BUREAU OF RECLAMATION

# Draft Environmental Assessment for the Needle Rock – Lone Rock Ditch Piping Project

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

**U.S. Department of the Interior** October 2021

# Mission Statements

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

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

# Draft Environmental Assessment for the Needle Rock – Lone Rock Ditch Piping Project

**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*

**October 2021**

Cover Photo: Needle Rock Ditch with Needle Rock on the horizon.
(Rare Earth Science, LLC).

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# CHAPTER 1 - INTRODUCTION

This Environmental Assessment (EA) has been prepared to explain and evaluate the potential environmental effects of the Needle Rock Ditch Company's (NRDC's) and the Lone Rock Ditch Company's (LRDC's) proposed Needle Rock – Lone Rock Ditch Piping Project ("Project" or "Proposed Action"). The Federal action evaluated in this EA is whether the Bureau of Reclamation (Reclamation) would provide funding assistance to NRDC and LRDC (collectively, "Ditch Companies") for the Proposed Action. This document has been prepared in compliance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality's (CEQ's) NEPA regulations at 40 CFR Parts 1500 – 1508 (2020). If potentially significant impacts to environmental resources are identified, an Environmental Impact Statement (EIS) will be prepared. If no significant impacts are identified, a Finding of No Significant Impact (FONSI) will be issued.

## 1.1 – Project Location and Legal Description

The Project is located in the southeast part of Delta County, Colorado (see Figure 1, below). The piping component of the Project is located about 2 direct miles northeast of the Town of Crawford, within Sections 21, 23, 26, 27, 28, and 29 of Township 15 South, Range 91 West (6th Principal Meridian). The Habitat Replacement Site for the Project is approximately 0.5 direct miles west of the Project's piping component in Section 20, Township 15 South, Range 91 West (6th Principal Meridian).

There are two classifications of land affected by the Proposed Action: private land and federal land. The Federal land is public land administered by the U.S. Bureau of Land Management (BLM) Uncompahgre Field Office, where Needle Rock Ditch crosses the 80-acre Needle Rock Natural Area Section 27 of Township 15 South, Range 91 West ($6^{th}$ Principal Meridian) (Figure 1). The Needle Rock Natural Area has the following BLM designations: Outstanding Natural Area (ONA), Area of Critical Environmental Concern (ACEC), and Wilderness Study Area (WSA). The Needle Rock Natural Area is also formally identified by BLM as an Instant Study Area, a specific category of WSAs. Instant Study Areas are less than 1,500 acres and generally not adjacent to other WSAs or a designated wilderness.

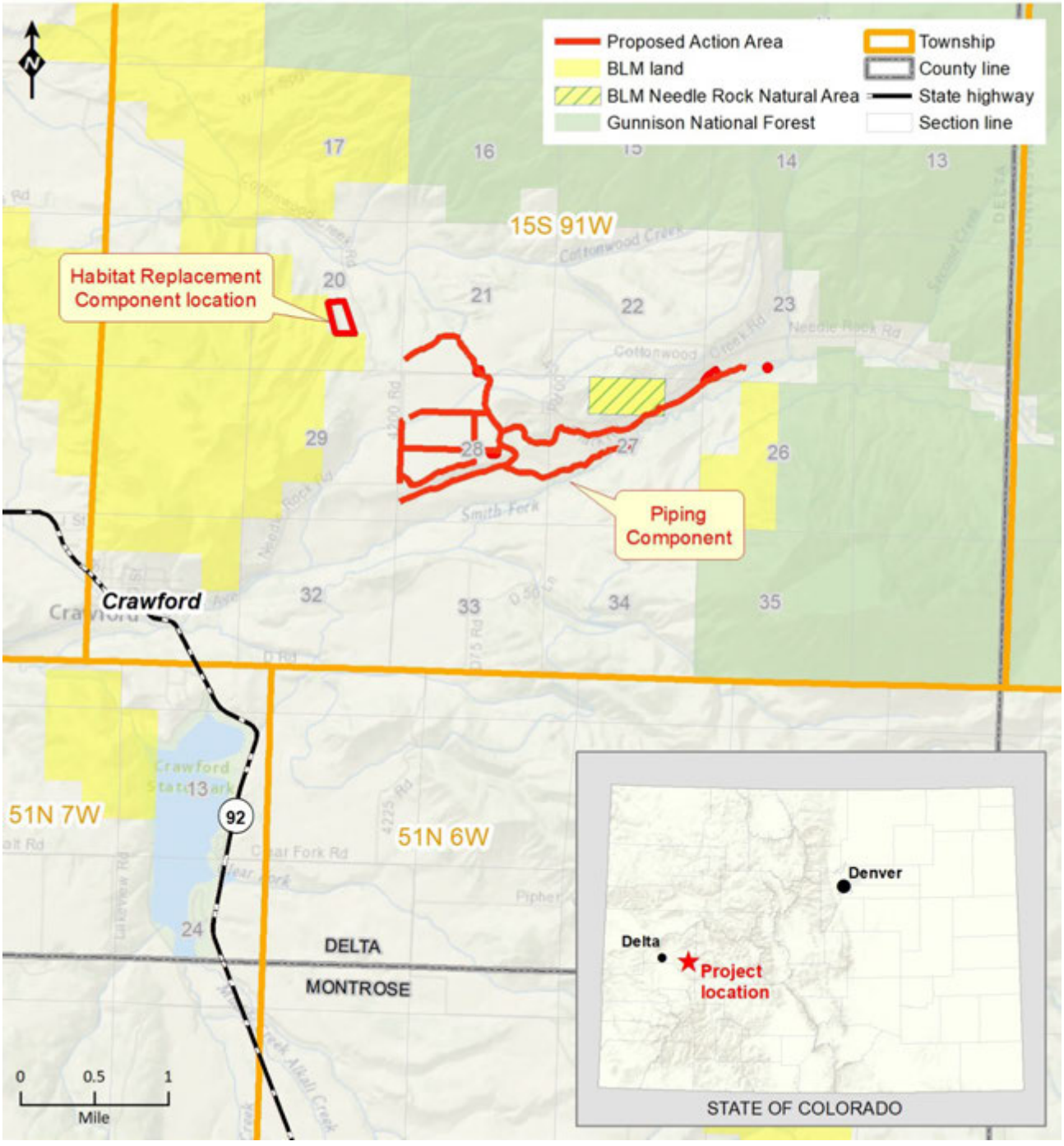
## 1.2 – Need for and Purpose of the Proposed Action

The need for the Proposed Action is to reduce salinity concentrations in the Colorado River basin. The purpose of the proposed action is to comply with the Colorado River Basin Salinity Control Act.

The Proposed Action would eliminate seepage loss from approximately 7.4 miles of the open unlined Needle Rock and Lone Rock ditch systems, reducing salinity loading by 2,952 tons per year in the Lower Gunnison Basin and the Colorado River Basin. An additional beneficial effect of the

Proposed Action would be the reduction of selenium in the Colorado River basin (SMPW 2011), although the amount of selenium reduction has not been quantified.

Figure 1. Map of project location.



## 1.3 – Decision to be Made

Reclamation will decide whether to provide funding to NRDC to implement the Proposed Action, and BLM would acknowledge an historic prescriptive ROW and grant a temporary construction ROW on BLM land to allow for implementation of the Proposed Action.

## 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 2017). 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 2017). 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.

In June 1974, Congress enacted the Colorado River Basin Salinity Control Act, Public Law 93-320, which directed 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.

The Basinwide Salinity Control Program funds salinity control projects with a one-time grant that is limited to an applicant's competitive bid. Once constructed, the facilities are owned, operated, maintained, and replaced by the applicant at their own expense.

### 1.4.2 – Needle Rock and Lone Rock Ditch Companies

Needle Rock Ditch was incorporated in 1890 to provide irrigation water to lands on the north side of Smith Fork Creek in the Missouri Flats area, and to lands farther to the northwest in the Cottonwood Creek drainage. Lone Rock Ditch was established in 1887 and formally incorporated in 1970 to provide irrigation water to lands north of Smith Fork Creek. The irrigated crops associated with the open, earth ditches administered by the Ditch Companies are primarily grass pasture, with some alfalfa hay. In 2019, the Ditch Companies applied to Reclamation to fund the Proposed Action under Funding Opportunity Announcement No. BOR-UC-20-F001.

## 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, 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 has recently utilized Salinity Control Program funds for the following salinity control projects in the vicinity of the proposed Project Area (Figure 2):

- Bostwick Park Siphon Lateral Piping Project
- C Ditch/Needle Rock Piping Project
- Cattleman's Ditches Piping Project Phases I and II
- Clipper Center Lateral Piping Project
- Eastside Laterals Piping Projects ("UVWUA Project 9")
- Fire Mountain Canal Piping Project
- Forked Tongue/Holman Ditch Piping Project
- Gould Canal Improvement Projects A & B
- Grandview Canal Piping Project
- Upper and Lower Stewart Ditch Piping Projects
- Minnesota Canal Piping Project Phase I and II
- Minnesota L75 Piping Project
- North Delta Canal Piping Project
- Orchard Ranch Piping Project
- Slack and Patterson Lateral Piping Project
- Spurlin Mesa Lateral Piping Project ("Clipper Project 4")
- Waterdog and Shinn Park Laterals Piping Project
- Zanni Lateral Piping Project

### 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 piping projects on CRSP-participating projects in the vicinity of the Proposed Action Area (Figure 2):

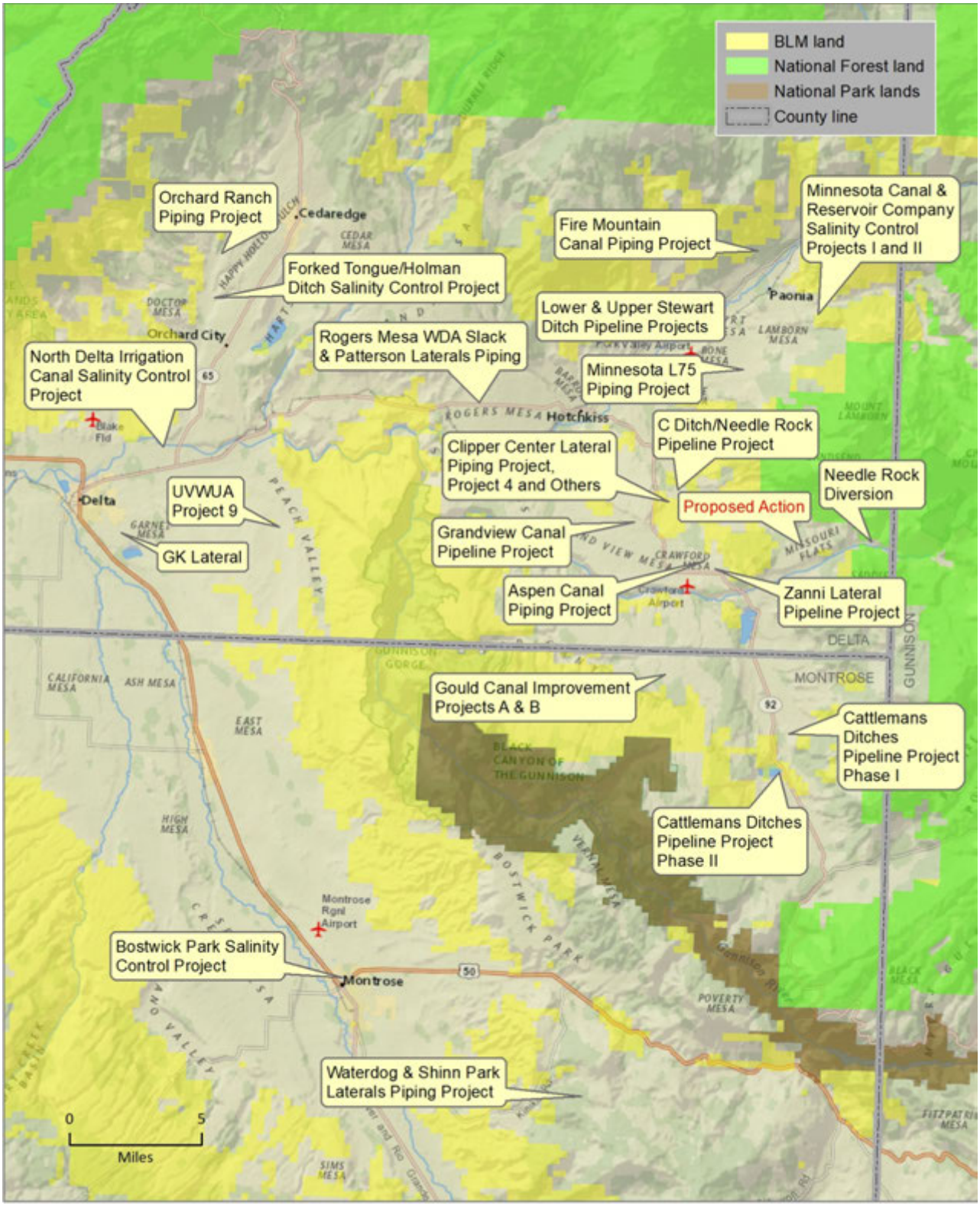
- Aspen Canal Piping Project
- GK Lateral Piping Project

