change in the distribution of the upland seedbank in the project area. The diversity of the riparian and wetland vegetation along the open water channels was taken into consideration during the existing habitat evaluation, and a comprehensive list of species observed is listed in the project's habitat losses report (WNRCS 2021). Vegetative diversity is one of the ten criteria analyzed in Reclamation's April 2018 *Basinwide Salinity Control Program: Procedures for Habitat Replacement*, and the value of the diversity of the lost riparian and wetland vegetation is being maintained by the implementation of the Project's habitat replacement site. A description of the ten criteria which were considered in determining the lost riparian and wetland values has been added to

Section 3.2.11 of the Final EA. Because there would be no loss of riparian and wetland values associated with implementation of the Project, the effects of the loss of riparian and wetland vegetation would be insignificant.

Category: Wildlife
Comment Numbers: 4, 5, 10, 15, 26
Summary comment: Commenters are concerned about the loss of accessible drinking water for wildlife (such as the elk, turkey, deer, fox, and bear). Concerns were raised about the project's effect on the local wildlife food chain and the availability of a food source for wildlife in the area, specifically the loss of amphibians, reptiles, and small mammals and the loss of vegetation such as gamble oak, milkweed, and wild rose. CPW requested the 1/3 mile raptor buffer identified in Section 3.2.13 of the Draft EA be extended to a ½ mile buffer in the Final EA, as per CPW Raptor Buffer Zones.
Response: The applicant is installing three to four water taps to be located on BLM and USFS land throughout the Project Area to continue to provide a source of drinking water to livestock and wildlife in the area. Other sources of open water in the area are available as wildlife drinking water sources, including multiple creeks, reservoirs, and drainages. An analysis on the lost source of drinking water for wildlife has been added to Section 3.2.13 of the Final EA. The Draft EA disclosed temporary construction impacts to small animals, especially burrowing amphibians, reptiles, and small mammals, and includes a discussion on the short-term and long-term impacts to upland and riparian and wetland vegetation; however, a discussion directly related to these impact's effect on the wildlife food chain has been added to Section 3.2.13 of the Final EA. The raptor buffer identified in Section 3.2.13 of the Final EA has been expanded to a ½ mile buffer.

Category: Recreation
Comment Numbers: 11, 12, 16
Summary comment: The commenters expressed concern on the loss of a walking area adjacent to an open water source. There is a concern about an impact to hunting if populations of elk, mule deer, mountain lion, and turkey have to relocate or leave the region in search of more available water sources. CPW requested the inclusion of methods of deterrence to be implemented along the pipeline corridors post-construction in order to prevent motorized or mechanized travel along disturbed areas on public lands.
Response: The specific long-term loss of being able to walk along the open water of the ditches once they have been placed in pipe has been added to Section 3.2.9 of the Final EA. The hunting analysis included in the Draft EA has been expanded upon in Section 3.2.9 of the Final EA to include a discussion on impacts to hunting populations. As disclosed in Section 3.2.9 of the Final EA, motorized and non-motorized travel currently occurs on public lands throughout the project area (including along the existing ditches), with the exception of the Lone Cabin Road closure from December 1 through April 30. Managing motorized and non-motorized travel on public lands is under the jurisdiction of the land managing entities and not the project applicant. The Project would not result in a change in how motorized and non-motorized travel is managed on public lands, and the Project Area location on private lands is not open to the public. It is speculative to assume the public would disregard the management prescriptions and operate outside of managed use due to the project. Therefore no travel deterrence methods have been added in the Final EA.

Category: Soils
Comment Numbers: 24

Summary comment: The commenter is concerned about the degradation of the soils they have worked on being alive and fertile.
Response: Impacts to soils are described in Section 3.2.16 of the Final EA. As described in Section 3.2.1 of the Final EA, the Project would result in more water delivered per share, and therefore canal shareholders would have more water available to continue to keep their soils living and fertile. A discussion on the ability for people to manage their soils has been added to Section 3.2.16 of the Final EA.

Category: Weather
Comment Numbers: 2
Summary comment: The commenter is concerned about the role the transpiration of the cottonwood trees along the canal alignments play in the local water cycle and the effect of the loss of these cottonwoods on rain and snow in the vicinity.
Response: As described in Section 3.2.1 of the Final EA, the Project would result in more water delivered per share. While this water would no longer be transpired by the cottonwood trees, it would be transpired through the irrigated crops utilizing the irrigation water. The water would continue to remain in the vicinity, and would continue to cycle through the different stages of the overall water cycle. It is speculative to think there would be any effect on rain or snow in the vicinity due to piping the open ditches. No changes have been made to the Final EA in response to this comment.

Category: Desertification
Comment Numbers: 6, 13, 19, 23, 25, 27
Summary comment: Commenters are concerned that the Project would result in piping water out of the vicinity, thereby contributing to desertification of the area. The commenters believe that the 25% increase in efficiencies provided by the Project (as described in the Draft EA) would result in that water leaving the region. A request was made to conduct a comprehensive study on desertification in the area.
Response: The purpose of the project is to eliminate the deep percolation of canal seepage water through highly saline soils. The water savings would be used by shareholders on crops within the area, meaning it would continue to enter the ground surface, and evapotranspiration would continue from plants and irrigation water would continue to percolate to groundwater at different locations within the same basin. The 25% increase in efficiencies figure was cited from the project's Salinity Control Program grant application and was mentioned in Section 3.2.1 of the Drat EA. This figure was based on the average losses between the two ditches; however, because this figure is an assumption, it has been replaced with a qualitative discussion in Section 3.2.1 of the Final EA. A brief discussion on desertification has been added to the Final EA as Section 1.6, and the topic is eliminated from further analysis. Groundwater recharge is a related topic to desertification, and therefore a brief discussion on groundwater recharge has been added to the Final EA as Section 3.2.3.

Category: Water Quality and Microplastics
Comment Numbers: 8
Summary comment: The commenter is concerned about the impact on crops and cattle resulting from degradations in water quality due to piping irrigation water through miles of PVC pipe. The commenter is also concerned about the Project's contribution to microplastics in the environment.
Response: The use of HDPE and PVC pipe for water transport meets the American Water Works Association's safety standards for drinking water, and therefore would be safe for use as irrigation

and stock water. A discussion regarding PVC pipe and water quality has been added to Section 3.2.2 of the Final EA. The use of PIP pipe for water transport meets the Natural Resource Conservation Service's safety standards for use as irrigation and stock water. A discussion regarding PIP pipe and water quality has been added to Section 3.2.2 of the Final EA. While microplastics can originate from the degradation of larger plastic objects, it is speculative to assume the Project would measurably contribute to microplastics in the environment. PVC pipe typically degenerates when exposed to UV rays. Buried PVC, HDPE, and PIP pipe have life expectancies of 50-100 years (potentially more). Not only is the applicant required as a condition of the grant to maintain the piping for the life of the Salinity Control project, the pipe must remain intact for the pipeline to deliver water. It is speculative to try to anticipate the eventual fate of the pipeline and therefore the generation of microplastics. For example, the pipeline could eventually be replaced with materials not yet developed, it could be removed, or it could be replaced with new PVC/HDPE/PIP. A discussion regarding microplastics has been added to Section 1.6 of the Final EA.

