

FINAL ENVIRONMENTAL ASSESSMENT



Cattleman's Ditches Pipeline Project

Montrose County, Colorado

Prepared For

**U.S. Bureau of Reclamation
Colorado River Basin Salinity Control Program**

and

Cedar Canon Iron Springs Ditch & Reservoir Company

Prepared By

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Cover Photograph:

Looking northeast from Highway 92 near the foot of Gould Reservoir dam toward a deeply gullied naturalized segment of the existing west lateral of Cattleman's Ditches (October 2014). This lateral is proposed to be decommissioned in place, without backfilling.

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LIST OF ACRONYMS AND ABBREVIATIONS

List	Meaning
BLM	U.S. Department of the Interior Bureau of Land Management
BMP	Best Management Practice
CAA	Clean Air Act
CDOT	Colorado Department of Transportation
CDPHE	Colorado Department of Public Health & Environment
CFR	Code of Federal Regulations
COAHP	Colorado Office of Archaeology and Historic Preservation
Company	Cedar Canon Iron Springs Ditch & Reservoir Company
CPW	Colorado Department of Natural Resources Division of Parks & Wildlife
CWA	Clean Water Act
CWCB	Colorado Water Conservation Board
EA	Environmental Assessment
EPA	U.S. Environmental Protection Agency
ESA	U.S. Endangered Species Act
FWS	U.S. Fish & Wildlife Service
GMU	Game Management Unit
HQS	Habitat Quality Score
HUC	Hydrology Unit Code
LLC	Limited Liability Company
MOA	Memorandum of Agreement
mi	Mile
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
NRCS	U.S. Department of Agriculture Natural Resources Conservation Service
PBO	Programmatic Biological Opinion
PIP	Plastic irrigation pipe
PM	Particulate matter
Reclamation	U.S. Department of the Interior Bureau of Reclamation
RMP	Resource Management Plan
SHPO	State Historic Preservation Office
SMPW	Selenium Management Program Workgroup
THV	Total Habitat Value
TMDL	Total Maximum Daily Load
UFO	Uncompahgre Field Office
U.S.	United States of America
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
VRM	Visual Resource Management
WAPA	Western Area Power Authority

1 INTRODUCTION

This Final Environmental Assessment (EA) has been prepared in compliance with the National Environmental Policy Act (NEPA) to disclose and evaluate the potential environmental effects of Cedar Canon Iron Springs Ditch & Reservoir Company's (the "Company's" or "Applicant's") proposed Cattleman's Ditches Pipeline Project (hereinafter, "Pipeline Project," "Project" or "Proposed Action"). The Proposed Action is located in northeastern Montrose County, Colorado, about 12 miles south of the Town of Crawford, in the Alkali Creek drainage (see Figures 1 and 2 following the main text of this document).

Rare Earth Science, LLC prepared this EA on behalf of the U.S. Department of the Interior Bureau of Reclamation (hereinafter "Reclamation"), which is authorized by the Colorado River Basin Salinity Control Act to provide funding assistance for the Proposed Action. Reclamation awarded a funding agreement to the Company for the Project in July 2013 (Agreement Number R13AC40008, hereinafter, "Funding Agreement").

There are two classifications of land affected by the Proposed Action: Federal land and private land. The Federal land is public land administered by the U.S. Department of the Interior Bureau of Land Management (BLM). For the purpose of brevity, public land administered by the BLM will here forward be referred to as "BLM land."

After a public review period and incorporation of comments, Reclamation has determined that no further study and a Finding of No Significant Impact for the Proposed Action are warranted, and an Environmental Impact Statement is not required before the Proposed Action can be implemented.

1.1 Background

The Colorado River and its tributaries provide municipal and industrial water to about 27 million people and irrigation water to nearly four million acres of land in the United States. The river also serves about 2.3 million people and 500,000 acres in Mexico. The threat of salinity loading in the Colorado River basin is a major concern in both the United States and Mexico. 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. An estimated 8.7 million tons of salt flow into the Colorado River annually, and by the year 2025, 1.8 million tons of salt will need to be diverted from the system in order to meet water quality standards in the basin (Reclamation 2005). Irrigated agriculture is a major contributor of salinity in the system. 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.

Reclamation's 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. The Company signed a cooperative funding agreement with Reclamation in July 2013 (Agreement Number R13AC40008). The targeted Project completion date is Spring 2016.

1.2 Purpose & Need for the Proposed Action

The Proposed Action focuses on an unlined ditch system located in the lower Gunnison River watershed of the upper Colorado River basin, in soils derived from Mancos Shale. The Mancos Shale is a Cretaceous-age saline marine deposit, which contributes salts to irrigation water.

The Proposed Action will replace the existing system of unlined irrigation ditches with a buried pipe delivery system, which will eliminate ditch seepage and reduce salinity in the Colorado River basin by an estimated 1,855 tons of salt per year. An additional beneficial effect of the Proposed Action is the potential reduction of selenium in the Colorado River basin (SMPW 2011); however, the amount of selenium reduction has not been quantified.

The Proposed Action is consistent with the Colorado River Basin Salinity Control Act and helps fulfill the goals of the Basinwide Salinity Control Program. Salinity reduction in the Colorado River basin will provide benefits for a broad spectrum of downstream water users, as explained in Section 1.1, above.

1.3 Description of Proposed Action & Alternatives

The Proposed Action is located in northeastern Montrose County, Colorado, about 12 miles south of the Town of Crawford, in the Alkali Creek drainage (Figure 1), and entails replacing a total of approximately 8.5 miles of open irrigation ditches of the Cattleman's irrigation system with a total of approximately 6.4 miles of buried irrigation pipe. A Plan of Development, conceptual maps, and construction drawings for the Proposed Action were prepared by Applegate Group, Inc. of Glenwood Springs and Denver, Colorado. The Company proposes to construct the Project between early Fall 2015 and Spring 2016.

The Proposed Action also includes construction of a proposed Habitat Replacement Site, to mitigate for habitat losses which would result from the Project. The Habitat Replacement Site is located in an unnamed tributary to Doug Creek (Figure 2), less than 1 mile northeast of the main Project (Figures 2 and 3). The Habitat Replacement Site will be constructed in an existing wet meadow and will consist of shallow emergent wetlands and riparian tree and shrub plantings.

In accordance with NEPA and the Council of Environmental Quality regulations, a No Action Alternative is presented and analyzed in this EA in order to provide a baseline for comparison to the Proposed Action. Under the No Action Alternative, Reclamation would not provide funding to the Company to pipe the Cattleman's ditches. Seepage from these structures would continue to contribute to salt and selenium loading in the Colorado River basin. Riparian and wetland habitats associated with the ditches would likely remain in place and continue to provide benefits to local wildlife.

The Proposed Action is described in more detail in Section 2.2 and Figures included with this EA.

1.4 Alternatives Considered But Not Carried Forward

Several alignment alternatives were considered during the conceptual design process for the Project, but eliminated from detailed analysis in accordance with 40 CFR 1502.14 because they were determined to be technically challenging, economically prohibitive, and potentially more destructive to existing habitat than the Proposed Alternative.

Initially, the existing ditch alignments were considered as the primary route for the Proposed Action. Deviations from the existing ditch alignment were designed when the ditch alignment encountered one or more of the factors described below. Additionally, where existing ditch alignments were proposed for abandonment, those alignments with one or more of the following factors are proposed for decommissioning by breaching rather than backfilling:

- Extreme topography. Approximately 0.6 miles of the existing west lateral ditch alignment north of Gould Reservoir on BLM land (between Gould Reservoir and the first division structure) is deeply incised and has a high degree of naturalness in terms of terrain and vegetation. To bury a pipe in this alignment or to decommission this alignment by backfilling would be technically challenging, expensive, and destructive to established habitat and the viewshed along Highway 92, a Scenic Byway.
- Presence of utilities. Approximately 0.4 miles of the existing west lateral ditch alignment on BLM land north of the first division structure and the Highway 92 crossing has a low overhead powerline and/or a buried domestic waterline in its immediate vicinity. The overhead and buried obstructions posed by these utilities preclude the use of heavy equipment necessary to bury a pipe in this alignment or to decommission this alignment by backfilling.
- Significant old-growth vegetation. Dense mature pinyon-juniper woodlands and/or mature cottonwoods occupy approximately 1.5 miles of the existing west lateral ditch north of Gould Reservoir (including the same above-described segments that are deeply incised or encroached upon by utilities). Destruction of this old-growth vegetation to either bury a pipe alignment or decommission the ditch by backfilling would create habitat impact requiring significant additional habitat mitigation for the Project. The estimated habitat loss for the Project, if the approximately 1.5 miles of existing ditches proposed to be abandoned by breaching were instead backfilled, would increase by almost 29 percent (calculated according to the criteria set forth in the Basinwide Salinity Control Program's Procedures for Habitat Replacement Manual). Destruction of this vegetation and the associated ground disturbance would also affect the viewshed along Highway 92, which is a Scenic Byway.
- Excessive curvature in the existing ditch alignment. In locations where there was excessive curvature in the existing ditch alignment, efforts were made to straighten the pipeline alignment where the topography would allow.
- Existing ditch alignment using natural creek beds. The existing ditch alignments use segments of the Alkali Creek channel to convey irrigation water. The Project design avoids conveyance of irrigation water in natural drainages.

1.5 Location & Environmental Setting of the Proposed Action Area

The Proposed Action Area lies in the Alkali Creek and Muddy Creek hydrologic units of the Smith Fork of the Gunnison River watershed, about 150 miles southwest of Denver and about 12 miles south of the Town of Crawford, in northeast Montrose County, Colorado (see Figures 1 through 3). The Proposed Action Area extends generally between Clear Fork Road (south of Maher) and Gould Reservoir near Colorado State Highway 92. The general physical location of the Proposed Action is Sections 5, 6, 7, and 8 in Township 50 North, Range 6 West of the 6th Principal Meridian and Sections 31 and 32 in Township 51 North, Range 6 West of the 6th Principal Meridian (Figure 2 and Figure 3). The Habitat Replacement Site is 1.5 miles east of Maher on Hart Double H Ranch in Section 32 (Figures 2 and 3). Surface ownership in the Proposed Action Area is a combination of private and BLM (Figure 2).

The Proposed Action Area is located in the Colorado Plateau physiographic region, and has a semi-arid continental climate characterized by low humidity and moderately low precipitation (averaging about 13 inches annually). The average elevation in the Proposed Action Area is about 7,200 feet above mean sea level (Figure 2). Current uses on these lands in the vicinity are livestock grazing, irrigated agriculture, rural residential, and recreational hunting.

The ditches subject to the Proposed Action are in the Alkali Creek drainage, and are privately owned irrigation conveyances charged by water diverted from Crystal Creek at a location approximately 5 direct miles southeast of the Proposed Action Area (Figure 1). A total of approximately 2,800 acres of grass pasture and hay crops are served by the ditches subject to the Proposed Action. The irrigation season is approximately 150 days long. The system also conveys stock water during the irrigation off-season. On-farm irrigation is accomplished primarily using ditches, gated pipe or sprinkler systems. Drainage from the Proposed Action Area flows back to Alkali Creek which drains eventually to Crawford Reservoir (Figure 1).

Landcover on private lands in the vicinity of the Proposed Action Area consists primarily of irrigated hay meadows and pastures, pinyon-juniper woodlands, and sagebrush or mixed montane shrublands (Figure 4). BLM lands in the Proposed Action Area are mainly in natural vegetation consisting of pinyon-juniper woodlands and sagebrush or mixed montane shrublands. An approximately 8-acre area of BLM lands in the west part of the Proposed Action Area is in irrigated pasture (Figure 4a). Irrigation practices on this area will be vacated as a result of the Proposed Action.

Within the agricultural, woodland, or upland shrub matrix, areas adjacent to ditches and downgradient areas receiving leakage from the ditches have converted to riparian and/or wetland habitats. The existing ditch alignments are vegetated mostly with coyote willow and occasional cottonwoods, but also support scattered stands of common ruderal herbaceous weeds.

On BLM lands in the west part of the Proposed Action Area, certain ditch alignments (the existing west lateral) are deeply incised, and morphologically and ecologically similar to natural watercourses in Mancos Shale badland-type drainages in the region (see the cover photograph on this document and Figure 4a for approximate locations). These areas contain mature narrowleaf cottonwoods and mesic or riparian shrubs, and are not proposed for backfilling, as explained in Section 1.4.

Alkali Creek is a seasonal or intermittent drainage in the vicinity of the Proposed Action Area. Much of the off-season intermittent flow is a stock water right owned by the Company. Three

reaches of the Alkali Creek channel (Figures 2 and 3) are also used by the existing ditch system to convey irrigation water. This practice will be discontinued as part of the Proposed Action.

The Habitat Replacement Site is located in an existing man-made wetland area created by overflow from a Cathedral Domestic Water Company storage tank. Both the tank and the Habitat Replacement Site are located on private land (Hart Double H Ranch). As required by Reclamation, the Habitat Replacement Site is on land protected by a conservation easement. The site is a former pond basin that has silted in and is occupied by cattails, pasture grasses, and arctic rush. The general location of the Habitat Replacement Site is shown on Figures 2 and 3.

1.6 Relationship to Other Projects

Other salinity control projects in progress or recently implemented in the general vicinity include the following (Figure 1a):

- C Ditch Company's C Ditch/Needle Rock Pipeline Project (3 miles north of the Town of Crawford in the Cottonwood Creek drainage)
- Clipper Irrigation Salinity Control Project (2.5 miles southeast of the Town of Hotchkiss in the Cottonwood Creek drainage)
- Grandview Canal Piping Project (just south of the Town of Hotchkiss in the Smith Fork River drainage).
- Rogers Mesa Water Distribution Association's Slack and Patterson Laterals Piping Project (about 3 miles west of the Town of Hotchkiss)
- Minnesota Canal Piping Project (near the Town of Paonia in the North Fork of the Gunnison River drainage)
- Lower Stewart Ditch Pipeline Project (near the Town of Paonia in the North Fork of the Gunnison River drainage)
- Bostwick Park Water Conservation District's Siphon Lateral Salinity Control Project (near the City of Montrose)
- Forked Tongue/Holman Ditch Company's Salinity Control Project (near the Town of Eckert in the Tongue Creek drainage)

1.7 Scoping, Coordination, & Public Review

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 Alternative:

- U.S. Bureau of Land Management, Uncompahgre Field Office, Montrose, CO
- Colorado Office of Archaeology and Historic Preservation, Denver, CO
- Colorado Parks & Wildlife, Gunnison, CO
- U.S. Fish & Wildlife Service, Ecological Services, Grand Junction, CO

- U.S. Army Corps of Engineers, Colorado West Regulatory Branch, Grand Junction, CO
- Colorado Department of Transportation, Grand Junction, CO
- U.S. Department of Energy, Western Area Power Administration, Montrose, CO
- Southern Ute Tribe, Ute Mountain Ute Tribe, and Ute Indian Tribe (Uintah and Ouray Reservation)

In compliance with NEPA, the Draft EA was available for public comment for a 30-day period (see Section 5). The comments are included in Attachment A. The Draft EA was distributed to Company shareholders, the 34 private landowners within a 0.5-mile radius of the Proposed Action, and the organizations and agencies listed in Attachment B.

Concerns raised during other similar projects (see Section 1.6, above) also helped identify potential concerns for the Proposed Action.

Issues determined to be of potential significance, and therefore appropriate for further impacts analysis under this EA, are discussed in Section 3. The following issues were determined to be **insignificant or not applicable**, and are not analyzed further in this EA:

- Indian Trust Assets and Native American Religious Concerns (not applicable). Indian trust assets may include lands, minerals, hunting and fishing rights, traditional gathering grounds, and water rights. No Indian trust assets have been identified within the Project area. The American Indian Religious Freedom Act was enacted to protect and preserve Native American traditional religious rights and cultural practices. These rights include, but are not limited to, access to sacred sites, freedom to worship through ceremonial and traditional rights, and use and possession of objects considered sacred. No Native American sacred sites are known within the Proposed Action Area. Neither the No Action Alternative, nor the Proposed Action, will have an effect on Indian trust assets or Native American sacred sites. To confirm this finding, Reclamation provided the Ute tribes with historic presence in the region 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. The Southern Ute Indian Tribe and the Ute Indian Tribe of the Uintah and Ouray Reservation had no comments, and the Ute Mountain Ute Tribe commented requesting immediate notification if any cultural resources were discovered during construction.
- Environmental Justice & Socio-Economic Issues (not applicable). Executive Order 12898 provides that federal agencies analyze programs to assure that they do not disproportionately adversely affect minority or low income populations or Indian Tribes. The Proposed Action Area does not occur on Indian reservation lands or within disproportionately adversely affected minority or low income populations. The Proposed Action 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, will have an environmental justice effect.
- Jurisdictional Wetlands & Other Waters of the U.S. (not applicable). The Proposed Action would affect surface and shallow subsurface hydrology supplied to wetland and riparian areas along the Proposed Action alignment, and would require five spans of intermittent streams as well as construction of a Habitat Replacement Site in an existing jurisdictional wetland. As an irrigation construction project, the Proposed Action is exempt from requiring a Section 404 Permit pursuant to the Clean Water Act (33 USC 1344). The applicable U.S. Army Corps of Engineers exemptions are for 1) Farm or

Stock Pond or Irrigation Ditch Construction or Maintenance, and 2) Maintenance of Existing Structures. Copies of the Section 404 Exception Summaries are provided as Attachment C. The exemptions have been verbally confirmed as applicable by the Colorado West Regulatory Branch of the U.S. Army Corps of Engineers (USACE). Written concurrence from USACE that the Proposed Action is exempted from Section 404 of the Clean Water Act is included in Attachment C. Construction of the Habitat Replacement Site will not involve placement of fill in any jurisdictional wetlands; therefore no Section 404 permit for this activity is required.

- Wild & Scenic Rivers, Land with Wilderness Characteristics, or Wilderness Study Areas (not applicable). No Wild and Scenic Rivers, land with wilderness characteristics, or Wilderness Study Areas exist in the Proposed Action Area.

2 PROPOSED ACTION & ALTERNATIVES

As explained in Section 1.3, the alternatives evaluated in this EA include a No Action Alternative and the Proposed Action. The resource analysis contained within this document, along with other pertinent information, will guide Reclamation's decision about whether or not to fund the Proposed Action for implementation. The Proposed Action is analyzed in comparison to a No Action Alternative in order to determine potential effects.

2.1 No Action Alternative

Under the No Action Alternative, Reclamation would not authorize funding to the Company to pipe the Cattleman's Ditches. Irrigation practices and seepage from these structures would continue to contribute to salt and selenium loading in the Colorado River basin. Riparian and wetland habitats associated with the ditches would likely remain in place and continue to provide benefits to local wildlife.

2.2 Proposed Action Alternative

Under the Proposed Action Alternative, part of the Cattleman's Ditches system would be replaced with buried pipe. The ditches involved would be the mainline ditch beginning near Gould Reservoir, and the various Hart, Harris, Polson, and Knott laterals. The generalized locations of the involved ditches, buried pipe alignments, and other Project components are shown on Figures 2 and 3.

