RECLAMATION
Managing Water in the West

Environmental Assessment and Finding of No Significant Impact

North Delta Canal Phase 1 Salinity Control Project

U.S. Department of the Interior
Bureau of Reclamation
Upper Colorado Region
Western Colorado Area Office
Grand Junction, Colorado

October 2018

Mission Statements

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

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

FINDING OF NO SIGNIFICANT IMPACT

United States Department of the Interior
Bureau of Reclamation
Western Colorado Area Office
Grand Junction, Colorado

North Delta Canal Phase 1 Salinity Control Project

Introduction

In compliance with the National Environmental Policy Act of 1969, as amended (NEPA), the Bureau of Reclamation (Reclamation) has conducted an environmental assessment (EA) for a Proposed Action of authorizing the use of Federal funds to implement the North Delta Irrigation Company's (NDIC) North Delta Salinity Control Project I in Delta County, Colorado. Reclamation is providing funding for the project through the Colorado River Basinwide Salinity Control Program, and is therefore the lead agency for the purposes of compliance with the NEPA for this Proposed Action. The EA was prepared to address the potential impacts to the human environment due to implementation of the Proposed Action.

Alternatives

The EA analyzed the No Action Alternative and the Proposed Action Alternative to authorize and fund the implementation of the NDIC North Delta Salinity Control Project I.

Decision and Finding of No Significant Impact

Based upon a review of the EA and supporting documents, Reclamation has determined that implementing the Proposed Action will not significantly affect the quality of the human environment, individually or cumulatively with other actions in the area. No environmental effects meet the definition of significance in context or intensity as defined at 40 CFR 1508.27. Therefore, an environmental impact statement is not required for this Proposed Action. This finding is based on consideration of the context and intensity as summarized in the EA. Reclamation's decision is to implement the Proposed Action Alternative.

Context

The affected locality is the existing North Delta Canal, located northeast of the City of Delta, in southcentral Delta County, Colorado. Affected interests include Reclamation, the U.S. Bureau of Land Management (BLM), NDIC, shareholders, and adjacent land owners. The project does not have national, regional, or state-wide importance.

Intensity

The following discussion is organized around the 10 significance criteria described in 40 CFR 1508.27. These criteria were incorporated into the resource analysis and issues concerned in the EA.

1. **Impacts may be both beneficial and adverse**. The Proposed Action will impact resources as described in the EA. Implementation of the Proposed Action will result in beneficial effects related to reduction of salt and selenium loading in the Colorado River basin.

   Best Management Practices (BMPs) and mitigating measures were incorporated into the design of the Proposed Action to reduce impacts. The predicted short-term effects of the Proposed Action include impacts to wildlife and habitat due to noise and habitat disturbance during construction. The predicted long-term effects are adverse effects to ditch structures as cultural resources eligible for listing in the National Register of Historic Places (NRHP); loss of the canal's artificial wetland and riparian habitat; and water depletions to downstream critical habitat for Colorado River endangered fishes. The long-term effect on cultural resources is being mitigated by the preparation of archival documentation. The long-term loss of artificial wetland and riparian habitat is being mitigated with a habitat replacement project. Water depletions to critical habitat for Colorado River endangered fishes are mitigated by the Upper Colorado River Endangered Fish Recovery Program, as identified in the U.S. Fish and Wildlife Service's (FWS') 2009 *Final Gunnison River Basin Programmatic Biological Opinion* (PBO). To ensure the historic water depletions of the ditch system are covered under the umbrella of the PBO, NDIC entered into a Recovery Agreement with the U.S. Fish and Wildlife Service (FWS) (TAILS: 06E24100-2018-F-0161). Implementation of the Proposed Action will result in beneficial effects related to the reduction of salt and selenium loading in the Gunnison and Colorado River basins.

   As discussed in detail in the EA, none of the environmental effects are considered significant. None of the effects from the Proposed Action, together with other past, current, and reasonably foreseeable actions, rise to a significant cumulative impact.

2. **The degree to which the selected alternative will affect public health or safety or a minority or low-income population**. The Proposed Action will have no significant impacts on public health or safety. No minority or low income populations would be disproportionately affected by the Proposed Action.

3. **Unique characteristics of the geographic area**. There are no unique park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas that would be negatively affected by the Proposed Action.

4. **The degree to which the effects on the quality of the human environment are likely to be highly controversial**. Reclamation contacted representatives of other federal agencies, state and local governments, public and private organizations, and individuals regarding the Proposed Action and its effects on resources. Based on the responses received, the effects of the Proposed Action on the quality of the human environment are not highly controversial.

5. **The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks**. There are no predicted effects on the

human environment that are considered highly uncertain or that involve unique or unknown risks.

6. **The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration**. Implementing the action will not establish a precedent for future actions with significant effects and will not represent a decision in principle about a future consideration.

7. **Whether the action is related to other actions which are individually insignificant but cumulatively significant**. Cumulative impacts are possible when the effects of the Proposed Action are added to other past, present, and reasonably foreseeable future actions as described under related NEPA documents or approved plans; however, significant cumulative effects are not predicted, as described in the EA in Section 3.12.

8. **The degree to which the action may adversely affect sites, districts, buildings, structures, and objects listed in or eligible for listing in the National Register of Historic Places**. The Colorado State Historic Preservation Officer (SHPO) has concurred with a determination of adverse effect to the irrigation ditch system involved in the Proposed Action. Reclamation has entered into a Memorandum of Agreement (dated December 2016) with the SHPO and NDIC to mitigate the impacts to the affected irrigation ditch system.

9. **The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973**. Reclamation consulted with FWS regarding the effects on threatened or endangered species and critical habitat from the Proposed Action (FWS TAILS: 06E24100-2018-F-0161). FWS concurred that the Proposed Action may affect, and is likely to adversely affect, the four endangered Colorado River fishes, may affect but not likely to adversely affect the Colorado hookless cactus and western yellow-billed cuckoo, and is not likely to adversely modify proposed critical habitat for the western yellow-billed cuckoo. The fishes occur downstream of the Proposed Action Area in the Gunnison and/or Colorado River basins, and may be indirectly affected by historic water depletions caused by the consumptive use of water by the ditch system. Consumptive loss of water in the Gunnison and Colorado River basins due to agricultural irrigation from the ditch system results in an average annual depletion of approximately 5,972 acre-feet from the Gunnison River watershed, which affects downstream critical habitat for the endangered Colorado pikeminnow, razorback sucker, humpback chub, and bony tail. NDIC has executed a Recovery Agreement with FWS to ensure compliance with the Endangered Species Act for water depletions in the basin. The annual depletion rate is not expected to change as a result of the Proposed Action. Therefore, it is expected that the Proposed Action would not destroy or adversely modify designated critical habitat for the Colorado River endangered fishes. The Proposed Action may affect the threatened Colorado hookless cactus. An intensive survey found Colorado hookless cactus occurrences in the vicinity of the Proposed Action. Reclamation consulted with FWS to establish measures to avoid impacts to Colorado hookless cactus. The Proposed Action may affect proposed

critical habitat for the threatened western yellow-billed cuckoo. The habitat replacement component of the Proposed Action involves removal of non-native tree species from riparian habitat at a Habitat Replacement Site. Reclamation consulted with FWS to establish a strategy for non-native tree removal at the Habitat Replacement Site in order to protect potential foraging habitat for western yellow-billed cuckoo.

10. **Whether the action threatens a violation of Federal, state, local, or tribal law, regulation or policy imposed for the protection of the environment**. The Proposed Action does not violate any federal, state, local, or tribal law, regulation, or policy imposed for the protection of the environment. In addition, the Proposed Action is consistent with applicable land management plans, policies, and programs. State, local, and interested members of the public were given the opportunity to participate in the environmental analysis process.

Environmental Commitments

- BMPs shall be implemented, as specified in the EA, to protect water quality and soils; to minimize ground and vegetation disturbance; to protect wildlife resources; and to minimize the spread of weeds (BMPs described in the EA are incorporated herein by reference).

- Required permits, licenses, clearances, and approvals as described in the EA shall be acquired prior to implementation of the Proposed Action.

- If previously undiscovered cultural or paleontological resources are discovered during construction, construction activities must immediately cease in the vicinity of the discovery and Reclamation must be notified. In this event, the SHPO shall be consulted, and work shall not be resumed until consultation has been completed, as outlined in the Unanticipated Discovery Plan in the MOA.

- In the event that uninventoried threatened or endangered species are discovered during construction, construction activities shall halt until consultation is completed with the U.S. Fish and Wildlife Service and protection measures are implemented. Additional surveys shall be required for threatened or endangered species if construction plans or proposed disturbance areas are changed.

Approved by:

LOUIS WARNER Digitally signed by LOUIS WARNER Date: 2018.11.07 10:22:59 -07'00'

Ed Warner
Area Manager, Western Colorado Area Office

Date

TABLE OF CONTENTS

LIST OF ACRONYMS AND ABBREVIATIONS iii
1 INTRODUCTION 1
1.1 Background 1
1.2 Purpose & Need for the Proposed Action 2
1.3 Overview of Proposed Action & Alternatives 2
1.4 Alternatives Considered but Not Carried Forward 2
1.5 Location & Environmental Setting of the Proposed Action Area 3
1.6 Relationship to Other Projects 4
1.7 Scoping, Coordination, & Public Review 5
2 PROPOSED ACTION & ALTERNATIVES 6
2.1 No Action Alternative 6
2.2 Proposed Action Alternative 6
3 AFFECTED ENVIRONMENT & ENVIRONMENTAL CONSEQUENCES 11
3.1 Water Rights & Use 11
3.2 Water Quality 12
3.3 Air Quality 13
3.4 Access, Transportation, & Public Safety 14
3.5 Recreational & Visual Resources 14
3.6 Livestock Grazing 16
3.7 Vegetative Resources & Weeds 16
3.8 Wildlife Resources 18
3.9 Special Status Species 19
Migratory Birds & Raptors 19
Threatened & Endangered Species & Their Critical Habitats 22
BLM Sensitive Species 29
3.10 Cultural Resources 33
3.11 Agricultural Resources & Soils 34
3.12 Cumulative Impacts 35
3.13 Summary of Impacts 37
4 ENVIRONMENTAL COMMITMENTS 41
5 CONSULTATION & COORDINATION 48
5.1 Agency Consultation 48
5.2 EA Comments 48
5.3 Distribution 48
6 REFERENCES 49

PHOTOGRAPHS

Photograph 1. East Project Area: typical appearance of the canal where the pipeline would be installed in the canal alignment. 7
Photograph 2. West Project Area: typical appearance of the part of the canal that would be decommissioned and backfilled. 7
Photograph 3. West Project Area: typical appearance of the area that would be crossed by the main siphon. 8
Photograph 4. North Delta OHV Open Area in the vicinity of the proposed main siphon alignment 15

TABLES

Table 1. Summary of Piping Components for the Proposed Action....8
Table 2. Federally-Listed Species Potentially Occurring in or Near the Proposed Action Area..23
Table 3. BLM Sensitive Species in Southcentral Delta County 29
Table 4. Cumulative Impacts Analysis Spatial & Temporal Limits by Resource....36
Table 5. Summary of Impacts of the Proposed Action....37
Table 6. Environmental Commitment Checklist....42

FIGURES (Following Main Text)

1. Regional & Local Locator Maps
2. Regional Salinity Control Projects
3. Topography & Land Status Overview
   - 3a. Topographic Map – West Project Area
   - 3b. Topographic Map – East Project Area
   - 3c. Topographic Map – Habitat Replacement Site
4. Landcover Overview
5. Hydrological Units Map of the Project Vicinity
6. Bald Eagle Range Map
7. Mule Deer Range Map
8. Western Yellow-Billed Cuckoo Critical Habitat
9. Soils of Agricultural Significance

APPENDICES (Following Figures)

A. Comments on the DRAFT EA and Responses
B. Distribution List
C. Clean Water Act Exemptions Documentation
D. BLM ROW Permit DRAFT Legal Description and Stipulations
E. Endangered Species Act Compliance Documents
F. Cultural Resources Compliance Documents

LIST OF ACRONYMS AND ABBREVIATIONS

BLM	U.S. Department of the Interior Bureau of Land Management
BMP	Best Management Practice
CDOT	Colorado Department of Transportation
CDPHE	Colorado Department of Public Health & Environment
CFR	Code of Federal Regulations
cfs	cubic feet per second
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
FONSI	Finding of No Significant Impact
FWS	U.S. Fish & Wildlife Service
GMU	Game Management Unit
HDPE	High-density polyethylene
HQS	Habitat Quality Score
HUC	Hydrology Unit Code
iPaC	Environmental Conservation Online System Information for Planning and Conservation
LLC	Limited Liability Company
MBTA	U.S. Migratory Bird Treaty Act
MOA	Memorandum of Agreement
mi	Mile
NAAQS	National Ambient Air Quality Standards
NDIC	North Delta Irrigation Company
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
NRCS	U.S. Department of Agriculture Natural Resources Conservation Service
NRHP	National Register of Historic Places
OAHP	Colorado Office of Archaeology and Historic Preservation
OHV	Off-highway vehicle
PBF	Physical and biological feature (formerly primary constituent element)
PBO	Programmatic Biological Opinion
PIP	Plastic irrigation pipe
PM	Particulate matter
PUP	Pesticide Use Proposal
Reclamation	U.S. Department of the Interior Bureau of Reclamation
RMP	Resource Management Plan
ROW	Right of Way
SHPO	State Historic Preservation Office
SMPW	Selenium Management Program Workgroup
SPCC	Spill Prevention, Control, and Countermeasures
TAILS	Advanced Tracking and Integrated Logging System
THV	Total Habitat Value
TMDL	Total Maximum Daily Load
UDP	Unanticipated Discovery Plan
UFO	Uncompahgre Field Office

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

1 INTRODUCTION

This Environmental Assessment (EA) has been prepared in compliance with the National Environmental Policy Act (NEPA) to disclose and evaluate the potential environmental effects of North Delta Irrigation Company's (NDIC's or "Applicant's") proposed North Delta Canal Phase 1 Salinity Control Project (hereinafter, "Project" or "Proposed Action"). The Proposed Action is located in southcentral Delta County, Colorado, northeast of the City of Delta (Figure 1).