### 1.5.3 – RCPP Funds

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

- Needle Rock Diversion Project (see Section 2.1.1 for how the Proposed Action is related to the Needle Rock Diversion Project)
- Grandview Canal Piping Project
- Crawford Clipper Ditch Upper West Lateral Master Plan Projects (various)

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



## 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 Proposed Action 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
- 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, Grand Junction, CO

Concerns raised during recent similar projects and related informal consultations with Colorado Parks and Wildlife, Gunnison, Colorado, also helped identify potential concerns for the Proposed Action.

Issues determined to be of potential significance, and therefore appropriate for further impact analysis under this EA, are discussed in Chapter 3. The following issues (Table 1) were determined to be insignificant or not applicable, and are not analyzed in greater detail within this document:

Table 1. Resources Eliminated from Further Analysis

| Resource | Rationale for Elimination from Further Analysis |
|---|---|
| Indian Trust Assets and Native American Religious Concerns | No Indian trust assets have been identified within the Proposed Action Area. No Native American sacred sites are known within the Proposed Action Area. Neither the No Action Alternative, nor the Proposed Action Alternative, will affect Indian trust assets or Native American sacred sites. To confirm this finding, Reclamation provided the Ute Mountain Ute Tribe and the Ute Indian Tribe (Uintah and Ouray Reservation), and the Southern Ute Indian Tribe with a description of the Proposed Action 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 | Rationale for Elimination from Further Analysis |
|---|---|
| Environmental Justice & Socioeconomic Issues | The Proposed Action Area does not occur on Indian reservation lands or within disproportionately adversely affected minority or low-income populations. The Proposed Action Alternative 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 | No Wild and Scenic Rivers or Land with Wilderness Characteristics exist in the Proposed Action Area. |

# 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 Needle Rock and Lone Rock ditch systems 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.

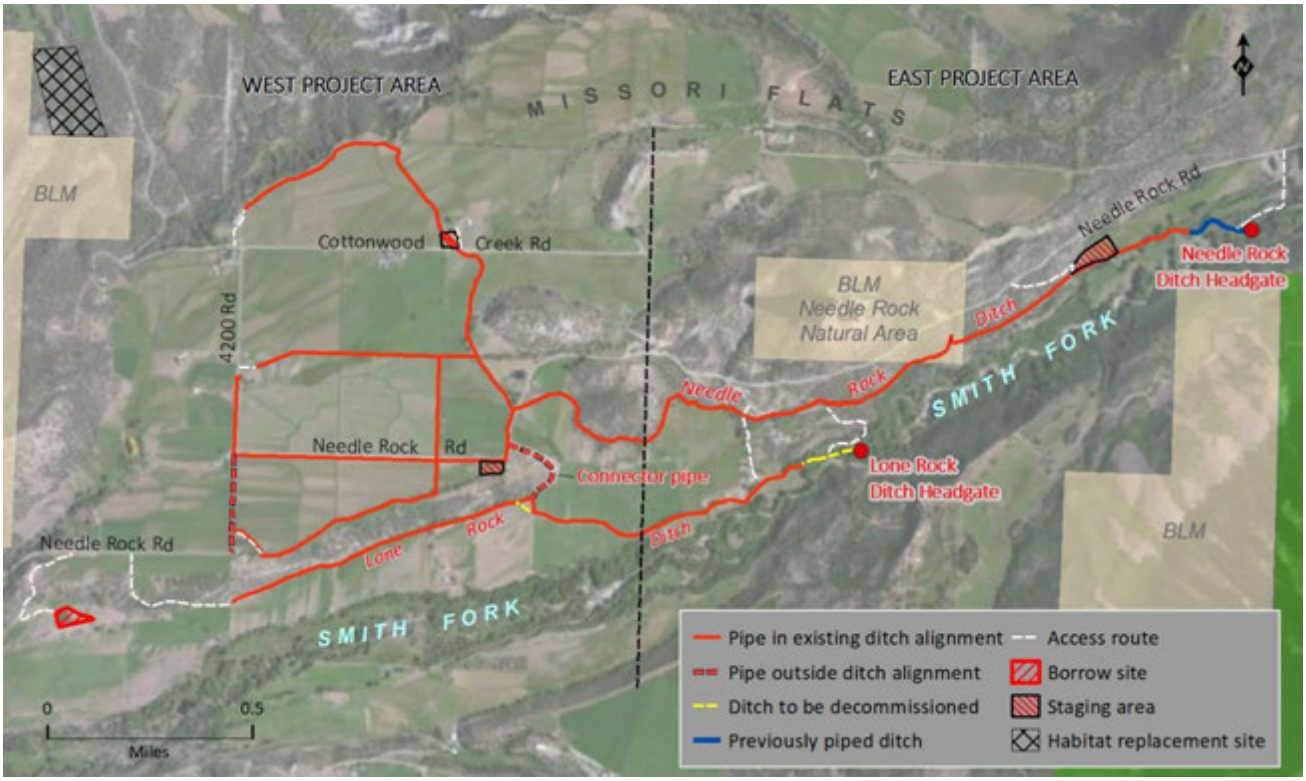
## 2.2 – Proposed Action

Under the Proposed Action, Reclamation would authorize funding to the Ditch Companies to implement the Needle Rock – Lone Rock Piping Project, and BLM would acknowledge an historic prescriptive ROW and grant a temporary construction ROW to NRDC on BLM land to allow for implementation of the Proposed Action.

The Proposed Action involves installing approximately 7.5 miles of buried pressurized pipeline. Approximately 7.1 miles of the pipeline would be installed in the existing ditch prisms, and about 0.4 miles of pipe would be installed in new alignments outside the existing ditch prisms (see Figure 3). The two ditch systems currently divert water from two separate locations on the Smith Fork. The Proposed Action would combine the diversions of the two systems at the current Needle Rock Ditch diversion. The Needle Rock Ditch headgate would receive minor modifications to improve its

operation, the two ditch systems would be joined by a connector pipeline, and the Lone Rock diversion and the first approximately 750 feet of the Lone Rock Ditch would be decommissioned.

Figure 3. Proposed Action Plan




Additionally, an approximately 220-foot lateral segment of Lone Rock Ditch would be decommissioned just south of where the connector pipe would join the systems (Figure 3). A variety of control structures (valves, air vents, meters, etc.) and outlets (turnouts, risers, frost-free hydrants) would be installed in the system. Table 2 provides a summary of project components (distances and acreages are approximate), broken out by land ownership status (private lands vs. public lands).

For all aspects of the Proposed Action, Best Management Practices (BMPs) would be used to minimize impacts of the project on the human and ecological environments. BMPs and other protective measures are incorporated as part of the Proposed Action, are described and analyzed as part of the Proposed Action in CHAPTER 3 (Affected Environment & Environmental Consequences), and are summarized in CHAPTER 4 (Environmental Commitments).

No water storage, pump stations, compressor stations, or new irrigated areas would be associated with the Proposed Action.

Table 2. Summary of Project Components for the Proposed Action

| Component | Total Area Involved | On BLM Land | On Private Land | Comment |
|---|---|---|---|---|
| Ditch to be piped in the existing ditch prism | 7.1 mi | 815 linear feet (0.75 acre) | 6.95 mi | Construction width: Private land – 60 feet BLM land – 40 feet |
| Pipe to be installed outside the existing ditch prism | 0.4 mi | -- | 0.4 mi | Needle Rock-Lone Rock connector pipe (0.2 mi) and a pipe along the west side of 4200 Rd (0.2 mi) |
| Existing ditch to be decommissioned | 0.2 mi | -- | 0.2 mi | The first 750 feet of Lone Rock Ditch and its headgate, and about 220 feet of a ditch segment in an irrigated hayfield |
| Needle Rock Ditch headgate modification | Potential for 0.03-acre disturbance in pre-existing footprint | -- | Potential for 0.03-acre disturbance in pre-existing footprint | The Needle Rock Ditch headgate was redesigned and replaced in 2019, funded by and analyzed by RCPP. The currently proposed modifications are in the previous footprint of analysis |
| Staging areas | 2.9 acres total (4 areas) | 0.1 acre (1 area) | 2.8 acres (3 areas) | Limited staging on BLM (not for large-scale project-wide materials storage) |
| Access ways | 1.9 mi | -- | 1.9 mi | Accessways are on pre-existing private roads |
| Borrow areas | 1.5 acre | -- | 1.5 acre | One area west of the piping component, off Needle Rock Road |

| Component | Total Area Involved | On BLM Land | On Private Land | Comment |
|---|---|---|---|---|
| Borrow area (at Gould Reservoir basin) | 93 acres | -- | 93 acres | This is a contingency borrow area that was analyzed under a different salinity control project (Gould Canal Improvement Projects A & B (see Figure 2) |
| Habitat Replacement Site | 17 acres | -- | 17 acres | To be improved in accordance with a Habitat Replacement Plan, in order to replace riparian/wetland habitat lost as a result of the piping component |