Table 1 (below) summarizes the Project components, with a breakdown of components on BLM land vs. private land. The Proposed Action would replace a total of approximately 44,703 linear feet (8.5 miles) of open irrigation ditch with approximately 33,733 linear feet (6.4 miles) of buried pipe. Approximately 6,866 feet (1.3 miles) of pipe would be installed in the existing ditch prism, and about 26,867 feet (5.1 miles) of pipe would be installed outside existing ditch alignments. Pipe diameters would range from 6 inches to 40 inches, and pipe materials would be plastic irrigation pipe (PIP). A cast-in-place intake structure would be installed on BLM land near Gould Reservoir (at the start of the Project), and various control structures would be installed throughout the Project Area, as specified by the construction drawings. Approximately 3,610 cubic yards of imported fill (bedding material) would be required for pipeline installation, including approximately 464 cubic yards on BLM lands. No pumping or compressor stations would be associated with the Proposed Action.

Table 1. Summary of Components for the Cattleman's Ditches Pipeline Project

Component	Total Approx. Length	Approx. Length on BLM Land	Approx. Length on Private Land
Existing irrigation ditches	44,703 ft (8.5 mi)	12,634 ft (2.4 mi)	32,069 ft (6.1 mi)
Pipe to be buried in existing ditch alignments	6,866 ft (1.3 mi)	2,880 ft (0.5 mi)	3,986 ft (0.8 mi)
Pipe to be buried outside existing ditch alignments	26,867 ft (5.1 mi)	0	26,867 ft (5.1 mi)
Total amount of buried pipe to be installed	33,733 ft (6.4 mi)	2,880 ft (0.5 mi)	30,853 ft (5.8 mi)
Abandoned ditch alignments to be decommissioned by backfilling (including culverts)	22,091 ft (4.2 mi)	912 ft (0.2 mi)	21,179 ft (4.0 mi)
Abandoned ditch alignments to be decommissioned by breaching (not backfilling)	15,746 ft (3.0 mi)	8,851 ft (1.7 mi)	6,895 ft (1.3 mi)

Four pipeline crossings of Alkali Creek and one crossing of an Alkali Creek tributary are proposed in locations shown on Figure 4a. The north-most Alkali Creek crossing would be buried under the creek channel. Other crossings would be culverted embankment-fill spans of the creeks—essentially earthen spans supporting the pipelines over the creek at the necessary elevation. Appropriately-sized culverts would be installed through the embankment fills to allow for normal (intermittent or seasonal) creek flow. The width of the embankments would depend on the height of the span, but would generally be approximately 10 feet across the top and approximately 40 feet across the base. The culverted embankment fill method of creek spanning is necessary to maintain proper pipe elevations on the alignments. Pipe crossings buried under the creek channel would not be feasible at these locations because low points beneath the creek channel would require sediment clean-outs that would be impractical to install and maintain. Alternatively, spanning the creek channel with suspended pipe would not be feasible because the pipe would carry stock water in the winter and must be protected from freezing.

A total of approximately 37,837 feet (7.2 miles) of existing unlined irrigation ditch alignments would be abandoned as a result of the Proposed Action. Of these, about 22,091 feet (4.2 miles) would be decommissioned by backfilling and recontouring with ditch prism material, and about 15,746 feet (3 miles) would be decommissioned without backfilling. The ditches not proposed for backfilling would be breached where they are intersected by natural drainage patterns, to allow for stormwater flow. The breach locations are shown on the construction drawings.

Five construction staging areas have been identified for the Proposed Action (Figures 2 and 3). All staging will take place on private lands in agricultural areas or on previously disturbed ground.

The Proposed Action lies partially on private lands, and partially on public lands administered by BLM (Figure 2). Currently there is no established right-of-way for the Company's ditches on BLM lands in the Proposed Action Area. The existing ditch alignments operate in prescriptive easements on both public and private lands. All private landowners in the footprint of the Proposed Action have agreed to allow the activities of the Proposed Action to be conducted on

their lands. Dedicated easements will be recorded in Montrose County when the surveyed pipe alignments and agreements are completed.

The Company is requesting temporary and permanent rights-of-way on BLM and private lands for construction, construction access, and for ongoing routine maintenance of the Proposed Action. The permanent rights-of-way would be 50 feet wide, and the temporary (construction) rights-of-way would be 20 to 30 feet wide, depending on their location and purpose. The requested rights-of-way for the Proposed Action and their specific locations will be clearly marked on the construction drawings.

All access ways for construction of the Proposed Action will be on county roads or existing private roads, except for access to the east part of the Proposed Action Area, which will be from an existing road crossing both private and BLM land (Figures 2 and 3). This road, approximately 541 feet of which is on BLM land, will require grading to allow for property drainage, safe access of vehicles, and transport of materials and equipment.

The Proposed Action would cause short-term temporary adverse effects consisting of noise, ground disturbance, and vegetation disturbance to property owners and property in the Proposed Action Area. This disturbance would occur incrementally across the Proposed Action Area during early Fall 2015 through early Spring 2016. Construction and access footprints would be limited to only those necessary to safely implement the Proposed Action. Vegetation slash would be hauled off-site to one of the several identified proposed staging areas and chipped or burned at that location. All disturbed areas would be revegetated with appropriate seed mixes and monitored subject to BLM right-of-way stipulations and agreements between the Company and individual land owners. Best Management Practices (BMPs) would be used to control erosion, and noxious weeds would be controlled in disturbed areas according to right-of-way stipulations and Montrose County standards (Attachment H).

The Proposed Action would also result in long-term loss of wetland and riparian habitat where ditches are proposed for abandonment or for buried pipe installation. The amount of habitat value lost would be mitigated with a Habitat Replacement Site located less than one mile northeast of the Project. The habitat evaluation and Reclamation-approved Habitat Replacement Plan are discussed in Sections 3 and 4 of this document, and included in their entirety as Attachments D and G.

Construction for the Proposed Action would take place from early Fall 2015 through early Spring 2016. Parts of the Project involving burial of pipelines outside of existing ditch alignments and implementation of the Habitat Replacement Plan could take place starting as soon as the Project receives NEPA clearance (early Fall 2015). Those parts of the Project involving burial of pipelines in existing ditch alignments must occur during the non-irrigation season (Fall of 2015 and/or Winter and early Spring of 2016). The open-cut crossings of the Project across Colorado Highway 92 must be completed prior to regional trailing of livestock, which commences on approximately October 20 in the Fall. Highway 92 at Gould Reservoir is a major regional livestock trailway without an alternate route.

3 AFFECTED ENVIRONMENT & ENVIRONMENTAL CONSEQUENCES

This section discusses resources that may be affected by the Proposed Action and the No Action Alternative. During preparation of this EA, information on issues and concerns was

received from the Company, resource agencies, and other interested parties, as noted in the subsections below.

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

3.1 Water Rights & Use

The Gunnison River basin is approximately 7,800 square miles in size. Information on water rights within the Gunnison basin in general can be found in the report entitled "Gunnison River Basin Information, Colorado's Decision Support Systems" (CWCB 2004).

The Cedar Canon Iron Springs Ditch and Reservoir Company is a privately owned, non-profit, mutually-funded irrigation company incorporated and operating in Montrose County since 1883. The Company holds a 54.6 cubic foot per second (cfs) direct flow water right, appropriated in October 1883, for Crystal Creek, a Gunnison River tributary. A stock right of 5 cfs was appropriated in May 1882 and decreed in August 1936 for use during the non-irrigation season.

The Company's headgate structure on Crystal Creek is about 5 miles south-by-southeast of the Proposed Action Area, and supplies more than 16 miles of irrigation canals that flow generally north, parallel to Highway 92, to ultimate delivery points on either side of the highway between Gould Reservoir and Clear Fork Road, south of Maher. The system irrigates approximately 2,800 acres of hay crops and livestock pasture. Irrigation is primarily accomplished by flood methods directly from ditch laterals, and to a lesser extent with gated pipe and sprinklers.

No Action: The No Action Alternative would have no direct 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 Company would have the ability to better manage its water rights with efficiencies gained from eliminating seepage by piping the system. Efficiencies gained may result in more water availability during the irrigation season; however, the proposed action does not include new storage or the irrigation of new lands. Stock water conveyance and distribution through the non-irrigation season would be maintained. Therefore, no direct adverse effects on water rights in the Gunnison River Basin are expected to occur due to implementation of the Proposed Action.

3.2 Water Quality

Irrigation practices in the region and in the Proposed Action Area contribute to high downstream salinity levels and create an adverse effect on the water quality of the Colorado River basin (see Section 1.1). Fish habitat in the Gunnison and Colorado Rivers is also threatened by selenium levels. Selenium is an element that occurs in the region's soils in soluble forms such as selenate, which is leached into rivers by runoff and irrigation practices. Though trace amounts of selenium are necessary for cellular functioning of many organisms, it is toxic in lightly elevated amounts. Selenium loading has not been quantified for the Proposed Action Area, but it is potentially contributing to an adverse effect on the water quality of the Colorado River basin.

The Proposed Action Area is located within the Smith Fork of the Gunnison River watershed, a major tributary of the Colorado River in west-central Colorado. The Proposed Action Area lies in two tributary watersheds of the Smith Fork River (Figure 5): the Iron Creek unit (Hydrologic Unit Code [HUC] 140200021203) and the Muddy Creek unit (HUC 14020021202). Alkali Creek (a seasonal tributary to Iron Creek) drains the majority of the Proposed Action Area. The Habitat Replacement Site is located within the Muddy Creek unit on an unnamed seasonal drainage tributary to Doug Creek. Both the Muddy Creek and Alkali Creek units (and runoff from the Company's irrigation system) ultimately drain to Crawford Reservoir. Crawford Reservoir is tributary to the Smith Fork River, and irrigation withdrawals from Crawford Reservoir are also conveyed north into the Cottonwood Creek and North Fork of the Gunnison River drainages. The water supplying the Company's irrigation system originates in the Crystal Creek unit (HUC 140200021004) to the south, and from runoff in the Iron Creek unit.

Official designated uses for the Smith Fork River and Doug Creek include coldwater aquatic habitat, recreation, water supply, and agriculture. Official designated uses for Crawford Reservoir and all Smith Fork tributaries not on the Gunnison National Forest (and not including Doug Creek) are warmwater aquatic habitat, recreation, water supply, and agriculture (CDPHE 2009, 2013). Maintenance or improvement of water quality in the Smith Fork River drainage and Crawford Reservoir would be of significant importance to users of these water resources.

Currently, none of the hydrologic units named above are on the Colorado Department of Public Health and Environment's (CDPHE's) list of water quality impaired waters in the State of Colorado (CDPHE 2012), with the exception of Crawford Reservoir. Crawford Reservoir has dissolved oxygen (temperature) impairment within the reservoir itself, and this impairment is due to the warm season draw-down occurring on the reservoir by its many irrigation users. The hydrologic units in the Proposed Action Area were previously on the state's list of impaired waters due to their failure to meet selenium standards. In instances where waterbodies fail to support classified uses and/or fall within assigned numeric water quality standards, a Total Maximum Daily Load (TMDL) is used to determine the maximum amount of pollution which can be introduced into a waterbody daily while still keeping that waterbody and downstream waterbodies within the limits of the numeric water quality standard. Selenium TMDLs for the area's waterbodies were assessed in 2011 by the CDPHE (CDPHE 2011), resulting in the removal of the waterbodies from the impaired waters list.

No Action: Under the No Action Alternative, the estimated 1,855 tons of salt annually contributed to the Colorado River basin from this system would continue. Current selenium loading levels would continue.

Proposed Action: The Proposed Action would eliminate seepage from the ditch system, reducing salt loading to the Colorado River basin at an estimated rate of 1,855 tons per year, at a cost-effectiveness value of approximately \$50.37 per ton (as per the Funding Agreement). The Proposed Action is also expected to reduce selenium loading into the Gunnison River basin (a goal of the Gunnison Basin Selenium Management Program [SMPW 2011]); however, these benefits have not been quantified. Improved water quality would likely benefit downstream aquatic species by reducing salt and selenium loading in the Smith Fork, Gunnison, and Colorado rivers. No change in water quality would occur to the Crystal Creek drainage (which is upgradient of the Proposed Action Area) as a result of the Proposed Action. In the short-term, construction activities in waterbodies have the potential to mobilize sediments. Burial of irrigation pipe in existing ditch alignments will occur during the irrigation off-season (while no water is flowing in the ditches). The culverted embankment stream crossings are taking place in seasonal

or ephemeral drainages, and are expected to be constructed during early Fall, Fall, or Winter 2015/2016, when no water is flowing in the stream channels. Water quality construction BMPs and permanent stabilization and revegetation of the culverted embankment fills, along with proper sizing of the culverts to allow for seasonal or intermittent flow through the embankments, would be environmental commitments for the Proposed Action. Exemptions from Section 404 the Clean Water Act apply to the Proposed Action are verified in writing by the U.S. Army Corps of Engineers (see Attachment C); therefore no Section 401 Water Quality Certification is required for the Proposed Action.

3.3 Air Quality

The National Ambient Air Quality Standards (NAAQS) established by the U.S. Environmental Protection Agency (EPA) under the Clean Air Act (CAA) specify limits for criteria air pollutants. Criteria pollutants include carbon monoxide, particulate matter (PM 10 and PM 2.5), ozone, sulfur dioxide, lead, and nitrogen. If the levels of a criteria pollutant in an area are higher than the NAAQS, the airshed is designated as a nonattainment area. Areas that meet the NAAQS for criteria pollutants are designated as attainment areas. Montrose County is in attainment for all criteria pollutants.

No Action: There would be no effect on air quality in the Proposed Action Area from the No Action Alternative. The ditch system would continue to operate in its current configuration 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. Dust from construction activities would have a temporary, short-term effect on the air quality in the immediate Project area. Dust would be generated by excavation activities and the movement of construction equipment on unpaved roads. BMPs would be implemented to minimize dust, and would include measures such as watering the construction site and access roads, as appropriate. Impacts on air quality would be temporary and would cease once construction is complete. Following construction, impacts to air quality from routine maintenance and operation activities along the pipeline corridor would be similar in magnitude to those currently occurring for the existing ditch alignments. Impacts to air quality from routine maintenance include dust from occasional travel in light vehicles along the Project corridor.

3.4 Access, Transportation, & Public Safety

The major transportation resource in the Proposed Action Area is Colorado State Highway 92 (Figures 2 and 3), which runs north-south in the immediate vicinity between the Town of Crawford in Delta County and Black Mesa in Montrose County. Clear Fork Road, a Montrose County Road off Highway 92, runs east-west and bounds the north edge of the Proposed Action Area (Figure 2). A gated road (E 8080 Trail) for access to the Cathedral Peak Ranch subdivision heads east from Highway 92 near Gould Reservoir (Figure 2). Several local private roadways and driveways off Highway 92, Clear Fork Road, and E 8080 Trail exist within the vicinity. These roads provide access and mobility for residents traveling in and out of the area. The Montrose County Sheriff and the North Fork Ambulance Service and Volunteer Fire Department cover the Proposed Action Area.

Highway 92 at Gould Reservoir is a seasonal livestock trailing route, with movement of livestock north from Black Mesa to home ranches generally beginning by October 20th each fall.

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

Proposed Action: The Proposed Action Area would be accessed using existing public roads connecting directly to the Project area (namely Highway 92 and Clear Fork Road) or to existing private roads on private lands. An existing road on BLM land in the east part of the Proposed Action Area would be used to access the Hart lateral area of the Project (Figure 2). Access to the Proposed Action Area within Cathedral Peak Ranch subdivision would be via E 8080 Trail and Deep Creek Trail (gated roads) and the Western Area Power Authority (WAPA) Curecanti-Rifle transmission corridor road. Both the Cathedral Peak Ranch subdivision homeowners association and WAPA have given permission to the Company to access and construct the Proposed Action using their facilities and/or to work in the vicinity of their facilities. A permit application has been filed with BLM for access via the existing road on BLM lands in the east part of the Proposed Action Area. As a condition of access, the subdivision homeowners association is requiring that the gate on E 8080 Trail remain closed during the day and locked during nighttime hours. A WAPA representative visited the Proposed Action Area and provided clearance for the Proposed Action, provided that all equipment and construction activities be maintained at least 20 feet from WAPA stanchion structures or transmission lines. There would be no need for construction of new access roads for the Proposed Action, as construction access would be on existing roads and within the construction right-of-way. There are no known bridges with weight restrictions that would be used by construction vehicles. Implementation of the Proposed Action may cause limited delays along roadways adjacent to the Project areas from construction vehicles entering and exiting the local roadways. Four buried pipeline crossings of Colorado Highway 92 are proposed for the Project (two open cut crossings near Gould Reservoir and two slip culvert crossings in the north part of the Proposed Action Area), through a highway right-of-way administered by the Colorado Department of Transportation (CDOT). Brief temporary closures of Highway 92 near Gould Reservoir may be required during the construction of the open cut pipe crossings (see Figure 2 for location). The timing of this closure would be sensitive to area ranchers trailing livestock through the area—livestock trailing generally begins around October 20th each Fall. Permits and traffic control for construction of the Highway 92 crossings are being coordinated with the Colorado Department of Transportation (CDOT), and any road closure would be coordinated with CDOT and local law enforcement and emergency services.

3.5 Recreational & Visual Resources

No official recreation trails or other developed public access resources exist on BLM lands involved in the Proposed Action. The Proposed Action is located in Colorado Parks & Wildlife Game Management Unit (GMU) 63, and licensed game hunters may hunt on BLM lands encompassing the Proposed Action Area or on BLM lands near the Proposed Action Area during hunting seasons. The level and nature of public use of the BLM lands involved in the Proposed Action is unknown, but expected to be low, due to lack of developed public access routes directly to the Proposed Action Area.

BLM Manual 8410-1 (Visual Resource Management) defines and categorizes visual resource management classes that provide objectives for visual resources on BLM lands as projects are

proposed and implemented in the landscape. These Visual Resource Management (VRM) classes are determined through an inventory process described in BLM Manual 8410-1, and are used to provide guidance to BLM and project proponents when contemplating proposed surface disturbing activities. Class I areas are protected from visible change, Class II areas allow for visible changes that do not attract attention, Class III areas allow for visible changes that attract attention but are not dominant, and Class IV areas allow for visible changes that can dominate the landscape. The Proposed Action Area does not have an assigned VRM class in the UFO's current Resource Management Plan (RMP). A Visual Resource Inventory completed in September 2009 for the area documented the Proposed Action Area as Class III; however, the final visual resource management classes will be determined as a part of the Resource Management Plan Revision (Julie Jackson, pers. comm). The Proposed Action Area is at least partially visible from Highway 92 along the West Elks Scenic & Historic Byway.

No Action: The No Action Alternative would have no effect on recreational or visual resources on BLM lands. Recreation in the Proposed Action Area would continue as in the past, and visual resources would remain unchanged.

Proposed Action: Construction of the Proposed Action would take place between early Fall 2015 and Spring 2016. The Proposed Action could temporarily disrupt recreational big game hunting during construction in the fall months (quality of experience and hunting success) on BLM lands around the Project Area, due to construction noise and activity. The Proposed Action would not result in permanent displacement of big game in the Proposed Action Area. On BLM land, construction holes or pipeline trenches left open overnight will be covered. Covers will be secured in place and strong enough to prevent livestock or wildlife from falling through. The Proposed Action will temporarily affect the visual appearance of several Project segments on BLM lands proposed for pipe burial or decommissioning by in-filling. These segments include one approximately 762-foot segment of the existing Polson lateral on BLM land in the west part of the Proposed Action Area west of Highway 92 proposed for in-filling; and one approximately 314-foot segment of the main lateral west of Highway 92 and Gould Reservoir proposed for buried pipe installation; one approximately 1,648-foot segment of the main lateral east of Highway 92 proposed for buried pipe installation; one approximately 520-foot segment of the main lateral east of Highway 92 proposed for in-filling, and one approximately 918-foot segment of the Hart lateral proposed for buried pipe installation. These areas would contain construction equipment and activity during Project implementation, and bare ground until final grading and revegetation are accomplished. Ditches elsewhere on BLM land will be decommissioned by breaching, and their natural appearance will remain intact. Overall, the level of change to the visual characteristics of the landscape in and around the Proposed Action Area during and following construction will be low to moderate, and not out of character with the surrounding landforms, or with the rural-agricultural character of the vicinity.