[EXTERNAL] Draft Environmental Assessment, Turner & Lone Cabin Ditch, Colorado

Leah Bee <trilliumbee@gmail.com>

Fri 1/6/2023 3:06 PM

To: Ward, Jennifer K <jward@usbr.gov>

To Whom It May Concern:

I am writing in opposition to the finding of "No Significant Impact" in regards to the Turner & Lone Cabin Ditch Combination Salinity Reduction Project Environmental Assessment. I am a property owner, Lone Cabin Ditch shareholder and citizen of Paonia, Colorado.

Especially in regards to the Forest Service's mission to "sustain the health, diversity and productivity of the nation's forests and grasslands", the Department of the Interior's mission to "protect and manage the Nation's natural resources" and in the Bureau of Reclamation's mission to "protect water and related resources", I believe the assessment of this Proposed Action is severely lacking in foresight and environmental implications, as long term consequences could be disastrous to our environment. Comment 1

In this region of Colorado, we, especially those of us whose livelihoods depend on water (farmers and ranchers), have been fighting the effects of drought for over a decade now. As desertification claims more and more of our continent and encroaches on our fertile North Fork Valley, we are puzzled with ways to "conserve and protect" the water resources we do have. A basic understanding of the water cycle shows us that trees create *transpiration* which is taken into the clouds as *condensation* and is later released as *precipitation*. Oceanic evaporation is a massive contributor to precipitation, but for our purposes here we can focus on the important role that trees, especially large water-loving trees, like cottonwoods, play in the creation of rain and snow in our valley. Comment 2

If you actually walk these stretches of open water ditches, which I invite you to do, you will find hundreds, if not thousands, of cottonwood trees. Each spring and summer these trees are watered by the open ditches, creating taller trees, more habitat and food for all kinds of birds and mammals, more transpiration (moisture in the air) and *cooler temperatures* for the surrounding area. Piping these open water ditches will effectively kill these populations of trees, and take with it their role in the environment as habitat, food, temperature moderators, and rain bringers. Comment 3

As mentioned in the description of the "Habitat Replacement Site", when trees aren't watered, they die. While fixing up an unmaintained sewage treatment site by mechanically removing invasive

species (costly, energy intensive, and, for anyone who has tried the method, rather ineffective) and watering the native riparian trees sounds like a nice idea, there is *no way* that you can replace "the permanent loss of 15.5 acres" of wild, public, higher elevation riparian and wetland vegetation with a lowland acreage that borders HWY 133 (not mentioned in the EA). Are the highland elk, turkey, deer, fox, bear, etc., supposed to come down the valley to drink? You cannot "relocate" a high elevation ecosystem, or any ecosystem for that matter. Comment 4

While there is speculation that because the open water ditches are man made, their impact is similarly artificial. Much to the contrary, these open water ditches have become the seasonal mountain streams that wildlife has depended upon for time immemorial. The populations of animals dependent on these micro climates make up the very *food sources* of the endangered species we are trying to protect. If you take away the great horned owl and red-tailed hawk's food source, the "burrowing amphibians, reptiles, and small mammals [who would experience] direct mortality and displacement", as mentioned in Section 3.2.12 of the EA, where do you think those raptors will go to eat? Not to mention that the massive gambel oak forests that thrive in more moisture-rich locations, such as earthen ditch boundaries, are a main food source for the wild game we are trying to "protect". Mule deer, turkey and black bear feast on the acorns of these oaks. If you take away the deer's food, there are no more deer. If you take away the endangered species' food, there are no more endangered species. If we want to "protect and manage the Nation's resources", we would be wise to protect their food sources. If Fish and Wildlife wants to continue to have hunting seasons in the North Fork Valley, we need to protect the wild game's *food sources*. If we continue to pipe these historically open water ditches (as mentioned in the EA, is part of a "greater regional trend"), making the water 100% inaccessible to all of the life that has depended upon for centuries, we are basically signing the death certificates to hundreds of thousands of lifeforms, including the ones we like to eat. Comment 5

If we want to reverse desertification, if we want to "conserve" water, we need to KEEP the water IN our ecosystem as long as we can. Piping the ditches means quick removal of the water OUT of our region – how could this possibly be seen as "water conservation"? If this Action is claiming "an estimated 25 percent more water delivered per share", then the water that has been historically recycled into the air and earth, contributing to condensation (rain and snow) and replenishing groundwater aquifers, goes away. How can we possibly know the impacts this will have on our region long term? Comment 6

Comments

The Noxious Weed argument states that "In the long-term, piping the ditch laterals involved with the Proposed Action, along with other salinity control projects in the region, would cumulatively remove an important vector of weed seed transport in the vicinity – open water" (EA, pg 51). But, guess what else is transported in open water? Good seeds! Native seeds! Fertility! 7

Do we have any idea what will happen to the quality of water after it has been transported underground in sterile PVC pipes for 27.1 miles? What effect will it have on our crops? Our cattle? What micro-plastics will begin to inundate our watershed, our food and our crops? And who is going to pay for it all? 8

Comment 9

Lone Cabin Ditch has an outstanding line of credit that we, the shareholders, have to pay down over time. It's great the Reclamation is offering millions of dollars to accomplish the project, but WHO BEARS THE COST of maintenance and repair moving forward? There are 63 shareholders in Lone Cabin and Turner combined. This project costs some 9 million dollars. Most of these shareholders, who are responsible for ongoing costs, are farmers and ranchers, homesteaders, salt of the earth people who

Comment 9 Cont.

are not necessarily rolling in the dough. To bear the burden of these multi-million dollar projects, which will likely need, in time, multi-million dollar repairs, is unjust.

The Colorado Roadless Area findings state that "Insignificant long-term impacts would occur on resources associated with the following…characteristics: diversity of plants and animal communities" and that beneficial impacts would occur on "high quality or undisturbed soil, water or air resources", concluding that no cumulative effects would occur to these areas. To the contrary, as open water sources continue to vanish, so will the diversity of all kinds of plant and animal communities. Not mentioned in the EA are the many other species of plants that live along, especially, the Upper Lone Cabin ditches: namely milkweed (*Asclepias syriaca)*, "the sole host plant for monarch butterfly" (https://extension.psu.edu/monarchs-and-milkweed), the wild rose (*Rosa acicularis*), a food source for birds, rabbits, bears, mule deer, squirrels and humans, and wild herbs, such as mint, osha, willow, yarrow, arnica, balsamroot and dandelion, to name a few, all which provide food, habitat and medicines for people and animals alike.