### 2.2.1 – Pipeline Installation

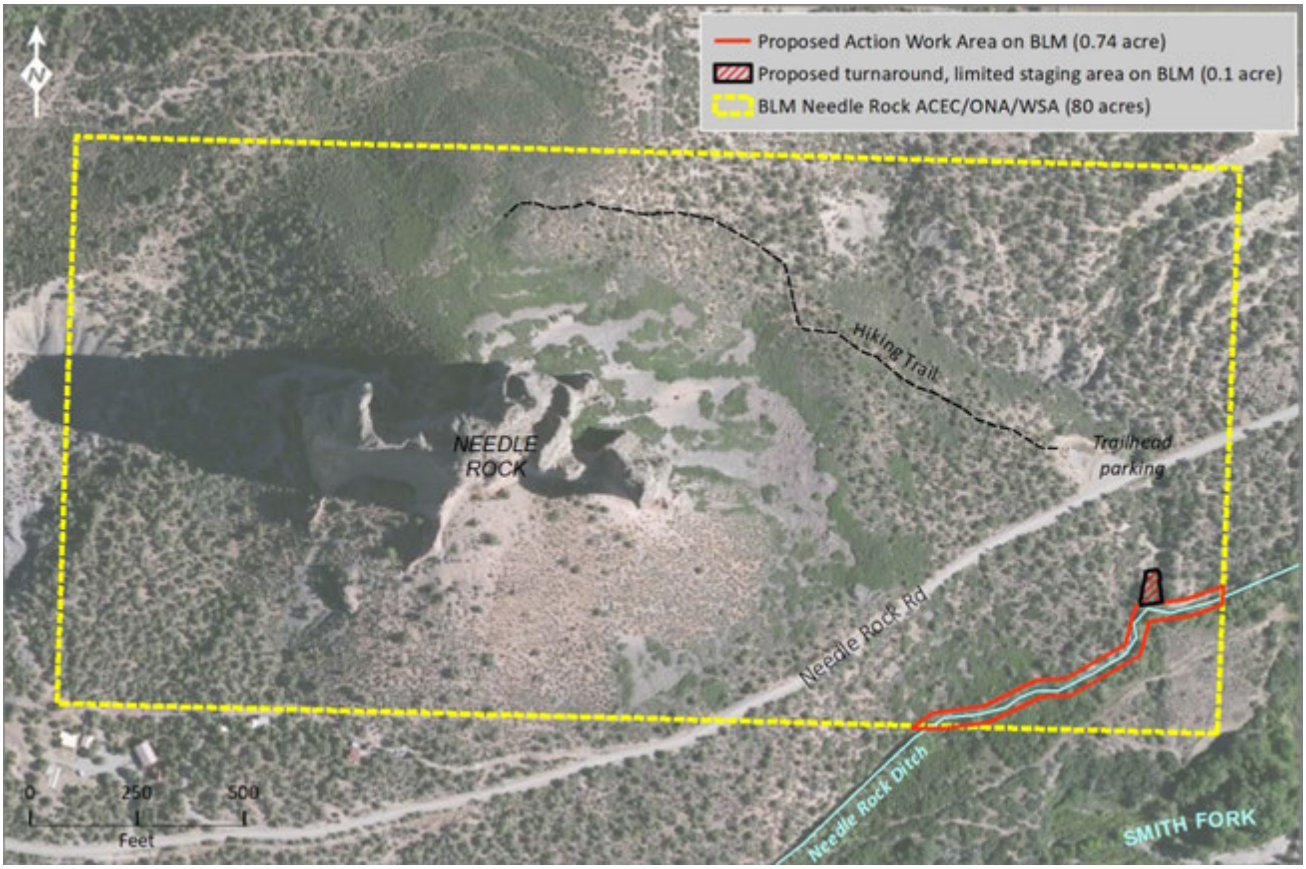
The first 875 feet of Needle Rock Ditch is already piped (completed in 2019 with funding from the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) Regional Conservation Partnership Program (RCPP). The proposed action would begin piping Needle Rock Ditch from the end point of the RCPP project and continue throughout the laterals across the Missouri Flats area (Figure 3), connecting with the Lone Rock Ditch system with buried pipe extending south from Needle Rock Ditch turnout #7 to Lone Rock Ditch. Pipe sizes would vary from 42-inch diameter in the main line to as small as 1-inch diameter at the turnouts. Pipe material would be PVC or similar. The burial depth would be below frost line (with 30 inches of cover) since the system delivers winter stock water to its shareholders.

Installation of the pipeline in the existing ditch prism would involve using trackhoes and bulldozers to grub ditch bank vegetation. Downslope woody vegetation at the toe of the ditch prism, especially in natural areas, would be left intact as much as possible, to maintain a natural vegetative soil anchor downgradient of the disturbance footprint. Following grubbing, trackhoes and bulldozers would be used to reserve existing topsoil and fill the existing ditch with material from the existing ditch prism. An excavator would then trench to the appropriate depth in the prepared ditch prism. The pipe 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. The pipe would be bedded and buried with fill material from within the ditch prism (see Photograph 1, below) or, if necessary, with bedding or fill obtained from one of the proposed borrow sites or a commercial sand and gravel pit. For installation of pipelines in new alignments, the process would be similar, but without the step of first filling the existing ditch to prepare for trenching. To prevent the spread of weeds, all equipment and vehicles would be cleaned prior to arriving on work sites.

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.

Figure 4. Proposed Action Plan – BLM Needle Rock Natural Area Detail




Following pipe installation, the pipe alignment would be graded to match the surrounding land contours and restore drainage patterns. Reserved topsoil would be replaced on the prepared surface using a trackhoe, without back-dragging the blade (i.e., without smoothing), to create microtopography for reseeding. In natural areas, grubbed material and slash including large trees and large rocks would be reserved and then distributed on the reseeded surface to provide a nursery environment for establishing seedlings and help prevent erosion. Excess grubbed shrubs, trees and stumps would be cut, chipped, or burned at one of the private land staging areas or hauled to a local landfill. No burning would occur on BLM land.

A one-lane dirt maintenance road or ATV trail would remain on the pipe alignment following construction. Appropriately-sized culverts would be placed at drainage crossings, or in natural areas and on BLM land, drainage crossings would be rock channels.

There are seven points where the buried pipe alignment would cross county roads. These crossings would be trenched across the roads, and the road surface restored, per Delta County Road and Bridge specifications.

Photograph 1. Example of the pipeline installation process on the upper Needle Rock Ditch in the area just below the headgate, completed in 2019. (Applegate Group, Inc.)

### 2.2.2 – Lone Rock Ditch & Diversion Decommissioning

To ensure no runoff or other water can flow in decommissioned ditch segments, an excavator would be used to fill the ditch with material from the existing ditch prism or material from one of the planned borrow sites. Then a trackhoe would contour the filled ditch alignment to match the surrounding land, including natural drainage patterns that cross the alignment. The segment of Lone Rock Ditch to be decommissioned is the first 750 feet from the headgate. Since this ditch segment is

not in a prism but instead excavated below grade, decommissioning this segment would require imported fill. The other segment of ditch proposed for decommissioning (a 220-foot-long Lone Rock lateral) would be filled with material from the existing ditch prism and contoured such that it is incorporated into the surrounding irrigated hayfield.

The Lone Rock Ditch headgate consists simply of a short length of pipe through the riverbank with a steel slide headgate. These items would be removed with an excavator and properly disposed off site. There is no concrete box or dam associated with the Lone Rock Ditch headgate.

### 2.2.3 – Needle Rock Ditch Headgate Modification

Two improvements are proposed for the Needle Rock Ditch headgate. The first improvement involves the headgate's approximately 60-foot-long buried corrugated return pipe, which returns debris and excess water to the creek, but has become blocked with debris during the past two irrigation seasons. To remedy this issue, the existing return pipe would either be slip-lined with a smooth-walled pipe such as PVC, or completely removed and converted to an open earthen channel. The channel would be 2 to 4 feet deep and 10 feet wide on top. Excavated material would be graded out next to the channel and reseeded.

The second improvement would involve placing precast concrete slabs in front of the overshot sluice gate and the diversion gate which allow the sluice gate to better pass bedload gravels during high water. This would be accomplished during low water, when approximately 6 inches of gravel can be excavated from the creek bed and the precast concrete slabs can be placed with their upper surfaces at grade.

### 2.2.4 – Access

All access ways for construction of the Proposed Action would be on the existing ditch prisms, in the proposed new pipe corridors, or directly to these areas from county roads or from existing private roads with landowner permission. Any private land access easements for the Proposed Action and their specific locations would be clearly marked on the construction drawings. Private road access ways may require some grading and replacement of gravel following construction use.

The existing ditch alignments involved in the Proposed Action are in historic prescriptive easements on both private and public (BLM) lands. All private landowners in the footprint of the Proposed Action where activities would take place outside the historic prescriptive easement have verbally agreed to allow the activities of the Proposed Action to be conducted on their lands. The right-of-way for the new connector pipe (Figure 3) is a written agreement between the landowner and the Ditch Companies. BLM has acknowledged the historic prescriptive easement of Needle Rock Ditch through the BLM Needle Rock Natural Area. NRDC is in the process of applying for a BLM temporary construction right-of-way (ROW) permit to complete construction of the Proposed Action.

The width of the construction area on private land for the Proposed Action is anticipated to be 60 feet wide or less. In the BLM Needle Rock Natural Area, the width of the construction is anticipated to be 40 feet or less. Construction footprints would be limited to only those necessary to safely implement the Proposed Action—the authorized construction width would not be cleared to its maximum outer limits as a part of site preparation. 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, especially

on steep slopes. In other areas, minor deviations of up to 10 feet from the existing ditch centerline maybe be incorporated to achieve a straighter pipeline configuration where possible.

### 2.2.5 – Staging

Three staging areas have been identified on irrigated pasture or previously disturbed areas on private land (Figure 3). 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.

One proposed turnaround/limited staging area has been identified on the BLM Needle Rock Natural Area (Figure 4). The area extends 100 feet north from the ditch centerline and is approximately 75 feet wide along the ditch, tapering to about 40 feet wide at its north end. This is the only relatively flat location within 1,500 feet in either direction along Needle Rock Ditch. The area is an ephemeral drainage pattern that only flows during prolonged precipitation events. This area would be necessary as a pullout and to turn vehicles and equipment around in the narrow ditch corridor through the BLM Needle Rock Natural Area. This area would also require a rock drainage (as a drainage culvert alternative) following pipeline construction to control erosion and prevent damage to the pipeline during flow events. This area is identified as a "limited" staging area, because it would not be used to store significant quantities of pipe and other materials on a project-wide basis like the private land staging areas, but simply provide for necessary maneuvering of equipment, supplies, and vehicles for the duration of construction through this segment.

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. Equipment would be removed from the BLM Natural Area if construction work is idled for more than two consecutive weeks.

### 2.2.6 – Borrow Activities

It is anticipated that a significant amount of necessary bedding fill will be generated from within the construction footprint. Onsite materials contain a significant amount of rock, especially in the east part of the Proposed Action area. 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 the borrow site identified on Figure 3. A secondary borrow resource would be the Gould Reservoir basin, approximately 8 direct miles south of the site, which was previously analyzed and approved for a different salinity control project. Alternatively, borrow material could be purchased from a commercial provider. Borrow material would be loaded to end-dump trucks using an excavator and hauled to the construction site via approved access ways.

### 2.2.7 – Post-Construction Revegetation & Weed Control

Restoration activities would occur on all surface disturbances caused by construction of the Proposed Action. All non-irrigated disturbed areas would be seeded with a drought-tolerant seed mix, appropriate for the surrounding native vegetation. This seed mix would be recommended by BLM (Appendix A). Where irrigated lands are revegetated, the seed mix would be a weed-free hay mix acceptable to the landowner. Reseeding success would be monitored subject to agreements between the Ditch Companies and individual landowners, and NRDC and BLM.

Noxious weeds would be controlled in disturbed areas in accordance with county standards (Delta County 2020). Woody noxious weeds within the Proposed Action Area would be mechanically removed during construction. After construction, the Ditch Companies would control woody and herbaceous noxious weeds as necessary for the life of the project with appropriate herbicides. NRDC would coordinate with BLM on the use of herbicides on BLM land, and would provide Pesticide Use Proposals (PUPs) prior to treatments.

### 2.2.8 – Schedule

Construction in existing ditch alignments would occur during the irrigation off-season, to avoid interrupting irrigation activities of the shareholders. Irrigation off-season varies annually depending on weather patterns, but can be as short as October through mid-April, or as long as mid-July through mid-April. Construction outside existing ditch alignments and ditch decommissioning would not need to avoid irrigation season and could occur during any time of the year, with certain timing restrictions explained below. Reseeding work and weed treatments would occur during seasons when those activities have the best opportunity for success.

Construction activities both within and outside the existing ditch alignments would be subject to timing restrictions to protect wildlife (nesting migratory birds and raptors, wintering big game), as explained in the Wildlife analysis (Section 3.2.10) and the Environmental Commitments (CHAPTER 4). Areas with construction timing restrictions, and the nature of those restrictions, would be prominently marked on construction drawings. Timing restrictions are summarized as follows:

- Grubbing or removal of vegetation would not occur during the period of April 1 through July 15 to protect nesting migratory birds.
- Construction work within a ½-mile radius of Needle Rock would avoid the period of March 15 to July 31 to protect nesting peregrine falcons.
- Construction work in the east part of the Proposed Action area (including the Needle Rock Natural Area) would be avoided during the period of December 21 through April 15 to avoid disturbance to wintering elk, mule deer, and wild turkey (see Figure 3 for the demarcation between the West and East Project Areas).