3.6 Livestock Grazing

The following cattle grazing allotments exist on BLM lands within the Proposed Action Area (see Figure 2): Cedar Point (#05012 / Permittee Patricia Polson); Collins (#05043 / Permittee Harris & Sons Stirrup Bar Ranch, LLC); and East Gould Reservoir (#05041 / Permittee Harris & Sons Stirrup Bar Ranch, LLC). The Cedar Point allotment encompasses about 480 acres on and north of Cedar Point and is permitted for seasonal grazing between May 16 and October 15. Approximately 1.2 miles of existing ditches are proposed to be decommissioned (primarily by breaching) in the Cedar Point allotment. The Collins allotment is an approximately 200-acre

block of BLM land in the east part of the Proposed Action Area, where a short segment of pipe would be buried and an existing road would provide construction access to the Project. The East Gould allotment wraps around the north and east sides of Gould Reservoir and encompasses ditch segments proposed for decommissioning and for pipe installation. The Collins and East Gould Reservoir allotments are permitted for grazing between May 16 and June 15.

No Action: The No Action Alternative would have no effect on grazing allotments on BLM lands. Livestock grazing in the Proposed Action Area would continue as in the past.

Proposed Action: Construction would take place between early Fall 2015 and Spring 2016. Under the Proposed Action, temporary disturbance to lands within BLM grazing allotments would occur during construction. Grazing in the Collins and East Gould Reservoir allotments would not likely be affected by construction, because the particular construction activities taking place would not be occurring during the grazing period. Construction activities in the Cedar Point allotment would be taking place during the irrigation off-season, and may overlap with the permitting grazing period in that allotment (during the Fall). No lands currently capable of being grazed will be rendered permanently incapable of being grazed as result of the Proposed Action. The Proposed Action may result in a small increase in lands capable of providing livestock grazing within the Project Area by filling and vegetating the ditch prisms. The Proposed Action would remove a source of livestock water from the grazing allotments by decommissioning the ditches. Pipeline trenches left open overnight during construction would be kept to a minimum to reduce potential entrainment of livestock. The Company and its contractors will cooperate and coordinate with grazing permittees to avoid potential conflicts with grazing operations. Both allotment permittees are also Company shareholders and beneficiaries of the Proposed Action.

3.7 Vegetative Resources / Habitat

The Proposed Action would result in the permanent loss of riparian and wetland vegetation associated with open ditches that are to be decommissioned, and with four culverted embankment-fill spans of seasonal or ephemeral drainages. Temporary, reclaimable disturbances of upland vegetation would occur along new pipeline alignments that do not follow the existing ditch embankments. These vegetation resources support or contribute to the support of aquatic wildlife, terrestrial wildlife, and migratory birds. Public Laws 98-569 and 104-20 require that the Secretary of the Interior “shall implement measures to replace incidental fish and wildlife values foregone” and develop a program that “shall provide for the mitigation of incidental fish and wildlife values that are lost.”

Figures 4 and 4a show the general landcover types in the Proposed Action Area. These include irrigated agricultural (hayfields and/or pastures), Colorado Plateau pinyon pine-Utah juniper woodlands, and Intermountain basins big sagebrush shrublands or shrub-steppe. Other landcover types intersecting or existing near the ditches / planned buried pipeline alignments involved in the Proposed Action are minor amounts of Rocky Mountain Gambel oak-mixed montane shrublands and lower montane riparian woodlands and shrublands. Proposed staging areas are all on irrigated fields or existing disturbed areas (such as a gravel pit) on private land.

Within the matrix of the general landcover types (Figures 4 and 4a), the existing ditch alignments are vegetated mostly with coyote willow, cattails, and occasional mature cottonwoods, but also feature stands of common ruderal and noxious weeds (including Canada

thistle, musk thistle, and Russian knapweed). Small patches of wet meadow or swale-type vegetation are supported by ditch seepage along the existing Hart lateral where it runs along a slope. The four culverted embankment fill creek crossings are proposed at deeply-incised steep and sparsely vegetated (gullied) reaches of Alkali Creek and an Alkali Creek tributary, with bottoms supporting emergent wetland type vegetation (cattails, sedges, rushes), mesic swale type vegetation (pasture grasses), or unvegetated channel. Figure 4a shows the locations of the creek crossings, which are all located on private lands.

The BLM portions of the Proposed Action Area are mainly in mature pinyon-juniper woodlands and sagebrush shrublands (Figure 4). Existing ditch alignments proposed for pipe burial are lined with coyote willow. Reaches of existing ditch to be abandoned on BLM lands in the west part of the Proposed Action Area are deeply gullied with mature riparian wooded bottoms (cottonwoods and mesic shrubs), or have old growth pinyon-juniper woodlands with overhead and buried utility conflicts (Figure 4a). These reaches are proposed to be decommissioned without backfilling. The decommissioned reaches would be breached in locations shown on the construction drawings to prevent them from conveying irrigation water in the future.

An approximately 8-acre area of BLM land in the west part of the Project area, in the Cedar Point Allotment, is in irrigated pasture (Figure 4a). Irrigation of this area, which is irregular and uneven, would cease as a result of the Proposed Action. The area is currently dominated by smooth brome, a fairly drought-tolerant grass. The area is expected to naturally revert to rabbitbrush and sagebrush shrublands, with a smooth brome-dominated herbaceous understory. Reseeding is not proposed in this area since ground disturbance associated with reseeding efforts may open the area up for weed invasion.

The landcover types described above provide habitat for an array of wildlife (described in Section 3.8).

A habitat evaluation was performed for the Proposed Action Area by Wildlife & Natural Resource Concepts & Solutions, LLC (Zeman 2015) to quantify potential wetland and riparian habitat values that would be lost in the Proposed Action Area due to Project implementation (Attachment D). The evaluation followed methodology outlined in Reclamation's May 2010 "Basinwide Salinity Control Program: Procedures for Habitat Replacement." Table 2 summarizes the results of the habitat evaluation. Study segments are mapped in Attachment D.

Table 2. Predicted Wetland & Riparian Habitat Loss from the Proposed Action

Study Segment	Habitat Type	Segment Length (ft)	Segment Width (ft)	Acres Affected	Habitat Quality	Total Habitat Value (THV)
					Score (HQS)	(Acres x HQS)
H1	Shrub/Tree	3989	25	2.29	0.90	2.06
H2	Trees/Shrub	1149	N/A	1.61	1.30	2.09
H3A	Shrub/Tree	213	20	0.10	1.10	0.11
H3B	Shrub/Tree	1018	20	0.47	1.10	0.52
H4	Shrub/Tree	1115	20	0.51	0.80	0.41
H5	Shrub/Tree	2187	30	1.51	1.40	2.11
H6	Shrub/Grass	528	25	0.30	0.80	0.24
H7	Shrub/Tree	5716	25	3.28	0.90	2.95

Study Segment	Habitat Type	Segment Length (ft)	Segment Width (ft)	Acres Affected	Habitat Quality Score (HQS)	Total Habitat Value (THV) (Acres x HQS)
H8	Shrub/Tree	781	25	0.45	-0.30	-0.13
H9	Shrub/Tree	1575	25	0.90	1.00	0.90
H10	Shrub/Grass	1552	15	0.53	0.90	0.48
H11	Shrub/Grass	465	10	0.11	0.00	0.00
H12	Grass/Forbs	2701	20	1.24	0.80	0.99
H13	Grass/shrub	4768	10	1.09	0.00	0.00
H14A	Shrub/Tree	760	10	0.17	0.90	0.16
H14B	Shrub/Tree	1591	10	0.37	0.90	0.33
H15	Shrub/Tree	839	20	0.39	0.50	0.19
H16	Shrub/Tree	2059	20	0.95	0.50	0.47
H17	Trees/Shrub	3176	30	2.19	0.50	1.09
H18	Shrub/Grass	1718	15	0.59	0.80	0.47
H19	Shrub/Tree	7120	20	3.27	0.00	0.00
H20	Grass/Shrub	1968	20	0.90	0.00	0.00
H21	Shrub/Tree	1925	20	0.88	0.00	0.00
H22	Grass/Shrub	5873	20	2.70	0.00	0.00
H23	Trees/Shrub	2297	30	1.58	0.00	0.00
H24	Shrub/Tree	893	20	0.41	0.50	0.21
H25	Shrub/Grass	3745	20	1.72	0.00	0.00
H26	Grass/Forbs	447	20	0.21	0.00	0.00
SA1	Gravel Pit	N/A	N/A	8.40	0.00	0.00
SA2	Grass/Forbs	N/A	N/A	2.60	0.00	0.00
SA3	Grass/Forbs	N/A	N/A	6.10	0.00	0.00
SA4	Forbs/Shrubs	N/A	N/A	1.40	0.00	0.00
SA5	Grass/Forbs	N/A	N/A	1.80	0.00	0.00
Totals				51.01		15.66

In accordance with the evaluation method, 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 criteria. The HQS criteria include vegetative diversity, degree of stratification, degree of nativeness, presence of noxious weeds, overall health/condition, degree of interspersion of vegetation with open water, connectivity with other habitat types, uniqueness, water supply, and degree of human alteration. The predicted total of THV units affected due to Project implementation is the sum of the THVs across the Proposed Action Area. A total of approximately 51.01 acres of wetland or riparian habitat (equating to a total wetland and riparian habitat value of 15.66 units based on Habitat Quality Scoring) were identified adjacent to or associated with the existing structures involved in the Proposed Action (Attachment D).

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

Proposed Action: Construction activities would temporarily disturb vegetation in the Proposed Action Area. Following surface disturbance, appropriate reclamation procedures would be followed in order to revegetate disturbed areas and control noxious weed infestations. Irrigated areas would be returned to production immediately following construction.

Implementation of the Proposed Action would result in permanent loss of wetland and riparian habitat as ditches and ditch seepage would be eliminated and would no longer provide flowing surface water or wetland hydrology to adjacent areas. Construction of culverted embankment creek crossings would impact wetland or riparian vegetation in the creek bottoms. Proposed buried pipe alignments through sagebrush shrublands and other upland vegetation communities would temporarily affect those communities until they are reseeded to appropriate grasses and forbs and eventually recolonize as shrublands or woodlands.

The total amount of riparian and wetland habitat anticipated to be permanently affected in the Proposed Action Area is estimated at 50.01 acres, with a total estimated habitat value of 15.66 units (see Attachment D). Replacement habitat to mitigate these losses is proposed on private property on Hart Double H Ranch, less than 1 mile northeast of the Proposed Action Area (see Section 4.6 for details). The proposed habitat replacement project would create 23.32 habitat units. After mitigating the 15.66 units required for the project, the Company would have an additional 7.66 habitat units available for future projects. Construction of the Proposed Action and the Habitat Replacement Site (see Attachment G) would follow BMPs to minimize the construction footprint, protect water quality, and minimize soil erosion. Revegetation and weed control would be implemented according to BLM right-of-way stipulations and Montrose County standards (Attachment H). The Company has consulted with the U.S. Army Corps of Engineers regarding the Proposed Action, including the creek crossings and the Habitat Replacement Site construction, and received verbal concurrence that the Proposed Action meets Clean Water Act agricultural exemption requirements (Attachment C). Written concurrence from the U.S. Army Corps of Engineers is included in Attachment C.

3.8 Wildlife Resources

In the Proposed Action Area, ditches and associated seeps provide riparian and wetland habitat within a matrix of native vegetation and irrigated hay meadows (Section 3.7). Vegetation and water resources supported by the ditches, in association with adjacent irrigated land and natural upland woodlands and shrublands, provide nesting, breeding, foraging, cover, and movement corridors for an array of wildlife.

Colorado Parks & Wildlife (CPW) describes the north part of the Proposed Action Area (mostly irrigated lands) as elk severe winter range, and the south part of the Proposed Action Area (mostly native woodlands and shrublands) as winter range and a migration corridor (Figure 6). A mule deer resident population area is mapped across the majority of the Proposed Action Area, and a winter concentration area is mapped just to the east (Figure 7). CPW also describes the Proposed Action Area as winter foraging range for bald eagle, and within overall range of black bear and mountain lion (CPW 2014). The Proposed Action Area lies within historic Gunnison sage-grouse range (Figure 8), and within sage-grouse designated critical habitat (see Sections 3.9 and 3.10 for further discussion of sage-grouse and bald eagle).

Migratory birds protected under the Migratory Bird Treaty Act find nesting and/or migratory habitat in the Proposed Action Area and the immediate vicinity, potentially including Brewer's sparrow (see Section 3.10), sage thrasher, juniper titmouse, olive-sided flycatcher, and red-shafted northern flicker. One active red-tailed hawk nest and one potential alternate red-tailed hawk nest were identified in the Proposed Action Area in the locations shown on Figure 9.

No Action: Under the No Action Alternative, terrestrial wildlife habitat would remain in its current condition, and no displacement of wildlife would occur. Salinity loading of the Colorado River drainage would continue at current rates, which will continue to affect water quality within the drainage, potentially affecting the wildlife using the area.

Proposed Action: Upland wildlife habitat impacted by the Proposed Action would result in minor temporary impacts to wildlife species within the Project Area. Impacts to big game would include short-term disturbances and periodic displacement during the early fall through early spring while construction is underway. The Proposed Action would remove a source of big game drinking water from the area by decommissioning the ditches that carry non-irrigation season stock water.

Impacts to raptors and other bird species would include minor short-term disturbance and displacement during construction, with no long-term impacts after construction. Construction would occur during the period of early Fall 2015 (September) through early Spring 2016 (March), outside the nesting season of most species. A red-tailed hawk nest in a cottonwood on a ditch prism may be destroyed by the Proposed Action, but this would occur outside the nesting period for this species.

Impacts to small animals, especially burrowing amphibians, reptiles, and small mammals, could include direct mortality and displacement during construction activities. Small animal species may experience reduced populations in direct proportion to the amount of disturbed habitat. These species and habitats are relatively common throughout the area and the loss would be minor. During construction, pipeline trenches left open overnight would be kept to a minimum and covered to reduce potential entrainment of animals and public safety problems. Covers would be secured in place and strong enough to prevent livestock or wildlife from falling through. Where trench covers would not be practical, wildlife escape ramps would be utilized.

Bird and amphibian species dependent on wetland and riparian habitats would experience a long-term (greater than five years) loss of habitat as described in Section 3.7. The total habitat value that would be lost long-term would be mitigated through the implementation of a Reclamation-approved Habitat Replacement Plan (Attachment G). Development of replacement habitat would mitigate impacts to wildlife and comply with the requirement of the Colorado River Basin Salinity Control Act to replace fish and wildlife values foregone (see Section 4.6 for more detail). Improved water quality would likely benefit downstream aquatic species (amphibians and fish) by reducing salt and selenium loading in the North Fork, Gunnison, and Colorado rivers.

3.9 Threatened & Endangered Species

The Endangered Species Act (ESA) of 1973 protects federally listed endangered, threatened and candidate plant and animal species and their critical habitats. Table 3 summarizes the federally-listed species that may occur within or near the Proposed Action area (FWS 2015), and explains habitat requirements and potential effects of the Proposed Action on each species.

Species with potential habitat in the Proposed Action Area, or otherwise potentially affected by the Proposed Action, are discussed following Table 3. Greenback cutthroat trout is not considered further in this analysis because of the lack of suitable habitat onsite or downstream of the Proposed Action. Unless otherwise specified, all information related to the species below was obtained from resources available on FWS' Environmental Conservation Online System (ecos.fws.gov).

Table 3. Federally-Listed Species Potentially Occurring in or Near the Proposed Action Area

Common Name	Status	Habitat Requirement Summary	Range in Project Area?	Habitat in Project Area?
Gunnison sage-grouse <i>Centrocercus minimus</i>	Threatened	Prefers large contiguous patches of sagebrush (>200 acres) with an abundant herbaceous understory, interspersed with wet swales. Documented occupied range is not within Project area, although large sagebrush patches in the Project vicinity are potential suitable habitat.	Historic range only	Potential suitable habitat / designated critical habitat
Mexican spotted owl <i>Strix occidentalis lucida</i>	Threatened	Generally nests in older mature conifer stands, and on walls of shady wooded canyons. Confirmed nest records in Colorado from Mesa Verde in Montezuma County and around Pikes Peak and the Wet Mountains east of the Great Divide.	Potential	Peripheral only
Yellow-billed cuckoo <i>Coccyzus americanus</i>	Threatened	Breeds in low elevation river corridors with fairly extensive mature cottonwood galleries; breeding birds have been detected in the North Fork River valley (currently proposed critical habitat) 10 miles northwest of the Project area almost annually since 2003. Habitat in the Project area is not suitable for nesting.	Yes	Peripheral only
Greenback cutthroat trout <i>Oncorhynchus clarkia stomias</i>	Threatened	High elevation cold water streams and cold water lakes with adequate stream spawning habitat present during Spring. No spawning habitat or perennial water exists in the Project area. The nearest known populations are in the Minnesota Creek and Terror Creek drainages near Paonia (Dare et al., 2011).	Yes	No
Bonytail <i>Gila elegans</i>	Endangered	Although no habitat is present within the Project area, downstream designated critical habitat on the Colorado & Gunnison Rivers is affected by consumptive use of water from Crystal Creek.	No, but critical habitat is downstream	No, but critical habitat is downstream
Colorado pikeminnow <i>Ptychocheilus lucius</i>	Endangered	Although no habitat is present within the Project area, downstream designated critical habitat on the Colorado & Gunnison Rivers is affected by consumptive use of water from Crystal Creek.	No, but critical habitat is downstream	No, but critical habitat is downstream

Common Name	Status	Habitat Requirement Summary	Range in Project Area?	Habitat in Project Area?
Humpback chub <i>Gila cypha</i>	Endangered	Although no habitat is present within the Project area, downstream designated critical habitat on the Colorado & Gunnison Rivers is affected by consumptive use of water from Crystal Creek.	No, but critical habitat is downstream	No, but critical habitat is downstream
Razorback sucker <i>Xyrauchen texanus</i>	Endangered	Although no habitat is present within the Project area, downstream designated critical habitat on the Colorado & Gunnison Rivers is affected by consumptive use of water from Crystal Creek.	No, but critical habitat is downstream	No, but critical habitat is downstream

The Gunnison sage-grouse was listed as threatened, and critical habitat was designated in 2014. The Gunnison sage-grouse is a sagebrush obligate species endemic to Colorado and Utah south of the Colorado River. Breeding grounds (leks) consist of open areas next to tall sagebrush. For nesting and rearing young, the species requires large contiguous patches of sagebrush (>200 acres) with an abundant and relatively tall herbaceous understory, interspersed with wet swales. Wintering sage-grouse feed exclusively on sagebrush leaves. Rangeland threats to Gunnison sage-grouse include habitat fragmentation and destruction due to exurban residential and oil & gas development. In the Crawford sage-grouse population area, declines are attributed to fragmentation of habitat components, encroachment of pinyon-juniper woodlands into sagebrush, not enough grass and forbs in the sagebrush understory, and low vegetative class diversity in the area's sagebrush (1998 Gunnison Sage-Grouse Conservation Plan for the Crawford Area). The Crawford area sage-grouse population was estimated at 157 birds in 2014 (Nathan Seward/CPW, pers. comm.).