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 financial assistance agreement to NDIC for the Project under the 2015 Funding Opportunity Announcement (FOA) R15AS00037.

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. Bureau of Land Management (BLM). BLM has a connected action of issuing a right-of-way for the proposed project.

After a public review period for the Draft EA, Reclamation and BLM determined that a Finding of No Significant Impact (FONSI) for the Proposed Action is warranted.

1.1 Background

The Colorado River and its tributaries provide municipal and industrial water to about 40 million people and irrigation water to nearly 4.5 million acres of land in the United States. The river also serves about 3.3 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 (Reclamation 2017). Salinity affects water quality, which in turn affects downstream users, by threatening the productivity of crops, degrading wildlife habitat, and corroding residential and municipal plumbing. From 2005 to 2015, an approximate average of 7.5 million tons of salt flowed into the Colorado River annually, and by the year 2035, 1.68 million tons of salt per year will need to be diverted from the system in order to meet water quality standards in the basin (Reclamation 2017). Irrigated agriculture contributes approximately 37 percent of the salinity in the system (Reclamation 2017). Irrigation increases salinity in the system both by depleting in-stream flows, and by mobilizing salts found in underlying geologic formations into the system, especially during flood irrigation practices.

In June 1974, Congress enacted the Colorado River Basin Salinity Control Act, Public Law 93-320, which directed the Secretary of the Interior to proceed with a program to enhance and protect the quality of water available in the Colorado River for use in the United States and Republic of Mexico. Public Law 104-20 of July 28, 1995, authorizes the Secretary of the Interior, acting through the Bureau of Reclamation, to implement a basinwide salinity control program. The Secretary may carry out the purposes of this legislation directly, or make grants, enter into contracts, memoranda of agreement, commitments for grants, cooperative agreements, or advances of funds to non-federal entities under such terms and conditions as the Secretary may require. PL 110-246 of June 18, 2008 amended the Salinity Control Act, establishing the Basin States Program, and authorizing Reclamation to take advantage of new, cost-effective opportunities to control salinity anywhere in the basin.

Both the Basinwide Salinity Control Program and the Basin States Program fund 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.

Figure 2 shows the locations of Program projects completed and/or recently funded in the vicinity of the Proposed Action.

1.2 Purpose & Need for the Proposed Action

The Proposed Action will replace an existing unlined irrigation ditch with buried pipe, which would eliminate ditch seepage and reduce salinity in the Colorado River basin by an estimated 4,383 tons of salt per year. An additional beneficial effect of the Proposed Action would be the potential reduction of selenium in the Colorado River basin (SMPW 2011); however, the amount of selenium reduction has not been quantified.

The purpose of the Proposed Action is to comply with the Colorado River Basin Salinity Control Act. The need for the Proposed Action is to reduce salinity concentrations in the Colorado River basin. The Proposed Action will provide benefits for a broad spectrum of downstream water users, as explained in Section 1.1, above.

1.3 Overview of Proposed Action & Alternatives

The Proposed Action entails replacing a total of approximately 6.1 miles of the open, unlined North Delta Canal with a total of approximately 4.3 miles of buried irrigation pipe (including an approximately 1.4-mile-long buried inverted siphon). Approximately 2.9 miles of existing canal would be backfilled and abandoned.

Part of the Proposed Action would take place on public land administered by the BLM. 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 Proposed Action is described in more detail in Section 2 and the Figures included with this EA.

The Proposed Action would also include activities at a proposed Habitat Replacement Site, to mitigate for habitat losses which would result from implementation of the Project. The Habitat Replacement Site lies on private land along the Uncompahgre River approximately 5 miles southwest of the City of Delta.

In accordance with NEPA and the Council on 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 NDIC to pipe the North Delta Canal. 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.

1.4 Alternatives Considered but Not Carried Forward

Several alternatives were considered during the conceptual design process for the Project but were not proposed to Reclamation by NDIC because they were determined to be technically challenging, economically prohibitive, and potentially more destructive to existing habitat than

the Proposed Alternative. When a project is applicant driven, Reclamation is responsible for analyzing the proposal and does not need to analyze other alternatives which were not proposed.

NDIC recently commissioned a Master Plan to evaluate numerous options for improving the future operations of the North Delta Canal Irrigation System (Applegate 2015). NDIC analyzed alternatives, including lining the canal with an impermeable membrane covered with shotcrete and relocating the main canal diversion downstream on the Gunnison River to eliminate the need to repair the failed tunnel and other aging infrastructure. The lining alternative would have been less expensive than the Proposed Action, but the federal funding opportunity for this alternative was deemed infeasible due to the cost-benefit ratio. Relocation of the main canal diversion would have required operation of a pump station, which was initially deemed feasible in the Master Plan; however, due to unforeseen changes (i.e. changes in power rates and subsequent changes in the design requirements of an associated solar plant), this alternative would have prohibitive construction, operation and maintenance costs.

1.5 Location & Environmental Setting of the Proposed Action Area

The Proposed Action Area lies in the Gunnison River watershed, northeast of the City of Delta, in southcentral Delta County, Colorado (Figure 1).

There are three general physical locations involved in the Proposed Action: the West Project Area, the East Project Area, and the Habitat Replacement Site (Figures 3a, 3b, and 3c):

- The West Project Area ("Section 2") is in Sections 3, 4, and 5, Township 15 South (T15S), Range 95 West (R95W) of the 6th Principal Meridian (6th PM), and Section 32, T14S, R95W, 6th PM. The West Project Area lies on a combination of BLM land and private property. The West Project Area begins where the North Delta Canal daylights from the Tongue Creek inverted siphon and contours west along a bluff north of the Gunnison River to the vicinity of I-60 Road, then continues westerly through adobe badlands in the North Delta Off Highway Vehicle (OHV) Open Area administered by BLM's Uncompahgre Field Office (UFO), terminating west of 1825 Drive on private land (Figure 3a).

- The East Project Area ("Section 4" and a proposed inverted siphon alignment) is in Sections 1, 2, and 3, T15S, R95W, 6th PM (Figure 3b). The East Project Area lies on private land, beginning just west of Austin, and contouring westerly along the bluff north of the Gunnison River bottom to the Cory Grade tunnel east of Tongue Creek (Figure 3b).

- The Habitat Replacement Site is in Sections 7 and 18, T51N, R10W, 6th PM (Figure 3c), and lies on private land. The Habitat Replacement Site encompasses approximately 55 acres near the Uncompahgre River in mostly non-native riparian vegetation.

The Proposed Action lies in the Colorado Plateau physiographic province, and has an arid continental climate characterized by low humidity and moderately low precipitation (averaging about 8 inches annually). The average elevation in the Proposed Action Area is about 5,100 feet above mean sea level. Current uses on these lands and in the vicinity are livestock grazing, irrigated agriculture, rural residential, and off-road motorized recreation.

The North Delta Canal is a privately-owned irrigation conveyance charged by water diverted from the Gunnison River and Tongue Creek, a Gunnison River tributary. A total of approximately 1,669 acres of grass pasture, hay crops, and other crops are watered by the ditch system served by North Delta Canal. The irrigation season is approximately 215 days long. On-farm irrigation is accomplished primarily using ditches, gated pipe, or sprinkler systems. Drainage from the Proposed Action Area eventually returns to the Gunnison River, just south of the Proposed Action Area (Figure 1).

Landcover in the vicinity of the Proposed Action Area consists primarily of semi-desert shrublands, but also features irrigated hay meadows and pastures, and lower montane riparian woodlands and shrublands (Figure 4). 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 with coyote willow, cattails, salt cedar and occasional cottonwoods, and also support stands of common ruderal herbaceous and noxious weeds.

1.6 Relationship to Other Projects

Other salinity control projects in progress or recently implemented in the general vicinity include the following (Figure 2):

- Cattleman's Ditches Pipeline Project Phase I & II (south of the Town of Crawford, in the Alkali Creek, Iron Creek, and Crystal Creek drainages)
- 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 4, Zanni Lateral Pipeline Project, and Center Ditch Pipeline Project (2.5 miles southeast of the Town of Hotchkiss and immediately west of the Town of Crawford 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)

- Fire Mountain Canal Piping Project (near the towns of Paonia and Hotchkiss in the North Fork of the Gunnison River drainage)

- Uncompahgre Valley Water Users Association Project 9 (in the Peach Valley Area between the cities of Delta and Montrose)

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, Grand Junction, 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
- Southern Ute Tribe, Ute Mountain Ute Tribe, and Ute Indian Tribe (Uintah and Ouray Reservation)

Concerns raised during similar projects (see Section 1.5) also helped identify potential concerns for the Proposed Action.

In compliance with NEPA, the Draft EA was available for public comment for a 30-day period (see Section 5). Public comments received on the Draft EA are included as Appendix A. Reclamation provided notice of the availability of the Draft EA to private landowners adjacent to the Proposed Action as well as the organizations and agencies listed in Appendix B.

Resources analyzed in this EA are discussed in Section 3. The following resources were identified as ***not present or not affected***, 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 Proposed Action 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 Ute tribes had no comment on the Proposed Action.

- 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 and Other Waters of the U.S. (not applicable). The Proposed Action would affect surface and shallow subsurface hydrology supplied to wetland and riparian areas in the Proposed Action Area. Written confirmation is being requested from the U.S. Army Corps of Engineers to verify that the Clean Water Act (33 USC 1344) exemption for Farm or Stock Pond or Irrigation Ditch Construction or Maintenance is applicable to the Proposed Action, and that a Clean Water Act Section 404 Permit is not required for habitat replacement activities.

- Wild and 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 provide funding to NDIC to pipe a portion of the North Delta Canal. Irrigation practices and seepage from the canal and associated 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

The specific locations of the Proposed Action Alternative are described in Section 1.3 and shown on Figures 3 (overview), 3a ("West Project Area"), 3b ("East Project Area"), and 3c (Habitat Replacement Site).

Under the Proposed Action Alternative, approximately 6.1 miles of the open, unlined North Delta Canal would be replaced with a total of approximately 4.3 miles of buried gravity-flow irrigation pipe (including an approximately 1.4-mile-long buried inverted siphon). Approximately 2.9 miles of existing canal would be decommissioned and backfilled.

In accordance with the Colorado River Basin Salinity Control Act, habitat replacement would be required to mitigate for riparian and wetland habitat lost as a result of the Proposed Action. The habitat replacement project would occur on private land approximately 5 miles south of the pipeline component of the Proposed Action.

Pipeline Installation and Canal Decommissioning

Photograph 1. East Project Area: typical appearance of the canal where the pipeline would be installed in the canal alignment.

Photograph 2. West Project Area: typical appearance of the part of the canal that would be decommissioned and backfilled.

The piping component of the Proposed Action (Figures 3a and 3b) would originate in the East Project Area near Austin, Colorado, where the canal flows west across private lands between Austin and the canal's tunnel under the Highway 65 Cory Grade. In this segment, the canal is positioned mid-slope on a steep terrace face above the Gunnison River bottom (Figure 3b). The pipe will be placed in the existing canal alignment, except for a short (approximately 300-foot-long) siphon crossing which would bypass a sharp curve along the segment. From the Cory Grade tunnel, the canal water is conveyed in an existing siphon under Tongue Creek, and daylights west of Tongue Creek in the West Project Area (Figure 3a). In the West Project Area, the piping component would resume at the outlet of the Tongue Creek siphon and proceed west in the existing canal on private land, until the inlet of a tunnel on BLM land (Figure 3a). From the tunnel to the project terminus, the buried piping would leave the existing canal alignment and cross through a combination of BLM and private land. This segment is shown as the "proposed siphon alignment" on Figure 3a. This new main siphon would bypass nearly 3 miles of existing canal lying mostly on BLM lands. The terminus of the project would meet the existing North Delta Canal at a point approximately 1,000 feet beyond where the existing canal leaves BLM land in the West Project Area (Figure 3a).