Construction is anticipated to occur over a period of two years. With a single crew, construction is estimated to require a total of approximately 200 days on private land, and a total of approximately 10 days on BLM land. If the contractor provides more than one crew, the total construction time would be significantly shorter. When construction is underway, it would occur during daylight hours (typically 7 am to 4 pm), Monday through Saturday, on a sequenced basis in the Project area. Weather conditions could cause gaps in activity.

### 2.2.9 – Habitat Replacement

In accordance with the Colorado River Basin Salinity Control Act, habitat replacement would be required to mitigate for riparian and wetland habitat lost as a result of the Proposed Action. As part of the Project, the Ditch Companies developed a Habitat Replacement Plan (ERO 2021) for a site at the general location shown on Figure 1.

The habitat replacement project would occur on approximately 17 acres ("Habitat Replacement Site") on a private parcel owned by an NRDC shareholder (Figure 1) and encumbered by a conservation easement held by Colorado Open Lands. The Habitat Replacement Site is in a draw that forms a Cottonwood Creek seasonal tributary. The tributary receives ephemeral flow from

several small drainages and has limited riparian character. This site would be improved and enhanced as wildlife habitat in accordance with a Habitat Replacement Plan (ERO 2021). The goals of the plan would be to install five water control features (earthen check dams) that would slow and store seasonal and ephemeral water flows, enhancing open water interspersion at the site and lengthening the time water is available to the vegetation. Vegetation species diversity and structural stratification would be enhanced by willow and cottonwood pole plantings around water control features, and planting of other appropriate native riparian shrubs that can self-propagate and increase habitat diversity at the site. Existing weed infestations at the site would be treated and managed, and disturbed lands reseeded with appropriate native grass and forb species. The Ditch Companies would be responsible for ongoing maintenance of the Habitat Replacement Site for 50 years after its establishment.

Native shrub plantings would be installed by hand or with the assistance of a small tractor. Weeds would be removed mechanically and/or treated with aquatic-safe herbicides. Vegetation slash would be chipped and mulched onsite or removed and processed at one of the proposed staging areas. New shrub plantings would be irrigated as necessary and protected from livestock and wildlife damage using webbing and wire cages.

The timing of the 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, with the following exception: Removal of vegetation would be avoided during the migratory bird nesting season.

## 2.2.10 – Permits & Authorizations

*Agreements & Authorizations*

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

- BLM Historic Prescriptive Easement Acknowledgment for that portion of the Needle Rock Ditch occurring on BLM land.
- BLM Right-of-Way (ROW) Temporary Permit for work extending outside the historic prescriptive easement of Needle Rock Ditch.
- Recovery Agreement executed between the U.S. Fish & Wildlife Service (FWS) and NRDC
- Recovery Agreement executed between FWS and LRDC.
- 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.").

*Construction Permits & Plans*

If the Proposed Action is approved, 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 (if any 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.

Compliance with the following laws and Executive Orders (E.O.) 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)

*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 may be affected by the Proposed Action Alternative and the No Action Alternative. For each resource, the potentially affected area and/or interests are identified, existing conditions described, and potential impacts predicted under the No Action and Proposed Action Alternatives. This section is concluded with a summary of impacts.

## 3.2 – Affected Environment & Environmental Consequences

### 3.2.1 – Water Rights & Use

The Needle Rock Ditch system supplies irrigation water to 34 users irrigating approximately 1,666 acres. The irrigated area associated with that part of Needle Rock Ditch system associated with the Proposed Action is approximately 540 acres and 12 users. The Lone Rock Ditch system delivers irrigation water to 6 users irrigating approximately 170 acres. Needle Rock Ditch also delivers Smith Fork Project exchange water and is affiliated with the Crawford Water Conservancy District. Needle Rock Ditch water rights total 42.915 cubic feet per second (cfs) and were adjudicated in several filings between 1889 and 1954. Lone Rock ditch holds rights to 10 cfs, adjudicated in three filings between 1889 and 1954.

State records for Needle Rock Ditch for 1970 through 2018 show average annual diversions of 6,381 acre-feet, with a maximum annual diversion of 10,813 acre-feet and a minimum annual diversion of 1,285 acre-feet. The maximum average monthly diversion rate is 43 cfs. State records for Lone Rock Ditch diversions from 1970 through 2018 show an average annual diversion of 809 acre-feet, with a maximum annual diversion of 1,400 acre-feet and a minimum annual diversion of 37 acre-feet. The maximum average monthly diversion rate is 5.7 cfs.

Irrigation is primarily accomplished by flood methods directly from ditch laterals, and to a lesser extent with gated pipe. Crops consist of grass pasture, with some alfalfa hay. The Needle Rock Ditch system also carries winter stock water during the non-irrigation season for an annual average of 190 days.

There is an ongoing trend to pipe earthen irrigation ditches in the region (see Figure 2).

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

*Proposed Action:* Under the Proposed Action Alternative, the Ditch Companies would have the ability to better manage irrigation water with efficiencies gained from eliminating ditch seepage and connecting their systems. The new turnout structures include adequate controls and measuring

devices which would further improve water management in the system. A mutual agreement between the Ditch Companies is being developed to guide their ongoing joint maintenance and operation of their connected systems following construction of the Proposed Action. LRDC applied to the District Court, Water Division 4 for a change in point of diversion from its existing headgate on Smith Fork Creek (to be abandoned by the Proposed Action), to the Needle Rock Ditch point of diversion. The change in diversion was granted in Case Number 20CW14 filed September 9, 2020. During construction, winter stock water would be delivered to shareholders through sharing agreements with other local ditch companies (i.e., Pilot Rock Ditch and Gove Ditch).

The Proposed Action 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. The Proposed Action would not include new water storage or the irrigation of new lands. No adverse effects on irrigation water rights or winter stock water delivery in the Gunnison or Colorado River Basins would occur due to implementation of the Proposed Action.

### 3.2.2 – Water Quality

Irrigation practices in the region and in the Proposed Action 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). There are also ongoing regional efforts to reduce selenium loading in the lower Gunnison and Colorado river basins (SMPW 2011, Reclamation 2020).

Most irrigation ditches are considered Waters of the U.S., and are under the jurisdiction of the Clean Water Act (CWA). In 2021, the Corps issued Regional General Permit 5 (RGP-5) for Ditch Related Activities in the State of Colorado.

*No Action Alternative:* Under the No Action Alternative, the estimated 2,952 tons of salt annually contributed to the Colorado River Basin from the upper Needle Rock Ditch and Lone Rock Ditch systems would continue. Current selenium loading levels would continue.

*Proposed Action:* In the long term, the Proposed Action would eliminate seepage from the involved ditch systems, reducing salt loading to the Colorado River Basin at an estimated rate of 2,952 tons per year. The Proposed Action is also expected to reduce selenium loading into the Gunnison River basin, although the amount of selenium loading reduction that could result from the Proposed Action has not been quantified. Improved water quality would likely 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 importance to users and to wildlife. The improved water quality resulting from the Proposed Action would contribute to the regional efforts underway to reduce salinity and selenium in the lower Gunnison and Colorado River watersheds.

Best management practices would be implemented during construction to minimize erosion and protect water quality. Project construction would take place in the ditch prism when water is not present. 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 (if dewatering is conducted) (see Section 2.3.8 and CHAPTER 4).

The Proposed Action would affect waters under the jurisdiction of CWA Section 404 (the ditches themselves) and disturb irrigation-induced wetland and riparian vegetation associated with the ditch. As a "ditch related activity in the State of Colorado" the Proposed Action would be authorized under RGP-5, by submitting documentation required by RGP-5 to the Army Corps 30 days in advance of construction. The required documentation for the new Proposed Action, as a salinity control project per a binding agreement with USBR 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."

### 3.2.3 – Air Quality

The Clean Air Act specifies limits for criteria air pollutants. If the levels of a criteria 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 criteria pollutants are designated as attainment areas. Delta County is in attainment for all criteria pollutants (EPA 2021). Minor impacts to air quality from routine maintenance of the ditch systems involved with the Proposed Action include dust from occasional travel in light vehicles along the Proposed Action corridor.

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

*Proposed Action:* There would be no long-term impacts to air quality from the Proposed Action. Delta County would remain in attainment for all criteria pollutants. Exhaust and dust from construction activities would be minimized by BMPs, and any residual dust would have a temporary, short-term effect on the air quality in the immediate Proposed Action 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. The potential exists for other ditch piping projects in the region currently in NEPA review to be constructed concurrently with the Proposed Action. Even if other projects occur concurrently with the Proposed Action, the total combined impact on air quality in the area is expected to be temporary and would not rise to the level of non-attainment for any criteria pollutants in Delta County.

### 3.2.4 – Public Access, Transportation, & Safety

The NRDC currently operates on private and BLM land in historic prescribed rights-of-way (collectively, the "right-of-way") in the Project area.

The main transportation routes in the vicinity of the Proposed Action are Needle Rock Road, Cottonwood Creek Road, and 4200 Road (Figure 3). Private roads and county roads generally provide access and mobility for residents traveling in and out of the Proposed Action Area.

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

*No Action Alternative:* There would be no effect to public safety, transportation, or public access from the No Action Alternative.

*Proposed Action:* Short-term temporary impacts related to access, public transportation, and safety would result from the Proposed Action. All construction activities related to the Proposed Action would take place entirely in the approved and prescriptive project rights-of-way. There would be no need for construction of new access roads outside the ditch right-of-way. 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 is expected to occur when equipment and materials are hauled into the Project location, and when trenched pipe crossings are made across county roads. Appropriate traffic signage would be used to notify drivers of active construction ingress/egress. The Ditch Companies and the construction contractor would coordinate with the county and sheriff departments when traffic or access would be delayed or substantially re-routed.

All utilities would be located and marked and, if necessary, relocated or raised, prior to any construction activities in the Project area. To ensure public safety, pipe trenches left open while unattended (e.g. overnight) would be covered.

### 3.2.5 – Noise

A moderate baseline level of noise occurs in the Proposed Action area, associated with farming and ranching activities and the Ditch Companies' operation and routine maintenance of the ditch systems. 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 Proposed Action. The Pilot Rock Pipeline Project is a nearby similar project that could be occurring simultaneously with the Proposed Action and generating noise in the area.

*No Action Alternative:* There would be no noise effects from the No Action Alternative.

*Proposed Action:* Proposed Action construction activities would generate noise audible to residents near the Proposed Action. Sources of noise would include heavy equipment moving earth or crushing rock, trucks hauling pipe and other materials. As explained in Section 2.2, blasting may be required to help prepare the pipe trench if bedrock is encountered 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 4 pm), Monday through Saturday, on a sequenced basis along the ditch section involved with the Proposed Action. Some construction noise (operating heavy equipment) from a nearby similar project (Pilot Rock Pipeline Project) has the potential to reach areas near the Proposed Action. Noise generated by this other project combined with the Proposed Action would be short-term and temporary, and would not occur outside daylight hours.

### 3.2.6 – Visual Resources

The Proposed Action is in an area of pastoral beauty, with a pleasing array of colors and textures across the relatively open landscape—a mosaic of irrigated meadows and natural woodlands and shrubland—against a backdrop of near and distant mountains. Needle Rock, a local distinctive landmark, is the focal point and namesake of the Needle Rock Natural Area in which it lies (see the

cover photograph of this document). The BLM Needle Rock Natural Area is classified as Visual Resource Management (VRM) Class II (BLM 2020). VRM classes define the degree of acceptable visual change within a characteristic landscape. VRM Class II areas are "where changes in any of the basic elements (form, line, color, or texture) caused by management activity should not be evident in the characteristic landscape" (BLM 2020).

A low baseline level of visual disturbance occurs in the Proposed Action area, associated with local ranching and farming, local construction projects, and the Ditch Companies' operation and routine maintenance of their ditch systems. These activities can involve vehicles, machinery, earth moving, field and ditch burning, and can generate dust and smoke.

*No Action Alternative*: There would be no visual impacts from the No Action Alternative.