The Proposed Action Area lies within relatively large patches of sagebrush (Figure 4) in historically occupied sage-grouse range and designated critical habitat (Figure 8). The Project alignment would cross two distinct patches of sagebrush.

Construction of the Proposed Action would result in temporary perforation of potentially suitable sage-grouse habitat in the Project area during Fall and/or Winter, until the area is reclaimed and revegetation has been completed successfully. The affected sagebrush patches in the Proposed Action Area are considered marginal in quality as sage-grouse habitat, and they would be unlikely nesting or wintering areas for sage-grouse (Rare Earth 2015). The north sagebrush patch of the two affected patches is relatively small, contains scattered small-stature junipers, and is bisected by two deep gullies. The south patch, while relatively large, contains scattered small stature junipers and several residences, and is traversed by roads, livestock fencing, and a high-voltage transmission line. The area of directly-affected potential sage-grouse habitat (and designated critical habitat) in the Potential Action area would be a maximum of approximately 2.7 acres (30,000 square feet in the north patch and 87,000 square feet in the south patch).

The sagebrush patches that would be affected by the Proposed Action appear to meet the Gunnison sage-grouse critical habitat Landscape Specific Primary Constituent Element (PCE 1) described at 79 FR 69311-69363, wherein the patches are part of an extensive sagebrush landscape composed primarily of sagebrush plant communities with at least 25 percent of the land dominated by sagebrush cover within a 0.9-mile radius of any given location. Portions of each sagebrush patch also meet seasonally specific PCE 2 (breeding habitat structural

guidelines), PCE 3 (summer-late fall habitat structural guidelines), and PCE 4 (winter habitat structural guidelines), although the majority of sagebrush stands in the patches exceed sagebrush canopy cover requirements for breeding and summer-late fall seasons. The south patch meets PCE 5 (alternative mesic habitats), since it encompasses a mesic meadow and swale-type habitat associated with Alkali Creek. As mentioned above, certain physical and biological features of the patches, (e.g., gullies, roads, fences, residences, transmission lines, and pinyon-juniper encroachment), are impacting the ability of the patches to provide suitable or optimal habitat.

No known leks (breeding grounds), nesting records, or other recent occurrence records exist in or adjacent to the Proposed Action Area. Occupied range (Figure 8) lies approximately 1.5 miles to the south and west of the Proposed Action Area, across Gould Reservoir and Iron Canyon. Gunnison sage-grouse make relatively large movements on a seasonal basis, between lek sites and wintering areas, and it is feasible that the birds could move into suitable habitat in the Proposed Action Area. The Proposed Action is not anticipated to occur in potentially suitable habitat for sage-grouse during the breeding (March through May) or nesting periods (April through June).

The Mexican spotted owl was listed as threatened in 1993 and critical habitat was designated in 2004 (FWS 2015). Threats to the spotted owl include removal or fragmentation of mature or old-growth forests mostly of tall mixed conifer species, but also riparian forests in some parts of its range. Also, human activity in or near nesting or roosting areas can result in the species' abandonment of the area. No designated critical habitat or suitable nesting habitat for spotted owl occurs within the Proposed Action Area (the nearest critical habitat is in documented occupied range in Mesa Verde National Park in Montezuma County). The nearest potentially suitable nesting habitat is within the Black Canyon of the Gunnison, approximately 12 miles southwest of the Proposed Action Area, although no nest records exist in the area. The species is uncommon, non-migratory, and extremely site-specific in Colorado—with known nests only in Mesa Verde National Park and in the Wet Mountains and Pike's Peak area on the Front Range. Ninety-one percent of known owls existing in the United States between 1990 and 1993 occurred on land administered by the U.S. Forest Service, and most have been found within the eleven National Forests of Arizona and New Mexico. An occurrence of a Mexican spotted owl in the Proposed Action Area would be considered an incidental dispersing individual.

The western yellow-billed cuckoo was listed as threatened in 2014. The yellow-billed cuckoo is a migratory songbird that breeds in the United States and winters in South America. The yellow-billed cuckoo has a short nesting season—incubation to fledging can take place in as little as 17 days. Cuckoos arrive on breeding and nesting grounds in Colorado in late May or early June, and depart by early August through early September. Reasons for decline of the yellow-billed cuckoo throughout the western U.S. have been attributed to destruction of its preferred riparian habitat due to agricultural conversions, flood control projects, and urbanization. In some parts of its breeding range, pesticide use may have affected the yellow-billed cuckoo's prey base—injurious pest insects such as tent caterpillars, which tend to occur in cyclic outbreaks. The preferred breeding habitat of the yellow-billed cuckoo is low elevation old-growth cottonwood forests or woodlands with dense, scrubby understories of willows or other riparian shrubs. Studies in California indicate this species may need extensive stands of riparian forest for nesting success of at least 24 acres in size. In western Colorado, the required habitat patch size might be as little as 5 acres. The nearest known nesting habitat is approximately 12 miles from the Proposed Action Area in the cottonwood forested riparian corridor of the North Fork of the Gunnison River, where a few breeding pairs have been detected almost annually since 2003 (Jason Beason, Rocky Mountain Bird Observatory, pers. comm.). A portion of the North Fork

river bottom is currently Proposed Critical Habitat for the species. Cuckoos may occur incidentally in the Proposed Action Area during foraging bouts or during migration season, but foraging or migrating habitat is not exceptional in the Proposed Action Area compared to surrounding areas. No suitable nesting habitat for this species is within the Proposed Action Area or the immediate surroundings.

The Colorado River basin has four endangered fishes: the bonytail, the Colorado pikeminnow, the humpback chub, and the razorback sucker. Decline of the four endangered fishes is due at least in part to habitat destruction (diversion and impoundment of rivers) and competition and predation from introduced fish species. In 1994, the FWS designated critical habitat for the four endangered species at Federal Register 56(206):54957-54967, which in Colorado includes the 100-year floodplain of the upper Colorado River from Rifle to Lake Powell, and the Gunnison River from Delta to Grand Junction. None of the four endangered Colorado River fishes occur in or near the Proposed Action Area and the Proposed Action Area does not occur within or adjacent to designated critical habitat. The closest designated critical habitat and the closest potential populations of the Colorado pikeminnow, and razorback sucker are in the Gunnison River, approximately 20 miles west-by-northwest of the Proposed Action Area. The bonytail has recently been stocked in the Gunnison River and humpback chubs have been recorded.

Potential impacts to Colorado River endangered fishes would result from continued irrigation water depletion from Crystal Creek, which drains to the Gunnison River in the greater Colorado River basin. Water depletion in these basins has the potential to diminish backwater spawning areas and other habitat in downstream designated critical habitat. The estimated average historic annual amount of water diverted from the Gunnison basin tributaries due to operation of the Cattleman's Ditches irrigation system is approximately 7,576 acre-feet for irrigation of approximately 2,800 acres of grass hay ground. The resulting water depletion from the Colorado River basin is estimated at 2,363 acre-feet per year. This estimated depletion rate is equivalent to the net annual average total crop consumptive use rate calculated using the Colorado Water Conservation Board's "StateCU" consumptive use modeling software [CWCB 2012]. This average annual depletion rate is expected to remain unchanged if the Proposed Action is implemented.

No Action: In the absence of the Proposed Action, historic water depletions would continue, and salt and selenium loading from the Proposed Action Area would continue at current rates.

Proposed Action: A threatened and endangered species inventory (Rare Earth 2015) was completed for the Proposed Action Area in Fall 2014 and Spring 2015, and used by Reclamation as a background document for a Section 7 ESA consultation with FWS. The determination of effects set forth in this EA on listed species and their critical habitats are based on the Section 7 ESA consultation, as follows:

- **Gunnison Sage-Grouse.** The Proposed Action area lies within unoccupied historic range of the threatened Gunnison sage-grouse. Given that the habitat for Gunnison sage-grouse within the Proposed Action Area is currently unoccupied by the species and of marginal quality, and given that the Proposed Action is anticipated to occur outside the breeding and nesting periods of the species, it is expected that the Proposed Action would have no effect on Gunnison sage-grouse. If the Project schedule for the components of the Project affecting potential sage-grouse habitat shifts to the breeding or nesting periods of sage-grouse, it is recommended that Company/Reclamation contact FWS and CPW terrestrial biologists prior to

construction to confirm the Proposed Action Area remains unoccupied by the species, and that a documented active lek does not lie within 0.6 mile of the Proposed Action.

- **Gunnison Sage-Grouse Critical Habitat.** The Proposed Action lies within Gunnison sage-grouse critical habitat (Figure 5). Approximately 2.7 acres of unoccupied critical habitat will be temporarily disturbed by the Proposed Action where pipeline segments would be buried. However, the existing condition of the habitat is marginal (fragmented by roads, deeply-incised drainages, a regional high-voltage transmission alignment, fences, residences, and pinyon-juniper encroachment, and largely exceeds sagebrush canopy requirements specified in critical habitat PCEs 2 and 3). The buried pipeline segments would be appropriately re-seeded with a Reclamation-approved seed mixture specifically for Sage Grouse habitat. Given the current condition of the sagebrush shrublands in the Proposed Action Area, and given that the size of impacts from construction of the Proposed Action through sagebrush shrublands would be relatively small and would be reclaimed by appropriate revegetation, it is expected that the Proposed Action will not adversely modify critical habitat for Gunnison sage-grouse.
- **Mexican Spotted Owl.** The Proposed Action Area lies within potential peripheral range of the threatened Mexican spotted owl; however, the Proposed Action Area does not encompass suitable breeding habitat. No breeding habitat loss for this species will occur as a result of the Proposed Action. An occurrence of a Mexican spotted owl in the Proposed Action Area would be considered a rare incidental dispersing individual. Based on these findings, the Proposed Action is expected to have no effect on Mexican spotted owl.
- **Mexican Spotted Owl Critical Habitat.** The Proposed Action does not lie within Mexican spotted owl designated critical habitat. Therefore, it is expected that the Proposed Action would have no effect on Mexican spotted owl critical habitat.
- **Western Yellow-Billed Cuckoo.** The Proposed Action Area lies within seasonal peripheral range of the threatened western yellow-billed cuckoo; however, the Proposed Action Area does not encompass suitable breeding habitat. No breeding habitat loss for this species will occur as a result of the Proposed Action. Foraging or migrating individuals could occur incidentally in the Proposed Action Area; however, foraging or migrating habitat is not exceptional in the Proposed Action Area compared to surrounding areas. Based on these findings, it is expected that the Proposed Action may affect, but is not likely to adversely affect, western yellow-billed cuckoo.
- **Western Yellow-Billed Cuckoo Proposed Critical Habitat.** The Proposed Action Area does not lie within proposed critical habitat (Figure 6). Therefore, it is expected that the Proposed Action would have no effect on western yellow-billed cuckoo proposed critical habitat.
- **Colorado River Basin Endangered Fishes.** The Proposed Action Area does not lie within the ranges of the endangered Colorado pikeminnow, razorback sucker, humpback chub, and bonytail. Based on previously issued biological opinions that all depletions within the Upper Colorado River Basin may adversely affect the four

fishes, it is expected that the Proposed Action may affect, and is likely to adversely affect, the Colorado pikeminnow, razorback sucker, humpback chub, and bonytail.

Colorado River Basin Endangered Fishes Critical Habitat. Consumptive loss of water in the Gunnison and Colorado River basins due to agricultural irrigation from the ditches involved in the Proposed Action results in an average annual depletion of approximately 2,363 acre-feet from the upper Gunnison River watershed, which affects downstream critical habitat for the endangered Colorado pikeminnow, razorback sucker, humpback chub, and bonytail. This annual depletion rate is not expected to change as a result of the Proposed Action. Therefore, it is expected that the Proposed Action will not destroy or adversely modify the designated critical habitat for the Colorado River endangered fishes.

Water depletions from the upper Gunnison River basin occurring as a result of ditch operations have the potential to affect downstream endangered fish habitat. No new depletions would occur as a result of the Proposed Action. The Company and FWS have entered into a Recovery Agreement incorporating the Company's historic depletions under the umbrella of the Gunnison Basin Programmatic Biological Opinion (PBO) (FWS 2009). Acknowledging the historic depletion under the PBO would avoid the likelihood of jeopardy and/or adverse modification of critical habitat for the endangered fishes, and ensure that the Company can continue to operate consistently with Section 7 of the Endangered Species Act. The Recovery Agreement is included in Attachment E. Furthermore, 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 improves water quality within designated critical habitat for the Colorado pikeminnow, razorback sucker, humpback chub, and bonytail throughout the Colorado river and Gunnison river basins. Additionally, potential reductions in selenium loading to the Gunnison basin as a result of the Proposed Action would contribute to the overall success of the Gunnison Basin Selenium Management Program (SMPW 2011).

3.10 BLM Sensitive Species

The Proposed Action is located partially on BLM lands managed by BLM's Uncompahgre Field Office (UFO). According to BLM Manual Part 6840, BLM Sensitive species (in addition to those proposed for listing under the federal ESA) are "species requiring special management consideration to promote their conservation and reduce the likelihood and need for future listing under the ESA." BLM Sensitive species are designated by the BLM's state director (BLM 2014). Of the 44 species identified as BLM Sensitive Species of the UFO (BLM 2014), 21 species were determined to occur or have the potential to occur within or near the Proposed Action Area (Table 4). These determinations were developed by reviewing published range maps and habitat requirements of each of the 44 BLM Sensitive Species of the UFO, and through informal consultation with BLM-UFO Biologist Kenneth Holsinger.

Table 4. BLM Sensitive Species in Northeast Montrose County

Common Name	Habitat Requirement Summary	Habitat in Project Area?
American peregrine falcon <i>Falco peregrines</i>	Uses open country near cliff habitat, often near water. An active peregrine falcon nest site exists on Needle Rock on BLM's Needle Rock Area of Critical Environmental Concern (ACEC) about 10 miles north-by-northeast of the Project area. Other nests may exist in the Black Canyon of the Gunnison, 6 miles southwest. Species may forage for passerine birds in the Project area; however, more desirable foraging habitat exists closer to the nest site in the Smith Fork River corridor.	Foraging only
American white pelican <i>Pelecanus erythrorhynchos</i>	Inhabits large reservoirs but also observed on smaller water bodies including ponds; nests on islands. An extremely rare to uncommon migrant or seasonal resident in the UFO with no documented nesting records. Nearest local migratory stopover site is Fruitgrowers Reservoir, about 24 miles northwest of the Project area. Gould Reservoir and other reservoirs in the immediate area could offer stopover sites for rare migrants.	Migratory only
Bald eagle <i>Haliaeetus leucocephalus</i>	Nests along forested rivers and lakes; winters in upland areas, often with rivers or lakes nearby. No records of recent nesting near the Project area. CPW maps the Project area and surrounding mesas as winter range and winter foraging range. Bald eagles likely forage across open pastures and sparse shrublands in the vicinity of the Project area during winter for rodents and carrion.	Winter foraging habitat only
Brewer's sparrow <i>Spizella breweri</i>	Breeds primarily in sagebrush shrublands, and less commonly in tall desert shrublands; requires relatively large shrubland patches for nesting. Migrants occur in wooded, brushy, and weedy riparian, agricultural, and urban areas, and occasionally in pinyon-juniper woodlands.	Yes
Ferruginous hawk <i>Buteo regalis</i>	Prefers open, rolling and/or rugged terrain in grasslands, shrubsteppe communities, or cultivated fields; nests on cliffs and rock outcrops. No nesting records in Montrose County. Wintering birds could be present around the Project area, especially open agricultural fields where burrowing rodents are present.	Winter foraging habitat only
Northern goshawk <i>Accipiter gentilis</i>	Nests in a variety of forest types, including deciduous, coniferous, and mixed forests including ponderosa pine, lodgepole pine, spruce-fir, and aspen. Migrants and wintering individuals occur in all coniferous forest types, including pinyon-juniper woodlands.	Winter foraging habitat only
White-faced ibis <i>Plegadis chihi</i>	Nests and roosts in marshes and emergent wetlands associated with lakes or reservoirs, feeds in wet hay meadows and flooded croplands (in the UFO, a fairly common Spring/Fall migrant, non-breeding). Could potentially use the Habitat Replacement Site or irrigated hay meadows in the region as a stopover.	Migratory only

Common Name	Habitat Requirement Summary	Habitat in Project Area?
Colorado River cutthroat trout <i>Oncorhynchus clarki pleuriticus</i>	Cool, clear streams or lakes with well-vegetated stream banks for shading cover, along with deep pools, boulders, and logs; thrives at high elevations. Nearest population documented in the north Smith Fork of the Gunnison River, east of the Town of Crawford. No spawning habitat or consistent cold perennial water in the Proposed Action Area.	No
Bluehead sucker <i>Catostomus discobolus</i>	Large rivers and mountain streams, rarely in lakes; variable from cold clear mountain streams to warm, turbid streams; moderate to fast-flowing water above rubble-rock substrate; young prefer quiet shallow areas near shoreline. Although no habitat is present within the Project area for this species, downstream habitat on the Gunnison and Colorado Rivers is affected by consumptive use of water from Crystal Creek.	No, but habitat is down-stream
Flannelmouth sucker <i>Catostomus latipinnis</i>	Warm moderate- to large-sized rivers, seldom in small creeks, absent from impoundments; pools and deeper runs often near tributary mouths; also riffles and backwaters; young usually in shallower water than adults. Although no habitat is present within the Project area for this species, downstream habitat on the Gunnison and Colorado Rivers is affected by consumptive use of water from Crystal Creek.	No, but habitat is downstream
Roundtail chub <i>Gila robusta</i>	Water- rocky runs, rapids, and pools of creeks and small to large rivers; also large reservoirs in the upper Colorado River system; generally prefers cobble-rubble, sand-cobble, or sand-gravel substrate. Although no habitat is present within the Project area for this species, downstream habitat on the Gunnison and Colorado Rivers is affected by consumptive use of water from Crystal Creek.	No, but habitat is downstream
Big free-tailed bat <i>Nyctinomops macrotis</i>	Colorado's largest bat. Forages mostly on large moths. Roosts in crevices on cliff faces, or in buildings. No breeding records exist for Colorado; wandering individuals are expected across most of the state. Some loss of foraging habitat will occur as a result of the Proposed Action.	Foraging only
Fringed myotis <i>Myotis thysanodes</i>	Feeds in semi-desert shrublands, coniferous woodlands, and oakbrush; associated with caves, mines, and buildings as day and night roosts. No nursery colonies have been reported in Colorado. Individuals may forage in the area during summer months, especially near water. Some loss of foraging habitat will occur as a result of the Proposed Action.	Foraging only
Spotted bat <i>Euderma maculatum</i>	In Colorado, spotted bats have been observed or captured in ponderosa pine woodlands, montane forests, pinyon-juniper woodlands, semi-desert shrublands, riparian vegetation, and over open sandbars. Individuals forage alone for moths, grasshoppers, beetles, katydids, and other insects. Lactating females have been captured in Colorado, but nursery sites have not been located. Rocky cliffs and buildings are used for roosts. Some loss of foraging habitat will occur as a result of the Proposed Action.	Foraging only

Common Name	Habitat Requirement Summary	Habitat in Project Area?
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	Feeds in semi-desert shrublands, pinyon-juniper woodlands, and open montane forests; frequently associated with caves and abandoned mines for day roosts, nursery colonies, and hibernacula, but will also use crevices on rock cliffs and abandoned buildings for summer roosting. Individuals may forage in the area during summer months, especially near water. Some loss of foraging habitat will occur as a result of the Proposed Action.	Foraging only
Midget faded rattlesnake <i>Crotalus viridis concolor</i>	Prefers rocky outcrops for refuge and hibernacula, often near riparian, upper limit of 7,500 to 9,500 feet in elevation. The species may use the Project area incidentally. There are no documented occurrences in the Project vicinity or eastern Montrose County (Hammerson 1999).	Potentially suitable
Milk snake <i>Lampropeltis triangulum taylori</i>	Variable types including shrubby hillsides, canyons, open ponderosa pine stands and pinyon-juniper woodlands, river valleys and canyons, animal burrows, and abandoned mines; hibernates in rock crevices. The species may use the Project area incidentally. There are no documented occurrences in the Project vicinity or eastern Montrose County (Hammerson 1999).	Potentially suitable
Northern leopard frog <i>Rana pipiens</i>	Springs, slow-moving streams, marshes, bogs, ponds, canals, floodplains, reservoirs, lakes; in summer, commonly inhabits wet meadows and fields; may forage along water's edge or in nearby meadows or fields. Leopard frogs may breed in ditch alignments, especially those with year-round sluggish water.	Yes
Colorado (Adobe) desert parsley <i>Lomatium concinnum</i>	Adobe hills and plains on rocky soils derived from the Mancos Shale Formation; shrub communities dominated by sagebrush, shadscale, greasewood, or scrub oak; elevation 5,500 to 7,000 feet. A large population has been documented on BLM land in the UFO between Hotchkiss and Crawford in Delta County. This species was not observed in the Project area during an April 2015 survey.	Potentially suitable
Great Basin silverspot butterfly <i>Speyeria nokomis nokomis</i>	Permanent spring-fed meadows, seeps, marshes, and boggy streamside meadows associated with flowing water in arid country, often in the pinyon-juniper zone. The larval host plant, bog violet (<i>Viola nephrophylla</i>), is required in abundance. Nectar sources for adults are various composites (including thistles). No larval host plants were observed in the Project area, and no adults were observed during flight season. The nearest documented silverspot colony in the UFO area is in Unaweep Canyon in Mesa County.	Larval host plant not present or not abundant in the Project Area

No Action: The No Action Alternative would have no effect on BLM Sensitive species or their habitats.