Comment 10

Comments

Piping the ditches certainly affects Public Recreation because of the large number of people who walk the ditches recreationally. As seen with the Stewart ditch, local dog walkers, joggers and qi-gong practitioners suddenly, and much to their surprise, lost their local open water walkway. According to marine biologist Wallace Nichols, "Water is considered the elixir and source of life. It covers more than 70% of the Earth's surface, makes up nearly 70% of our bodies, and constitutes over 70% of our heart and brains…*This deep biological connection has been shown to trigger an immediate response in our brains when we're near water. In fact, the mere sight and sound of water can induce a flood of neurochemicals that promote wellness, increase blood flow to the brain and heart and induce relaxation.* Thanks to science, we're now able to connect the dots to the full range of emotional benefits being on, in, or near the water can bring" (emphasis mine). Lastly, if hunting is considered public recreation, then piping the ditches will definitely affect public recreation as populations of elk, mule deer, mountain lion, and turkey will have to relocate or leave the region altogether in search of more available water sources.

11

12

The fact of the matter is that these mega projects to commandeer the water out and away from our lands, is a massive experiment. The long term results we simply cannot fathom because, it seems, we choose not to, or because it has never been done before and we can't imagine how it might unfold. Therefore I urge all parties involved to very seriously consider the unforeseen implications of removing the life source out of an ecosystem. As has been proven over and over again, ecosystems are WEBS of interconnectivity, and what you do to the water, what you do to the northern leopard frog, racoon and tiger salamander, you do to the entire system. Are we going to fix one environmental problem by creating another? Help the endangered chub by taking habitat away from the black bear? Fix the river water by stealing it from the mountain?

I thank you for taking the time to read this feedback. I hope we can come to a better solution that is in service to all of life, a solution that serves the cottonwood, the farmer and the hunter alike.

Thank you and happy new year to you,
Leah Bodenhamer

[EXTERNAL] Turner and Lone Cabin EA

Scott Brown <coyotehowls@gmail.com>

Fri 1/6/2023 2:48 PM

To: Ward, Jennifer K <jward@usbr.gov>

To Ed Warner.

I'm opposed to the Turner and Lone Cabin Ditch Companies' Proposed Action plan.

I'm concerned about the short- and long-term consequences of removing 27.1 miles of open water from the ecosystem. This proposal would adversely impact the local ecosystem, including aquifers, and contribute to desertification and, in the long-run, contribute to greater water scarcity. Comment 13

Please use your authority and reject this plan and encourage a more comprehensive and long-term view of the predicament we are all in, and all share, as pertains to water and ecosystem health.

Thank you.

Sincerely,

Scott Brown

Paonia, CO

COLORADO
Parks and Wildlife
Department of Natural Resources
Gunnison Service Center
300 New York Avenue
Gunnison, CO 81230
P 970.641.7060 | F 970.641.7883

January 6, 2023

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

RE: Draft Environmental Assessment: Turner and Lone Cone Ditch Combination Salinity Reduction Project

Dear Mr. Warner,

Thank you for the opportunity to provide comments on the Bureau of Reclamation's (Reclamation) Turner and Lone Cone Ditch Combination Salinity Reduction Project Draft Environmental Assessment (EA). Under the Proposed Action Alternative, Reclamation would provide funding to the Turner Ditch Company to pipe approximately 27.1 miles of laterals associated with the Turner Ditch Company, Lone Cabin Ditch and Reservoir Company, and two additional unincorporated irrigation entities sourcing water from Minnesota Creek, the Sweezy-Turner Ditch and Spurlock Ranch. This project would be implemented to reduce salinity loading into the Colorado River. Colorado Parks and Wildlife (CPW) appreciates the level of involvement Reclamation has given CPW in the planning of this project. These efforts have allowed for CPW to carry forward our mission to perpetuate the wildlife resources of the state, to provide a quality state parks system, and to provide enjoyable and sustainable outdoor recreation opportunities that educate and inspire current and future generations to serve as active stewards of Colorado's natural resources.

Comment 14

During the planning phase of this project, CPW consulted with Reclamation to identify and address wildlife concerns involved with the implementation of this project. As a result of these efforts, CPW feels that the Draft EA addresses the following concerns if the stated actions are carried forward into the Final EA.

- Abide by appropriate timing restrictions and buffers to protect big game, small game, nesting raptors, and migratory birds as stated in Table 4 of Section 2.2.9;
- Conduct the habitat replacement project as stated in the Draft EA Preferred Alternative to offset loss of riparian and wetland that would result from the implementation of this project;
- Installation of 3 to 4 water taps to provide water sources for stock and wildlife on public lands as stated in Table 3 of Section 2.2.1.

Comments

In section 3.2.12, the Draft EA states that "If a new active raptor nest is discovered within 1/3 mile of the Proposed Action during construction, construction would cease until Reclamation could complete evaluation and consultations". Please amend this sentence to state that raptor nests discovered within ½ mile of the Proposed Action will result in consultation in order to protect nesting eagles and other species that require ½ mile buffer as per published CPW Raptor Buffer Zones. 15

In section 2.2.7, please evaluate and include methods of deterrence to be implemented post-construction in order to prevent motorized or mechanized travel along all disturbed areas on public lands. 16

In addition, CPW has an agreement with the applicants to maintain a minimum 20-foot conservation pool in Beaver Reservoir (see Attachment A) in order to provide a recreational fishing opportunity to the public and to maintain a conservation population of Colorado River cutthroat trout (CRCT) upstream of Beaver Reservoir. Larger adult CRCT will overwinter in the conservation pool and move upstream into East Fork Minnesota Creek to spawn. The Turner Ditch System and the Lone Cabin Reservoir and Ditch System include storage in Beaver Reservoir. Efficiencies gained from the "piping component" of the proposed action are estimated to be 150 acre-feet per year in storage due to a reduction in seepage and other ditch conveyance losses. CPW would like to remind the entities implementing the project to abide by their commitment to CPW to maintain the minimum conservation pool and to consider other options to maintain a healthy aquatic environment in Beaver Reservoir. For the commitment to be accurately fulfilled, CPW requests that a new bathymetric survey be conducted at Beaver Reservoir and the elevation of the conversation pool be clearly marked in order to assist water managers in abiding by the agreement. Please include a plan in the final EA outlining how these commitments will be fulfilled. 17

CPW appreciates the opportunity to provide comments and input on this Salinity Reduction Project Draft EA. If you have any questions or would like further clarification, please don't hesitate to contact myself or District Wildlife Manager, Andrew Taylor at 970-275-4270.