*Proposed Action*: Temporary impacts related to visual disturbance during and after construction would result from the Proposed Action. Machinery would be operating on the landscape and highly visible in certain locations, especially in the Missouri Heights area which is predominantly open irrigated hayfield and pastures. In the east part of the Proposed Action area, operating machinery and ground disturbance would be somewhat screened by surrounding vegetation. Following construction, the disturbance footprint would be a linear area of bare ground. Within a few growing seasons, soil conservation measures and revegetation efforts would help the disturbed ground blend with the surroundings.

The Proposed Action would take place in the southeast corner of the BLM Needle Rock Natural Area (Figure 4), on the south side of Needle Rock Road. The prominent landscape feature and the most important and attractive visual element on the BLM Needle Rock Natural Area is Needle Rock itself, situated in the central part of the Natural Area, north of Needle Rock Road. Likewise, all public recreation activity on the BLM Needle Rock Natural Area is oriented toward the trailhead and trail on the north side of Needle Rock Road. Hikers using the trail on the Needle Rock Natural Area may be able to see and hear construction activities related to the Proposed Action, as would travelers on Needle Rock Road. The construction disturbance footprint on the Needle Rock Natural Area would be temporary and at least partially screened by vegetation and topography from Needle Rock Road and the remainder of the Needle Rock Natural Area. Soil protective measures and revegetation would mitigate long-term impacts to the visual resources of the Needle Rock Natural Area, helping it to blend with the surroundings over time.

### 3.2.7 – Recreation

Public recreation opportunities in the Proposed Action area are related to the Needle Rock Natural area, which has a public parking area, trailhead, and interpretive signage on the north side of Needle Rock Road (Figure 4). A multi-use (non-motorized) trail extends from the trailhead around the east and north side of Needle Rock.

*No Action Alternative*: There would be no visual impacts from the No Action Alternative.

*Proposed Action*: Temporary impacts related to visual disturbance during and after construction would result from the Proposed Action. Machinery would be operating on the landscape and highly visible in certain locations, especially in the Missouri Heights area which is predominantly open irrigated hayfield and pastures. In the east part of the Proposed Action area, operating machinery and ground disturbance would be somewhat screened by surrounding vegetation. Following

construction, the disturbance footprint would be a linear area of bare ground. Within a few growing seasons, revegetation efforts would help the disturbed ground blend with the surroundings.

The Proposed Action would take place in the southeast corner of the BLM Needle Rock Natural Area (Figure 4), on the south side of Needle Rock Road. All public recreation activity on the BLM Needle Rock Natural Area is oriented toward the trailhead and trail on the north side of Needle Rock Road. As a result, the Proposed Action would have no effect on customary public recreation opportunities on the BLM Needle Rock Natural Area, other than temporary noise and visual impacts discussed in Sections 3.2.5 and 3.2.6.

### 3.2.8 – Vegetation Resources & Weeds

Beginning at the initiation of the Proposed Action near the Needle Rock Ditch headgate, the ditch contours through undeveloped natural areas north of Smith Fork Creek in the east project area, and then enters agricultural and residential land in the west project area. The ditch itself is flanked by a narrow margin of coyote willow, reed canarygrass, and pasture grasses, with scattered stands of narrowleaf cottonwoods, Gambel oak, and mixed mountain shrubs on the ditch prism, especially in the eastern extents. The Ditch Companies occasionally grub vegetation out of the ditches and from the ditch banks with heavy machinery. Except for the limited staging area on the BLM Needle Rock Natural Area, which is in a natural grassy swale, the staging areas are irrigated grass pastures or on other previously disturbed ground.

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. Consistent with the Colorado River Basin Salinity Control Act, habitat replacement projects compensate for the loss of riparian and wetland habitat values.

Weeds present within the Proposed Action Area include herbaceous noxious weeds such as Russian knapweed (*Acroptilon repens*), whitetop (*Cardaria draba*), and Canada thistle (*Cirsium arvense*) (ERO 2020). A noxious weed survey was conducted on the Needle Rock Ditch alignment in the BLM Needle Rock Natural Area in July 2021. This 815-foot-long reach of Needle Rock Ditch was relatively free of noxious weeds, with only a few Canada thistle plants observed on the ditch bank. Flowing water in the canal is a vector for the continued spread of weeds. Vehicles, people and their dogs, livestock, and wildlife traveling on the ditch prism can also contribute to the spread of weeds. The Ditch Companies manage noxious weeds on the ditch prisms by spot-spraying seasonally, as resources permit.

*No Action Alternative:* There would be no effect on existing vegetation from the No Action Alternative.

*Proposed Action:* The Proposed Action would directly disturb and result in the permanent loss of approximately 3.6 acres of riparian and wetland vegetation associated with the open ditch and seepage from the ditch (ERO 2020). Following construction, the riparian and wetland areas and open water associated with the ditch would be replaced by upland vegetation compatible with the pinyon-juniper woodland-type or Gambel oak mixed mountain shrub vegetation communities, both by reseeding and natural recolonization. Construction activities would directly disturb other previously disturbed areas, such as the staging areas or irrigated pastures or roadsides. Dust from operating equipment and vehicles could also temporarily affect nearby vegetation. 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. Following construction, disturbed natural areas would be recontoured and reseeded with a drought-tolerant seed mix approved by BLM and adopted by Reclamation (Appendix A) appropriate for the surrounding habitat. 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. Although a mature pinyon-juniper woodland overstory would require a few decades to become re-established, understory vegetation consisting of mixed montane native shrubs and grasses is expected to become re-established within a few years following construction in revegetated woodland areas.

Recognizing that the wetland and riparian vegetation associated with ditch margins supports or contributes to the support of aquatic and terrestrial wildlife and migratory birds, the Colorado River Basin Salinity Control Act requires mitigation of its loss. An evaluation[1] was performed to quantify potential wetland and riparian habitat values that would be lost due to implementation of the Proposed Action (ERO 2020). The Ditch Companies developed a Habitat Replacement Plan (ERO 2021) to replace the estimated habitat value to be lost due to the Proposed Action. The Habitat Replacement Site is located northwest of the Proposed Action's piping component (Figure 3) in the Cottonwood Creek drainage.

The Proposed Action would contribute to the larger-scale loss of artificially sustained riparian and wetland areas collectively resulting from piping projects around the region. Consistent with the Colorado River Basin Salinity Control Act, habitat replacement projects compensate for the loss of riparian and wetland habitat values.

To curtail the spread of noxious weeds, environmental commitments (such as cleaning vehicles and equipment prior to bringing them onsite—see CHAPTER 4 of this EA) would help minimize the risk of such infestations, and ongoing weed management efforts by the Ditch Companies would be implemented during revegetation of construction alignments. In the long-term, piping these ditch systems, along with other salinity control projects in the region, would remove an important vector of weed seed transport—open water. Seeps from the earthen ditches that currently support herbaceous and woody noxious weeds would be dried and the ability of the environment to support these weeds would be diminished.

### 3.2.9 – Wildlife Resources

Vegetation communities supported by the open ditches, in association with nearby irrigated land, and native woodlands and shrublands, provide nesting, breeding, foraging, cover, and movement corridors for an array of wildlife.

[1] The evaluation followed methodology outlined in Reclamation's *Basinwide Salinity Control Program: Procedures for Habitat Replacement* (April 2018). In accordance with the evaluation method, a Total Habitat Value (THV) is calculated for each affected wetland or riparian habitat area by multiplying its acreage by its habitat quality score (HQS), which is assigned based on a series of physical and biological criteria.

Figure 5. Elk Range in the Proposed Action Area

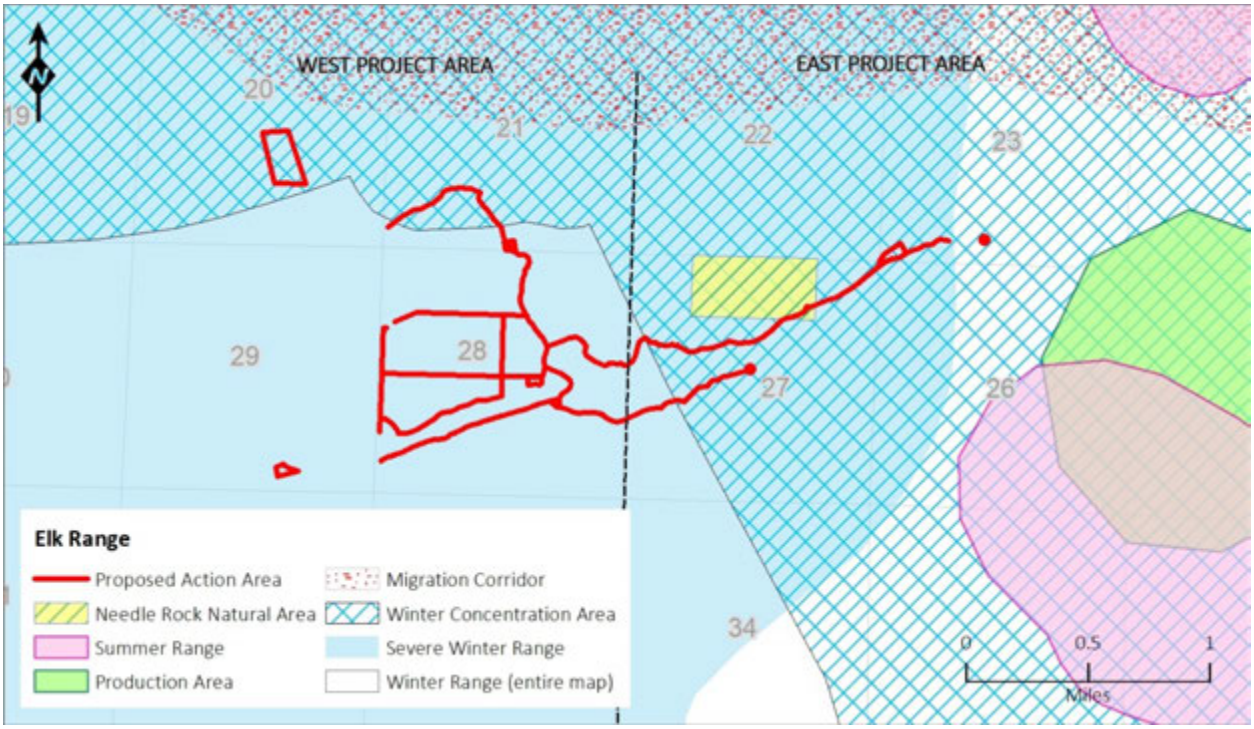
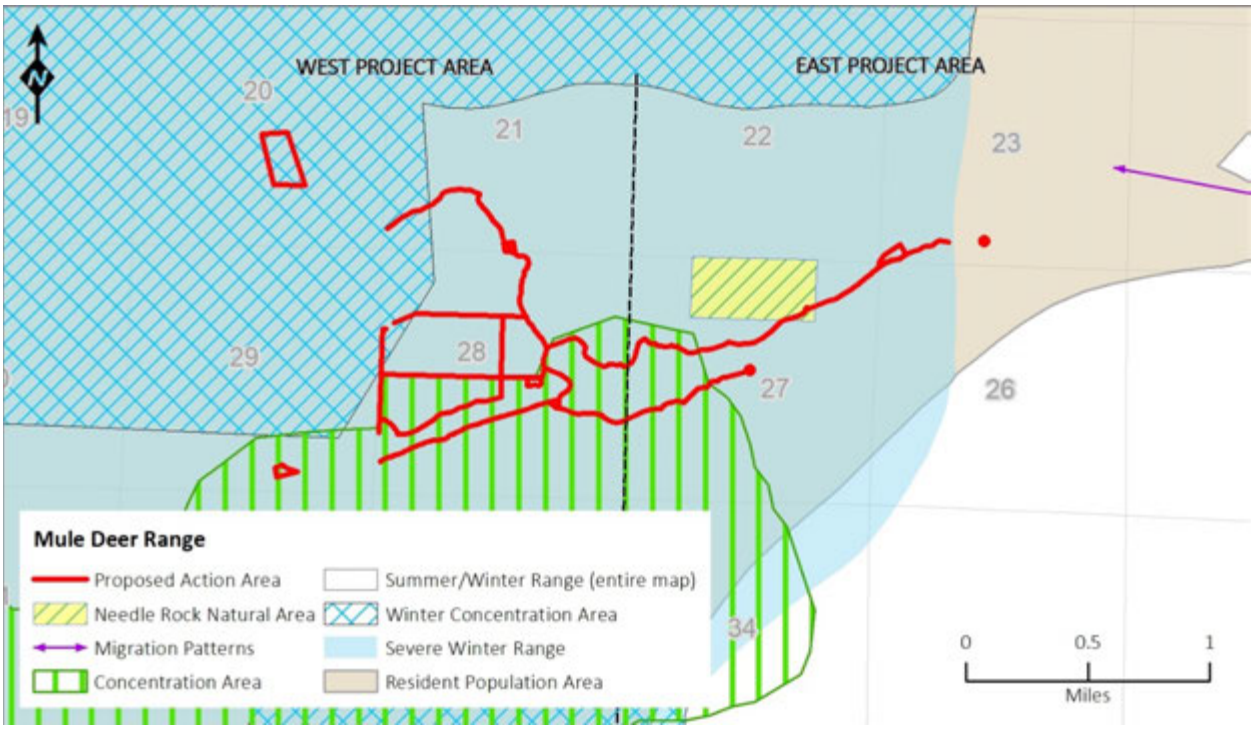