Proposed Action: Implementation of the Proposed Action would result in temporal disturbance (construction activities) in winter foraging in irrigated fields for ferruginous hawk and bald eagle, and in pinyon-juniper woodlands northern goshawk. These raptors are wide-ranging, opportunistic, and spatially flexible in their winter foraging patterns and

are expected to avoid the Proposed Action Area during construction. Temporal disturbance (construction activities) may disrupt early breeding season peregrine falcon foraging in the vicinity; however, these birds are wide-ranging, opportunistic, and spatially flexible in their foraging patterns and can be expected to avoid the Proposed Action Area during construction. Brewer's sparrow may find nesting habitat (large sagebrush patches) in the Proposed Action Area, although the timing of nesting (April through July) is not expected to correspond with construction timing. Migrating Brewer's sparrows may be present during Fall and early Spring months, and can be expected to avoid the Proposed Action Area during construction activities. The American white pelican and white-faced ibis could be incidental migratory visitors to the vicinity of the Proposed Action Area, but would be expected to avoid construction disturbance. BLM Sensitive mammals with the potential to use the Proposed Action Area include fringed myotis (a bat), Townsend's big-eared bat, big free-tailed bat, and spotted bat. The bats are expected to forage in the Proposed Action Area during Summer and early Fall, and could be temporarily displaced by construction activities. Relatively little upland shrubs or woodlands serving as foraging habitat for bats will be lost as a result of the Proposed Action, and riparian and wetland foraging habitat loss would be mitigated in the Habitat Replacement Site. BLM Sensitive snakes potentially occurring in the Proposed Action Area (milk snake and midget faded rattlesnake) could be affected by Project construction. Hibernating northern leopard frogs may be expected to be present during construction of the Proposed Action, and implementation of the Proposed Action will result in the loss of northern leopard frog breeding habitat. To the extent that the loss of riparian or wetland habitat will affect foraging opportunities for BLM Sensitive snakes, or breeding and overwintering habitat for the northern leopard frog, these habitat losses will be mitigated by creation of a Habitat Replacement Site near the Proposed Action Area (see Section 4.6). No Colorado desert parsley was found during a pedestrian survey on BLM lands in early April 2015, during the confirmed blooming period. The areas surveyed are shown on Figure 9.

No BLM Sensitive fishes are expected to occur in the Proposed Action Area. However, water depletions from the upper Gunnison River basin occurring as a result of ditch operations have the potential to affect downstream BLM Sensitive fish habitat. No new depletions would occur as a result of the proposed action. The reduction of salinity and selenium that is expected to occur downstream in the watershed due to the Proposed Action may provide some benefit for BLM Sensitive fish habitat in downstream waters (similar to the benefits provided to the downstream endangered fish habitat described in Section 3.9).

3.11 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.

In the Fall of 2014 and Spring of 2015, Alpine Archaeological Consultants, Inc. conducted a Class III cultural resource inventory of irrigation features and areas slated for disturbance (Prouty 2015, Drake 2015). All proposed buried pipe alignments in a 100-foot-wide corridor, proposed construction disturbance areas, access roads, proposed staging areas, and the Habitat Replacement Site were examined.

The inventory resulted in the recordation of four segments of Cattleman's Ditch (sites 5MN9867.1–4), a segment of Colorado Highway 92 (site 5MN10586.1), one historic homestead (site 5MN10587), a historic habitation site (site 5MN10588), and seven isolated finds. The ditch was determined eligible for the National Register of Historic Places (NRHP) in a prior segment recording (5MN9867.1). The other recorded segments of the Cattleman's Ditch (sites 5MN9867.2–4) are also recommended as eligible for listing in the NRHP. The remaining three sites and all seven isolated finds are recommended as not eligible. Because the Project will result in impacts to Cattleman's Ditch, Level I documentation of the ditch is recommended as appropriate mitigation. Refer to Prouty 2015 and Drake 2015 for further details.

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

Proposed Action: In consultation with the Colorado State Historic Preservation Officer (Colorado SHPO), Reclamation determined that the Proposed Action would have an adverse effect on Cattleman's Ditch. A Memorandum of Agreement has been executed between Reclamation and the Colorado SHPO to mitigate the adverse effects of the proposed action, and is included in Attachment F. BLM and the Company are participating as consulting parties. Prouty (2015) recommended that to mitigate replacement of the eligible ditch segments with a pipeline, Level I documentation be conducted to capture the historic landscape characteristics of the ditch prior to its destruction.

3.12 Agricultural Resources & Soils

It is the policy of the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) to "maintain and keep current an inventory of the prime farmland and unique farmland of the Nation...the objective of the inventory is to identify the extent and location of important rural lands needed to produce food, feed, fiber, forage, and oilseed crops" (7 CFR 657.2). NRCS identifies farmlands of national and statewide importance in the region, based on soil types and irrigation status.

The Proposed Action crosses four types of farmlands of national or statewide importance (Figure 10):

Prime Farmland if Irrigated. A total of approximately 2,600 linear feet of the proposed buried pipe alignment cross this farmland type, along with approximately 2,000 linear feet of an existing access road to the Proposed Action Area. The mapped soil unit is Cerro loam, 1 to 6 percent slopes (Map Unit 20). Both crossings are in irrigated hay meadows or irrigated pasture. According to USDA, Prime Farmland has the best combination of physical and chemical characteristics for producing food, feed, forage fiber and oilseed crops.

Prime Farmland if Irrigated and Drained. Approximately 1,400 linear feet of a proposed buried pipe alignment cross this farmland type. The proposed pipe alignment crosses the Alkali Creek channel, passes through a short stretch of irrigated hay meadow, then follows a private ranch road alignment and Clear Fork Road. Approximately 4,000 linear feet of existing private ranch road that will be used to access the Proposed Action Area also crosses through this farmland type. The mapped soil unit is Apishapa silty clay loam, 0 to 5 percent slopes (Map Unit 6). As mentioned above, USDA considers Prime Farmland to have the best combination of physical and chemical characteristics for producing food, feed, forage fiber and oilseed crops. However, none of the irrigated soils of this unit are drained within the Proposed Action Area, and therefore do not meet the definition of Prime Farmland.

Farmland of Unique Importance. A total of approximately 2,500 linear feet of proposed buried pipe alignment, approximately 1,200 linear feet of existing ditch alignment to be backfilled, and approximately 600 linear feet of existing private ranch road that will be used to access the Proposed Action Area cross this farmland type. The mapped soil unit is Colona silty clay loam, 6 to 12 percent slopes (Map Unit 27). Unique farmland is land other than prime farmland that is used for the production of specific high-value food and crops, such as citrus, tree nuts, olives, cranberries, and other fruits and vegetables. It has a special combination of soil quality, location, growing season, and moisture supply required to produce sustained high quality crops when properly managed. Of all the areas of Farmland of Unique Importance crossed by the Project, approximately 600 linear feet of proposed buried pipe alignment crosses an irrigated hay meadow. The remainder is not in cultivated agricultural production.

Farmland of Statewide Importance. Approximately 7,200 linear feet of the proposed buried pipe alignment and approximately 1,700 linear feet of existing private ranch road that will be used to access the Proposed Action Area cross this farmland type. The mapped soil units are Razor silty clay loam, 3 to 12 percent slopes (Map Unit 66) and Cerro loam, 6 to 12 percent slopes (Map Unit 21). Farmlands of statewide importance are lands that nearly meet the requirements for prime farmland and have been identified by state agencies. About 1,600 linear feet of proposed pipeline alignment cross irrigated hay meadows in this farmland type. Approximately 1.5 acres of Farmland of Statewide Importance on BLM land in the west part of the Proposed Action Area is currently irrigated by the adjoining landowner / grazing allotment permittee. Irrigation on this land would cease on this acreage as a result of the Proposed Action, due to the reconfiguration of the delivery system in this area.

Other major mapped soil units found in the immediate Proposed Action Area (Figure 10) are Midway-Gaynor silty clay loams, 10 to 40 percent slopes (Map Unit 56), Saraton-Agua Fria complex, 20 to 50 percent slopes (Map Unit 70), Gullied land (Map Unit 44), and Torriorthents-Rock outcrop, sand or shale complex (Map Units 75 and 76). Each soil type in the Proposed Action Area has at moderate or high potential for erosion from water. All of these soil types are derived from Mancos Shale, which formed in a marine environment and now contribute salinity and selenium loading in the Colorado River basin.

No Action: The No Action Alternative would have no effect on Prime Farmlands, Unique Farmlands, or Farmlands of Statewide Importance. Farmlands in the Project area would continue to produce as in the past. Salinity loading from irrigation water contact with Mancos Shale-derived soils in the current irrigation ditch system would continue as it has in the past.

Proposed Action: Under the Proposed Action Alternative, installation of the buried pipe alignments and backfilling of certain ditches would cause temporary disturbance to agriculturally important lands, including Prime Farmland if Irrigated, Prime Farmland if Irrigated and Drained, Farmland of Unique Importance, and Farmland of Statewide Importance. Some of these lands are in irrigated agricultural production (hay meadows or pastures). No farmlands will be permanently removed from production as a result of the Proposed Action, except for approximately 8 irrigated acres on BLM land in the west part of the Proposed Action Area. Irrigation practices on this area would cease because irrigation water would no longer be distributed through the current delivery system in that area, and the area would revert to native sagebrush, mixed montane shrubland, and/or pinyon-juniper woodland.

In all proposed pipeline alignments, topsoil would be reserved prior to excavation, replaced on the ground surface following pipe installation, then reseeded with hay or pasture cultivars, or appropriate upland seed mixes in non-cultivated areas. Backfilled ditches and culverted embankment crossings of drainages would also be seeded with appropriate dryland cover species. A weed control program meeting Montrose County criteria would be implemented in all areas of surface disturbance (Attachment H).

Overall, the Proposed Action would give the Company the ability to better manage its water rights with efficiencies gained from piping the system. Efficiencies gained may result in a longer irrigation season, and potentially in increased agricultural productivity; no new land will be irrigated as a result of the proposed action. Therefore, no direct adverse effects on agriculturally significant lands are expected to occur due to implementation of the Proposed Action. Water contact with Mancos Shale derived soils would be minimized in the irrigation system as a result of the Proposed Action, which would help reduce salinity loading in the Colorado River basin. Soil erosion from irrigation water conveyance would be significantly reduced where ditches are proposed for decommissioning or replacement with buried pipe.

3.13 Cumulative Impacts

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

The analysis of cumulative impacts for the No Action and Proposed Action Alternatives considers both spatial (geographic) boundaries and temporal limits of impacts, on a resource-by-resource basis. Spatial and temporal analysis limits vary by resource, as appropriate (see Table 5). Spatial analysis limits were selected to be commensurate with the impacts on, and realm of influence of, each resource type. The temporal limits of analysis were established as 50 years for each resource type (a standard timeframe for cumulative impacts analysis), except for resource types perceived to have only temporary impacts (impacts that end following construction of the Project or within a few seasons following construction).

Table 5. Cumulative Impacts Analysis Spatial & Temporal Limits by Resource

Resource Issue	Spatial Limits of Analysis	Temporal Limits of Analysis
Water Rights and Use	Crystal Creek and Smith Fork River drainages	50 years
Water Quality	Colorado River Basin	50 years
Air Quality	Project Area plus 2-mile buffer	Duration of Project

Resource Issue	Spatial Limits of Analysis	Temporal Limits of Analysis
Access, Transportation, & Public Safety	Project Area	Duration of Project
Recreation	Project Area plus 2-mile buffer	50 years
Visual Resources	Project Area plus 2-mile buffer	50 years
Livestock Grazing	Project Area	50 years
Vegetative Resources / Habitat	Smith Fork River drainage	50 years
Wildlife Resources	Smith Fork River drainage	50 years
Threatened and Endangered Species	Crystal Creek and Smith Fork River drainages, except for Gunnison sage-grouse, where the designated critical habitat is considered the spatial limit of analysis	50 years
BLM Sensitive Species	Crystal Creek and Smith Fork River drainages	50 years
Cultural Resources	Crystal Creek and Smith Fork River drainages	50 years
Agricultural Resources & Soils	Smith Fork River drainage	50 years

Effects of past actions are reflected in the current condition described in the affected environment in each of the resource topics of Section 3. Effects of present, and reasonably foreseeable future actions (planned actions or known proposals for actions in the spatial limits of analysis that would take place within the temporal limits of analysis shown in Table 5), are summarized in Table 6.

Table 6. Cumulative Impacts Scenario

Resource Issue	Existing or Future Activities in the Limits of Analysis and their Contribution to Cumulative Impacts with the Proposed Action
Water Rights and Use	<p>Irrigation water rights in the area will continue to be bought and sold in the future, and used for agricultural purposes. Due to future population growth and increasing subdivisions in the area, agricultural water rights may be converted to municipal or industrial uses. Ongoing and future projects sponsored by NRCS in the Project Area and the area of analysis can be reasonably expected to put irrigation water into sprinkler systems, which could impact irrigation wastewater rights of some downgradient users by reducing or eliminating historic irrigation wastewater runoff. The Proposed Action could indirectly affect wastewater irrigation practices downgradient of the Project Area because piping the ditch system would provide pressurized water that will likely lead to future sprinkler system installations. Sprinkler irrigation systems tend to improve on-property irrigation efficiency and reduce the amount of wastewater returning to ditch systems for downstream users. Lands irrigated solely with irrigation wastewater make up a relatively small proportion of irrigated agricultural lands in the area of analysis. The No Action Alternative would have no impact on water rights and water use in the area of analysis.</p>
Water Quality	<p>Three ongoing federal programs at a basin-wide scale are producing significant cumulative beneficial effects on water quality: the Colorado River Basin Salinity Control Program, the Upper Colorado River Endangered Fish Recovery Program, and the Gunnison Basin Selenium Management Program. Collectively and cumulatively, projects funded under the Salinity Control Program result in reduced salt loading in the Colorado River basin. The Recovery Program involves federal, state and private organizations and agencies in Colorado, Utah, and Wyoming, and is working for the benefit of four species of endangered fishes in the Colorado River and its tributaries while allowing water use and development to continue meeting human needs. Reclamation is working with entities in the Gunnison Basin to develop the Gunnison Basin Selenium Management Plan to reduce selenium levels in the Gunnison River at Whitewater, as a conservation measure required by the Gunnison Basin Programmatic Biological Opinion (FWS 2009). Under the No Action Alternative, water quality benefits (an estimated 1,855-ton salt loading reduction per year in the Colorado River basin) would not be realized by the Project.</p>

Resource Issue	Existing or Future Activities in the Limits of Analysis and their Contribution to Cumulative Impacts with the Proposed Action
Air Quality	<p>Air quality in the area of analysis is affected by vehicular traffic (exhaust gases and road dust), agricultural practices (exhaust gases from farm equipment, dust and smoke from harrowing and ditch/field burning), and occasional controlled burns, wildfires or dust storm events (either local, or blown in from distant locations with the westerly prevailing winds). Dust and exhaust gases related to construction of the Proposed Action and similar salinity or selenium control projects or NRCS irrigation projects are expected to be temporarily elevated in the Project Area and near the Project Area and east of the Project Area (influenced by the prevailing winds) for the short-term duration of construction. Because salinity and selenium control projects involve piping of open ditches, and buried pipe alignments require less maintenance than open ditch systems (would not require burning, re-digging, etc.), it is expected that the long-term cumulative impact of the Proposed Action and similar projects would be to reduce contributions of dust and exhaust gases to the atmosphere. Under the No Action Alternative, there would be no contribution to the cumulative impact on air quality in the area of analysis.</p>
Access, Transportation, & Public Safety	<p>Existing regional traffic in the Project Area is confined primarily to State Highway 92, a paved two-lane road. Local traffic in the Project Area travels on graveled county roads and private roads/tracks. Existing traffic includes local residents, regional travelers, and very few commercial vehicles. Highway 92 is used by regional travelers and locals to reach National Forest access roads to the south of the Project Area. Construction traffic related to the Project would primarily use Highway 92 and Clear Fork Road to reach the Project site. Private, gated roads within the Cathedral Peak Ranch subdivision may be traveled by construction traffic. Construction traffic could include heavy vehicles, wide loads, and heavy equipment moving at slow speeds. No new roads would be constructed for Project access, and existing roads would be restored to their current condition or better following construction. Traffic control and notification of emergency authorities would be implemented for road closures or as appropriate for wide, slow-moving loads. These effects would be temporary (approximately 6 months in duration) and would not contribute significantly to cumulative impacts on access, transportation, or public safety in the Project Area. Under the No Action Alternative, there would be no contribution to the cumulative impact on access, transportation, & public safety in the area of analysis.</p>
Recreation	<p>The Project Area consists mostly of private lands. Public lands within the Project Area do not have designated trailheads or popular public access points from public roads. However, noise and activity during construction could affect game movements within the area and thus affect recreational hunters on both private and public lands during construction. Temporary road closures or construction traffic could impact recreationists traveling in the immediate area. These effects would be temporary (approximately 6 months in duration) and are not expected to contribute significantly to cumulative impacts on recreation in the region. Under the No Action Alternative, there would be no contribution to the cumulative impact on recreation in the area of analysis.</p>