Pipe diameters would range from approximately 60 inches for the gravity-flow pipe to 42 inches for the main inverted siphon. Pipe materials would include steel-reinforced polyethylene or polypropylene HP storm pipe. The inverted siphons would be constructed of high-density

polyethylene (HDPE) fusion welded pipe. Table 1 summarizes the lengths of the proposed piping components, with a breakdown of components on BLM land vs. private land.

Table 1. Summary of Piping Components for the Proposed Action

Component	Total Approx. Length	Approx. Length on BLM Land	Approx. Length on Private Land
Existing irrigation ditches	6.1 mi	3.0 mi	3.1 mi
Pipe to be buried in existing ditch alignments	2.8 mi	0.1 mi	2.7 mi
Pipe to be buried outside existing ditch alignments	1.5 mi	1.2 mi	0.3 mi
Total amount of buried pipe to be installed	4.3 mi	1.3 mi	3.0 mi
Abandoned ditch alignments to be decommissioned by backfilling (including culverts)	2.9 mi	2.7 mi	0.2 mi

No pumping or compressor stations or water storage facilities would be associated with the Proposed Action. Installation of the pipeline in the canal alignment involves using trackhoes and possibly a bulldozer to grub vegetation and fill and bed the existing canal. An excavator would then trench in the prepared bed to place the pipe. Pipeline installation in the tunnel on BLM land would first require grading and compaction of the tunnel floor. Pipe sections would be fused outside the tunnel and then pulled through the tunnel in one continuous piece. After the pipe is in place in the tunnel, the annulus space between the tunnel wall and the pipe would be grouted to permanently secure the pipe. The ground surface on top of the tunnel would not be disturbed during this process. Installation of the siphon outside the existing canal alignment would be a simple trenching and pipe-laying operation, except at drainage crossings where low earthen embankment-fill spans would be constructed. An embankment-fill span is an earthen span supporting the pipeline across a drainage at the necessary elevation. An appropriately-sized culvert would be installed through the fill embankment to allow for intermittent or seasonal normal and expected high flows of the drainage through the embankment. Excavation of the pipe trench and positioning the pipe in the trench would be performed with trackhoes. A heat fusion machine will be used to join sections of HDPE siphon pipe. Decommissioned canal reaches would be filled and smoothed with trackhoes to match the surrounding land

Photograph 3. West Project Area: typical appearance of the area that would be crossed by the main siphon.

contours and restore drainage patterns. Front end loaders with pallet forks would likely be used to handle pipe in the staging areas. Fill and borrow material would be transported in tandem dump trucks loaded with a trackhoe or loader. Pipe arriving at the staging areas would be transported on 50-foot flatbed trucks.

Several construction staging areas have been identified for the Proposed Action (Figures 3a and 3b). All staging will take place on previously disturbed ground. Borrow material would be generated within the construction footprint, including the abandoned section of canal. Any excess fill will be placed in the abandoned canal sections. If additional borrow material is needed, it would be obtained from a commercial source.

The existing canal alignment is in prescriptive easements on private and BLM lands. All private landowners in the footprint of the Proposed Action where activities would take place outside the prescriptive easement have agreed to allow the activities of the Proposed Action to be conducted on their lands. NDIC is requesting temporary and permanent rights-of-way on BLM lands for construction, construction access, and for ongoing routine maintenance of the Proposed Action. The permanent rights-of-way would be 20 feet wide, and the temporary (construction) rights-of-way would be 30 to 50 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. Dedicated easements for sections of realigned canal will be recorded in Delta County when the surveyed pipe alignments and agreements are completed.

Construction and access footprints would be limited to only those necessary to safely implement the Proposed Action. All access ways for construction of the Proposed Action would be on county roads, existing private roads, or on previously disturbed routes on BLM land (Figures 3a, 3b, and 3c). Some accessways on previously disturbed routes on BLM would require some minor grading and smoothing to provide for truck travel to the project alignment.

Restoration activities would occur on all surface disturbances caused by construction of 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 seeded with drought-tolerant seed mixes approved by Reclamation and BLM, appropriate for the surrounding native vegetation, and monitored subject to BLM stipulations and agreements between NDIC and individual land owners.

Noxious weeds would be controlled in disturbed areas according to right-of-way stipulations and Delta County standards (Delta County 2010). Woody noxious weeds within the Proposed Action Area would be mechanically removed during construction. After construction, NDIC would control herbaceous noxious weeds as necessary for the life of the project through the use of herbicides mixed with surfactants. NDIC would coordinate with BLM on the use of any herbicides on lands managed by the BLM, and would obtain Pesticide Use Proposals (PUPs) prior to treatments.

Best Management Practices (BMPs) would be used to control erosion, minimize harm to wildlife, and minimize the spread of noxious weeds during and following construction. BMPs and other protective measures are incorporated as part of the Proposed Action, are described and analyzed as part of the Proposed Action in Section 3 (Affected Environment & Environmental Consequences) under each resource topic, and are summarized in Section 4 (Environmental Commitments).

The piping component of the Proposed Action would occur incrementally across the Proposed Action Area during the irrigation off-season (approximately November through March). The proposed siphon outside the existing canal alignment in the West Project Area could be installed at any time of year. Decommissioning and backfilling of the segment of canal to be abandoned would be performed after proper operation of the siphon has been verified. The timing of certain activities related to the Proposed Action would be subject to limitations to protect special status species and their habitats. These timing limitations are explained in Section 3.9 and listed in the Environmental Commitments in Section (Section 4).

Habitat Replacement

The habitat replacement project would occur on 55 acres ("Habitat Replacement Site") of the Welfelt property (Figure 3c), a private parcel encumbered by a perpetual conservation easement held by Colorado West Land Trust. The Habitat Replacement Site is a former agricultural field adjacent to the Uncompahgre River with a preponderance of non-native vegetation.

Habitat value lost due to the canal piping project will be offset at the Habitat Replacement Site in accordance with a Habitat Replacement Plan (Zeman 2018). The plan would enhance the wildlife values of the parcel by planting six shelterbelts of young native riparian trees and shrubs in areas of monocultural grasses; and by controlling and removing noxious weeds, including areas of Russian olive and tamarisk near the river. Russian olive and tamarisk removal areas would also receive plantings of native trees and shrubs. Implementation of the Habitat Replacement Plan would result in a healthier riparian corridor along the Uncompahgre River and a mosaic of wooded areas and meadows which would be attractive to a variety of wildlife.

Native shrubs and small trees would be planted by hand or with the assistance of a small tractor. An irrigation system would be installed to provide water to the new shelterbelts by redirecting overflow from existing upgradient spring-fed ponds on the property.

Russian olive and tamarisk removal would be accomplished with heavy equipment or by hand with chainsaws and brushcutters. Vegetation slash (i.e., non-native trees and shrubs removed from the site) would be produced by the Proposed Action. Slash would be chipped and shredded onsite and used on access paths in upland areas around the Habitat Replacement Site.

The timing of the work at the Habitat Replacement Site would correspond with the most effective and appropriate times for seedings, plantings, weed control, irrigation, and other site maintenance, with the following exception: Removal of non-native trees or shrubs would be avoided during the migratory bird nesting season (including the nesting season for western yellow-billed cuckoo). Access to the area would be via two existing routes within the private land that would be rerouted to facilitate the construction and maintenance of the irrigation system and plantings. Up to three culverts would be installed to allow access over irrigation ditches.

The Habitat Replacement Plan (Zeman 2018) would be implemented in accordance with the environmental commitments listed in Section 4. BMPs would be used to control erosion, minimize harm to wildlife, prevent spills of petroleum products, and minimize the spread of weeds during site plantings and maintenance (see Section 4). NDIC would be responsible for maintenance of the Habitat Replacement Site for 50 years after its establishment.

Permits & Authorizations

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

- BLM Right-of-Way Permit, application in progress by NDIC.
- Right-of-Way approvals from private landowners outside the prescriptive easement of the canal with land involved in the Proposed Action, obtained by the NDIC.
- Stormwater Management Plan, to be submitted to Colorado Department of Public Health & Environment (CDPHE) by the construction contractor prior to construction disturbance.
- CWA Section 402 Storm Water Discharge Permit compliant with the National Pollutant Discharge Elimination System (NPDES), to be obtained from CDPHE by the construction contractor prior to construction disturbance (regardless of whether dewatering would take place during construction).
- Spill Prevention, Control, and Countermeasures (SPCC) Plan, to prepared in advance of construction by the contractor for areas of work where spilled contaminants could flow into water bodies.
- Utility clearances, to be obtained by the construction contractor prior to construction activities from Delta Montrose Electric Association and any other local utility in the area.

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 NDIC, 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. BMPs or other mitigative or protective measures described below are considered part of the Proposed Action and are taken into consideration when predicting environmental consequences. A summary of impacts/environmental consequences of the Proposed Action is included at the end of this section.

3.1 Water Rights & Use

The Gunnison River basin encompasses approximately 8,000 square miles. 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 2017).

NDIC currently operates two river diversions to supply the system. The main headgate is located on the Gunnison River and the other is located on Tongue Creek. Water rights held by NDIC allow for diversion rates of 49.675 cubic feet per second (cfs) from the Gunnison River

and 30 cfs from Tongue Creek but the combined amount between the two points cannot exceed 49.675 cfs. The full decree is typically not available during drought years and flows are significantly reduced during times of high demand from shareholders (Applegate 2015).

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, NDIC 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 water storage or the irrigation of new lands. The Habitat Replacement Site was formerly an agricultural field that was irrigated in the past and is currently partially irrigated with existing water rights. Therefore, no direct adverse effects on water rights in the Gunnison or Colorado River Basins would occur due to implementation of the Proposed Action.

3.2 Water Quality

The Proposed Action is in the watershed of the Gunnison River, a major tributary of the Colorado River in west-central Colorado. 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 slightly 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.

Figure 5 shows the hydrologic units in the vicinity of the Proposed Action. The Proposed Action Area is located within 4 hydrologic units of the Gunnison River watershed: the Dry Gulch-Gunnison River unit - Hydrologic Unit Code [HUC] 140200050114; the Negro Creek-Tongue Creek unit – HUC 140200050112; the unnamed unit - HUC 14020 050113; and the Uncompahgre River Outlet unit - HUC 140200060606.

Official designated uses for these Gunnison River units include coldwater aquatic habitat class I (currently capable of sustaining a variety of coldwater biota), recreation class E (existing primary contact use), water supply, and agriculture.

Currently, Tongue Creek is on the CDPHE's list of water quality impaired waters in the State of Colorado (CDPHE 2018) due to its failure to meet dissolved selenium, iron, and sulfate standards. The Uncompahgre River in the vicinity of the Habitat Replacement Site is a listed impaired water due to its failure to meet sediment, arsenic, and dissolved manganese standards. The mainstem of the Gunnison River downstream from Highway 65 in the Proposed Action Area vicinity is also a listed impaired water due to its failure to meet sediment, *E. coli*, iron, dissolved manganese, and sulfate standards. Neither the Uncompahgre nor the Gunnison River units in the vicinity of the Proposed Action meet selenium standards, but they do not currently have Total Maximum Daily Load (TMDL) requirements under the Water Quality Control Commission (CDPHE 2018). The Gunnison Basin Selenium Management Program, a

private/public partnership of concerned parties and stakeholders, is working to identify and implement solutions to reduce selenium concentrations in the basin (SMPW 2011).

No Action: Under the No Action Alternative, the estimated 4,383 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 4,383 tons per year, at a cost-effectiveness value of approximately $52.92 per ton (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 Gunnison River, a listed impaired stream. Maintenance or improvement of water quality in the Gunnison River would be of significant importance to users.

In the short-term, construction activities in waterbodies have the potential to mobilize sediments. Burial of irrigation pipe in existing ditch alignments would occur during the irrigation off-season (while no water is flowing in the ditches). 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. An exemption from Section 404 the Clean Water Act applies to the Proposed Action and is being verified in writing by the U.S. Army Corps of Engineers (to be included in Appendix C of the Final EA); 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 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. Delta County is in attainment for all criteria pollutants (EPA 2018).