Figure 6. Mule Deer Range in the Proposed Action Area

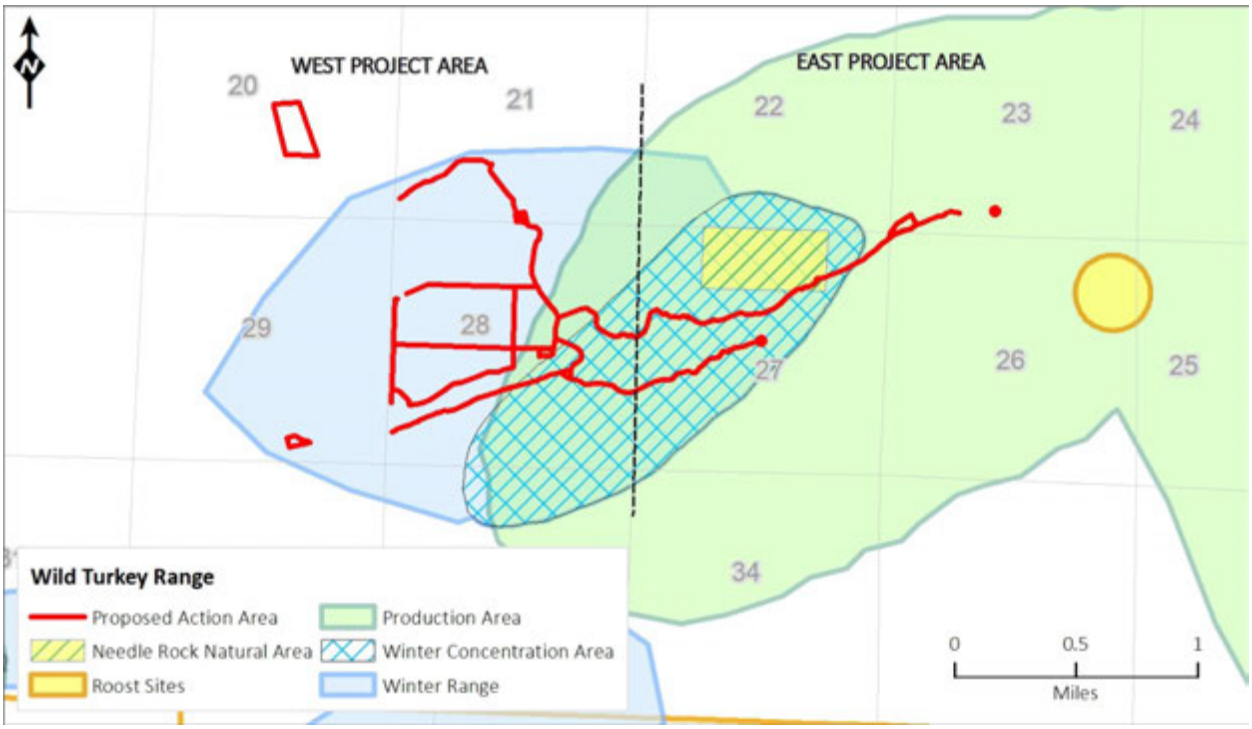



The Proposed Action Area falls within winter range of elk and mule deer (CPW 2021). Colorado Parks & Wildlife (CPW) Species Activity Mapping describes most of the Proposed Action Area as

severe winter range and parts of the Proposed Action area as winter concentration areas for elk and mule deer (Figure 5 and Figure 6). The entire Proposed Action lies within a large resident mule deer area, with a concentration area in the south (Figure 6). CPW maps parts of the Proposed Action as within wild turkey winter range, a winter concentration area, and a production (breeding) area (Figure 7).

A variety of small mammals, reptiles, and amphibians inhabit the general area. Those that would be likely to use the ditch corridor or adjacent areas include small ground-dwelling mammals, such as badger, white-tailed prairie dog (a BLM Sensitive Species), several species of mice, voles, shrews, and cottontail rabbit. Striped skunk, raccoon, red fox, coyote, bobcat, beaver, western terrestrial garter snake, smooth green snake (a BLM Sensitive Species), Woodhouse's toad, western chorus frog, northern leopard frog (a BLM Sensitive Species), several species of bats (some of which are BLM Sensitive Species), and tiger salamander could also be using the area.

Figure 7. Wild Turkey Range in the Proposed Action Area




The primary nesting season for migratory songbirds in the Proposed Action Area is April 1 through July 15. The core nesting season for raptors in the area is 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, peregrine falcons nest as early as March 15, and bald eagles nest between October 15 and July 31 (CPW 2008). The entire Proposed Action area lies within CPW-mapped bald eagle winter range and winter forage range (CPW 2020), and Needle Rock is a documented peregrine falcon nesting site. A nesting raptor survey conducted for the Proposed Action Area during March and April of 2020, and reconfirmed during May and June of 2021, identified an active red-tailed hawk nest within 1/3 mile of the west end of the Proposed Action area and the south end of the Habitat Replacement Site, and confirmed an active peregrine falcon nest on Needle Rock. Note that CPW's publicly-available Species Activity Mapping (2021)

erroneously shows an active bald eagle nest at the same location as the known peregrine falcon nest on Needle Rock (Le Fevre, pers. comm.).

Wildlife in the Proposed Action Area experiences a baseline level of disturbance from residential activities, domestic dogs, people and vehicles traveling on public and private roads, and ranching and farming activities, especially in the East Project Area. A portion of the Pilot Rock Piping Project (a salinity control project currently under NEPA review) is a nearby similar project that could be occurring simultaneously with the Proposed Action and contributing to wildlife disturbance in the area.

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. Wildlife distribution across the landscape, especially wildlife that depend on riparian and wetland habitat, is changing in response to these habitat changes. Consistent with the Colorado River Basin Salinity Control Act, projects to replace riparian and wetland habitat losses are completed in conjunction with the piping projects.

*No Action Alternative:* There would be no effect on wildlife resources from the No Action Alternative. Salt and selenium loading from the area would continue to affect aquatic dependent species.

*Proposed Action:* Upland wildlife habitat impacted by the Proposed Action would result in minor temporary impacts to wildlife species within the Proposed Action area.

Impacts to game animals (elk, mule deer, wild turkey) would include short-term disturbances and periodic displacement while construction is underway. Disturbances to big game in their critical winter ranges (i.e., severe winter range, winter concentration areas) during harsh winter months would cause the greatest harm due to the lack of food availability and expenditure of energy. For this reason, construction activities would be avoided during the period of December 21 through April 15 in the East Project Area, which is relatively remote and secluded. However, given the existing level of human disturbance and development (winter livestock feeding, residential activities) in the West Project Area, big game in this area would be somewhat habituated to the Proposed Action disturbances, and no winter timing restrictions would be applied. Furthermore, it is expected that severe winter conditions would preclude construction activities during times when game is most vulnerable.

Overall, during times of extreme weather conditions (e.g., deep snow cover, extreme freezing temperatures, excessively muddy conditions), construction activities would be limited due to logistics. The Proposed Action would create incremental disturbance throughout the Project area, allowing big game near the construction activity to find refuge nearby and limit the amount of energy expended. During construction, pipeline trenches left open overnight would be kept to a minimum and covered to reduce potential for entrainment of big game and public safety problems. 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.

Construction impacts to small animals, especially burrowing amphibians, reptiles, and small mammals, could include direct mortality and displacement during construction activities, both in the existing ditch alignment and new pipe alignments. However, these species and habitats are relatively

common throughout the area and population-level impacts would not be likely; therefore, impacts would be minor.

There would be no direct effect to nesting songbirds since 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).

Two raptor nests were identified within the recommended buffer distances for Colorado nesting raptors (CPW 2008). A red-tailed hawk nest is nearly 1/3-mile from the northwest edge of the piping component and 1/3-mile southeast of the Habitat Replacement Site, and a peregrine falcon nest is on the cliffs of Needle Rock. CPW recommends avoidance of surface disturbance within 1/3 mile of an active red-tailed hawk nest between February and July (CPW 2008). This particular nest does not have line-of-sight to any part of the Proposed Action Area, is in a topographically sheltered area (cottonwood in a ravine), and would not be affected by the Proposed Action. Construction activities would not occur within 0.5-mile of Needle Rock between March 15 and July 31 to protect nesting peregrine falcons (CPW 2008). 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 evaluations and consultations with FWS and CPW.

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 Proposed Action. In compliance with the Colorado River Basin Salinity Control Act, the wetland and riparian habitat value that would be lost due to implementation of the Proposed Action would be replaced with a nearby Habitat Replacement Site (see Section 2.2.9).

Another similar project in the nearby area (Pilot Rock Piping Project) could be constructed concurrently with the Proposed Action. Both the Proposed Action and the Pilot Rock Pipeline Project have the potential to temporarily affect the land use and movement patterns of big game in the area during construction. Due to the spatially incremental and concentrated nature of the projects, and the extent and availability of big game range and habitat in the area, and timing limitations imposed on the east part of the Proposed Action area to protect wintering big game, measurable impacts to big game due to project construction activities are not anticipated.

The Proposed Action would contribute to the larger-scale spatial relocation of riparian and wetland wildlife habitat collectively resulting from piping projects around the region. The distribution patterns of wildlife dependent on riparian and wetland habitat are changing along with the distribution of riparian and wetland habitat across the landscape, as habitat replacement sites are developed to compensate for losses caused by the piping projects.

### 3.2.10 – Threatened & Endangered Species

The only species listed as threatened or endangered under the Endangered Species Act of 1973, as amended, with the potential to be affected by the Proposed Action are the four endangered Colorado River basin fish species: the bonytail, the Colorado pikeminnow, the humpback chub, and the razorback sucker. None of the four endangered Colorado River fishes occurs in the Proposed Action Area and the Proposed Action 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 Colorado River endangered fishes in downstream designated critical habitat, impacts to the endangered fishes result from continuing irrigation practices in the Gunnison Basin. The average

historic depletion rate from NRDC's system operations is estimated as 6,381 acre-feet per year, and the average historic depletion rate from LRDC's system is estimated as 809 acre-feet per year. Some of NRDC's depletions are from a federal facility (Crawford Reservoir), and some of these depletions are direct diversions from the Smith Fork Creek. Historic depletions by federal facilities in the Gunnison Basin are covered under the umbrella of the Gunnison Basin Programmatic Biological Opinion (PBO) (FWS 2009), which avoids the likelihood of jeopardy and/or adverse modification of critical habitat for the endangered fishes.