Resource Issue	Existing or Future Activities in the Limits of Analysis and their Contribution to Cumulative Impacts with the Proposed Action
Visual Resources	<p>The area of analysis is pastoral and rural-agricultural in character, and is bisected by State Highway 92 (part of the West Elks Loop Scenic & Historic Byway) and a regional WAPA transmission corridor (highly visible from the highway). The ditch corridors involved with the Proposed Action support riparian and wetland zones that provide some visual variety within the landscape. With the exception of the WAPA corridor, and other salinity reduction and NRCS irrigation projects, no other known current or future projects are affecting or will affect the visual resources of the area of analysis. Irrigation construction projects are not out of character with the ranching heritage of the area. However, temporary linear visual disturbances (bare, unvegetated soil) would be created by construction of this Project and other similar projects until new vegetation is established, and linear ditch alignments with riparian character and associated wetlands would be replaced with upland vegetation similar to their surroundings. The visual effects of unvegetated linear features would be temporary (approximately 1 to 2 years in duration—until new vegetation is established), and linear patterns may remain visible on the landscape for several more years until the vegetation matures and blends with the surroundings. These temporary visual disturbances are not expected to contribute significantly to cumulative impacts on visual resources in the region in the long-term. BLM lands in the Project Area currently do not have an assigned Visual Resource Management (VRM) class in the current RMP; however, they are proposed for Class III – areas that allow for visible changes that attract attention, but are not dominant on the landscape. Under the No Action Alternative, there would be no contribution to the cumulative impact on visual resources in the area of analysis.</p>
Livestock Grazing	<p>Within the Project Area, no other activities that would impact livestock grazing on rangelands are occurring or are anticipated to occur, other than low-density residential development. There are two BLM grazing allotments (a total of 680 acres) partially intersecting the Project Area, each held by a member of the Company (the Project proponent). The balance of the Project Area is either private grazing range or irrigated hay meadow. No net loss of public or private grazing range will result from the implementation of the Proposed Action. Removal or drying of some ditch alignments will result in the removal of a stock water resource from some livestock range areas. Construction noise and activity may temporarily displace livestock grazing in the Project Area. Under the No Action Alternative, there would be no contribution to the cumulative impact on livestock grazing in the area of analysis.</p>

Resource Issue	Existing or Future Activities in the Limits of Analysis and their Contribution to Cumulative Impacts with the Proposed Action
Vegetative Resources / Habitat	<p>Present and future actions within the analysis area (Smith Fork River drainage) include infrastructure development and/or maintenance (including public and private roads, and maintenance of the WAPA transmission corridor through the Project Area), other salinity reduction and NRCS irrigation projects, timber harvest and vegetation management activities (such as sagebrush treatment projects on Fruitland Mesa by BLM), recreational hunting and outfitting, grazing, motorized recreation, firewood cutting, and subdivision and residential development (on Fruitland Mesa, within Cathedral Peak Ranch subdivision, and around Crawford Reservoir), and conversion of native shrublands and woodlands to agricultural uses. Drought and wildfire also will continue to affect the regions vegetative resources and natural habitat in the future, possibly with increasing intensity. The primary vegetation/habitat impact of the Project would be to convert approximately 51 acres of riparian and wetland habitat associated with the current ditch system to native upland types (shrublands and woodlands). Considering the habitat replacement site that will be implemented and maintained for 50 years to address the loss of riparian and wetland habitat on the Project's ditch alignments, the overall contribution of the Proposed Action to the cumulative effects on the vegetation and habitat in the analysis area are expected to be negligible. Other similar salinity reduction projects in the region are also required to establish habitat replacement sites to functionally replace riparian and wetland habitats affected by the projects. Under the No Action Alternative, there would be no contribution to the cumulative impact on vegetative resources in the area of analysis.</p>
Wildlife Resources	<p>Present and future activities in the analysis area affecting this resource are similar to those described for vegetative resources / habitat, above. The Project Area lies in the lower Smith Fork River drainage, which constitutes elk winter range and seasonal migratory areas, and mule deer winter and year-round range. Movements and forage patterns of elk and deer would be temporarily disrupted during construction of the Project. However, deer and elk are widespread, relatively abundant, and readily disperse across the landscape in response to disturbance. The surrounding landscape is relatively open and natural, with ample opportunities for big game dispersal. Small mammals, herptiles, and migratory birds would be temporarily displaced during construction of the Project until revegetation is accomplished. Individual small burrowing mammals and herptiles could be harmed during construction. Migratory birds / overwintering birds are expected to disperse to other areas during construction; however, if construction activities extend into the nesting season of migratory birds, individual nests with eggs or young could be lost due to abandonment or direct mortality. The negative effects from the Project would be of short duration and magnitude, and would not result in a substantial contribution to cumulative area-wide impacts on population trends of wildlife. Impacts would be mitigated by design features and environmental commitments described elsewhere in this EA. Under the No Action Alternative, there would be no contribution to the cumulative impact on wildlife resources in the area of analysis.</p>

Resource Issue	Existing or Future Activities in the Limits of Analysis and their Contribution to Cumulative Impacts with the Proposed Action
Threatened and Endangered Species & Critical Habitat	<p>Present and future activities in the analysis area affecting this resource are similar to those described for vegetative resources / habitat, above. None of the ongoing or foreseeable future activities in this area, when combined with the Proposed Action, are likely to contribute to substantial negative long-term cumulative impacts to threatened and endangered species. Mexican spotted owl and yellow-billed cuckoo have only peripheral or marginally suitable habitat in the Project Area. Gunnison sage-grouse critical habitat is mapped in the Project Area, but the habitat in the Project Area is marginal in quality and is not occupied by sage-grouse. Impacts to designated critical habitat for sage-grouse would be short-term and temporary (until vegetation is established following construction). The Project and similar salinity and selenium control projects occurring in the area in the future are not expected to destroy or adversely modify downstream critical habitat for the four species of Colorado River endangered fishes, because the projects will not result in an increase in average annual depletion rates of water from the system. Under the No Action Alternative, there would be no contribution to the cumulative impact on threatened and endangered species or designated critical habitat in the area of analysis.</p>
BLM Sensitive Species	<p>Present and future activities in the analysis area affecting this resource are similar to those described for vegetative resources / habitat, above. None of the ongoing or foreseeable future activities in this area, when combined with the Proposed Action, are likely to contribute to substantial negative long-term cumulative impacts to BLM sensitive species found in the area of analysis. BLM sensitive small mammals, herptiles, and migratory birds would be temporarily displaced during construction of the Project until revegetation is accomplished. Individual small burrowing mammals and herptiles could be harmed during construction. Migratory birds / overwintering birds are expected to disperse to other areas during construction; however, if construction activities extend into the nesting season of migratory birds, individual nests with eggs or young could be lost due to abandonment or direct mortality. The negative effects from the Project would be of short duration and magnitude, and would not result in a substantial contribution to cumulative area-wide impacts on population trends of wildlife. Impacts would be mitigated by design features and environmental commitments described elsewhere in this EA. No BLM sensitive plants or fishes (other than those also found on the threatened and endangered species list) are affected by the Project. Under the No Action Alternative, there would be no contribution to the cumulative impact on BLM sensitive species in the area of analysis.</p>

Resource Issue	Existing or Future Activities in the Limits of Analysis and their Contribution to Cumulative Impacts with the Proposed Action
Cultural Resources	<p>Cultural resources are defined as fragile and nonrenewable remains of prehistoric and historic human activity, occupation, or endeavor, as reflected in districts, sites, structures, buildings, objects, artifacts, ruins, etc. Significant cultural resources are eligible for listing in the National Register of Historic Places, are typically at least 50 years old, and meet other requirements specified at 36 CFR Part 60. Cattleman's Ditch is a cultural resource that has been determined to be eligible for inclusion on the National Register of Historic Places. Other salinity and selenium control projects in the area of analysis also will effect or have the potential to destroy cultural resources such as irrigation ditches and appurtenant structures. These effects are mitigated by Historic Resource Documentation at an appropriate level for the significance of the resource. For the Proposed Action, a Memorandum of Agreement (MOA) has been executed between Reclamation and the State Historic Preservation Office to ensure proper documentation of Cattleman's Ditch. Similar MOAs and documentation are executed for similar projects. Under the No Action Alternative, there would be no contribution to the cumulative impact on cultural resources in the area of analysis.</p>
Agricultural Resources & Soils	<p>Actions with potential for cumulative effects on soils and agricultural resources in the Smith Fork River drainage include existing and future Colorado River Basin Salinity Control Program projects, Gunnison Basin Selenium Management projects, existing and future NRCS irrigation improvement projects, infrastructure development, livestock grazing, and residential development. Each of these activities can result in soil erosion or degradation of soil health; however, erosion control and reclamation is required for most of these activities to reduce direct, indirect, and cumulative soils effects. Residential development can result in conversion of irrigated agricultural or grazing rangelands. The Project would not result in the direct loss of irrigated agricultural lands or grazing rangelands. An indirect effect of the Project and similar projects in the Salinity Control Program, is the possibility that the quantity of irrigation wastewater could diminish from irrigated areas that are converted to sprinkler irrigation following completion of the Proposed Action (in future unrelated projects), and that areas downgradient of the Proposed Action that are irrigated with wastewater may be converted to dryland agricultural uses or other uses. Lands irrigated solely with irrigation wastewater make up a relatively small proportion of irrigated agricultural lands in the area of analysis. Under the No Action Alternative, there would be no contribution to the cumulative impact on agricultural resources & soils in the area of analysis.</p>

3.14 Summary of Impacts

Table 7 summarizes the predicted impacts/environmental consequences of the No Action and Proposed Action Alternatives analyzed in this EA.

Table 7. Summary of Impacts of the Cattleman's Ditches Pipeline Project

Resource Issue	Impacts of No Action Alternative	Impacts of Proposed Action Alternative
Water Rights and Use	No Effect	No Effect or possible beneficial effect
Water Quality	Salt and selenium loading from the Project area would continue to affect water quality in the Colorado River Basin	An estimated salt loading reduction of 1,855 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; however, these benefits have not been quantified. Improved water quality would likely benefit downstream aquatic species by reducing salt and selenium loading in the Smith Fork, Gunnison, and Colorado rivers. Temporary impacts to water quality may occur during construction if culverted embankment stream crossings are constructed while surface water is flowing in the drainages.
Air Quality	No Effect	Minor short-term effects due to dust and exhaust created by construction equipment.
Access, Transportation, & Public Safety	No Effect	Minor temporary disruptions to local public roadways from construction traffic entering and existing roadways. Temporary brief closures of Colorado Highway 92 to vehicles for two open cut crossings, which could affect emergency vehicle passage. Timing of open cut crossing construction would need to be sensitive to livestock trailing periods. No long-term effects.
Recreation Resources	No Effect	Temporary short-term disruption of recreational uses such as hunting on BLM lands in and near the Proposed Action Area may occur during construction. The level and nature of public use of the BLM lands involved in the Proposed Action is unknown, but expected to be low, due to lack of developed public access routes directly to the Proposed Action Area.
Visual Resources	No Effect	Short-term temporary effect during construction (i.e., presence of equipment, spoil piles), with revegetation commencing following completion of the Project. Once vegetation is successfully re-established, the appearance and character of the Project area would be similar to its appearance and character prior to construction.

Resource Issue	Impacts of No Action Alternative	Impacts of Proposed Action Alternative
Livestock Grazing	No Effect	Temporary effect. No lands capable of providing grazing will be permanently lost. The Proposed Action is proposed to take place on BLM land mostly outside the cattle allotment grazing timeframe. Project personnel will coordinate with the grazing permit holder(s) to avoid conflicts with grazing operations. A livestock water source will be lost on the allotments due to the Proposed Action.
Vegetative Resources / Habitat	No Effect	Short-term impacts to vegetation where construction would occur in upland areas. Estimated long-term loss of 15.66 total habitat value units, due to elimination of seepage from the involved ditch alignments. A Habitat Replacement Plan would be implemented to mitigate for the habitat value lost because of the Proposed Action.
Wildlife Resources	No Effect	Short-term temporary adverse effect to local wildlife during construction. A Habitat Replacement Plan would be implemented to mitigate for the long-term loss of riparian and wetland habitat due to the Proposed Action.
Threatened and Endangered Species	Salt and selenium loading from the Project area would continue to affect aquatic dependent species	The Proposed Action Area lies within designated critical habitat for Gunnison sage-grouse, but not within currently occupied range. Short-term reclaimable impacts would occur to potentially suitable habitat / critical habitat for sage-grouse. Water depletions (irrigation water consumption) would continue at historic levels from the Crystal Creek drainage, and would adversely affect downstream designated critical habitat for the four Colorado River federally endangered fishes. However the Upper Colorado River Endangered Fish Recovery Program and execution of a Recovery Agreement between the Company and FWS serve as mitigation for these impacts. The Proposed Action would improve water quality by contributing to the reduction of salt and selenium loading in the Gunnison and Colorado rivers.

Resource Issue	Impacts of No Action Alternative	Impacts of Proposed Action Alternative
BLM Sensitive Species	Salt and selenium loading from the Project area would continue to affect aquatic dependent species	The Proposed Action would affect breeding habitat for the BLM Sensitive northern leopard frog. It may also affect foraging habitat for BLM Sensitive snakes and bats. These habitat losses would be mitigated with Replacement Habitat. Depending on timing, the Proposed Action could affect nesting for Brewer's sparrow and other migratory bird species. The Proposed Action would improve water quality by contributing to the reduction of salt and selenium loading in the Gunnison and Colorado rivers, to the benefit of BLM Sensitive fishes downstream of the Proposed Action Area.
Cultural Resources	No Effect	Adverse effect to NRHP eligible site, segments of the ditch system. The adverse effect would be mitigated with a Memorandum of Agreement between Reclamation and the Colorado SHPO (in progress).
Agricultural Resources & Soils	No Effect	Short-term temporary effect during construction, with agricultural production resuming following restoration of the ground surface, and appropriate reseeded, erosion control, and weed control on disturbed soils in non-irrigated areas.
Cumulative Impacts	No Effect	Beneficial effects related to reduction of salt and selenium loading in the Gunnison and Colorado river basins. Indirect and direct contributions to cumulative effects on other resources are temporary and/or negligible, with consideration of mitigative measures (i.e., the habitat replacement site).

4 ENVIRONMENTAL COMMITMENTS

This section discusses the environmental commitments developed to protect resources and mitigate adverse impacts to a non-significant level. The cooperative agreement between Reclamation and the Company requires that the Company be responsible for "...implementing and/or complying with the environmental commitments contained in the NEPA/Endangered Species Act compliance documents to be developed by Reclamation for the project".

The following environmental commitments will be implemented as an integral part of the Proposed Action, and shall be included in the contractor bid specifications.

Note that any construction activities proposed outside of the inventoried Proposed Action Area would first require additional review by Reclamation to determine if the existing surveys and information are adequate to evaluate additional impacts outside this corridor.

Note that construction work conducted outside the planned timeframe of the Proposed Action may also require evaluation for impacts to wildlife, including threatened, endangered, BLM-sensitive, or migratory bird species.

4.1 Construction Access

All construction activities would be confined to rights-of-way negotiated between the Company and the landowners. Construction staging (for pipe and equipment) will take place in several areas, as shown on Figures 2 and 3.

Environmental commitments regarding access will be included in BLM right-of-way authorizations, CDOT authorizations, and agreements with private landowners. Such commitments will be incorporated into the Final EA.

4.2 Water Quality

The following standard BMPs and environmental commitments would be implemented to minimize erosion and protect water quality of downstream resources:

- 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.
- Culverted embankment fill creek crossings shall be conducted during periods when the watercourse is not flowing or flowing at low levels. If a small amount of flow is present, appropriate water control measures shall be employed, such as temporary impoundments or drain ditches, which allow for construction to proceed while minimizing potential for mobilization of silt or erosion. Culverts shall be appropriately sized to allow for normal stream flow, and bedded and stabilized to prevent erosion. Embankments shall be stabilized and appropriately vegetated.
- 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.
- Fuels, lubricants, hydraulic fluids, and other petrochemicals shall be stored and dispensed in an approved staging area.
- Equipment shall be inspected daily and immediately repaired as necessary to ensure equipment is free of petrochemical leaks.
- Construction equipment shall be parked, stored, and serviced only at an approved staging area.
- 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. All employees and workers, including those under separate contract, shall be briefed and made familiar with this plan.
- A spill response kit, which includes appropriate-sized spill blankets, shall be easily accessible and onsite at all times.

- Onsite supervisors and equipment operators shall be trained and knowledgeable in the use of spill containment equipment.
- Appropriate federal and Colorado authorities (including BLM) shall be immediately notified in the event of any contaminant spill.

4.3 Abandoned Irrigation Facilities & Structures

Pursuant to the Cooperative Agreement between the Company and Reclamation, the Company shall permanently dewater, remove from irrigation service, and render incapable of irrigation water delivery those open ditches abandoned as part of the Proposed Action.

The Company shall be responsible for removing all decommissioned irrigation structures (head gates, drops, etc.) by methods described in the construction specifications provided to the contractor.

4.4 Ground Disturbances

The following BMPs and environmental commitments would be implemented to minimize and mitigate ground disturbances:

- Ground disturbances shall be limited to only those areas necessary to safely implement the Proposed Action.
- Vegetation removal shall be confined to the smallest portion of the Proposed Action Area necessary for completion of the work.
- Construction limits shall be clearly flagged onsite to avoid unnecessary plant loss or ground disturbance.
- Prior to construction, vegetative material shall be removed by mowing or chopping, and either hauled to a proposed staging area to be burned or chipped, or chipped and mulched onsite. Stumps shall be grubbed and hauled to a proposed staging area to be burned.
- Topsoil shall be stockpiled and then redistributed after completion of construction activities.
- Straw wattles, silt curtains, cofferdams, dikes, straw bales, or other suitable erosion control measures shall be used at the edges of ground disturbance to minimize soil erosion and prevent soil erosion from entering water bodies during construction.
- Following construction, all disturbed areas shall be smoothed, shaped, contoured and reseeded to as near to their pre-project conditions as practicable.
- Seeding shall occur at appropriate times with weed-free seed mixes per Reclamation specifications and the BLM right-of-way stipulations. Specifically, a BLM-prescribed seed mix shall be used to reseed all disturbances on BLM lands, and on private lands in Gunnison sage-grouse habitat (these areas shall be detailed in contractor specifications and/or construction drawings). On other disturbed areas, the "Stirrup Bar Ranch Seed Mix" developed by NRCS may be used.

- Weed control shall be implemented by the Company or the Company's contractor in accordance with BLM right-of-way stipulations and current Montrose County weed control standards (Attachment H).

4.5 Wildlife Resources

The following BMPs and environmental commitments would be implemented to minimize and mitigate disturbances to wildlife:

- Construction areas shall be confined to the smallest feasible area and within approved construction limits/rights-of-way to minimize disturbance to wildlife within the Proposed Action Area.
- 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 livestock or wildlife from falling through. Where trench covers would not be practical, wildlife escape ramps shall be utilized.
- Vegetation disturbing activities are currently not planned for implementation during the nesting season of migratory birds protected under the Migratory Bird Treaty Act. However, if the schedule for the Proposed Action shifts (Section 4.13), and vegetation disturbing activities would occur during the nesting season of migratory birds, further conservation measures may be necessary to protect these species, such as pre-construction nest surveys.

4.6 Habitat Disturbance & Loss

The Salinity Control Act requires that no net loss of wildlife values result from projects under its authorization. With the assistance of Wildlife and Natural Resource Concepts & Solutions, LLC, the Company has developed a Reclamation-approved wildlife Habitat Replacement Plan to mitigate fish and wildlife values that would be foregone as a result of the Proposed Action. The Habitat Replacement Site location is on Hart Double H Ranch, less than one mile northeast of the Proposed Action Area (Figures 2 and 3). The complete Reclamation-approved Habitat Replacement Plan is provided in Attachment G.