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 Proposed Action 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 vicinity of the Proposed Action is Colorado State Highway 92 (Figures 3 through 3c), which runs east-west in the Gunnison River valley between the City of Delta and the community of Austin. Local county roads such as Trap Club Road, 1825 Drive, County Road I-60, Fairview Road, Iris Road, Marshalls Road, and Long Road, would provide access to the Proposed Action Area (Figures 3a and 3b). The Habitat Replacement Site would be accessed from D25 Road off U.S. Route 50 (Figure 3c). Private roads and county roads generally provide access and mobility for residents traveling in and out of the East Project Area (Figure 3b) and county roads provide access to recreationists and other users of BLM lands in the West Project Area (Figure 3a). There is an existing BLM Right of Way (ROW) held by a third party on the proposed access way off Fairview Road. The Delta County Sheriff, the Delta County Ambulance District, and the Delta County Fire Protection District 1 cover the Proposed Action Area.

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 Proposed Action Area. A Right of Way Permit is being sought from BLM for Proposed Action activities on BLM land outside of the established ditch corridor. The draft legal description of the BLM ROW permit along with the draft permit stipulations are provided in Appendix D. 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. If construction activities would impact the holder of the ROW off Fairview Road's ability to access private property between the proposed pipeline and the river, NDIC would notify the ROW holder of this impact in advance. There are no known bridges with weight restrictions that would be used by construction vehicles. Implementation of the Proposed Action may cause brief delays along public (county) roadways adjacent to the Proposed Action Area from construction vehicles entering and exiting the local roadways.

3.5 Recreational & Visual Resources

Public lands involved in the Proposed Action are lands administered by BLM in the West Project Area (Figure 3a). These BLM lands fall into the North Delta Off Highway Vehicle (OHV) Open Area, and lie within the "North Delta OHV" Scenic Level Rating Unit described in BLM's 2009 Visual Resource Inventory (Otak 2009).

The North Delta OHV Open Area encompasses 8,560 acres of mostly Mancos shale badlands approximately 6 miles north of the City of Delta. It receives heavy OHV use in spring, summer, and fall by local and regional OHV enthusiasts (BLM 2016a). The Mancos shale badlands of the West Project Area contain established trails and heavily tracked and traveled areas by off-highway vehicles, as well as small trash piles and abandoned debris.

Photograph 4. North Delta OHV Open Area in the vicinity of the proposed main siphon alignment.

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. 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. BLM's 2009 Visual Resource Inventory (Otak 2009) assigns a Class IV Scenic Level Rating to the North Delta OHV. These lands are visible and accessible from several county roads and receive relatively heavy OHV use. The landscape is characterized as "flat landscape with numerous rounded, pyramid-shaped buttes; low, flat mesas, valleys, and drainages" with "rounded clumps" and "linear alignments" of vegetation along drainages, with overall low, scattered groundcover. In the North Delta OHV area, "roads and OHV trials create the impression of a substantial human imprint on the landscape" (Otak 2009).

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 could temporarily disrupt OHV recreation activities in the North Delta OHV Open Area in the immediate West Project Area. However, the West Project Area is located in the southern end of the North Delta OHV Open Area, and would incrementally impact a relatively small portion of the acreage available for OHV travel. Pipe trenches left open while unattended (e.g. overnight) could pose a hazard to OHV recreators. During construction, unattended pipeline trenches would be covered to reduce the potential for public safety problems. Upon completion of the Proposed Action, there would be no further impact to recreation. Overall, the long-term level of change to the visual characteristics of the landscape in and around the Proposed Action Area during and following construction would be low to moderate, and not out of character with the surrounding landforms, or with the rural and OHV-recreational character of the vicinity. The visual change would be compatible with Class IV area management guidance.

3.6 Livestock Grazing

The BLM lands within the Proposed Action Area fall within the approximately 17,000-acre Ward Creek–Doughspoon Grazing Allotment (BLM 2016b). This allotment supports spring and fall cattle grazing, with grazing periods in May/June and September/October. The Ward Creek-Doughspoon grazing allotment lies within BLM's North Delta Land Health Unit, where BLM estimates that 22 percent of the lands do not meet the vegetation land health standard (BLM 2016b). The grazing allotment includes salt desert and stony salt desert ecological types with their characteristic sparse vegetative growth and fragile soils. In the area of the Proposed Action, the vegetative communities offer relatively poor grazing opportunities, due to sparse cool season grass cover, low perennial forb cover, and presence of exotic invasive plants.

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

Proposed Action: Under the Proposed Action, temporary disturbance to grazing rangelands within the Ward Creek–Doughspoon Grazing Allotment on BLM land in the West Project Area would occur during construction. Surface disturbances would be reclaimed as explained in other sections of this EA.

Livestock grazing in the allotment could be temporarily affected by construction; however, the quality of the grazing range in the West Project Area is poor and represents less than 5 percent of the overall grazing allotment. The allotment permittee would be notified of activities under the Proposed Action. During construction, pipeline trenches left open overnight would be kept to a minimum and covered to reduce potential for entrainment of big game or livestock 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.

No BLM lands currently capable of being grazed in the West Project Area 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 Proposed Action Area by filling and vegetating the ditch prisms.

3.7 Vegetative Resources & Weeds

Figure 4 shows the general landcover types in the Proposed Action Area. In the East and West Project Areas, these include primarily low semi-desert shrublands dominated by shadscale, mat saltbush, or Gardner saltbush. The East Project Area has primarily stony steep ground in semi-desert shrublands, whereas the West Project Area has primarily "adobe badland" variable terrain in semi-desert shrublands.

Water flowing in the existing irrigation canal has created narrow corridors of riparian and wetland habitat along the canal itself and in drainage patterns downgradient of the canal. These areas are vegetated with coyote willow, cattails, and an occasional mature cottonwood, but also with common ruderal weeds and noxious weeds. The prevalent noxious weeds are whitetop, Russian knapweed, Canada thistle, tamarisk (salt cedar) and Russian olive. 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."

Flowing water in the canal is a vector for the continued spread of weeds. Vehicles, people, livestock, and wildlife traveling on the ditch access roads can also help weeds spread along ditch alignments.

The Habitat Replacement Site is a formerly irrigated pasture containing pasture grasses and reed canarygrass with a wooded area dominated by Russian olive along the Uncompahgre River.

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

Proposed Action: Construction activities would directly disturb upland semi-desert shrublands and habitat in the Proposed Action Area. Semi-desert shrublands disturbed by construction and backfilled canal areas. These areas would be recontoured and reseeded with BLM/Reclamation-approved drought-tolerant seed mixes appropriate for the habitat. Dust from operating equipment and vehicles could also affect vegetation in the area.

The Proposed Action would result in the permanent loss of riparian and wetland vegetation associated with the open canal and downgradient seepage from the canal. A habitat evaluation was performed for the Proposed Action Area to quantify potential wetland and riparian habitat values that would be lost due to implementation of the Proposed Action (Bio-Logic 2016). The evaluation followed methodology outlined in Reclamation's May 2013 *Basinwide Salinity Control Program: Procedures for Habitat Replacement*. In accordance with the evaluation method, a Total Habitat Value (THV) is calculated for each affected wetland or riparian habitat area by multiplying its acreage by its habitat quality score (HQS), which is assigned based on a series of 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 that would be affected due to Proposed Action is the sum of the THVs across the Proposed Action Area is 171.23 (Bio-Logic 2016).

To compensate for the loss of 171.23 total habitat value units that would be caused by implementation of the Proposed Action, NDIC would implement a Habitat Replacement Plan (Zeman 2018) in the Uncompahgre River corridor, approximately 5 miles south of the pipeline component of the Proposed Action (Figures 3 and 3c).

Construction of the Proposed Action, including the Habitat Replacement Site, would follow BMPs to minimize the construction footprint, protect water quality, and minimize dust and soil erosion. Revegetation would be implemented according to BLM right-of-way stipulations and Delta County standards (Delta County 2010).

Curtailing the spread of noxious weeds is of primary concern to BLM and NDIC. Construction footprints in certain areas, such as the main siphon alignment, will extend into previously undisturbed ground, creating conditions for weeds to spread.

Construction BMPs (such as cleaning vehicles and equipment prior to bringing them onsite) would help minimize the risk of such infestations, and ongoing weed management efforts by NDIC would be implemented during revegetation of construction alignments.

In the long-term, piping the canal would remove an important vector of weed seed transport—open water. In the West Project Area where part of the canal would be decommissioned and backfilled, the need for a maintained canal access road would also be eliminated, lowering the potential for the continued spread of weeds. Downgradient seeps from the canal that currently support herbaceous noxious weeds would be dried and the ability of the environment to support these weeds would be diminished.

3.8 Wildlife Resources

In the Proposed Action Area, the canal provides ribbons of riparian and wetland habitat within a matrix of native upland semi-desert vegetation (Section 3.7). Vegetation and water resources supported by the canal, in association with nearby irrigated land, and riparian woodlands in the Gunnison River corridor to the south, provide nesting, breeding, foraging, cover, and movement corridors for an array of wildlife. Note: special status species are discussed in Section 3.9.

Colorado Parks & Wildlife (CPW) describes the East Project Area, the east part of the West Project, and the Habitat Replacement Site as within mule deer concentration areas, resident population areas, and winter range (Figure 7). The East Project Area and east part of the West Project Area are also within a mule deer winter concentration area (Figure 7). The west part of the West Project Area is a mule deer limited use area (Figure 7). The Proposed Action Area also falls within overall range of pronghorn, black bear, and mountain lion (CPW 2017).

A variety of small mammals, reptiles, and amphibians also inhabit the general area. Those that would be likely to use the canal or adjacent areas include ground-dwelling rodents, such as white-tailed prairie dog, several species of mice, voles, shrews, and cottontail rabbit. Also common in the area are striped skunk, raccoon, red fox, coyote, badger, bobcat, western terrestrial garter snake, smooth green snake, Woodhouse’s toad, and tiger salamander.

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 Proposed Action Area. Impacts to big game would include short-term disturbances and periodic displacement while construction is underway. Long-term, the Proposed Action would remove a source of big game drinking water from the area by decommissioning the canal. However, other wildlife drinking water resources are readily available throughout the Proposed Action Area (Tongue Creek, Gunnison River).

Although part of the Proposed Action Area lies in mule deer resident and winter concentration areas, the important components of the concentration areas are the irrigated meadows, interspersed tall shrublands and creek corridors, and the Gunnison River corridor, rather than the sparsely vegetated semi-desert shrublands directly involved with the Proposed Action. Mule deer near the construction activity would have

the ability to move to more suitable areas. During construction, pipeline trenches left open overnight would be kept to a minimum and covered to reduce potential for entrainment of big game or livestock 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.

Direct impacts to small animals, especially burrowing amphibians, reptiles, and small mammals, could include direct mortality and displacement during construction activities, both in the irrigated pasture areas and the exiting ditch alignment. However, these species and habitats are relatively common throughout the area and population-level impacts would not be likely; therefore, impacts would be minor.

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. In compliance with the Colorado River Basin Salinity Control Act, the wetland and riparian habitat value that would be lost due to implementation of the Proposed Action would be mitigated with a nearby Reclamation-approved Habitat Replacement Site (Zeman 2018) to be created and maintained by NDIC.

Improved water quality would likely benefit downstream aquatic species in the region (amphibians, birds, and fish) by reducing salt and selenium loading in the Gunnison and Colorado river basins.

3.9 Special Status Species

Migratory Birds & Raptors

Migratory birds protected under the Migratory Bird Treaty Act (MBTA) find nesting and/or migratory habitat in the Proposed Action Area. Under the MBTA, it is illegal to take, possess, import, export, transport, sell, purchase, or barter any migratory bird, bird parts, nests, or eggs of such birds except by permit. According to a list generated using the U.S. Fish & Wildlife Service's (FWS') Environmental Conservation Online System Information for Planning and Conservation (IPaC) for the Project Area, migratory songbirds of conservation concern protected under the Migratory Bird Treaty Act that could potentially find habitat in the Proposed Action Area and the immediate vicinity include the following: bald eagle (breeding and wintering), golden eagle (year-round), Brewer's sparrow (breeding), Lewis's woodpecker (year-round), and Virginia's warbler (breeding). Destruction of vegetation that harbors active bird nests during nesting season can result in direct loss (i.e., "take") of eggs or young, or cause adult birds to abandon eggs. The primary nesting season for migratory songbirds in the Proposed Action Area is April 1 through July 15.

Common migratory raptors with a high potential to occur in the Proposed Action Area include red-tailed hawk (nesting, foraging, wintering, migrating), great-horned owl (nesting, foraging, wintering, migrating), long-eared owl (nesting, migrating), and American kestrel (year-round). These and other less common but potentially present migratory raptors, including burrowing owl (breeding), ferruginous hawk (wintering), prairie falcon (year-round), and Swainson's hawk (breeding), are protected by the MBTA.