Very Respectfully,

Brandon Diamond
Area Wildlife Manager, Area 16

Cc: Area 16 File, SW Regional File

Attachment A – Beaver Reservoir Agreement

File Beaver Res

01002

COOPERATIVE AGREEMENT

THIS INDENTURE made and entered into by and between the State of Colorado for the use and benefit of the Game and Fish Commission, party of the first part, and Beaver Reservoir Company, a Colorado corporation, party of the second part; WITNESSETH, that

WHEREAS, party of the second part has heretofore constructed a reservoir on the headwaters of the East Fork of Minnesota Creek in Sections Twenty-one (21) and Twenty-two (22) Township Fourteen (14) South, Range Ninety (90) West of the Sixth Principal Meridian, Montrose County, Colorado; and

WHEREAS, party of the second part has expended considerable funds for the purpose of building a bridge and an access road to said reservoir; and

WHEREAS, parties hereto are desirous of entering into an agreement whereby party of the second part will permit public access to and public fishing on said reservoir, and party of the first part will help to defray the cost of providing public access to said reservoir;

NOW THEREFORE THE PARTIES HERETO AGREE as follows, to-wit:

1. Party of the second part agrees to permit the public to use Beaver Reservoir for public fishing in accordance with the game and fish laws of the State of Colorado and regulations of the Game and Fish Commission, and agrees to permit public access to said reservoir over said road and bridge.

2. Party of the second part further agrees to maintain a conservation pool in said reservoir of a minimum depth of twenty (20) feet.

3. Party of the first part agrees to pay to party of the second part the sum of Four Thousand and No/100 ($4,000.00) Dollars within fifteen (15) days from the date of final approval of these presents.

This agreement shall not be deemed valid until approved by the Controller of the State of Colorado, or such assistant as he may designate.

The terms and conditions of this Agreement shall extend to and be binding upon the successors and assigns of the respective parties hereto.

IN WITNESS WHEREOF parties hereto have hereunto subscribed their names and seals this 9th February, 1959.

STATE OF COLORADO
Game and Fish Commission

By Thomas L. Kimball
THOMAS L. KIMBALL, Director
Department of Game and Fish

PARTY OF THE FIRST PART

Charles E Bear
PRESIDENT

ATTEST: Charles R. Conklin
SECRETARY

PARTY OF THE SECOND PART

APPROVED:

GOVERNOR

CONTROLLER

STATE PURCHASING AGENT

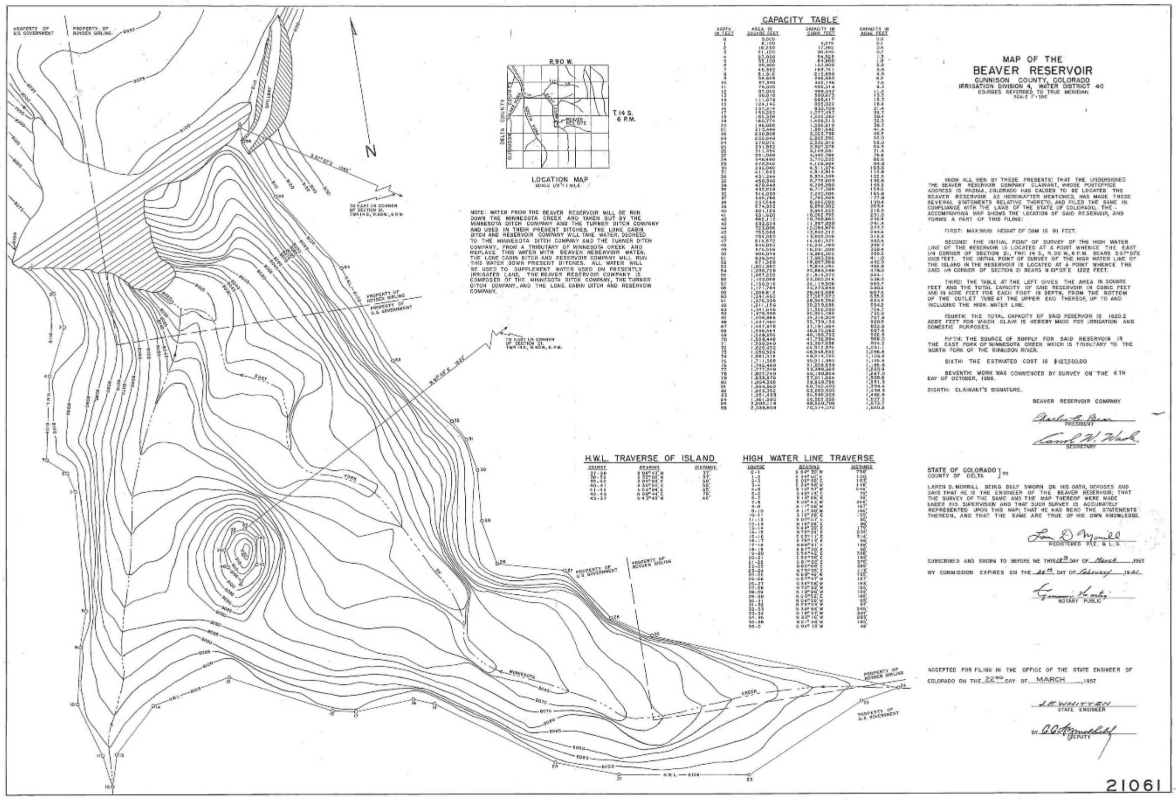
VERIFIED INFORMATION COPY
The original and two copies of this contract have been signed by all State officials required by law to approve contracts.
Natalie Terrell 3/25/59
Contract Clerk, Governor's Office

APPROVED AS TO FORM:

DUKE W. DUNBAR,
Attorney General

By

OK
whm


CAPACITY TABLE
DEPTH IN FEET
AREA IN SQUARE FEET
CAPACITY IN CUBIC FEET
CAPACITY IN ACRE FEET
MAP OF THE
BEAVER RESERVOIR
GUNNISON COUNTY, COLORADO
IRRIGATION DIVISION 4, WATER DISTRICT 40
COURSES REFERRED TO TRUE MERIDIAN
R.90 W.
T.14 S.
6 P.M.
DELTA COUNTY
GUNNISON COUNTY
BEAVER RES. SITE
LOCATION MAP
NOTE: WATER FROM THE BEAVER RESERVOIR WILL BE RUN DOWN THE MINNESOTA CREEK AND TAKEN OUT BY THE MINNESOTA DITCH COMPANY AND THE TURNER DITCH COMPANY AND USED IN THEIR PRESENT DITCHES. THE LONE CABIN DITCH AND RESERVOIR COMPANY WILL TAKE WATER, DECREED TO THE MINNESOTA DITCH COMPANY AND THE TURNER DITCH COMPANY, FROM A TRIBUTARY OF MINNESOTA CREEK AND REPLACE THIS WATER WITH BEAVER RESERVOIR WATER. THE LONE CABIN DITCH AND RESERVOIR COMPANY WILL RUN THIS WATER DOWN PRESENT DITCHES. ALL WATER WILL BE USED TO SUPPLEMENT WATER USED ON PRESENTLY IRRIGATED LAND. THE BEAVER RESERVOIR COMPANY IS COMPOSED OF THE MINNESOTA DITCH COMPANY, THE TURNER DITCH COMPANY, AND THE LONE CABIN DITCH AND RESERVOIR COMPANY.
TO EAST 1/4 CORNER OF SECTION 21.
KNOW ALL MEN BY THESE PRESENTS: THAT THE UNDERSIGNED THE BEAVER RESERVOIR COMPANY CLAIMANT, WHOSE POSTOFFICE ADDRESS IS PAONIA, COLORADO HAS CAUSED TO BE LOCATED THE BEAVER RESERVOIR AS HEREINAFTER MENTIONED, HAS MADE THESE SEVERAL STATEMENTS RELATIVE THERETO, AND FILED THE SAME IN COMPLIANCE WITH THE LAWS OF THE STATE OF COLORADO. THE ACCOMPANYING MAP SHOWS THE LOCATION OF SAID RESERVOIR, AND FORMS A PART OF THIS FILING:
FIRST: MAXIMUM HEIGHT OF DAM IS 91 FEET.
SECOND: THE INITIAL POINT OF SURVEY OF THE HIGH WATER LINE OF THE RESERVOIR IS LOCATED AT A POINT WHENCE THE EAST 1/4 CORNER OF SECTION 21, TWP. 14 S., R. 90 W., 6 P.M. BEARS S 57°57'E 1065 FEET. THE INITIAL POINT OF SURVEY OF THE HIGH WATER LINE OF THE ISLAND IN THE RESERVOIR IS LOCATED AT A POINT WHENCE THE SAID 1/4 CORNER OF SECTION 21 BEARS N 61°03'E 1222 FEET.
THIRD: THE TABLE AT THE LEFT GIVES THE AREA IN SQUARE FEET AND THE TOTAL CAPACITY OF SAID RESERVOIR IN CUBIC FEET AND IN ACRE FEET FOR EACH FOOT IN DEPTH, FROM THE BOTTOM OF THE OUTLET TUBE AT THE UPPER END THEREOF, UP TO AND INCLUDING THE HIGH WATER LINE.
FOURTH: THE TOTAL CAPACITY OF SAID RESERVOIR IS 1620.2 ACRE FEET FOR WHICH CLAIM IS HEREBY MADE FOR IRRIGATION AND DOMESTIC PURPOSES.
FIFTH: THE SOURCE OF SUPPLY FOR SAID RESERVOIR IS THE EAST FORK OF MINNESOTA CREEK WHICH IS TRIBUTARY TO THE NORTH FORK OF THE GUNNISON RIVER.
SIXTH: THE ESTIMATED COST IS $127,550.00
SEVENTH: WORK WAS COMMENCED BY SURVEY ON THE 6TH DAY OF OCTOBER, 1956.
EIGHTH: CLAIMANT'S SIGNATURE.
BEAVER RESERVOIR COMPANY
PRESIDENT
SECRETARY
H.W.L. TRAVERSE OF ISLAND
HIGH WATER LINE TRAVERSE
STATE OF COLORADO
COUNTY OF DELTA
LAREN D. MORRILL BEING DULY SWORN ON HIS OATH, DEPOSES AND SAYS THAT HE IS THE ENGINEER OF THE BEAVER RESERVOIR; THAT THE SURVEY OF THE SAME AND THE MAP THEREOF WERE MADE UNDER HIS SUPERVISION AND THAT SUCH SURVEY IS ACCURATELY REPRESENTED UPON THIS MAP; THAT HE HAS READ THE STATEMENTS THEREON, AND THAT THE SAME ARE TRUE OF HIS OWN KNOWLEDGE.
REGISTERED P.E. & L.S.
SUBSCRIBED AND SWORN TO BEFORE ME THIS ___ DAY OF ___
MY COMMISSION EXPIRES ON THE ___ DAY OF ___
NOTARY PUBLIC
ACCEPTED FOR FILING IN THE OFFICE OF THE STATE ENGINEER OF COLORADO ON THE 22ND DAY OF MARCH, 1957.
J.E. WHITTEN
STATE ENGINEER
BY
DEPUTY
MINNESOTA
CREEK
PROPERTY OF U.S. GOVERNMENT
21061

[EXTERNAL] Re: Availability of Draft EA - Turner & Lone Cabin Ditch Combination Salinity Reduction Project (HC#81717)

Schaefer - HC, Mitchell <mitchell.schaefer@state.co.us>
Mon 12/5/2022 3:43 PM
To: Ward, Jennifer K <jward@usbr.gov>

Dear Ms. Ward:

Thank you for your communication regarding the Turner & Lone Cabin Ditch Combination Salinity Reduction Project (HC#81717). As you know, November 16, 2022, our office provided comments regarding the undertaking in accordance with Section 106 of the National Historic Preservation Act, as amended (54 USC §306108), and its implementing regulations "Protection of Historic Properties," found in 36 CFR Part 800. At this time in the consultation process, our office has no comments regarding the Environmental Assessment (EA) intended for NEPA compliance. However, we remind Reclamation that preparation of the EA does not absolve the agency of complying with Section 106.

Please note, our office is now accepting electronic consultation through our secure file transfer system, MoveIT. You can find information about MoveIT and digital submissions here.

Sincerely,
Mitchell K. Schaefer
Section 106 Compliance Manager, Built Environment
History Colorado | State Historic Preservation Office
O: **(303) 866-2673** | C: **(720) 213-6380** | mitchell.schaefer@state.co.us
History Colorado Center | 1200 Broadway | Denver, Colorado 80203 | HistoryColorado.org

On Mon, Dec 5, 2022 at 6:06 AM Ward, Jennifer K <jward@usbr.gov> wrote:

> Hello,
>
> Please find attached a letter announcing the availability of the Draft Environmental Assessment for the Turner & Lone Cabin Ditch Combination Salinity Reduction Project.
>
> Thank you,
> Jenny

[EXTERNAL] Turner/Lone Cabin project

Amber lee Trout <amberfisherlac@icloud.com>

Fri 1/6/2023 12:06 PM

To: Ward, Jennifer K <jward@usbr.gov>

To Ed Warner,

I am a citizen of Paonia with serious concerns regarding the Turner and Lone Cabin Ditch Companies' Proposed Action Plan.