The Habitat Replacement Plan meets the objectives of the Colorado River Basin Salinity Control Program because it is near the Proposed Action Area and provides compensation for directly affected wildlife to the greatest extent possible, it is an in-kind replacement (replaces particular values lost), it is contiguous with other habitats with wildlife value, it can be successfully managed by the Company, and has characteristics (a water source) that will assure its viability for at least 50 years.

Habitat replacement would be implemented concurrently with or prior to the implementation of the Proposed Action. The Habitat Replacement Plan involves enhancing (improving the functions and values of) an existing approximately 14-acre wetland and mesic meadow area. Improvements would include creating shallow emergent wetlands by excavating "potholes," and planting a variety of native wetland and mesic shrubs and trees on site. Woody plantings would include species such as cottonwood, peachleaf willow, three-leaf sumac, wild rose, chokecherry, native plum, and silver buffaloberry. Woody plantings would be protected with 8-foot-tall big game fencing to exclude deer, elk, and cattle while the plantings are establishing. Wire mesh would be installed around the bases of woody plantings to protect them from small

herbivores, until the plantings become established. A weed treatment program will be implemented to meet standards set by Montrose County (Attachment H) and the State of Colorado. Because excavated materials will be placed in upland locations, no Section 404 permit from the U.S. Army Corps of Engineers will be required.

The Habitat Replacement Site will provide habitat for a diversity of local wildlife, including big game, songbirds, raptors, a variety of small mammals, reptiles, and amphibians, including the BLM Sensitive northern leopard frog.

The Company will be responsible for maintaining the Habitat Replacement Site and ensuring the objectives of the Habitat Replacement Plan are met. Failure to implement concurrent habitat replacement may result in delays in obligating funding under the Cooperative Agreement.

4.7 Federally-Listed Species

The Company has entered into a recovery agreement with the FWS to incorporate its historic depletions under the umbrella of the Gunnison Basin Biological Opinion. A copy of the fully-executed Recovery Agreement is included in Attachment E.

Since the Proposed Action would take place in critical habitat of the federally-listed Gunnison sage-grouse, Reclamation consulted with FWS regarding effects of the Proposed Action on the species and its critical habitat. If the schedule for the components of the Project affecting potential sage-grouse habitat shifts to the breeding or nesting periods of sage-grouse, the Company will contact FWS and CPW terrestrial biologists prior to construction to confirm the Proposed Action Area remains unoccupied by the species, and that a documented active lek does not lie within 0.6 mile of the Proposed Action. During construction in sagebrush areas, topsoil shall be saved and then redistributed after completion of construction activities, and disturbed areas shall be seeded with a suitable seed mix that is beneficial for grouse habitat (a BLM-prescribed mix of appropriate bunch grasses, forbs, and sagebrush).

No further Endangered Species Act consultation would be required for the Proposed Action, unless other listed species are encountered during construction. In the event that other listed species are encountered during construction, the Company shall stop construction activities until Reclamation has consulted with FWS to ensure that adequate measures are in place to avoid or reduce impacts to the species.

4.8 Cultural Resources

Reclamation and the Colorado State Historic Preservation Office (SHPO) have entered into a Memorandum of Agreement (MOA) to mitigate the Proposed Action's adverse effects to cultural resources (Attachment F). The MOA commits Reclamation to complete historic resource documentation of the existing ditch and structures prior to construction activities in accordance with the guidance for Level I documentation found in "Historic Resource Documentation, Standards for Level I, II and III Documentation" (COAHP 2013). The Company and BLM are consulting parties in the MOA.

In the event that cultural and/or paleontological resources are discovered during construction, the Company must stop construction activities until Reclamation has completed consultation with the SHPO and appropriate measures are implemented to protect or mitigate the discovered resource. The MOA must be fully executed prior to initiating construction activities for the Proposed Action.

4.9 Agricultural Resources & Soils

The following BMPs and environmental commitments would be implemented to minimize and mitigate impacts to agricultural resources and soils:

- During construction, topsoil shall be saved and then redistributed after completion of construction activities.
- Straw wattles, silt curtains, cofferdams, dikes, straw bales, or other suitable erosion control measures shall be used to minimize soil erosion and prevent soil erosion from entering water bodies during construction.
- All disturbed areas shall be smoothed, shaped, contoured and reseeded to as near their pre-project conditions as practicable.
- Lands previously in agricultural production shall be returned to agricultural production following construction, with the exception of the small currently irrigated meadow on BLM land (Figure 4a).

4.10 Recreation & Visual Resources

The following BMPs and environmental commitments would be implemented to minimize and mitigate impacts on recreation and visual resources:

- During construction, individuals may be recreating on BLM land involved with the Proposed Action. 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 livestock, wildlife, or the public from falling through. Where trench covers would not be practical, wildlife escape ramps shall be utilized.
- Following construction, the Proposed Action Area shall be graded and vegetated to match the surrounding landscape as much as possible. Overall, the level of change to the visual characteristics of the landscape in and around the Proposed Action Area during and following construction will be low to moderate, and not out of character with the surrounding landforms, or with the rural-agricultural character of the vicinity.

4.11 Livestock Grazing

The timing of grazing on the BLM cattle allotments would not largely coincide with construction of the Proposed Action; however, the following commitments shall be implemented to mitigate impacts to livestock grazing allotments:

- Notification to the grazing permit holder(s) shall be made if construction is to occur during a grazing period. Project personnel shall cooperate with the grazing permit holder(s) to avoid conflicts with grazing operations.
- Pipeline trenches left overnight shall be kept to a minimum to reduce potential entrapment of livestock.

- Construction holes or pipeline trenches left open overnight shall be covered. Covers shall be secured in place and strong enough to prevent livestock or wildlife from falling through. Where trench covers would not be practical, wildlife escape ramps shall be utilized.
- Access to the grazing allotments shall not be affected by the Proposed Action.
- Temporarily disturbed BLM lands shall be revegetated with a BLM-recommended seed mix containing grasses and forbs palatable for forage.

4.12 Hazardous Materials, Waste Management & Pollution Prevention

Environmental impacts from hazardous materials or waste related to the Proposed Action involve potential spills or leaks of motor fuels and lubricants. Fuel and lubricant spills have the potential to impact soil and water resources, but because of the relatively small amounts of such materials that would be used in the Proposed Action Area (i.e., a 55-gallon drum), impacts from accidental spills or leaks are expected to be minimal.

During construction, the use, storage and disposal of hazardous materials and wastes within the Proposed Action Area will be managed in accordance with all federal, state, and local standards, including the Toxic Substances Control Act of 1976, as amended (15 USC 2601, et seq., 40 CFR Part 702-799, and 40 CFR 761.1-761.193). Any trash or solid wastes generated during the Proposed Action will be properly disposed offsite.

The following BMPs and environmental commitments would be implemented with regard to hazardous materials, waste management, and pollution prevention:

- 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.
- Portable secondary containment shall be provided for any fuel or lubricant containers staged on BLM land within the Proposed Action Area. Any staging of fuel or lubricants, or fueling or maintenance of vehicles or equipment, will not be conducted within 100 feet of any live water or drainage.
- A spill response plan shall be prepared for areas of work where spilled contaminants could flow into water bodies. All employees and workers, including those under separate contract, will be briefed and made familiar with this plan. The plan will be developed prior to initiation of construction.
- A spill response kit, which includes appropriate-sized spill blankets, shall be easily accessible and onsite at all times.
- Onsite supervisors and equipment operators shall be trained and knowledgeable in the use of spill containment equipment.
- All spills, regardless of size, shall be cleaned up promptly and contaminated soil shall be disposed of at an approved facility.

- Appropriate federal and Colorado authorities shall be immediately notified in the event of any contaminant spill. Any spills on BLM lands will be reported to BLM promptly. Any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act of 1980, Section 102b. A copy of any report required or requested by any federal agency of state government as a result of a reportable release or spill of any toxic substances shall be furnished to BLM concurrent with the filing of the reports to the involved Federal agency or State government.

4.13 Sequence and Timing of the Proposed Action

The Proposed Action would take place between early Fall 2015 and early Spring 2016. The following provides an approximate outline of the sequence of construction, in order of priority of activities.

Vegetation-disturbing activities occurring during the nesting season of migratory birds (April through July), sagebrush-disturbing activities during the breeding season of Gunnison sage-grouse (March through May), or sagebrush-disturbing activities during the nesting season of Gunnison sage-grouse (April through June) would require further conservation measures prior to initiation (i.e., nest surveys for migratory bird species of concern and/or agency confirmation of sage-grouse non-occupancy).

- Colorado Highway 92 crossings to be completed prior to livestock trailing season (prior to mid-October).
- Buried pipe alignments outside the existing ditch prism (i.e., "overland" pipe alignments), including the culverted embankment fill creek crossings, to be completed prior to March 2016.
- Buried pipe alignments in existing the existing ditch prism, to begin as soon as possible with the irrigation off season (approximately October 1), with work prioritized in the south part (higher elevation part) of the Proposed Action Area, to be completed prior to the 2016 irrigation season.
- Decommission and/or backfill abandoned canals and irrigation structures and conduct final mop-up, with work prioritized in the south part (higher elevation part) of the Proposed Action Area, to be completed prior to the 2016 irrigation season.

4.14 Permits, Licenses and Approvals Needed to Implement the Proposal

The following permits, licenses, or approvals (and their statuses) are needed to implement the Proposed Action:

- BLM Right-of-Way Permit, application in progress by the Company.
- Right-of-Way approvals from private landowners with land involved in the Proposed Action, obtained by the Company.

- Stormwater Management Plan, to be submitted to the Colorado Department of Public Health and 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).
- CDOT Highway Right-of-Way Permit, to be obtained by the construction contractor prior to constructing the open cut pipeline crossing of Colorado Highway 92.
- Traffic control measures, to be coordinated by the construction contractor with CDOT, Montrose County Sheriff, and emergency services, prior to constructing the open cut pipeline crossing of Colorado Highway 92
- Utility clearance, obtained by the Company from Western Area Power Authority for work near the high-voltage powerline corridor in the Proposed Action Area. Work approaching WAPA structures or overhead lines closer than 15 feet is not permitted.
- Utility clearances, to be obtained by the construction contractor prior to construction activities from Delta Montrose Electric Association, Cathedral Domestic Water Company, Fruitland Domestic Water Company, and any other utility in the area.
- Montrose County Road & Bridge clearance, to be obtained by the Company / construction contractor prior to crossing Clear Fork Road with buried pipeline or installing buried pipeline in the county road corridor.
- CWA Section 401/404: Because the Proposed Action is exempted from CWA Section 404, no Clean Water Act Section 401 Water Quality Certification would be required; however, water quality BMPs (as outlined above) would be implemented to protect water resources.

5 CONSULTATION & COORDINATION

Reclamation's consultation and coordination process presents other agencies, interest groups, and the general public with opportunities to obtain information about a given project and allows interested parties to participate in the project through written comments. The key objective is to facilitate a well-informed, active public that assists decision-makers throughout the process, culminating in the implementation of an alternative. This section explains consultation and coordination undertaken for the Cattleman's Ditches Pipeline Project.

5.1 Agency Consultation

This EA was prepared by Rare Earth Science, LLC, of Paonia, Colorado, for Reclamation and Cedar Canon Iron Springs Ditch & Reservoir Company. The following local, state, and federal agencies were contacted and consulted in the preparation of this EA. Additional entities were given the opportunity to comment during a public review period.

- U.S. Bureau of Land Management, Uncompahgre Field Office, Montrose, CO
- Colorado Office of Archaeology and Historic Preservation, Denver, CO

- Colorado Parks & Wildlife, Gunnison, CO
- U.S. Fish & Wildlife Service, Ecological Services, Grand Junction, CO
- U.S. Army Corps of Engineers, Colorado West Regulatory Branch, Grand Junction, CO
- Colorado Department of Transportation, Grand Junction, CO
- U.S. Department of Energy, Western Area Power Administration, Montrose, CO
- Southern Ute Tribe, Ute Mountain Ute Tribe, and Ute Indian Tribe (Uintah and Ouray Reservation)

5.2 EA Comments

In compliance with NEPA, the Draft EA was released for a 30-day public review period (via Reclamation's website at <http://www.usbr.gov/uc/wcao/envdocs/index.html>), from July 16, 2015 through August 10, 2015. No comments were received from the public during the review period.

Reclamation received two comment letters from agencies on the Draft EA: one from the U.S. Fish and Wildlife Service, and one from the BLM's Uncompahgre Field Office. The comments and Reclamation's comment responses are summarized as follows (the original comment letters are provided in Attachment A).

A Draft EA was released for public review and comment on July 16, 2015, and comments were accepted up to and through August 10, 2015. During the comment period, Reclamation received two responses on the Draft EA: one from the U.S. Fish and Wildlife Service, and one from the Bureau of Land Management's Uncompahgre Field Office. Following are responses to comments received on the Draft EA:

COMMENTS FROM THE BUREAU OF LAND MANAGEMENT UNCOMPAHGRE FIELD OFFICE:

COMMENT 1: Just a general comment... it might be helpful in section 3 to add a heading for the environmental consequences for each section.

RESPONSE 1: Environmental consequences are explained in each subsection of Section 3 under the indented paragraphs titled "No Action" and "Proposed Action." To add an environmental consequences subheading to each subsection would unnecessarily clutter the document format.

COMMENT 2: Page 10, Section 3.2 – First paragraph, typos... "create an adverse," "it is toxic in slightly elevated..."

RESPONSE 2: Reclamation has incorporated this change in the Final EA.

COMMENT 3: Pages 10-11, Section 3.2 – Might want to just briefly touch on the TMDL written for Selenium since it covers this area and took all those streams off the 303d list.

RESPONSE 3: The following was added to the Water Quality section in the Final EA: "The hydrologic units in the Proposed Action Area were previously on the state's list of impaired waters due to their failure meet selenium standards. In instances where waterbodies fail to support classified uses and/or fall within assigned numeric water quality standards, a Total Maximum Daily Load (TMDL) is used to determine the maximum amount of pollution which can be introduced into a waterbody daily while still keeping that waterbody and downstream waterbodies within the limits of the numeric water quality standard. Selenium TMDLs for the

area's waterbodies were assessed in 2011 by the CDPHE (CDPHE 2011), resulting in the removal of the waterbodies from the impaired waters list." Where impacts of the proposed action are discussed, Reclamation has stated that the proposed action is expected to reduce selenium, and thereby help to reduce the daily load entering downstream waterbodies.

COMMENT 4: Page 29, Section 3.13 – Cumulative impacts section needs to quantify impacts in the region. I will provide an example document for reference.

RESPONSE 4: Reclamation has modified the cumulative impacts section in the Final EA to better evaluate cumulative impacts of the proposed action. The revision is based on a meeting with J. Sondergard at BLM, and discusses cumulative impacts by resource, within more clearly defined areas of analysis and temporal limits.

COMMENT 5: Page 33, Section 4 – This section might need to be renamed/re-labeled. These seem more like design features. Perhaps they could be moved up to the front and labeled as such? If they are left as mitigation measures some analysis of residual impacts should be included after the mitigation is applied.

RESPONSE 5: Reclamation has changed the name of Section 4 from "Environmental Commitments & Mitigation Measures" to "Environmental Commitments."

COMMENT 6: Page 13, Section 3.5 – The following statement: "The Proposed Action Area does not have an assigned VRM class in the UFO's current Resource Management Plan (RMP); however, in the forthcoming RMP Revision, BLM lands encompassing the Proposed Action Area are expected to have a VRM rating of Class III (Julie Jackson, pers. comm)." Should be replaced with: "The Proposed Action Area does not have an assigned VRM class in the UFO's current Resource Management Plan (RMP). A Visual Resource Inventory was completed in September of 2009 for the area. The visual resource inventory report documented the area as a Class III, however visual resource management classes will be determined as a part of the Resource Management Plan Revision. (Julie Jackson, pers.com)." "

RESPONSE 6: Reclamation has incorporated this change in the Final EA, with the following language: A Visual Resource Inventory completed in September 2009 for the area documented the Proposed Action Area as Class III; however, the final visual resource management classes will be determined as a part of the Resource Management Plan Revision."

COMMENT 7: Pages 19-20, Section 3.9 – While I tend to agree with your inferred ESA call for sage-grouse, the conclusions that support it seems a bit thin. You state that the PA is within a large patch of sagebrush (designated critical habitat.), and that the birds move large distances to seasonal habitats. The PA is likely best described as winter range for the birds when the majority of activity may occur, which is a bit contradictory to the no effect call.

Might be better supported to describe (in addition to what you already have) how much sage habitat is impacted over what temporal scale, plus all the existing anthropogenic disturbance to sage on the ground (highway, farms/ranches, subdivisions, powerlines (WAPA& DMEA), weeds etc.) habitat type conversion to PJ?? All likely adds to poor suitability? I think it would make your argument much stronger.

Also, the project occurs in designated critical habitat; how does that affect Primary Constituent Elements (this may need consultation with FWS?) I don't know the private land that well as far as sagebrush ecological integrity but as I understand the PA at face value this involves destruction or adverse modification of PCEs, take a look at the PCEs in the listing to ensure I

am not off base on this thought. This will likely need to be handled in the BA so should not be too much effort to bring the pertinent info into the EA.

The only other thing I suggest is whatever the final ESA call is based on consultation. I would declare that clearly for all affected species in the final EA. For sage-grouse that would be a declaration for the bird and one for the critical habitat.

RESPONSE 7: Reclamation has revised the Final EA to address sage habitat based on a temporal scale, including existing anthropogenic disturbance to sage. Effects on Primary Constituent Elements within the designated critical habitat have also been addressed in the Final EA. Finally, the Final EA has been revised to state that the determination of effects for all listed species and designated critical habitat are based on Section 7 ESA consultation with FWS.

COMMENT 8: Page 36, Section 4.7 – Suggested mitigation for sagebrush habitat restoration/ sage-grouse that would be beneficial is segregation of top soil for redistribution, seeding with grouse/ecologically appropriate seed mix (diverse mix of appropriate bunch grasses, forbs, and sagebrush).

RESPONSE 8: The following was added as an environmental commitment under Section 4.7: “During construction, topsoil shall be saved and then redistributed after completion of construction activities, and disturbed areas will be seeded with a suitable seed mix that is beneficial for grouse habitat (diverse mix of appropriate bunch grasses, forbs, and sagebrush).”

COMMENT 9: Page 4, Section 1.5 – What will happen to the 8 acres that will no longer be irrigated? Simply stopping irrigation means the public will inherit 8 acres of weed patch from a trespass? does the trespasser inherit?

RESPONSE 9: An approximately 8-acre area of BLM land in the west part of the Project area (Figure 4a), in the Cedar Point Allotment, is in an irregularly and unevenly irrigated pasture. Irrigation of this area would cease as a result of the Proposed Action. Since this area will not be subject to surface disturbance, cessation of irrigation is expected to result in the gradual recolonization of rabbitbrush and sagebrush. Grasses currently growing in the area are mostly smooth brome, which is drought tolerant. This grass is expected to persist as a dominant understory species following cessation of irrigation.

COMMENT 10: Page 38, Section 4.12 – The section on hazardous materials, waste management and pollution prevention is very thorough and well written. The mitigation measures/project design elements cover any foreseeable contingencies. I am a little surprised, however, that this section is not placed in the Affected Environment and Environmental Consequences section and organized to fit in that section. If the environmental coordinator is ok with the current organization, I would have no objections with its current organization.