In addition, bald eagles and golden eagles are protected by the Bald and Golden Eagle Protection Act of 1940. The Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any

manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." “Disturb” means to agitate or bother a bald or golden eagle to a degree that it causes injury or interferes with normal breeding, feeding, or sheltering behavior.

Bald eagles shelter in communal roost sites, consisting of trees or other tall structures where they gather regularly during the course of a season and shelter overnight or during inclement weather. Documented bald eagle roost sites are more than 1.75 miles from any part of the Proposed Action Area (Figure 6). CPW maps the entire Proposed Action Area within bald eagle winter range and winter foraging range, and parts of the Proposed Action within a bald eagle winter concentration area (Figure 6). Bald eagles and other raptors are common hunters during winter on the local mesas around the Proposed Action, especially on open and agricultural ground where prairie dogs and other burrowing rodents provide prey.

The core nesting season for raptors (hawks, falcons, and owls) in the area is April 1 through July 15; however, individuals may begin courtship and nest construction as early as February. Bald eagles nest during the period between October 15 and July 31, golden eagles nest between December 15 and July 15, and red-tailed hawks can initiate nesting as early as February 15 (CPW 2008). The most common raptors in the area (red-tailed hawks) typically choose tall cottonwood trees for nest sites, with the exception of golden eagles, which typically choose cliffs, and burrowing owls, which occupy prairie dog dens. Tree-nesting raptors construct substantial stick nests, and generally return to the same nest location annually.

Nesting birds noted near the Proposed Action Area during biological surveys in spring of 2016 and 2017 include one active common raven nest in a cottonwood 400 feet west of the outlet of the main canal tunnel on BLM land; a great-blue heron rookery (several active nests) in the wooded Gunnison River corridor about 0.2 mile south of the West Project Area, in cottonwoods near the north bank of the Gunnison River between Highway 65 and the Tri-State transmission lines; an active red-tailed hawk nest about 0.12 miles south of the east part of the West Project Area in the wooded corridor between the Gunnison River and Tongue Creek; an active red-tailed hawk nest 0.2 miles southeast of the origin of the project origin in the East Project Area; and an active American kestrel nest in the West Project Area near the west end of the canal segment to be decommissioned and backfilled. A potential bald eagle nest is approximately 0.25 miles south of the East Project Area. In 2017, local wildlife biologist Jim Le Fevre documented a pair of bald eagles constructing a new nest in a cottonwood tree on the south bank of the Gunnison River. No eggs were laid in the nest (Le Fevre pers. comm.). This nest may represent an “alternate nest” location. In addition to an active nest, a bald eagle territory may include one or more alternate nests (nests built or maintained by the eagles but not used for nesting in a given year). The nest tree is approximately 800 feet north of the railroad and State Highway 92 alignment and 900 feet north of a residence. Directly to the southwest is an actively cultivated agricultural field. Between the nest and the closest part of the East Project Area are the Gunnison River, the wooded corridor of the Gunnison River, and irrigated hay ground. An additional active bald eagle nest nest is mapped by CPW more than 3 miles from any part of the Proposed Action near the Gunnison River west of Delta (Figure 6).

Suitable nest sites (cliffs) for golden eagles do not exist in or near the Proposed Action Area. Burrowing owls have not been documented in the North Delta area (Ken Holsinger, BLM, pers. comm.) and their preferred nesting habitat of extensive prairie dog colonies are not present in the Proposed Action Area. A few tall cottonwoods suitable for tree-nesting raptors exist along the canal and the Gunnison and Uncompahgre river corridors. Like migratory songbirds, raptors disturbed during nesting may abandon their eggs or be less successful at feeding their young. A

baseline level of disturbance in the area to migratory birds and raptors occurs from recreational, residential and farming activities, nearby gravel pit operations, and from vehicles traveling along nearby public roads.

No Action: In the absence of the Proposed Action, migratory songbird and raptor nesting and foraging habitat would remain in its current condition, and no temporary displacement of migratory birds or raptors would occur. Salinity and selenium loading in the Colorado River Basin would continue at current rates, which will continue to affect water quality within the drainage, potentially affecting the wildlife using the area.

Proposed Action: Direct impacts to migratory songbirds and raptors would include minor short-term disturbance and displacement from the Proposed Action Area from construction activities. Wintering and migrating songbirds and raptors are not expected to experience measurable short- or long-term affects due to construction disturbance or displacement because adult birds have the flexibility to move away from disturbances to other suitable areas. Wintering foraging and migrating habitat for songbirds and raptors around the valley and in the vicinity of the Proposed Action Area is extensive, and foraging habitat is not unique or exceptional in the Proposed Action Area compared to surrounding areas.

There would be no direct effect to breeding songbirds since pre-construction vegetation grubbing would occur outside the primary nesting season (potential nesting habitat including scattered shrubs and a few trees lining the ditch would be grubbed and removed outside the period of April 1 through July 15). The long-term loss of potential songbird nesting habitat would be mitigated by a habitat replacement project. In compliance with the Colorado River Basin Salinity Control Act, the wetland and riparian habitat value that would be lost due to implementation of the Proposed Action would be mitigated with the nearby Reclamation-approved Habitat Replacement Site. Some direct loss of potential raptor nesting habitat (tall trees) would occur as a result of the Proposed Action.

Project activities taking place outside the recommended buffer distances and seasonal restrictions for Colorado raptors (CPW 2008) would have no measurable effects on raptors. The active red-tailed hawk nests near the East and West Proposed Action Areas lie inside the CPW-recommended buffer zone for the species (1/3 mile). The nest southeast of the east end of the East Project Area is situated opposite the railroad tracks and State Highway 92 from the project area, and would be well-shielded from project activities by intervening woodlands. The red-tailed hawk nest near the West Project Area is located approximately 0.12 miles south. To avoid disturbance to this nest, pipeline construction activities would either avoid red-tailed hawk nesting season (February 15 through July 15), or pipeline construction within 1/3 mile of the nest could begin prior to February 15, so long as the construction activities were initiated prior to February 15, and operated on a daily basis until completion (it is assumed that red-tailed hawks that initiate nesting during ongoing construction activities are tolerant to such activities). Project work areas affected by the nesting red-tailed hawk timing restriction would be clearly marked on construction drawings.

Documented bald eagle winter roosts lie more than 1.75 miles from any part of the Proposed Action (Figure 6). This distance lies outside the recommended buffer distance of ¼ mile for a bald eagle roost from human disturbance (CPW 2008) and is therefore not likely to be affected by the Proposed Action.

A potential active bald eagle nest (newly constructed in 2017) lies ¼ mile south of the East Project Area (Figure 6). This distance conforms with the recommended year-round buffer distance of ¼ mile of "no surface occupancy" for a bald eagle nest (CPW 2008). Surface occupancy is "any physical object that is intended to remain on the landscape permanently or for a significant amount of time, including houses, oil wells, tanks, wind turbines, roads, etc." (CPW 2008). The nest lies within the recommended October 15 through July 31 buffer distance of ½ mile for "no human encroachment" on a bald eagle nest. Human encroachment means "any activity that brings humans in the area; examples including driving, facilities maintenance, boating, trail access, etc." (CPW 2008). Project work would be taking place in the East Project Area as close as ¼ mile from the nest during mid-October through March, when the eagles could potentially be in a nest building period (November through February), an egg-laying and incubation period (February through April), or a hatching and rearing period (March through June; FWS 2007). Given that the potential new bald eagle nest is located in an area with year-round surface occupancy and human encroachment well within the recommended buffer distances (State Highway 92, the railroad tracks, a nearby residence, and adjacent actively farmed land), it is assumed that the baseline level of activity in the nest vicinity would be tolerable to the pair. Additionally, the Gunnison River and a 1,000-foot wide riparian woodland screen lies between the nearest part of the East Project Area and the nest. For these reasons, it is predicted that the Proposed Action would not have a measurable effect on bald eagles.

If a new active red-tailed hawk nest is discovered within 1/3 mile of the Proposed Action during or prior to construction, or bald eagle roost site or nest site is discovered within ¼ mile of the Proposed Action prior or during construction, construction would cease until Reclamation could complete evaluations and consultations with FWS and CPW.

There are no CPW-recommended buffer zones for kestrel nests (CPW 2008); the kestrel nest in the West Project Area would be destroyed by vegetation grubbing outside the primary nesting season of April 1 through July 15—during a time when the nest is not actively occupied. The common raven nest tree would not be directly impacted by the Proposed Action (it lies outside the canal corridor.

There would be no impact to the great blue heron rookery located about 0.2 miles south of the east part of the West Project Area. Project activities in that part of the West Project area would take place during the winter months.

Threatened & Endangered Species & Their Critical Habitats

The Endangered Species Act (ESA) of 1973 protects federally listed endangered, threatened and candidate plant and animal species and their critical habitats. A threatened and endangered species inventory (Rare Earth 2018) was completed for the Proposed Action Area, and will be used by Reclamation as a background document for an ESA Section 7 consultation with FWS.

Table 2 presents the federally-listed species that may occur within or near the Proposed Action Area according to the U.S. Fish & Wildlife Service's (FWS') Environmental Conservation Online System Information for Planning and Conservation (IPaC) and summarizes habitat requirements and status of each species in the Proposed Action Area. Unless otherwise specified, all information related to the species below was obtained from resources available on FWS's Environmental Conservation Online System (ecos.fws.gov).

Table 2. 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?
BIRDS				
Yellow-billed cuckoo *Coccyzus americanus*	Threatened	Breeds in low elevation river corridors with extensive mature cottonwood galleries; there has been a cuckoo detection near the Tongue Creek / Gunnison River confluence within the past 5 years and several detections in the past decade in the North Fork of the Gunnison River Valley (13 miles east of the Proposed Action). Habitat in the immediate Proposed Action Area is not suitable for nesting. Proposed critical habitat is mapped across the Habitat Replacement Site.	**Yes**	Peripheral habitat in pipeline area; **proposed critical habitat in Habitat Replacement Site**
FISHES				
Greenback cutthroat trout *Oncorhynchus clarkia stomias*	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 Proposed Action Area. Populations have been documented on surrounding national forests at high elevations upgradient from the Proposed Action (Dare et al. 2011).	No	No
Bonytail *Gila elegans* Colorado pikeminnow *Ptychocheilus lucius* Humpback chub *Gila cypha* Razorback sucker *Xyrauchen texanus*	Endangered	Although no habitat is present within the Proposed Action Area for these four species, downstream designated critical habitat on the Colorado & Gunnison Rivers is affected by consumptive use (basin depletions) of water for agricultural irrigation.	No	**No, but critical habitat is down-stream**

Common Name	Status	Habitat Requirement Summary	Range in Project Area?	Habitat in Project Area?
MAMMALS				
North American wolverine *Gulo gulo luscus*	Proposed Threatened	Wolverines do not specialize on vegetation or geological aspects of habitat, but instead select areas that are cold enough to reliably maintain deep persistent snow during winter and late into the warm season, namely boreal, alpine, and arctic regions. Therefore, in the southern portion of the species' range (i.e., western Colorado) where ambient temperatures are warmest, wolverine distribution is restricted to high elevations. Deep, persistent, and reliable spring snow cover (April 15 to May 14) is the best overall predictor of wolverine occurrence in the contiguous United States.	Peripheral only	No
PLANTS				
Colorado hookless cactus *Sclerocactus glaucus*	Threatened	Known range limited to alluvial river terraces and Mancos Shale formation of the Gunnison River valley from near Delta, Colorado, to southern Mesa County, Colorado; and alluvial river terraces of the Colorado River and in the Plateau and Roan Creek drainages in the vicinity of DeBeque, Colorado. Plant associations include semi-desert shrublands, big sagebrush shrublands, and sagebrush-juniper woodland transition areas. Several occurrences were inventoried in the Proposed Action Area during a biological survey.	**Yes**	**Yes**
Clay-loving wild buckwheat *Eriogonum pelinophilum*	Endangered	Documented occurrences limited to south-central Delta County (north of the Gunnison River) and the eastern part of the Uncompahgre Valley (east of the Uncompahgre River) in Delta and Montrose counties. Prefers a particular soil microhabitat (whitish calcareous clay soils derived from Mancos Shale), occurring with shadscale, mat saltbush, and black sagebrush. No occurrences are documented in the Proposed Action Area and none were detected during a biological survey for the Proposed Action.	No	Potential

No suitable habitat for greenback cutthroat trout is within the Proposed Action area or located downstream (see Table 2). The Proposed Action area lacks suitable habitat for the North American wolverine (see Table 2). Furthermore, there are no viable populations of wolverine in western Colorado.