Comments

I request that this project be paused until the Bureau of Reclamation can complete a comprehensive study about the effects of these piping projects and the public can be informed of the implications. 18

This project would have serious effects on ecosystems along 27.1 miles of ditch that has historically been open water. Please consider the impact of increasing desertification in our area and complete a comprehensive study before moving forward on this project. 19

Thank you for your time,
Amber Fisher
970-730-3494
39579 Hadley St
Paonia, CO 81428

[EXTERNAL] Comment on Turner/Lone Cabin piping project

Bruce Woodside <warnwood@mac.com>

Fri 1/6/2023 5:14 PM

To: Ward, Jennifer K <jward@usbr.gov>

To whom it may concern,

I am writing to express my strong objection to the conclusions reached in the Environmental Assessment report for the Turner/Lone Cabin Ditch piping ("Combination Salinity Reduction") project.

Since I'm fairly certain these comments are not going to be either read or seriously considered, I'm just going to say that I live in close proximity to the recently completed Stewart Ditch piping project, and have observed what both the construction and its aftermath effects have been on the landscape.

The argument for the Stewart Ditch project was also that it would help alleviate the selenium and salt load of the water being returned to downstream users. The guestimate they gave (without any baseline data to work from) was 1622 tons removed. Suffice it to say that no one has yet demonstrated what that positive effect actually was. The result of burying the ditch, however, is somewhat apparent in the pictures below that were taken shortly after the completion of the project in June of 2021.

What you're seeing is essentially an unused roadway, leveled and with whatever was growing there (both plant and animal life) completely removed. Because it's been so thoroughly disturbed, very little of the original plant community has returned - mostly pioneer weeds. Only a small part of the actual ditch encouraged the growth of trees, but the few trees that were left standing are damaged and/or dying. And this is at a point where, given accelerating climate change and increasing aridification, we really can't afford to lose them.

Comments

The guestimate of selenium and salt load for the Turner/Lone Cabin project is 3398 tons (it's on page 36.) Again, there is no evidence of data to support this. This suggests to me that the actual purpose of piping these ditches is efficient delivery of water to share owners — a process that is "efficiently" going to dry out the landscape wherever it occurs. Trade-offs in the way of habitat replacement (which we should be doing anyway) don't really balance out the equation. Once the biome in these areas is disturbed, it's going to take a long time to come back, if it ever comes back at all.

20

21

Yours truly,
Bruce Woodside
13229 Skyhill Road
Paonia, CO 81428
warnwood@mac.com
(818) 821-4741

[EXTERNAL] Lone Cabin and Turner Ditch

elizabeth elizabethyaari.com <elizabeth@elizabethyaari.com>

Fri 1/6/2023 11:42 PM

To: Ward, Jennifer K <jward@usbr.gov>

Dear Ed Warner

I live by the Minnesota Ditch and have seen the damage already done to the life around the piped ditch. Fallen trees, dead flowers, soil erosion and lack of bird and pollinator life. Comment 22

Comment 23

I am growing a food forest and the work is so much harder for me because of the desertification of the land near the piped ditch.

Please realize that the long term affect of piping Lone Cabin and Turner ditches will be devastating to all forms of life and degrade the soils which people have worked so hard to keep living and fertile. Comment 24

Yours sincerely

Elizabeth Yaari

Elizabeth Yaari

https://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.elizabethyaari.com%2F&data=05%7C01%7Cjward%40usbr.gov%7C14fe55fd852e4540e27c08daf07a645f%7C0693b5ba4b184d7b9341f32f400a5494%7C0%7C0%7C638086705714787735%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=ffKYfz8WE%2Bt5Nu2W%2BUfncT6lwAvQQAWft5fCRkCkLwQ%3D&reserved=0

(631) 935 2212 c

FORM LETTER

[EXTERNAL] Piping of Lone Cabin Ditch

Allison Elliot <brilliot@gmail.com>

Fri 1/6/2023 8:51 PM

To: Ward, Jennifer K <jward@usbr.gov>

To Ed Warner,

Hello, I live in the town of Paonia, Colorado. I am writing with serious concerns regarding the Turner and Lone Cabin Ditch Companies' Proposed Action plan.

Comments

While piping ditches has its benefits, let us not overlook it very real downsides. Water that has been available to the entire ecosystem of the slopes of Mt. Lamborn will be permanently removed from the landscape, the environment and our watershed if this plan goes through. We all need to be deeply concerned about the unforeseen, long term consequences of removing 27.1 miles of open water from our landscape. Concerned about the hundreds of cottonwoods, shrub oak and forbs crucial to the monarch butterfly for example, and the domino effect that removing riparian zones from high altitude ecosystems will have on the entire web of life that lives there. 25 26

Removing water from the landscape invariably contributes to greater desertification and drought conditions that our region is already fighting to prevent. Keeping water in the landscape (maintaining aquifers, keeping thriving ecosystems alive and contributing to the abundant and diverse wild game populations) prevents the effects of desertification and drought throughout our region. 27

As a citizen of Paonia, I am firmly opposed to this Action Plan, its obstrusive use of resources and its lack of legitimate foresight into future implications this development will have on our environment long term. 28

Thank you for your time.

Sincerely,

Allison Elliot

FORM LETTER

[EXTERNAL] Turner & Lone cabin ditch plan

Carrie Fischer <carrie@skyeherbals.com>

Fri 1/6/2023 10:46 PM

To: Ward, Jennifer K <jward@usbr.gov>

To Ed Warner,

I am a citizen of Paonia, Colorado with serious concerns regarding the Turner and Lone Cabin Ditch Companies' Proposed Action plan.

Comments

I understand that water that has been historically available to all forms of life in Mt. Lamborn will be permanently removed from the landscape, the environment and our watershed if this plan goes through. 25

I am deeply concerned about the unforeseen, long term consequences of removing 27.1 miles of open water from our landscape. I am concerned about the hundreds of cottonwoods, the oak forests, the wild herbs and flowers crucial to the monarch butterfly for example, and the domino effect that removing riparian zones from high altitude ecosystems will have on the entire web of life that lives there. 26

Removing water from the landscape invariably contributes to greater desertification and drought conditions that our region is already fighting to prevent. Keeping water in the landscape (restoring aquifers, keeping thriving ecosystems alive and contributing to the abundant and diverse wild game populations) reverses the effects of desertification and drought throughout our region. 27

As a citizen of Paonia, I am firmly opposed to this Action Plan, its obstrusive use of resources and its lack of legitimate foresight into future implications this development will have on our environment long term. 28

Thank you for your time.