RESPONSE 10: Reclamation would like to keep the current organization, as hazardous materials, waste management and pollution prevention doesn't fall within one resource category (i.e. water quality, air quality, etc.) for discussion in the Affected Environment and Environmental Consequences section.

COMMENT 11: Page 12-13, Section 3.4 – The access road in the NWSE, section 5 on the map shows from the nw corner to the access road managed by Cathedral HOA, however the gis layer only shows from the nw corner to the ditch. The distance of the requested access is 541

feet seems to be only for this shorter portion. Please verify the actual length of the requested access and/or the gis and maps.

RESPONSE 11: The length of the requested access across BLM-administered land in Section 5 has been verified as 541 feet, as specified in the Plan of Development. The map reflects this length.

COMMENT 12: Throughout EA – When discussing ownership we need to be consistent. The ownership is Federal not BLM or BOR, and the lands are public lands not BLM or BOR lands. BLM and BOR manage but do not own lands.

RESPONSE 12: The following has been added to Section 1 of the Final EA: “There are two classifications of land affected by the Proposed Action: Federal land and private land. The Federal land is public land administered by the U.S. Department of the Interior Bureau of Land Management (BLM). For the purposes of brevity, public land administered by the BLM will here forward be referred to as “BLM land”.

COMMENT 13: Throughout EA – Recommend changing ‘BLM right-of-way permit conditions’ with “BLM right-of-way stipulations.”

RESPONSE 13: Reclamation has incorporated this change in the Final EA.

COMMENT 14: Page 34-35, Section 4.3/4.4 – This might be the place to discuss how the 8 acre parcel mentioned in comment 9 will be reclaimed/reseeded and control of weeds.

RESPONSE 14: The 8-acre BLM parcel is not expected to require reclamation or reseeding. The parcel is unevenly and irregularly irrigated and is currently dominated by smooth brome, a fairly drought tolerant grass. Ground disturbance associated with reseeding efforts may open the area up for weed invasion. The area is expected to naturally recolonize with rabbitbrush and sagebrush. No ground disturbance will occur within the 8-acre BLM parcel, except for backfilling and reseeding of a small ditch on its eastern edge.

COMMENT 15: Plan of Development – See attached Exhibits A & B for proposed legal description, BLM ROW details, and ROW stipulations.

RESPONSE 15: The Plan of Development was submitted to BLM for their review separately from the Draft EA. The proposed legal description, BLM ROW details, and ROW stipulations have been incorporated in the Plan of Development. ROW stipulations are also incorporated in the contractor package.

COMMENT 16: Page 3, Section 1.4 – Typo 1st para they ‘were’ not they ‘was’, 2nd para considered as the primary.

RESPONSE 16: Reclamation has incorporated this change in the Final EA.

COMMENT 17: Page 7, Section 2.2 – 2nd para it reads to me that it should be 44,703 linear feet not lineal

RESPONSE 17: Reclamation has incorporated this change in the Final EA.

COMMENT 18: Page 16, Table 2 – Line 1 Gould Reservoir looks like it is on public lands. The total linear feet and acres do not add up to what is listed in the table, linear feet should be 1372?

RESPONSE 18: A portion of Gould Reservoir is located on public lands (Refer to Figures 2 and 3 in the Draft and Final EA). The numeric values on line 1 of Table 2 are correct as shown in the Draft EA. Total linear feet are not reported on Table 2, and total acres add up correctly with what is listed in the table.

COMMENTS FROM THE U.S. FISH AND WILDLIFE SERVICE:

COMMENT 1: Page 10, Section 3.2 Water Quality, 4th sentence – Most of the soluble selenium here is selenite. In fact, the NIWQP reports list at least a 6:1 ratio of selenate:selenite. Would change selenite to selenate.

RESPONSE 1: Reclamation has incorporated this change in the Final EA.

COMMENT 2: Page 23, 1st paragraph, 6th line – The water quality parameter impacting the endangered fish in the Gunnison river is selenium – not salt.

Pimentel and Bulkley (1983) and Nelson and Flickinger (1992) discuss salt tolerance of the endangered Colorado river fish. Pimentel and Bulkley (1983) came to the conclusion that “preferred and avoided TDS concentrations, respectively for juveniles of each species were: Colorado pikeminnow, 560-1,150 mg/L and greater than 4,400 mg/L; humpback chub 1,000-2,500 mg/L and greater than 5,100 mg/L; bonytail, 4,100-4,700 mg/L and less than 560 mg/L or greater than 6,600 mg/L. Nelson and Flickinger (1992) found a lethal salinity concentration to 50% of Colorado pikeminnow (96 h LC50) was 13,000 mg/L.

Total dissolved solids concentrations in critical habitat in the Gunnison River follow as reported in Butler and Osmundson (2000): Gunnison river at Delta 165-581 mg/L, Gunnison river at Whitewater at 166-831 mg/L. These salt concentrations are far below those causing impacts to endangered Colorado river fish.

Butler, D. L. and B. C. Osmundson. 2000. Physical, chemical, and biological data for the Uncompahgre Project area and the Grand Valley, West-Central Colorado, 1993-98. U.S. Geological Survey, Open-File Report 99-453. 216 pp.

Nelson, S. M. and S. A. Flickinger. 1992. Salinity tolerance of Colorado squawfish, *Ptychocheilus lucius* (Pisces: Cyprinidae). *Hydrobiologia* 246: 165-168.

Pimentel, R. and R. V. Bulkley. 1983. Concentrations of total dissolved solids preferred or avoided by endangered Colorado River fishes. *Transactions of the American Fisheries Society*. 112:595-600.

RESPONSE 2: Reclamation has reworded the information presented in the referenced paragraph to read: “Furthermore, 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 improves water quality within designated critical habitat for the Colorado pikeminnow, razorback sucker, humpback chub, and bonytail throughout the Colorado river and Gunnison river basins. Additionally, potential reductions in selenium loading to the Gunnison basin as a result of the Proposed Action would contribute to the overall success of the Gunnison Basin Selenium Management Program.”

COMMENT 3: The Cathedral Tank habitat replacement project will provide beneficial wildlife habitat and adequately fulfill replacement values connected with impacts from the Cattleman's Ditches Pipeline Project.

RESPONSE 3: Comment acknowledged; no response.

COMMENT 4: Attachment D, Basinwide Salinity Control Program: Procedures for Habitat Replacement, Page 6 – What are the 5 areas? Grand Junction Wildlife Area, Orchard Mesa Wildlife Area, Colorado River Wildlife Area, Debeque Wildlife Area, and ?????

RESPONSE 4: The five areas consist of the Grand Junction Wildlife Area, the Orchard Mesa Wildlife Area, the Colorado River Wildlife Area, the Debeque Wildlife Area, and the Horsethief Canyon State Wildlife Area.

COMMENT 5: Attachment D, Basinwide Salinity Control Program: Procedures for Habitat Replacement, Page 22, last bullet – Does the Bureau of Reclamation actually get these reports? What is the status of knowing if the wildlife areas are still fulfilling their replacement values?

RESPONSE 5: The last paragraph describes the option for Reclamation to require applicants who were awarded funding for canal piping/lining projects, and therefore implemented a habitat replacement plan, to submit regular reports to Reclamation on the status of the habitat replacement project. The Bureau of Reclamation's Western Colorado Area Office currently does not require applicants to submit these reports; however, the Western Colorado Area Office reserves the right to exercise this option at some point in the future if it is determined regular reports are necessary for Reclamation to stay current on the condition of the habitat replacement projects. Currently, Reclamation stays current on the status of existing habitat replacement projects by conducting site visits to the habitat replacement projects areas either annually or biannually. Our office invites a representative from the U.S. Fish and Wildlife Service to attend these site visits. If Reclamation determines that the actual state of the project differs from the established goals of the habitat replacement plan, Reclamation meets with the canal company responsible for maintenance of the project and a plan is established to attain the expected conditions of the habitat replacement project.

COMMENT 6: Attachment G, Proposed Cedar Canon Iron Springs Ditch and Reservoir Company Cathedral Tank Habitat Project, page 2, last paragraph – How was 50% loss decided? Why not replace the ones lost – does the 50% take into account the anticipated loss of plants?

RESPONSE 6: The planting plan takes into account an approximately 50% loss of plants based on typical expected loss of 50% of plantings at habitat replacement areas due to plant stress, water availability, and herbivory. Habitat credits created by the habitat replacement project are based on an expected 50% loss, so if more than 50% of the plants are lost, replacements will be planted.

COMMENT 7: Attachment G, Habitat Planting List – Why are shrubs planted in rows instead of clumps? Rows are kind of an un-natural landscape design.

RESPONSE 7: Shrubs are planted in rows so the project manager can more efficiently deliver water to the plantings and increase the likelihood of plant survival. Over the life of the project, it is anticipated that the plantings will propagate and some will die, which will help change the structured row look into a more natural appearance.

5.3 Distribution

Notice of the public review period and availability of the Draft EA (Reclamation's website) was distributed to Company shareholders, the 34 private landowners within a 0.5-mile radius of the Proposed Action, and the organizations and agencies listed in Attachment B. This Final EA will also be available on Reclamation's website.

6 REFERENCES

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FIGURES

ATTACHMENT A

Comment Letters Received on the DRAFT EA

ATTACHMENT B

Distribution List

All shareholders of Cedar Springs Iron Canon Ditch & Reservoir Company
All landowners within a 0.5-mile radius of the Proposed Action (total of 34)
Cathedral Domestic Water Company
Cathedral Peak Ranch Subdivision Association
Cedar Canyon Iron Springs Irrigation Co.
Citizens for a Healthy Community
Colorado Department of Transportation
Colorado Historical Society
Colorado Parks and Wildlife
Colorado Parks and Wildlife - Crawford Reservoir
Colorado River Water Conservation District
Colorado Water Conservation Board
Crawford Area Chamber of Commerce
Delta Montrose Electric Association
Montrose County Planning & Development
Montrose County Road & Bridge
Montrose Daily Press
The North Fork Merchant Herald
Town of Crawford
U.S. Army Corps of Engineers
U.S. Bureau of Land Management
U.S. Department of Agriculture Natural Resources Conservation Service
U.S. Department of Energy Western Area Power Admin.
U.S. Fish and Wildlife Service
Western Slope Conservation Center

ATTACHMENT C

Section 404 Clean Water Act Exemptions Documentation



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO CA 95814-2922

September 10, 2015

Regulatory Division SPK-2015-00706

Mr. Don Hart
Cedar Canon, Iron Springs Ditch and Reservoir Company
3500 Clear Creek Road
Crawford, Colorado 81415

Dear Mr. Hart:

We are writing in regards to your proposed Cattleman's Ditch Pipeline Salinity Control Project which would replace approximately 8.5 miles of open irrigation ditch with 6.4 miles of buried irrigation pipe. The project site is located within Sections 5, 6, 7, and 8, Township 50 North, Range 6 West, Sections 31 and 32, Township 51 North, Range 6 West, Montrose County, Colorado.

Based on the information Rare Earth Science, LLC and the Bureau of Reclamation have provided, we have determined that the proposed work, including the appurtenant and functionally related four Alkali Creek and one tributary crossings, is exempt from Section 404 of the Clean Water Act (see enclosed Irrigation Exemption Summary). Therefore, a Department of the Army Permit is not required for this work. Measures should be taken to prevent construction materials and/or activities from entering any waters of the United States. Appropriate soil erosion and sediment controls should be implemented onsite to achieve this end.

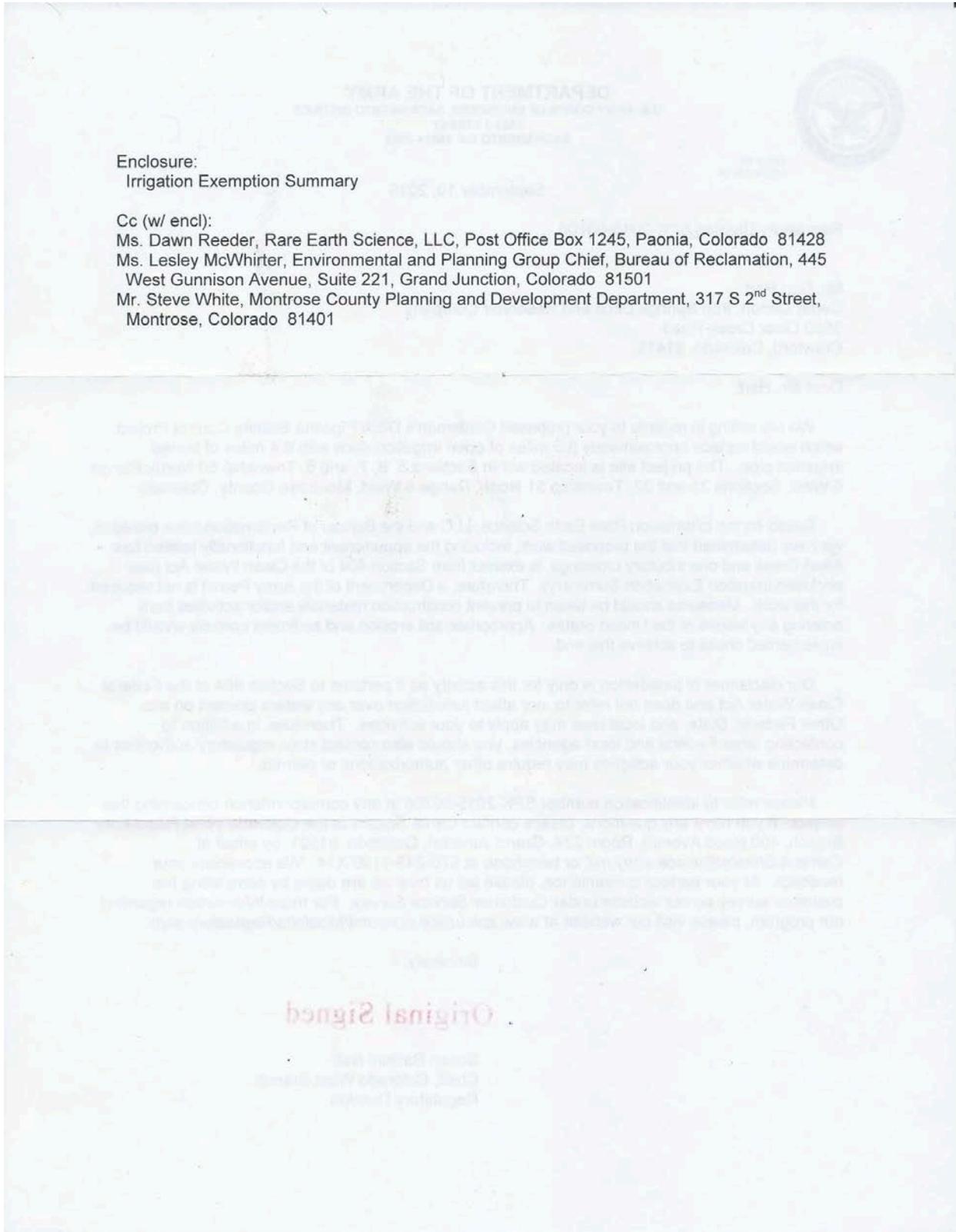
Our disclaimer of jurisdiction is only for this activity as it pertains to Section 404 of the Federal Clean Water Act and does not refer to, nor affect jurisdiction over any waters present on site. Other Federal, State, and local laws may apply to your activities. Therefore, in addition to contacting other Federal and local agencies, you should also contact state regulatory authorities to determine whether your activities may require other authorizations or permits.

Please refer to identification number SPK-2015-00706 in any correspondence concerning this project. If you have any questions, please contact Carrie Sheata at the Colorado West Regulatory Branch, 400 Rood Avenue, Room 224, Grand Junction, Colorado 81501, by email at Carrie.A.Sheata@usace.army.mil, or telephone at 970-243-1199 X14. We appreciate your feedback. At your earliest convenience, please tell us how we are doing by completing the customer survey on our website under *Customer Service Survey*. For more information regarding our program, please visit our website at www.spk.usace.army.mil/Missions/Regulatory.aspx.

Sincerely,

Original Signed

Susan Bachini Nall
Chief, Colorado West Branch
Regulatory Division





US Army Corps of Engineers

Sacramento District
1325 J Street
Sacramento, CA 95814-2922

Irrigation Exemption Summary

FARM OR STOCK POND OR IRRIGATION DITCH CONSTRUCTION OR MAINTENANCE

Pursuant to Section 404 of the Clean Water Act (33 USC 1344) and Federal Regulations (33 CFR 323.4(a)(3)), certain discharges for the construction or maintenance of farm or stock ponds or irrigation ditches have been exempted from requiring a Section 404 permit. Included in the exemption are the construction or maintenance of farm or stock ponds or irrigation ditches, or the maintenance (but not the construction) of drainage ditches. Discharges associated with siphons, pumps, headgates, wingwalls, weirs, diversion structures, and such other facilities as are appurtenant and functionally related to irrigation ditches are included in this exemption.

A Section 404 permit is required if either of the following occurs:

- (1) Any discharge of dredged or fill material resulting from the above activities which contains any toxic pollutant listed under Section 307 of the Clean Water Act shall be subject to any applicable toxic effluent standard or prohibition, and shall require a permit.
- (2) Any discharge of dredged or fill material into waters of the United States incidental to the above activities must have a permit if it is part of an activity whose purpose is to convert an area of the waters of the United States into a use to which it was not previously subject, where the flow or circulation of waters of the United States may be impaired or the reach of such waters reduced. Where the proposed discharge will result in significant discernible alterations to flow or circulation, the presumption is that flow or circulation may be impaired by such alteration. For example, a permit will be required for the conversion of a wetland from silvicultural to agricultural use when there is a discharge of dredged or fill material into waters of the United States in conjunction with construction of dikes, drainage ditches, or other works or structures used to effect such conversion. A discharge which elevates the bottom of waters of the United States without converting it to dry land does not thereby reduce the reach of, but may alter the flow or circulation of, waters of the United States.

If the proposed discharge satisfies all of the above restrictions, it is automatically exempted and no further permit action from the Corps of Engineers is required. If any of the restrictions of this exemption will not be complied with, a permit is required and should be requested using ENG Form 4345 (Application for a Department of the Army permit). A nationwide permit authorized by the Clean Water Act may be available for the proposed work. State or local approval of the work may also be required.

For general information on the Corps' Regulatory Program please check our web site at www.spk.army.mil/regulatory. For additional information or for a written determination regarding a specific project, please contact the Corps at the following addresses:

Sacramento Main Office-1325 J Street, Room 1480, Sacramento, CA 95814	(916) 557-5250
Redding Field Office-152 Hartnell, Redding, CA 96002	(530) 223-9534
Reno Office-300 Booth Street, Room 2103, Reno, NV 89509	(775) 784-5304
Intermountain Region Main Office-533 West 2600 South, Suite 150, Bountiful, UT 84010	(801) 295-8380
Colorado West Regulatory Branch-400 Rood Ave., Room 224, Grand Junction, CO 81501	(970) 243-1199
Durango Office-1970 E 3rd Ave, #109, Durango, CO 81301	(970) 259-1604
St. George Office-196 E Tabernacle Street Room 30, St. George, UT 84770	(435) 986-3979

ATTACHMENT D

Habitat Impact Evaluation & Methodology

ATTACHMENT E

Endangered Species Act Compliance Documents

ATTACHMENT F

Cultural Resources Compliance Documents

ATTACHMENT G
Habitat Replacement Plan

ATTACHMENT H

Montrose County Weed Mitigation Department

Weed Mitigation Plan

April 18, 2011