The Proposed Action Area does not lie within the documented range of clay-loving wild buckwheat but contains potentially suitable habitat for the species. A survey of the West and East Project Areas did not locate any occurrences of clay-loving wild buckwheat. No survey for clay-loving wild buckwheat was conducted at the Habitat Replacement Site due to lack of suitable habitat.

There is no potential for these species to be affected and they are therefore dismissed from further evaluation in this EA.

Western Yellow-Billed Cuckoo

The western yellow-billed cuckoo was listed as threatened in 2014 (79 FR 59992–600038), after several years as a candidate for listing. Critical habitat was proposed for the species on August 15, 2014, at 79 FR 48548–48652, including areas along the Uncompahgre River in the Uncompahgre Valley and around the Uncompahgre and Gunnison River confluence west of Delta (Figure 8). The yellow-billed cuckoo is a secretive 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. Although it was probably never common in western Colorado, the yellow-billed cuckoo is now considered an extremely rare summer resident and nearly extirpated here (Kingery 1998). Only one confirmed nesting occurrence was recorded in western Colorado (the Yampa River near Hayden) during Colorado Breeding Bird Atlas surveys from 1987 through 1994 (Kingery 1998). Up until 2003, only one or two unofficial yellow-billed cuckoo observations, and no nesting reports, occurred annually in western Colorado, mostly from the Uncompahgre River and Grand valleys. Since 2003, cuckoos have been documented nearly annually in the North Fork of the Gunnison River Valley (Beason pers. comm.). The Colorado Breeding Bird Atlas II surveys did not detect records for cuckoo in Delta County outside of the North Fork between the 2007 to 2012 survey periods (Wickersham 2016). 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. FWS established Primary Constituent Elements in the ruling (now called Physical and Biological Features (PBFs)) for cuckoo critical habitat in the proposed rule, based on the current knowledge of the physical or biological features and habitat characteristics required to sustain the species' life-history processes including breeding, and foraging and dispersing. The PBFs include riparian woodlands (PBF 1), adequate prey base (PBF 2), and dynamic riverine processes (PBF 3). Riparian woodlands meeting PBF 1 are mixed willow-cottonwood vegetation that contain habitat for nesting and foraging in contiguous or nearly contiguous patches that are greater than 325 feet (100 m) in width and 200 acres or more in extent. These habitat patches contain one or more nesting groves, which are generally willow-dominated, have above average

canopy closure (greater than 70 percent), and have a cooler, more humid environment than the surrounding riparian and upland habitats. FWS considers cuckoo breeding season in western Colorado to be the period of June through August (Clayton pers. comm.).

The West and East Project Areas of the Proposed Action Area do not contain suitable breeding habitat for yellow-billed cuckoo, and do not fall within yellow-billed cuckoo proposed critical habitat (Figure 7). Although riparian woodlands in the Gunnison River corridor and the Tongue Creek corridor near the East Project Area and the Gunnison River corridor near part of the West Project Area possibly represent adequate nesting or foraging habitat for yellow-billed cuckoo, it is unlikely that cuckoos would use the East or West Project Areas during breeding season due to lack of adequate tree and shrub cover. The Habitat Replacement Site falls within proposed critical habitat for yellow-billed cuckoo. The northeast part of the Habitat Replacement Site (along the Uncompahgre River) may meet the requirements of the PBFs described in the proposed rule, but the overall Habitat Replacement Site lacks the contiguous woodland size, understory and canopy composition, and connectivity to dynamic riverine processes described in the PBFs. Cuckoos may be expected to use the wooded areas near the Uncompahgre River on the Habitat Replacement Site for foraging and possibly for nesting.

Colorado River Endangered Fishes

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 fish 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 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 near the Uncompahgre River confluence, west of the City of Delta. 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 the Gunnison River in the greater Colorado River basin. Water depletion 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 North Delta Canal is approximately 15,000 acre-feet for irrigation of approximately 1,669 acres of hay, grass pastures, and other crops. The resulting water depletion from the Colorado River basin is estimated at 5,972 acre-feet per year. This estimated depletion rate is equivalent to the net annual average total crop consumptive use rate estimated using local evapotranspiration data from the Colorado Agricultural Meteorological Network (CoAgMet). This average annual depletion rate is expected to remain unchanged if the Proposed Action is implemented.

No new depletions would occur as a result of the Proposed Action. NDIC and FWS have entered into a Recovery Agreement (Appendix E) incorporating NDIC'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 NDIC can continue to operate consistently with Section 7 of the ESA. 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).

Colorado Hookless Cactus

Colorado hookless cactus was listed as threatened in 1973 at 44 FR 58868-58870, due to habitat threats and unregulated collection and commercial trade by nurseries and private collectors. No critical habitat has been designated. Colorado hookless cactus is a squat, rounded spiny succulent, usually consisting of a single blue-green stem. The plants are inconspicuous except during their bloom (April and May), when pink flowers develop at the top of the stems. Following the blooming period during dry years, smaller plants can be difficult to locate because the stems may shrink below ground level. In the vicinity of the action area, Colorado hookless cactus is found on river terraces and Mancos Shale formation (adobe hills), especially on stony or gravelly soils. Plant associations include low semi-desert shrubland species such as shadscale, mat saltbush, black sagebrush, and galleta (CNHP 1997+). Several occurrences of Colorado hookless cactus are present on stony areas near the East and West Project Areas (Rare Earth 2018).

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, continuing to affect downstream critical habitat for endangered fishes. Other special status species would remain unaffected.

Proposed Action: A threatened and endangered species inventory (Rare Earth 2018) was completed for the Proposed Action Area and used by Reclamation as a background document for the Section 7 ESA consultation with FWS. The determinations of effect set forth in this EA on listed species and their critical habitats are based on the Section 7 ESA consultation, as follows:

- *Western Yellow-Billed Cuckoo*. The East and West Project Areas of the Proposed Action lie within seasonal peripheral range of the threatened western yellow-billed cuckoo (adjacent or within ¼ mile of the wooded Gunnison River bottom and Tongue Creek), and a portion of the Habitat Replacement Site contains part of a marginally adequate nesting and foraging area for western yellow-billed cuckoo. Foraging or migrating individuals could occur incidentally in the East and West Project Areas; however, foraging or migrating habitat is not suitable in the Proposed Action Area compared to the nearby Gunnison River or Tongue Creek corridors. Furthermore, the timing of the Proposed Action on those portions of the canal adjacent to the wooded bottoms does not coincide with cuckoo breeding season (June 1 through August 30). Foraging and nesting individuals could be present on or near the riparian corridor of the Habitat Replacement Site during breeding or shoulder migration seasons. Non-native tree removal and planting activities in the Habitat Replacement Site would avoid yellow-billed cuckoo breeding season. Based on these findings, the Proposed Action may affect, but is not likely to adversely affect western yellow-billed cuckoo.

- *Western Yellow-Billed Cuckoo Proposed Critical Habitat*. The East and West Project Areas of the Proposed Action Area do not lie within proposed critical habitat (Figure 8) and would have no effect. The Habitat Replacement Site is situated in proposed critical habitat (Figure 8). Activities planned in the Habitat Replacement Site include removal of non-native trees and shrubs and plantings of native trees and shrubs in the Uncompahgre River corridor as well as plantings of native tree and shrub shelterbelts in open areas near the Uncompahgre River corridor. The benefits would include increased cover and forage opportunities for cuckoo, as well as enhancing the PBFs of the habitat on the property and in adjoining areas. Non-native tree and shrub removal and native revegetation activities would avoid cuckoo nesting season, and would be accomplished in a spatial pattern that would be protective of cuckoo foraging habitat and habitat connectivity characteristics. Therefore, these activities will not adversely modify, 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, 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 NDIC system results in an average annual depletion of approximately 5,972 acre-feet from the upper Gunnison River watershed, affecting downstream critical habitat for the endangered Colorado pikeminnow, razorback sucker, humpback chub, and bonytail. Reclamation consulted with FWS on this annual depletion rate, and as a result, NDIC and FWS executed a Recovery Agreement to ensure compliance with the U.S. Endangered Species Act for depletions to the Gunnison River Basin (Appendix E). The annual depletion rate is not expected to change as a result of the Proposed Action. Therefore, the Proposed Action will not destroy or adversely modify the designated critical habitat for the Colorado River endangered fishes.

- *Colorado Hookless Cactus*. The Proposed Action Area lies within range and suitable habitat for the Colorado hookless cactus. A survey of the West and East Project Areas identified Colorado hookless cactus locations. The survey informed the relocation of a staging area and accessway in the east part of the West Project Area, so that construction activities could avoid direct physical harm to all plants. No hookless cactus surveys were conducted at the Habitat Replacement Site due to lack of suitable habitat. Indirect effects to hookless cactus would include an increase in airborne dust during construction and potential disruption of pollinators should project activities occur during the blooming season. High concentrations of dust have detrimental effects on gas exchange and water budgets in plants (e.g., Padgett et al. 2007), and can clog stigmas, which may affect the ability of pollen grains to germinate, penetrate the stylar tissue and fertilize ovules. Dust would be less of a concern during winter months, when the plants are dormant and pollination is not occurring. Also, the spread of invasive plant species or noxious weeds into areas of suitable habitat could be hastened

by construction activities or other forms of surface disturbance. Construction BMPs would minimize potential impacts of indirect effects such as the spread of weeds and dust. The following conservation measures would help protect Colorado hookless cactus: conduct surface-disturbing activities during the hookless cactus dormant season (June through March) and/or use dust abatement measures when warm, dry, dusty conditions are present; use native fill material to diminish new weed introductions to potential habitat; clearly mark cactus areas with barricades and/or stake the construction corridor and travel corridors to keep vehicles and equipment from accidentally traveling near hookless cactus occurrences; hold a pre-construction meeting with the contractor to apprise them of areas to avoid; monitoring of cacti would occur during construction or shortly afterwards; and, follow-up monitoring of known locations would occur a year following construction to evaluate vegetation conditions. Given that the locations of hookless cactus are documented in the Proposed Action Area, and given construction BMPs and conservation measures for hookless cactus, t the Proposed Action may affect, but is not likely to adversely affect, Colorado hookless cactus.

BLM Sensitive Species

The Proposed Action is partially located on BLM lands managed by the 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 by field office or management unit (BLM 2015). The BLM Sensitive Species presented in Table 3 were determined to occur or have the potential to occur within or near the Proposed Action Area. These determinations were developed by reviewing published range maps and habitat requirements of each of the BLM Sensitive Species on the state director's list, and through informal consultation with BLM-UFO Biologist Kenneth Holsinger.

Table 3. BLM Sensitive Species in Southcentral Delta County

Common Name	Habitat Requirement Summary	Habitat/Range on BLM Land in Project Area?
BIRDS		
American peregrine falcon *Falco peregrines*	Uses open country near cliff habitat, often near water. The nearest active CPW-documented peregrine falcon nest site lies more than 14 miles west of the Proposed Action Area on the Gunnison River in the Dominquez-Escalante National Conservation Area (CPW 2018). Other potential habitat exists in the Gunnison Gorge, about 14 direct miles southeast of the Potential Action Area (CPW 2018). May forage for passerine birds in the Proposed Action Area; however, more desirable foraging habitat exists closer to the nest sites.	Foraging only

Common Name	Habitat Requirement Summary	Habitat/Range on BLM Land in Project Area?
Bald eagle *Haliaeetus leucocephalus*	Nests along forested rivers and lakes (an uncommon nester in Colorado); winters in upland areas (common winter resident), often with rivers or lakes nearby. An active nest is documented approximately 0.25 mile south of the Proposed Action Area (Figure 6). Documented communal roosts lie more than 1.75 miles from any part of the Proposed Action (Figure 6). CPW maps the Proposed Action Area and surroundings as winter range, winter forage, and winter concentration areas (Figure 6). Bald eagles likely forage across open pastures and sparse shrublands in the vicinity of the Proposed Action Area during winter for rodents and carrion. See Section 3.9 for analysis).	Winter foraging habitat only
Burrowing owl *Athene cunicularia*	Prefers level to gently-sloping grasslands and semi-desert grasslands. Prairie dog colonies are commonly used for shelter and nesting. Several recent breeding records exist in the Uncompahgre River valley (Holsinger pers. comm.). BLM considers any prairie dog burrows to be potential nest sites for burrowing owl across the UFO. Nesting occurs between April and July. No burrowing owls were observed in the Proposed Action Area during biological surveys.	Potential
Brewer's sparrow *Spizella breweri*	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 *Buteo regalis*	Prefers open, rolling and/or rugged terrain in grasslands, shrubsteppe communities, or cultivated fields; nests on cliffs and rock outcrops. No nesting records in Delta County. Wintering birds could be present around the Proposed Action Area, especially open agricultural fields where burrowing rodents are present.	Winter foraging habitat only
Golden eagle *Aquila chrysaetos*	Hunts widely for rabbits and rodents over a variety of habitats in the region, from low-elevation shrublands to alpine tundra. Nests are constructed on cliffs and steep escarpments in shrublands and grasslands. Mated pairs return to the same nest site or nearby alternate nest sites each year. Nesting building can initiate as early as January, with occupancy usually occurring in mid-April. Young are fledged between May and early August, depending on the year (Kingery 1998). There are no known nests near the Proposed Action.	Foraging habitat only
FISHES		
Colorado River cutthroat trout *Oncorhynchus clarki pleuriticus*	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