Sincerely,
Carrie Fischer

Sent from my iPhone

FORM LETTER

[EXTERNAL] Comments regarding the Turner and Lone Cabin Ditch Companies' Proposed Action plan.

Karen Good <karengoodaz@yahoo.com>

Fri 1/6/2023 2:33 PM

To: Ward, Jennifer K <jward@usbr.gov>

To Ed Warner

I am reaching out to you regarding the Turner and Lone Cabin Ditch Companies' Proposed Action plan. I am a citizen of Paonia,CO and have serious concerns about the impact of the plan on our environment and community.

Comments

Piping ditches contributes to the greater desertification and drought conditions that our region is already fighting to prevent. Keeping water in the landscape (restoring aquifers, keeping thriving ecosystems alive and contributing to the abundant and diverse wild game populations) reverses the effects of desertification and drought throughout our region. 27

The water in the Turner and Lone Cabin Ditch system that has been historically available to all forms of life on Mt. Lamborn will be permanently removed from the landscape, the environment and our watershed if this plan goes through. 25

I am deeply concerned about the unforeseen, long term consequences of removing 27.1 miles of open water from our landscape. I am concerned about the hundreds of cottonwoods, the oak forests, the wild herbs and flowers crucial to the monarch butterfly for example, and the domino effect that removing riparian zones from high altitude ecosystems will have on the entire web of life that lives there. 26

I am a business owner, land owner, grandmother and farmer. I am firmly opposed to this Action Plan. I don't feel that it is clearly assessing the impact that this development will have on our environment and community in the long run. 28

Thank you for your attention

Sincerely

Karen Good

FORM LETTER

[EXTERNAL] Ditch piping

lyn howe <lynhowe1946@yahoo.com>

Sat 1/7/2023 6:29 AM

To: Ward, Jennifer K <jward@usbr.gov>

To Ed Warner,

I am a citizen of Paonia, Colorado with serious concerns regarding the Turner and Lone Cabin Ditch Companies' Proposed Action plan.

Comments

I understand that water that has been historically available to all forms of life in Mt. Lamborn will be permanently removed from the landscape, the environment and our watershed if this plan goes through. I am deeply concerned about the unforeseen, long term consequences of removing 27.1 miles of open water from our landscape. 25

I am concerned about the hundreds of cottonwoods, the oak forests, the wild herbs and flowers crucial to the monarch butterfly for example, and the domino effect that removing riparian zones from high altitude ecosystems will have on the entire web of life that lives there. 26

Removing water from the landscape invariably contributes to greater desertification and drought conditions that our region is already fighting to prevent. Keeping water in the landscape (restoring aquifers, keeping thriving ecosystems alive and contributing to the abundant and diverse wild game populations) reverses the effects of desertification and drought throughout our region. 27

As a citizen of Paonia, I am firmly opposed to this Action Plan, its obstrusive use of resources and its lack of legitimate foresight into future implications this development will have on our environment long term. 28

Thank you for your time.

Sincerely,

Marilyn Howe& Geoff Rauch

403 Minnesota ave Paonia

Sent from Yahoo Mail for iPhone

FORM LETTER

[EXTERNAL] Re: Turner and Lone Cabin Ditch proposed action plan.

Kathleen Howe <kehauhowe@gmail.com>

Fri 1/6/2023 3:07 PM

To: Ward, Jennifer K <jward@usbr.gov>

To Ed Warner,

I am a citizen of Paonia, Colorado with serious concerns regarding the Turner and Lone Cabin Ditch Companies' Proposed Action plan.

Comments

I understand that water that has been historically available to all forms of life in Mt. Lamborn will be permanently removed from the landscape, the environment and our watershed if this plan goes through. I am deeply concerned about the unforeseen, long term consequences of removing 27.1 miles of open water from our landscape. I am concerned about the hundreds of cottonwoods, the oak forests, the wild herbs and flowers crucial to the monarch butterfly for example, and the domino effect that removing riparian zones from high altitude ecosystems will have on the entire web of life that lives there. 25 26

Removing water from the landscape invariably contributes to greater desertification and drought conditions that our region is already fighting to prevent. Keeping water in the landscape (restoring aquifers, keeping thriving ecosystems alive, and contributing to the abundant and diverse wild game populations) reverses the effects of desertification and drought throughout our region. 27

As a citizen of Paonia, I am firmly opposed to this Action Plan, its obtrusive use of resources, and its lack of legitimate foresight into future implications this development will have on our environment long term. 28

Thank you for your time.

Sincerely,

M. Kathleen Howe

103 Dorris Ave.,

Paonia, CO 81428

FORM LETTER

[EXTERNAL] Turner and Lone Cabin Ditch Companies' Proposed Action plan

Geoffrey Levens <geoffreylevens@gmail.com>

Fri 1/6/2023 8:18 AM

To: Ward, Jennifer K <jward@usbr.gov>

Ed Warner,

I am a citizen of Paonia, Colorado with serious concerns regarding the Turner and Lone Cabin Ditch Companies' Proposed Action plan.

Comments

I understand that water that has been historically available to all forms of life in Mt. Lamborn will be permanently removed from the landscape, the environment and our watershed if this plan goes through. I am deeply concerned about the unforeseen, long term consequences of removing 27.1 miles of open water from our landscape. I am concerned about the hundreds of cottonwoods, the oak forests, the wild herbs and flowers crucial to the monarch butterfly for example, and the domino effect that removing riparian zones from high altitude ecosystems will have on the entire web of life that lives there. 25 26

Removing water from the landscape invariably contributes to greater desertification and drought conditions that our region is already fighting to prevent. Keeping water in the landscape (restoring aquifers, keeping thriving. 27

Thank you for considering this

Geoffrey Levens. L.Ac.
446 Vista Drive apt 13
Paonia, CO 81428

970-312-7138

FORM LETTER

[EXTERNAL] Do not pipe

Robert Orlando <livingland1@icloud.com>

Fri 1/6/2023 8:03 AM

To: Ward, Jennifer K <jward@usbr.gov>

This is a letter I copied and pasted that represents my feelings. On the upper north fork valley we are piping ditches and basic hydrology tells us we are creating a net loss of available water in our valley for a variety of reasons due to this piping and habitat loss. We are creating a more desert like environment. To Stop piping the valley is very important for the long term.

To Ed Warner,

I am a citizen of Paonia, Colorado with serious concerns regarding the Turner and Lone Cabin Ditch Companies' Proposed Action plan.