*No Action Alternative:* There would be no effect on the four Colorado River endangered fishes or their designated downstream critical habitat from the No Action Alternative.

*Proposed Action:* The potential reduction in selenium loading to the Colorado River and Gunnison River basins as a result of the cumulative efforts of the Colorado River Basin Salinity Control Program is improving water quality within designated critical habitat for the Colorado pikeminnow, razorback sucker, humpback chub, and bonytail throughout the Colorado river and Gunnison river basins (SMPW 2011), as well as improving habitat for amphibians, birds, and other fish.

The annual water depletion to the Colorado River and Gunnison River basins from irrigation by the Ditch Companies' systems would not change as a result of the Proposed Action. To ensure NRDC's and LRDC's depletions resulting from direct diversions from Smith Fork Creek are covered under the Gunnison Basin PBO, NRDC and LRDC would execute Recovery Agreements with FWS (Appendix B). The final executed agreements would be appended to the Final EA.

### 3.2.11 – 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 Proposed Action Area. All ditch reaches involved with the Proposed Action were inventoried in a 200-foot-wide corridor, as well as the habitat replacement site and potential borrow/staging areas. An additional potential borrow area in the Gould Reservoir basin, approximately 8 direct miles south of the Proposed Action Area, was surveyed as part of a previously-approved salinity control project. The inventories resulted in the documentation of several sites (ditch segments, an historic agricultural site, an historical log cabin) within the Proposed Action Area that supports their eligibility 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. These adverse effects area mitigated through a variety of measures developed and agreed to in consultation with the Colorado SHPO.

*No Action Alternative:* The No Action Alternative would have no effect on cultural resources.

*Proposed Action:* As a result of the Class III cultural resources inventory of the Proposed Action Area, and in consultation with the Colorado State Historic Preservation Officer (Colorado SHPO), Reclamation has determined that the Proposed Action would have an adverse effect on several ditch

elements involved with the Proposed Action, which are resources eligible for listing in the NRHP. A Memorandum of Agreement (MOA) is in the process of being executed between Reclamation and the Colorado SHPO, with NRDC participating as an invited party, outlining appropriate actions to mitigate the adverse effects of the Proposed Action (the MOA would be included in the Final EA). The MOA would also establish that any post-review discoveries trigger an Unanticipated Discovery Plan (UDP). The UDP would outline procedures that would be followed in order to protect potential archaeological materials or cultural resources discovered during implementation of the Proposed Action. The MOA would be appended to the Final EA. The Proposed Action would contribute to an area-wide adverse effect on NRHP eligible cultural resources which is occurring as a result of irrigation piping projects. These adverse effects are addressed with mitigative measures required by the Colorado SHPO.

### 3.2.12 – Soils & Farmlands of Agricultural Significance

The soils units mapped by the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) in the Proposed Action Area are generally sandy or stony loams that 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). Soils mapped by NRCS in the Proposed Action Area are:

- Cerro loam, 1 to 6 percent slopes (44.4 percent of the project area) consists of glacial outwash or old complex landslide deposits. This soil occurs on linear-shaped fans and terraces at elevations of 6,200 to 8,000 feet, and is present throughout the Proposed Action Area.
- Saraton-Agua Fria complex, 20 to 50 percent slopes (15.1 percent of the project area) consists of cobbly, stony outwash alluvium derived from basalt. This soil occurs on benches, mesas, and terraces at elevations of 5,800 to 7,000 feet and is present throughout the Proposed Action Area.
- Haplaquolls, flooded (12.1 percent of the project area) consists of fine loam sandy or stratified, gravelly sand loamy parent material. This soil occurs on alluvial flats, channels, floodplains, and stream terraces at elevations of 4,800 to 7,000 feet and is present in the southwest part of the Proposed Action Area.

The Cerro loam mapped in the Proposed Action Area is classified by NRCS as prime farmland if irrigated under the Farmland Protection Policy Act (NRCS 2007).

*No Action Alternative:* The No Action Alternative would have no effect on soils characterized by NRCS as agriculturally significant. Farmlands in the Proposed Action Area would continue to produce as in the past. Salinity loading from irrigation water contact with saline soils in the ditch systems would continue as it has in the past.

*Proposed Action:* Under the Proposed Action Alternative, installation of the buried pipe would disturb soils in the previously-disturbed ditch prism, or adjacent to roads, or in currently farmed areas. Staging activities would take place on existing irrigated pasture 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 irrigated lands. The Cerro loam soil in the irrigated agricultural lands in the Proposed Action Area are designated as agriculturally significant by NRCS (see description above). Some agriculturally significant soils may

be directly disturbed by the Proposed Action, but would be put back into production the following irrigation season. No farmlands would be permanently altered or removed from production as a result of the Proposed Action, and no interruption to agricultural production would occur.

The ditches involved with the Proposed Action convey irrigation water to agriculturally significant soils downstream of the Proposed Action Area; however, no change in the configuration of irrigated lands would occur because of the Proposed Action. No part of the irrigation season is expected to be lost during implementation of the Proposed Action.

Overall, the Proposed Action would give the Ditch Companies the ability to better manage the irrigation water with efficiencies gained from piping the systems. Soil erosion from irrigation water conveyances would be substantially reduced where ditch reaches are proposed for replacement with buried pipe. Therefore, no direct adverse effects on soils or agriculturally significant lands are expected to occur due to implementation of the Proposed Action. The Proposed Action contributes to the growing amount of piped irrigation conveyances in the region, which are collectively reducing soil erosion on a larger scale.

Soil conservation techniques would be used as part of the construction of the Proposed Action, including retaining and redistributing topsoil following construction, minimizing vegetation grubbing as much as possible to help prevent erosion (i.e., leaving natural woody vegetation in place, especially on slopes and toes of slopes), and reseeding following construction.

## 3.3 – Summary

Table 3 provides a summary of environmental consequences for the resources evaluated in this EA. Resource impacts are outlined for both the No Action and the Proposed Action Alternatives. Mitigation, if required, is also described.

Table 3. 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 | No Effect | No effect or possible beneficial long-term effect of improving irrigation water delivery efficiencies and management. |

| Resource | Impacts: No Action Alternative | Impacts: Proposed Action Alternative |
|---|---|---|
| Water Quality | Salt and selenium loading from the Proposed Action Area would continue to affect water quality in the Colorado River Basin | An estimated salt loading reduction of 2,952 tons per year to the Colorado River Basin will result from implementation of the Proposed Action. The Proposed Action is also expected to reduce selenium loading into the Gunnison River (the amount has not been quantified). Improved water quality would likely benefit downstream aquatic species by reducing salt and selenium loading in the Gunnison and Colorado rivers. The Proposed Action contributes to ongoing regional efforts to improve water quality and reduce salinity basinwide. |
| Air Quality | No Effect | Minor short-term effects due to dust and exhaust created by construction equipment; no long-term effect or possible beneficial long-term effect due to a reduction in maintenance vehicle trips. |
| Access, Transportation & Safety | No Effect | Minor temporary disruptions to local public roadways from construction traffic entering and existing roadways. No long-term effects. |
| Noise | No Effect | Short-term noise impacts to area residents and recreators on the BLM Needle Rock Natural Area during daylight hours. These impacts could be combined with one other similar project potentially taking place simultaneously in the local area. |
| Visual Resources | No Effect | Short-term impacts during construction, medium-term impacts following construction until revegetation is complete. |
| Vegetative Resources and Weeds | No Effect | Impacts to vegetation where construction would occur in upland areas. Estimated long-term loss of riparian/wetland habitat due to elimination of seepage from the involved ditch segments would be replaced with a Habitat Replacement Site (see Section 3.2.9). The Proposed Action would contribute to a regional trend resulting in relocation of artificially-created riparian and wetland values from earthen irrigation conveyances to habitat replacement sites. Weed control measures would be implemented as a part of the Proposed Action, and piping of the ditch systems would remove open water and seepage from the Proposed Action Area—both important contributors to the spread and propagation of weeds. |

| Resource | Impacts: No Action Alternative | Impacts: Proposed Action Alternative |
|---|---|---|
| Wildlife Resources | No effect on terrestrial and avian wildlife; salt and selenium loading from the Proposed Action Area would continue to affect aquatic dependent species | Short-term temporary adverse effect to local wildlife during construction. Short-term localized effects of the Proposed Action combined with another nearby potentially concurrent project are not expected to adversely impact big game. BLM Timing Limitations for mule deer and elk would apply to construction work within the Needle Rock Natural Area. Long-term effects include loss of riparian habitat. A Habitat Replacement Site would be constructed to mitigate for the long-term loss of riparian habitat due to the Proposed Action (see Section 2.2.9). No "take" of nesting migratory birds would occur since vegetation grubbing would take place outside the primary nesting season. Long-term impacts due to loss of riparian nesting habitat for both migratory birds and raptors along the current ditch would be offset with the Habitat Replacement Site. A raptor survey found two active raptor nests within CPW-recommended buffer distances (CPW 2008) and one of these nest areas would be subject to timing limitations, including BLM Timing Limitations in the Needle Rock Natural Area (there would be no effect to the other nest area). The Proposed Action would contribute to a regional trend resulting in relocation of artificially-created riparian and wetland values from earthen irrigation conveyances to habitat replacement sites. These activities are resulting in the redistribution of riparian and wetland-dependent wildlife across the landscape. |
| Threatened & Endangered Species | Salt and selenium loading from the Proposed Action Area would continue to affect the four Colorado River basin endangered fishes and their critical habitat downstream. | Water depletions would continue at historic levels, and would continue to adversely affect downstream designated critical habitat for the four Colorado River federally endangered fishes. However, under the PBO, the Upper Colorado River Endangered Fish Recovery Program serves as mitigation for these impacts, and Recovery Agreements are being executed between FWS and NRDC and FWS and LRDC to ensure compliance with the ESA (Appendix B). The Proposed Action would improve habitat quality by contributing to the reduction of salt and selenium loading in the Gunnison and Colorado rivers. |

| Resource | Impacts: No Action Alternative | Impacts: Proposed Action Alternative |
|---|---|---|
| Cultural Resources | No Effect | The Proposed Action would have an adverse effect on NRHP eligible cultural resources. The adverse effect would be mitigated with a MOA between Reclamation and the Colorado SHPO (Appendix C). The Proposed Action would contribute to an area-wide adverse effect on NRHP eligible cultural resources, all of which are being addressed with mitigative measures required by the Colorado SHPO. |
| Agricultural Resources and Soils | No Effect | The Proposed Action would temporarily disturb the ground surface in the Action Area. BMPs/Environmental Commitments would conserve soils and minimize the potential for erosion in the Proposed Action Area. The Proposed Action would not permanently affect productive irrigated farm areas or soils of agricultural significance. The Proposed Action would contribute to the growing amount of piped irrigation conveyances in the region, which helps reduce soil erosion on a larger scale. |

# CHAPTER 4 – ENVIRONMENTAL COMMITMENTS

This section summarizes the environmental commitments to protect resources and mitigate adverse impacts from the Proposed Action to a non-significant level. The actions in the following environmental commitment checklist will be implemented as an integral part of the Proposed Action and shall be included in the contractor bid specifications. If the Proposed Action is approved, Ditch Companies collectively shall use this checklist to document compliance with each environmental commitment. The Ditch Companies collectively shall submit the relevant component of the completed checklist to Reclamation immediately following each phase of the Project, i.e., Pre-Construction, During Construction, and Post-Construction.