Common Name	Habitat Requirement Summary	Habitat/Range on BLM Land in Project Area?
Bluehead sucker *Catostomus discobolus*	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 Proposed Action Area for this species, downstream habitat on the Gunnison and Colorado Rivers is affected by consumptive use of water by irrigation.	No, but habitat is down-stream
Flannelmouth sucker *Catostomus latipinnis*	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 Proposed Action Area for this species, downstream habitat on the Gunnison and Colorado Rivers is affected by consumptive use of water by irrigation.	No, but habitat is downstream
Roundtail chub *Gila robusta*	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 Proposed Action Area for this species, downstream habitat on the Gunnison and Colorado Rivers is affected by consumptive use of water by irrigation.	No, but habitat is downstream
MAMMALS		
Fringed myotis *Myotis thysanodes*	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.	Foraging only
Spotted bat *Euderma maculatum*	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.	Foraging only
Townsend's big-eared bat *Corynorhinus townsendii*	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.	Foraging only
Rocky Mountain bighorn sheep *Ovis canadensis*	Steep, mountainous, or hilly terrain dominated by rocks, grass, and low shrubs, near cliff retreats. CPW maps no overall range for Rocky Mountain bighorn within or near the Proposed Action Area (CPW 2017).	No

Common Name	Habitat Requirement Summary	Habitat/Range on BLM Land in Project Area?
Kit fox *Vulpes macrotis*	Semi-desert shrublands, sagebrush shrublands, and shrubby margins of pinyon-juniper woodlands. Denning tends to occur in bottoms of steep-walled washes, and occasionally among rock outcrops and below rimrock. Historic range in Colorado is the Gunnison and Colorado River drainages below about 6,000 feet. Nearest recently documented population (prior to the year 2000) in the subwatersheds was in Peach Valley near the City of Delta. That population is considered extirpated (Holsinger pers. comm.).	No
White-tailed prairie dog *Cynomys leucurus*	Occurs in northwestern and west-central Colorado, and prefers level to gently sloping grasslands and open semi-desert shrublands from 5,000 to 10,000 feet in elevation, although most records are from below 8,500 feet (Armstrong et al. 2011). Live in loosely organized colonies and their burrows and mounds may be present in the margins of irrigated lands, and in dams and irrigation ditch banks, adjacent to and near semi-desert shrublands and grasslands. This species (including a few active burrows) was observed in the West Project Area during biological survey visits in 2016.	Yes
HERPTILES		
Midget faded rattlesnake *Crotalus viridis concolor*	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 Proposed Action Area incidentally. There are several documented occurrences in southcentral Delta County (Hammerson 1999).	Yes
Northern leopard frog *Rana pipiens*	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
PLANTS		
Colorado (Adobe) desert parsley *Lomatium concinnum*	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 between Hotchkiss and Crawford in Delta County. Not documented from the vicinity of the Proposed Action. Species was not documented during a biological survey for the Proposed Action.	Potentially suitable
Uncompahgre bladderpod *Physaria vicina*	Mancos Shale-derived soils at the ecotone between pinyon-juniper woodland and salt desert scrub, or sandy soils derived from Jurassic sandstones with sagebrush. Endemic to east part of Montrose County and north part of Ouray County, with most documented populations occurring in the Uncompahgre Valley. Elevation 5,705 to 7,536 feet. Not documented from the vicinity of the Proposed Action.	No

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 potentially result in temporary disturbance (from construction activities) to winter foraging in badlands and low shrublands for ferruginous hawk, golden eagle, and bald eagle (for a discussion of impacts to a bald eagle nest located ¼ mile south of the East Project Area, see Section 3.9). 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. Brewer's sparrow may find nesting habitat (large semi-desert shrubland patches) in the Proposed Action Area, although the timing of nesting (April through July) would not correspond with vegetation grubbing associated with construction. 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. 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, spotted bat, and white-tailed prairie dog. 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 (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, bats, 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 3.7).

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; therefore there would be no change from existing conditions. The reduction of salinity and selenium 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 above).

3.10 Cultural Resources

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

Alpine Archaeological Consultants, Inc. conducted Class III cultural resource inventories of the Proposed Action Area in May 2016, and January and March 2018 (Reed & Pfertsh 2016; Clauter & Landt 2018). All proposed buried pipe alignments in a 100-foot-wide corridor, proposed construction disturbance areas, access roads, and proposed staging areas were examined. The purpose of a Class III cultural resource inventory is to 1) identify and record all

visible cultural resources within the Proposed Action Area, including previously recorded cultural resources; 2) evaluate the significance of the cultural resources and make recommendations regarding their National Register of Historic Places (NRHP) eligibility; 3) assess the potential impact of the Proposed Action on significant cultural resources; and 4) identify possible measures to mitigate such impacts (Reed & Pfertsh 2016).

The inventories resulted in the documentation of two segments of the North Delta Canal, four historical artifact scatters, and nine historical isolated finds (Reed & Pfertsh 2016).

The North Delta Canal has been officially determined eligible for listing in the NRHP, and Reclamation concluded that the newly documented segments support the eligibility of the ditch system. Reclamation recommended neither the historical artifact scatters nor the historical isolated finds as eligible for listing in the NRHP. No cultural resources were discovered in the habitat replacement area.

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

Proposed Action: As a result of a Class III cultural resources inventory of the Proposed Action Area (Reed & Pfertsh 2016), and in consultation with the Colorado State Historic Preservation Officer (Colorado SHPO), Reclamation has determined that the Proposed Action would have an adverse effect on segments of the North Delta Canal, which are resources that are eligible for listing in the NRHP. A Memorandum of Agreement (MOA) has been executed between Reclamation and the Colorado SHPO, with NDIC participating as an invited party, to mitigate the adverse effects of the Proposed Action (Appendix F). The MOA stipulates that Level I documentation be completed prior to any earth disturbances for the Proposed Action and requires that any post-review discoveries trigger an Unanticipated Discovery Plan (UDP; Attachment B to the MOA). The UDP outlines procedures that would be followed in order to protect potential archaeological materials or cultural resources discovered during implementation of the Proposed Action.

3.11 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 categories of farmlands of national and statewide importance in the region, based on soil types and irrigation status. According to USDA, Prime Farmland has the best combination of physical and chemical characteristics for producing food, feed, forage fiber and oilseed crops. Farmland of Statewide Importance are lands that nearly meet the requirements for Prime Farmland and have been identified by state agencies. Farmland of Unique Importance has a special combination of soil quality, location, growing season, and moisture supply required to produce high quality crops when properly managed.

The Proposed Action does not directly cross irrigated agricultural lands or agriculturally significant lands (farmlands of national or statewide importance; Figure 9). The North Delta Canal conveys irrigation water to agriculturally significant lands; however, no change in the configuration of NDIC-irrigated lands would occur as a result of the Proposed Action. No part of the irrigation season is expected to be lost during implementation of the Proposed Action.

The major mapped soil units found in the immediate Proposed Action Area are Badlands, Torriorthents complexes, and Mesa clay loams. Each soil type in the Proposed Action Area has a 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 Proposed Action 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 would cause temporary disturbance to soils that are not in irrigated agricultural production and not designated as agriculturally significant by NRCS. No farmlands would be permanently removed from production as a result of the Proposed Action, and no interruption to agricultural production would occur.

To minimize soil erosion during implementation of the Proposed Action, any topsoil would be reserved prior to excavation, replaced on the ground surface following pipe installation, then reseeded with drought-tolerant seed mixes compatible with the surrounding vegetation. Backfilled ditches would also be seeded with appropriate dryland cover species. A weed control program meeting Delta County criteria would be implemented in all areas of surface disturbance (Delta County 2010).

Overall, the Proposed Action would give NDIC 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. 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.

3.12 Cumulative Impacts

Cumulative impacts are direct and indirect impacts on the resources potentially affected by the Proposed Action, which result from the incremental impact of the Proposed 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 Proposed Action 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 4 for the spatial and temporal limits of analysis for each resource). 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 Proposed Action or within a few seasons following construction).

Table 4. Cumulative Impacts Analysis Spatial & Temporal Limits by Resource

Resource	Spatial Limits of Analysis	Temporal Limits of Analysis
Water Rights and Use	Lower Gunnison River drainage, from approximately Austin to the Uncompahgre River confluence	50 years
Water Quality	Lower Gunnison River drainage, from approximately Austin to the Uncompahgre River confluence	50 years
Air Quality	Proposed Action Area plus 1-mile buffer	Duration of Proposed Action Construction
Access, Transportation, and Public Safety	Proposed Action Area	Duration of Proposed Action Construction
Recreation	Public lands within the Proposed Action Area	Duration of Proposed Action Construction
Visual Resources	Public lands within the Proposed Action Area	50 years
Livestock Grazing	Public lands within the Proposed Action Area	Duration of Proposed Action Construction
Vegetative Resources and Weeds	Proposed Action Area plus 1-mile buffer	50 years
Wildlife Resources	Lower Gunnison River drainage, from approximately Austin to the Uncompahgre River confluence	50 years
Threatened and Endangered Species	Lower Gunnison River drainage, from approximately Austin to the Uncompahgre River confluence	50 years
BLM Sensitive Species	Lower Gunnison River drainage, from approximately Austin to the Uncompahgre River confluence	50 years
Cultural Resources	Proposed Action Area	50 years
Agricultural Resources and Soils	Proposed Action Area	50 years

The direct and indirect effects of past and ongoing (present) actions are reflected in the current conditions described in the affected environment above in each of the resource topics of Section 3. Reasonably foreseeable future actions are *specific* actions, and not speculative actions, in that they have approved NEPA documentation or approved plans with the potential to impact the same resources affected by the Proposed Action. Reasonably foreseeable future actions potentially affecting resources within the spatial and temporal limits of this analysis (Table 4) the Proposed Action are

- OHV open recreation on public lands (as authorized under BLM's current Resource Management Plan [RMP]) – with potential impacts to air quality, soils, vegetation, wildlife, and special status species.

- Livestock grazing on public lands (as authorized under BLM's current RMP) – with potential impacts to soils, vegetation, and special status species. Grazing permit stipulations, grazing timing, and stocking rates minimize impacts.

- Ongoing gravel mining operations at the Delta County gravel pit which is adjacent to the east part of the West Project Area – with potential noise impacts and impacts to air quality, vegetation, wildlife, and water quality. Permit stipulations and BMPs minimize impacts.

Potential impacts from the Proposed Action on air quality; access, transportation, and public safety; wildlife; recreation; and livestock grazing are temporary and minor, lasting only for the duration of construction or until reseeding is complete. Therefore, the Proposed Action does not contribute an incremental impact to the effects, if any, of the ongoing or reasonably foreseeable future actions on these resources.

The Proposed Action would have no adverse effect on water rights and water use, or soils and agricultural resources. Therefore, the Proposed Action does not contribute an incremental impact to the effects, if any, of the ongoing or reasonably foreseeable future actions on these resources.

The Proposed Action would have a potentially adverse impact on certain special status species wetland and riparian vegetation (generated by the canal), and wildlife using wetland and riparian habitat generated by the canal. Each of these impacts would be minimized with BMPs, conservation measures, or other mitigative measures, including a Habitat Replacement Site. Therefore, none of these impacts rise to a level that would incrementally contribute to the effects, if any, of the reasonably foreseeable future actions on these resources.

3.13 Summary of Impacts

Table 5 summarizes the predicted impacts/environmental consequences of the No Action and Proposed Action Alternatives analyzed in this EA.

Table 5. Summary of Impacts of the Proposed Action

Resource Issue	Impacts	
	No Action Alternative	Proposed Action Alternative
Water Rights and Use	No Effect	No Effect or possible beneficial effect

Resource Issue	Impacts	
	No Action Alternative	**Proposed Action Alternative**
Water Quality	Salt and selenium loading from the Proposed Action Area would continue to affect water quality in the Colorado River Basin	An estimated salt loading reduction of 4,383 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 Gunnison and Colorado rivers.
Air Quality	No Effect	Minor short-term effects due to dust and exhaust created by construction equipment; no long-term effect or possible beneficial long-term effect due to reduction in maintenance vehicle trips.
Access, Transportation, and Public Safety	No Effect	Minor temporary disruptions to local public roadways from construction traffic entering and existing roadways. No long-term effects.
Recreation Resources	No Effect	Part of the Proposed Action lies on BLM lands in the North Delta OHV Open Area. Temporary short-term disruption of recreational uses such as motorized travel 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 can be intense, due to public access routes directly to the Proposed Action Area. Safety measures such as trench covers would be implemented.
Visual Resources	No Effect	The public lands in the West Project Area is classified by BLM as Visual Resource Management Class IV. Short-term temporary effect during construction (i.e., presence of equipment, spoil piles), with revegetation commencing following completion of the Proposed Action. Once vegetation is successfully re-established, the appearance and character of the Proposed Action Area would be similar to the appearance and character of the surrounding area prior to construction. Such visual change is compatible with BLM's Class IV management guidance.