Comments

I understand that water that has been historically available to all forms of life in Mt. Lamborn will be permanently removed from the landscape, the environment and our watershed if this plan goes through. 25

I am deeply concerned about the unforeseen, long term consequences of removing 27.1 miles of open water from our landscape. I am concerned about the hundreds of cottonwoods, the oak forests, the wild herbs and flowers crucial to the monarch butterfly for example, and the domino effect that removing riparian zones from high altitude ecosystems will have on the entire web of life that lives there. 26

Removing water from the landscape invariably contributes to greater desertification and drought conditions that our region is already fighting to prevent. Keeping water in the landscape (restoring aquifers, keeping thriving. 27

Robert Orlando
PO Box 628
Paonia, CO 81428

Sent from my iPhone

FORM LETTER

[EXTERNAL] Turner and Lone Cabin Ditch Companies' Proposed Action plan.

marta sanchez <sanchez.chacon.marta@gmail.com>

Fri 1/6/2023 6:39 PM

To: Ward, Jennifer K <jward@usbr.gov>

Dear Ed,

I am a citizen of Paonia, Colorado with serious concerns regarding the Turner and Lone Cabin Ditch Companies' Proposed Action plan.

Comments

I understand that water that has been historically available to all forms of life in Mt. Lamborn will be permanently removed from the landscape, the environment and our watershed if this plan goes through. I am deeply concerned about the unforeseen, long term consequences of removing 27.1 miles of open water from our landscape. 25

I am concerned about the hundreds of cottonwoods, the oak forests, the wild herbs and flowers crucial to the monarch butterfly for example, and the domino effect that removing riparian zones from high altitude ecosystems will have on the entire web of life that lives there. 26

Removing water from the landscape invariably contributes to greater desertification and drought conditions that our region is already fighting to prevent. Keeping water in the landscape (restoring aquifers, keeping thriving ecosystems alive and contributing to the abundant and diverse wild game populations) reverses the effects of desertification and drought throughout our region. 27

As a citizen of Paonia, I am firmly opposed to this Action Plan, its obtrusive use of resources and its lack of legitimate foresight into future implications this development will have on our environment long term. 28

Thank you for your time.

Sincerely,

Marta Sanchez

Turner and Lone Cabin Ditch Combination
Salinity Reduction Piping Project

To whom it may concern Jan 4. 2023

We have been shareholders on the Turner ditch for 30 years. I have attended all but one ditch meeting in that time and was actively involved in repairs and maintenance. The last five years I was the excavator who cleaned Turner ditch every spring. I also worked on many other ditches in the area and know the Turner ditch to be one of the best, being in exeellent condition with the lowest maintenance costs per share. It has served Lamborn Mesa reliably for 130 years, and is still working great. To the best of my knowledge, no salt load studies have ever been done on the Turner ditch. To build new right-of-ways and backfill the old ditches will require the demolition of thousands of established healthy trees at the very same time we are losing millions of trees every year due to wild fires. The plan is to build a habitat replacement miles away from the affected area, adjacent to a river, which is already a wetlands. There is absolutely no reason to pipe the Turner ditch. If we would stop using salty solutions on our highways, there would be a lot less salt in our rivers. All highways drain into rivers.

Comment 29

Comment 30

Comment 31

Sincerely, Thomas Pitterle 970-314-1705
P.O. Box 62 If any questions
Norwood CO 81423 Please call.

APPENDIX G – SUMMARY OF HABITAT REPLACEMENT ACCOUNTING FOR SALINITY CONTROL PROJECTS IN THE REGION

Salinity Project	Status	Habitat Units Lost	Habitat Credits Created
Bostwick Park Siphon Lateral Piping Project and Waterdog & Shinn Park Laterals Piping Project	Past	32.1	32.4
C Ditch/Needle Rock	Past	7.88	10.49
Cattleman's Ditch Phases 1 and 2	Past	18.57	23.32
Crawford Clipper – Center Lateral	Past	33.9	38.4 + Excess from previous project
Crawford Clipper - Jerdon, West, & Hamilton	Reasonably Foreseeable	11.6	33.4
Crawford Clipper – Spurlin Mesa (Clipper 4) & Zanni Lateral	Past	16.38	16.49
East Side Laterals – Phase 1	Past	59.85 acres (Note A)	100 acres
East Side Laterals – Phase 2	Past	26 acres	26 acres
East Side Laterals – Phase 3	Past	8.6	26
East Side Laterals – Phase 4	Past	7.04	Using excess from previous project
East Side Laterals – Phase 5 & GE, DK Laterals	Past	9.99	Using excess from previous project
East Side Laterals – Phase 7 (Note B)	Past	2.77	41.9
East Side Laterals – Phase 8	Past	22.2	Using excess from previous project
East Side Laterals – Phase 9 & Phase 9 Mod	Past	35.6	31.7+ Excess from previous project
East Side Laterals – Phase 10	Reasonably Foreseeable	18.7	6.3 (Note C) + Excess
Fire Mountain Canal	Past	8.42	13.05
Forked Tongue/Holman Ditch	Past	6.7	11.07
Gould Canal – Projects A & B	Past	18.1	24.19
Grandview Canal – Upper, Middle & Lower	Past & Reasonably Foreseeable	33.6 (Note D)	34
Minnesota Ditch – Phase 1	Past	11.17	22.73
Minnesota Ditch – Phase 2 and Minnesota L-75	Past	24.92	17.61 + Excess from previous project
Needle Rock/Lone Rock Ditch	Present	13.9	15.8
North Delta Canal – Phase 1 and Phase I Extension	Past	173.03	174.6

Salinity Project	Status	Habitat Units Lost	Habitat Credits Created
Orchard Ranch Ditch	Past	5.12	5.99
Pilot Rock Ditch	Past	16.9	20.9
Rogers Mesa Slack and Patterson Laterals	Past	20.34	39.93
Short Ditch Extension	Present	13.8	14.1
Stewart Ditch – Upper, Middle & Lower	Past	8.67	9.63
Turner/Lone Cabin Ditch	Project	117.8	120.3
	TOTALS:	**697.8 units, 85.85 acres**	**784.3 credits, 126 acres**

Note A. In late 1990's and early 2000's, the habitat replacement procedures focused on acres rather than credits.

Note B. East Side Laterals – Phase 6 was not a salinity control project, and therefore there is no habitat replacement project associated with that phase.

Note C. As Phase 10 is a potential future project and documentation has not been completed at this time, this figure is an estimate.

Note D. As the Middle & Lower Grandview project is a potential future project and documentation has not been completed at this time, this figure is an estimate. The Upper Grandview project resulted in the loss of 26 habitat units and the Middle & Lower is currently anticipated to result in the loss of an additional 7.6 habitat units.