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

Table 4. Environmental Commitments

| Environmental Commitment | Affected Resource | Authority | Initials and Date |
|---|---|---|---|
| *Pre-Construction* | | | |
| A Spill Response Plan shall be prepared in advance of construction by the contractor for areas of work where spilled contaminants could flow into water bodies. | Water Quality | Clean Water Act of 1972 as amended | |
| A Stormwater Management Plan shall be prepared and submitted to CDPHE by the construction contractor prior to construction disturbance. | Water Quality | Clean Water Act of 1972 as amended | |
| 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 | |
| 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 | |
| A Memorandum of Agreement (MOA) is expected to be executed in order to mitigate the Proposed Action's adverse effects to cultural resources and included with the Final EA (Appendix C). | Cultural Resources | National Historic Preservation Act of 1966; Archaeological Resources Protection Act of 1979; Paleontological Resources Preservation Act of 2009 | |

| Environmental Commitment | Affected Resource | Authority | Initials and Date |
|---|---|---|---|
| Construction limits shall be clearly flagged onsite to avoid unnecessary plant loss or ground disturbance. | Vegetation, Weeds, Habitat, Wildlife | Delta County Weed Management Plan (2020)<br>BLM ROW Permit Stipulation | |
| All equipment shall be cleaned before it is brought to the construction area, to minimize transport of new weed species to the construction area. | Vegetation, Weeds, Habitat, Wildlife | Delta County Weed Management Plan (2020)<br>BLM ROW Permit Stipulation | |
| Prior to construction, vegetative material shall be removed by mowing or chopping, and either reserved for mulch onsite, or hauled to the County landfill or to a proposed staging area to be burned, chipped, and/or mulched. Stumps shall be grubbed and hauled to the County landfill or a proposed staging area to be burned.<br>On BLM land, removed vegetative material shall be cut, chopped, or mowed, and spread, arranged, and/or mulched onsite such that it provides erosion control and a nursery environment for recolonizing plants. | Soil, Vegetation, Weeds, Habitat | Delta County Weed Management Plan (2020)<br>BLM ROW Permit Stipulation | |
| Vegetation removal shall be confined to the smallest portion of the Proposed Action Area necessary for completion of the work. | Soil, Vegetation, Weeds, Habitat | Delta County Weed Management Plan (2020)<br>BLM ROW Permit Stipulation | |
| Vegetation removal 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 | |

| Environmental Commitment | Affected Resource | Authority | Initials and Date |
|---|---|---|---|
| *During Construction* | | | |
| Topsoil, or top material, shall be stockpiled and then redistributed as top dressing after completion of construction activities. | Soil, Vegetation, Weeds, Habitat | Delta County Weed Management Plan (2020)<br>BLM ROW Permit Stipulation | |
| 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 | |
| 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 | |
| The construction contractor shall transport, handle, and store any fuels, lubricants, or other hazardous substances involved with the Proposed Action in an appropriate manner that prevents them from contaminating soil and water resources. | Water Quality, Soil | Clean Water Act of 1972 as amended | |
| 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 | |
| Ground disturbances and construction areas shall be limited to only those areas necessary to safely implement the Proposed Action. | Soil, Vegetation, Weeds, Habitat, Wildlife | Archaeological Resources Protection Act of 1979; Paleontological Resources Preservation Act of 2009 | |

| Environmental Commitment | Affected Resource | Authority | Initials and Date |
|---|---|---|---|
| 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 | |
| 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 anticipated MOA (to be included in the final EA). Stipulations in the MOA shall be incorporated into the 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<br>Archaeological Resources Protection Act of 1979<br>Paleontological Resources Preservation Act of 2009 | |
| In the event that threatened or endangered species are encountered during construction, the Ditch Companies 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. | Wildlife | Endangered Species Act of 1973 as amended | |
| Construction activities shall take place only in accordance with the schedule outlined in this EA. | Wildlife | Migratory Bird Treaty Act of 1918; Bald and Golden Eagle Protection Act of 1940 | |

| Environmental Commitment | Affected Resource | Authority | Initials and Date |
|---|---|---|---|
| If a previously unknown active raptor nest is discovered within 1/3-mile of the Proposed Action Area during construction, construction shall cease until Reclamation can complete consultations with FWS and CPW. | Wildlife | Migratory Bird Treaty Act of 1918<br>Bald and Golden Eagle Protection Act of 1940 | |
| No construction shall take place within 0.5-mile of the documented peregrine falcon nest on Needle Rock during the period of March 15 through July 15. No construction shall take place in the East Project Area during the period of December 21 through April 15 to protect wintering big game. These timing restrictions and sensitive areas shall be noted on Project construction drawings. | Wildlife | Migratory Bird Treaty Act of 1918<br>BLM RMP | |
| *Post-Construction* | | | |
| Following construction, 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 | |
| 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 | |
| All equipment shall be cleaned before it is transported to another job site, to avoid introducing weed species from the construction area to another job site. | Vegetation, Weeds, Habitat | Delta County Weed Management Plan (2020) | |

| Environmental Commitment | Affected Resource | Authority | Initials and Date |
|---|---|---|---|
| Re-seeding in areas surrounded by native vegetation shall occur following Project construction at appropriate times and with appropriate methods, using a drought tolerant, weed-free seed list approved by BLM and adopted by Reclamation (see Appendix A of the EA). The Ditch Companies shall coordinate with private landowners to reseed any disturbances to irrigated areas. | Soil, Vegetation, Weeds, Habitat | Delta County Weed Management Plan (2020) | |
| Weed control shall be implemented by the Ditch Companies or their contractor in accordance with current Delta County weed control standards. | Soil, Vegetation, Weeds, Habitat | Delta County Weed Management Plan (2020) | |

# CHAPTER 5 – CONSULTATION AND COORDINATION

## 5.1 – Introduction

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

## 5.2 – Public Involvement

Notice of the public review period and availability of the Draft EA will be distributed to private landowners adjacent to the Proposed Action, and the organizations and agencies listed in Appendix D. The Final EA will also be available on Reclamation's website. Publicly-available electronic versions of the Draft and Final EA will meet the technical standards of Section 508 of the Rehabilitation Act of 1973, so that the documents 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.

| Name | Agency | Title | Areas of Responsibility |
|---|---|---|---|
| Lesley McWhirter | USBR | Environmental and Planning Group Chief | EA review, vegetation, wildlife |
| Jenny Ward | USBR | Environmental Protection Specialist | EA review, cultural resources |
| Dawn Reeder | Rare Earth Science (Consultant to the Ditch Companies) | Principal Biologist | General authorship, mapping |

# CHAPTER 7 – REFERENCES


BLM. 2020. Uncompahgre Field Office Record of Decision and Approved Resource Management Plan. April. 505 pp. https://eplanning.blm.gov/public_projects/lup/62103/20017137/250023044/UFO_ROD-ARMP_ePlanning_OPT.pdf

CPW (Colorado Parks and Wildlife). 2021. Public Species Activity Mapping Data Layer accessed in ArcGIS from the ArcGIS online server. Last updated by CPW in January 2021.

CPW. 2008. Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptors. https://cpw.state.co.us/Documents/WildlifeSpecies/LivingWithWildlife/RaptorBufferGuidelines2008.pdf

Delta County. 2020. Delta County Noxious Weed Management Plan. Adopted April 8, 2020. https://www.deltacounty.com/DocumentCenter/View/1013/Delta-County-2020-Noxious-Weed-Management-Plan?bidId=

EPA (U.S. Environmental Protection Agency). 2021. Current nonattainment counties for all criteria pollutants, updated August 31. https://www3.epa.gov/airquality/greenbook/ancl.html.

ERO. 2021. Habitat Replacement Plan, Needle Rock and Lone Rock Ditch Company, Delta County Colorado. DRAFT in progress. September 16.

ERO. 2020. Habitat Loss Assessment: Needle Rock and Lone Rock Piping Project, Delta County, Colorado. Prepared for Needle Rock Ditch Company. October 28.

FWS. 2009. Gunnison Basin Programmatic Biological Opinion. December 4. Memorandum to Area Manager, Western Colorado Area Office, Bureau of Reclamation, Grand Junction, Colorado from Colorado Field Supervisor, Ecological Services, Lakewood, CO. http://www.usbr.gov/uc/wcao/rm/aspeis/pdfs/aspinallpbo_final.pdf

NRCS (U.S. Department of Agriculture Natural Resources Conservation Service). 2019. Gridded Soil Survey Geographic (gSSURGO) for Colorado. USDA GeoSpatial Data Gateway.

OAHP (Office of Archaeology and Historic Preservation, History Colorado). 2013. Historic Resource Documentation Standards for Level I, II, and III Documentation. Publication 1595.

Rare Earth (Rare Earth Science, LLC). 2021. Threatened & Endangered Species Inventory, Needle Rock – Lone Rock Pipeline Project. Prepared for the U.S. Bureau of Reclamation, Environmental Planning Group of the Western Colorado Area Office, Upper Colorado Region. In progress.

Reclamation (U.S. Bureau of Reclamation). 2020. Selenium Management Program, Gunnison River Basin 2020 Annual Progress Report. Selenium Management Program, Upper Colorado Basin, Western Colorado Area Office. 41 pp.

https://www.usbr.gov/uc/DocLibrary/Reports/SeleniumManagementProgram/20210800-SeleniumManagementProgram-2020Report-508-WCAO.pdf

Reclamation. 2017. Quality of Water – Colorado River Basin. Progress Report No. 25. https://www.usbr.gov/uc/progact/salinity/pdfs/PR25final.pdf

Reclamation. 2018. Basinwide Salinity Control Program: Procedures for Habitat Replacement. 14 pp. May.

SMPW (Selenium Management Program Workgroup). 2011. Selenium Management Program: Program Formulation Document, Gunnison River Basin, Colorado. Compiled by U.S. Bureau of Reclamation. http://www.usbr.gov/uc/wcao/progact/smp/docs/Final-SMP-ProgForm.pdf

# CHAPTER 8 – ABBREVIATIONS AND ACRONYMS

| Abbreviation or Acronym | Definition |
|---|---|
| ACEC | Area of Critical Environmental Concern |
| 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 |
| 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 |
| Interior | U.S. Department of the Interior |
| LRDC | Lone Rock Ditch Company |

| Abbreviation or Acronym | Definition |
|---|---|
| MOA | Memorandum of Agreement |
| NAAQS | National Ambient Air Quality Standards |
| NRDC | Needle Rock Ditch Company |
| NEPA | National Environmental Policy Act |
| NHPA | National Historic Preservation Act |
| NPDES | National Pollutant Discharge Elimination System |
| NRCS | U.S. Department of Agriculture Natural Resources Conservation Service |
| NRHP | National Register of Historic Places |
| ONA | Outstanding Natural Area |
| PBO | Programmatic Biological Opinion |
| PM | Particulate matter |
| RCPP | Regional Conservation Partnership Program |
| Reclamation | U.S. Bureau of Reclamation |
| RMP | Resource Management Plan (see BLM 2020 reference) |
| ROW | Right-of-way |
| SHPO | State Historic Preservation Officer |
| USACE | U.S. Army Corps of Engineers |
| VRM | Visual Resource Management |
| WSA | Wilderness Study Area |

# APPENDIX A – SEED LIST

Reserved for the BLM-approved/Reclamation-adopted seed list for western slope mixed mountain shrublands and pinyon-juniper woodlands (or similar).

# APPENDIX B – ESA COMPLIANCE DOCUMENTATION

Reserved for the Endangered Fishes Recovery Agreements to be Executed between FWS and the Ditch Companies.

# APPENDIX C – CULTURAL RESOURCE COMPLIANCE DOCUMENTATION

Reserved for the forthcoming SHPO/Reclamation MOA.

# APPENDIX D – DISTRIBUTION LIST

All landowners adjacent to the Proposed Action
Black Hills Natural Energy
Citizens for a Healthy Community
Colorado Office of Archaeology and Historic Preservation
Colorado Parks and Wildlife
Colorado River Water Conservation District
Colorado Water Conservation Board
Crawford Area Chamber of Commerce
Delta Montrose Electric Association
Delta County Road & Bridge Department
Delta County Independent
TDS Telecom
Town of Crawford
Trout Unlimited
U.S. Army Corps of Engineers
U.S. Bureau of Land Management, Uncompahgre Field Office
U.S. Department of Agriculture Natural Resources Conservation Service
U.S. Fish and Wildlife Service
Western Slope Conservation Center