Resource Issue	Impacts	
	No Action Alternative	**Proposed Action Alternative**
Livestock Grazing	No Effect	Temporary effect. No lands capable of providing grazing will be permanently lost. Project personnel will coordinate with the grazing permit holder(s) to avoid conflicts with grazing operations.
Vegetative Resources and Weeds	No Effect	Impacts to vegetation where construction would occur in upland areas. Estimated long-term loss of 171.23 THV units of riparian/wetland habitat due to elimination of seepage from the involved canal alignment. A Habitat Replacement Plan would be implemented to mitigate for the habitat value lost because of the Proposed Action. Weed control measures would be implemented as a part of the Proposed Action, and the piping of the canal would remove open water from the Proposed Action Area—open water is an important vector for the spread of weeds.
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.
Migratory Birds, Raptors	No Effect	No impacts to nesting migratory birds since vegetation grubbing would take place outside the primary nesting season. No impacts to raptors outside the CPW-recommended buffer distances. One known red-tailed hawk nest within 0.2 miles of the Proposed Action Area is inside the COW-recommended buffer distance of 0.3-mile. Work near this area would either be completed outside the red-tailed hawk nesting season (February 15 – July 15) or commenced prior to February 15 and conducted on a daily basis until completion in order to avoid disturbance. Long-term impacts due to loss of nesting habitat for both migratory birds and raptors along the current canal would be mitigated with the Habitat Replacement Site.

Resource Issue	Impacts	
	No Action Alternative	**Proposed Action Alternative**
Threatened and Endangered Species	Salt and selenium loading from the Proposed Action Area would continue to affect aquatic dependent species	The Proposed Action Area lies within range of the threatened western yellow-billed cuckoo, and the Habitat Replacement Site lies within yellow-billed cuckoo proposed critical habitat. Construction activities would not take place near cuckoo breeding habitat during breeding season, therefore there would be no effect on cuckoo. Habitat Replacement activities in cuckoo proposed critical habitat would improve the physical and biological factors of the habitat for cuckoo. The Proposed Action lies within range of the threatened Colorado hookless cactus, and clearance surveys have been conducted to ensure no Colorado hookless cactus plants would be directly harmed. BMPs and other measures would protect cactus from measurable direct and indirect effects from the Proposed Action. Water depletions (irrigation water consumption) would continue at historic levels from Tongue Creek and the Gunnison River, and would continue to 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 NDIC and FWS would 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.
BLM Sensitive Species	Salt and selenium loading from the Proposed Action 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 that use riparian habitat in the Proposed Action Area. These habitat losses would be mitigated at the Habitat Replacement Site. 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	The Proposed Action would have an adverse effect on a NRHP eligible cultural resource. The adverse effect would be mitigated with a MOA between Reclamation and the Colorado SHPO.

Resource Issue	Impacts	
	No Action Alternative	Proposed Action Alternative
Agricultural Resources and Soils	No Effect	The Proposed Action would temporarily disturb the ground surface in the Action Area. BMPs would conserve soils and minimize the potential for erosion in the Proposed Action Area. The Proposed Action would not take place in productive irrigated farm areas.
Cumulative Impacts	No Effect	None of the anticipate impacts of the Proposed Action rise to a level that would incrementally contribute to the effects, if any, of other past, present, and reasonably foreseeable future actions on these resources.

4 ENVIRONMENTAL COMMITMENTS

This section summarizes the environmental commitments to protect resources and mitigate adverse impacts from the Proposed Action to a non-significant level. The cooperative agreement between Reclamation and NDIC requires that NDIC be responsible for "…implementing and/or complying with the environmental commitments contained in the NEPA/ESA compliance documents to be developed by Reclamation for the project".

The actions in the following environmental commitment checklist will be implemented as an integral part of the Proposed Action and shall be included in the contractor bid specifications. If the Proposed Action is approved, NDIC shall use this checklist to document compliance with each environmental commitment. NDIC shall submit the relevant component of the completed checklist to Reclamation immediately following each phase of the Project, i.e., Pre-Construction, During Construction, and Post-Construction, along with documents generated to meet environmental commitments.

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

Table 6. Environmental Commitment Checklist

Environmental Commitment	Resource(s) that Benefit	Date of Compliance
Pre-Construction		
An SPCC plan shall be prepared in advance of construction by the contractor for areas of work where spilled contaminants could flow into water bodies.	Water Quality	
A Memoranda of Agreement (MOA) is in place to mitigate the Proposed Action's adverse effects to cultural resources. The MOA commits Reclamation to complete historic resource documentation of the canal segments prior to construction activities in accordance with the guidance for "Level I documentation," and to post this documentation on the Reclamation Western Colorado Area Office's cultural resources webpage.	Cultural Resources	
Construction limits shall be clearly flagged onsite to avoid unnecessary plant loss or ground disturbance.	Vegetation, Weeds, Habitat, Wildlife	
Biological sensitive areas shall be included on all engineer drawings with appropriate instructions. Colorado hookless cactus areas shall include instructions to contact Reclamation biologist prior to beginning construction. Raptor nest sites shall include timing limitations that include no construction February 15 through July 15 or ensure construction commences prior to February 15 and operates continually until outside of the sensitive area.	Special Status Species	
Coordinate with Reclamation biologist or contracted biologist to install barricades around Colorado hookless cactus areas to prevent vehicles and equipment from traveling near hookless cactus occurrences.	Special Status Species	

Environmental Commitment	Resource(s) that Benefit	Date of Compliance
Hold a pre-construction orientation meeting with the contractor to familiarize the contractor with biologically sensitive areas and required conservation measures.	Special Status Species	
Prior to construction, vegetative material shall be removed by mowing or chopping, and either hauled to the County landfill or to a proposed staging area to be burned, chipped, and/or mulched. Stumps shall be grubbed and hauled to the County landfill or a proposed staging area to be burned. No burning activities will occur on lands managed by the BLM.	Soil, Vegetation, Weeds, Habitat	
Vegetation removal shall be confined to the smallest portion of the Proposed Action Area necessary for completion of the work.	Soil, Vegetation, Weeds, Habitat	
Vegetation removal shall avoid the primary nesting season of migratory birds (April 1 – July 15)	Special status species	
Topsoil shall be stockpiled and then redistributed after completion of construction activities.	Soil, Vegetation, Weeds, Habitat	
Notification to the public lands grazing permit holder(s) shall be made if construction is to occur during a grazing period.	Livestock Grazing	
During Construction		
Culverted embankment fill creek crossings shall be constructed 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.	Water Quality, Soil	

Environmental Commitment	Resource(s) that Benefit	Date of Compliance
Straw wattles, silt curtains, cofferdams, dikes, straw bales, or other suitable erosion control measures shall be used to prevent erosion from entering water bodies during construction.	Water Quality, Soil	
Any concrete pours shall occur in forms and/or behind cofferdams to prevent discharge into waterways. Any wastewater from concrete-batching, vehicle wash down, and aggregate processing shall be contained and treated or removed for off-site disposal.	Water Quality	
The construction contractor shall transport, handle, and store any fuels, lubricants, or other hazardous substances involved with the Proposed Action in an appropriate manner that prevents them from contaminating soil and water resources.	Water Quality, Soil	
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.	Water Quality, Soil	
Equipment shall be inspected daily and immediately repaired as necessary to ensure equipment is free of petrochemical leaks.	Water Quality, Soil	
Construction equipment shall be parked, stored, and serviced only at an approved staging area.	Water Quality, Soil	
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.	Water Quality, Soil	
Ground disturbances and construction areas shall be limited to only those areas necessary to safely implement the Proposed Action.	Soil, Vegetation, Weeds, Habitat, Wildlife	

Environmental Commitment	Resource(s) that Benefit	Date of Compliance
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 used.	Wildlife, Grazing, Recreation	
If previously undiscovered cultural or paleontological resources are discovered during construction, construction activities must immediately cease in the vicinity of the discovery and Reclamation must be notified. In this event, the SHPO shall be consulted, and work shall not be resumed until consultation has been completed, as outlined in the Unanticipated Discovery Plan in the attached MOA. Stipulations in the MOA with the SHPO are incorporated herein by reference. Additional surveys shall be required for cultural resources if construction plans or proposed disturbance areas are changed.	Cultural Resources	
In the event that uninventoried threatened or endangered species are encountered during construction, NDIC shall stop construction activities until Reclamation has consulted with FWS to ensure that adequate measures are in place to avoid or reduce impacts to the species.	Special Status Species	
Non-native tree and shrub removal at the Habitat Replacement Site shall avoid the primary breeding season of migratory birds (April 1 – July 15) and the breeding season of western yellow-billed cuckoo (June 1 – August 30).	Special Status Species	
Conduct surface-disturbing activities within 20 meters of Colorado hookless cactus occurrences during the plant's dormant season (June through March) or use dust control measures when warm, dry, dusty conditions exist.	Special Status Species	

Environmental Commitment	Resource(s) that Benefit	Date of Compliance
Notify Reclamation biologist or contract biologist prior to construction near Colorado hookless cactus locations identified on engineer drawings. Reclamation biologist contact: Amanda Ewing (970) 248-0631 / aewing@usbr.gov; contract biologist contact: Dawn Reeder (970) 527-8445 / dawn@rareearthscience.com	Special Status Species	
Two active red-tailed hawk nests near the Proposed Action Area lie inside the CPW-recommended buffer zone for the species (1/3 mile). To avoid disturbance to these nests, pipeline construction activities in that area shall either avoid red-tailed hawk nesting season (February 15 through July 15), or pipeline construction within 1/3 mile of the nest shall begin prior to February 15, so long as the construction activities are initiated prior to February 15, and operated on a daily basis until completion in that area (it is assumed that red-tailed hawks that initiate nesting during ongoing construction activities are tolerant to such activities). Project work areas affected by the nesting red-tailed hawk timing restriction shall be clearly marked on construction drawings.	Special Status Species	
If a new active red tail hawk nest is discovered within 1/3 mile of the Proposed Action during construction, or a bald eagle or other raptor nest or bald eagle roost site is discovered within ¼ mile of the Proposed Action during construction, construction shall cease until Reclamation could complete consultations with FWS and CPW.	Special Status Species	
Native fill material shall be utilized to diminish new weed introductions to potential Colorado hookless cactus habitat.	Vegetation, Weeds, Habitat, Special Status Species	
Access to the public land grazing allotment (in the West Project Area) shall not be affected by the project.	Grazing	

Environmental Commitment	Resource(s) that Benefit	Date of Compliance
There is an existing BLM ROW held by a third party on the access from Fairview Road. If construction activities would impact the ROW holder's ability to access private property between the proposed pipeline and the river, NDIC shall notify the ROW holder of this impact.	Access	
Post-Construction		
Following construction, all disturbed areas shall be smoothed, shaped, and contoured to as near to their pre-project conditions as practicable.	Soil, Vegetation, Weeds, Habitat	
All drainage patterns that intersect that portion of the canal to be abandoned shall be shaped to their natural flow patterns.	Soil, Vegetation, Habitat	
Re-seeding shall occur following project construction at appropriate times with drought tolerant, 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. On private lands, NDIC shall coordinate with landowners to develop a seed mix compatible with the surrounding native vegetation.	Soil, Vegetation, Weeds, Habitat	
Weed control shall be implemented by NDIC or NDIC's contractor in accordance with BLM right-of-way stipulations and current Delta County weed control standards (Delta County 2010).	Soil, Vegetation, Weeds, Habitat	
Herbaceous noxious weeds shall be controlled as necessary after construction for the life of the project through the use of herbicides mixed with surfactants. NDIC shall coordinate with BLM on the use of any herbicides on lands managed by the BLM, and shall obtain Pesticide Use Proposals (PUPs) prior to treatments.	Soil, Vegetation, Weeds, Habitat	

Environmental Commitment	Resource(s) that Benefit	Date of Compliance
Reclamation shall conduct follow-up monitoring of known Colorado hookless cactus locations the year following construction to evaluate vegetation conditions.	Special Status Species	

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 Proposed Action.

5.1 Agency Consultation

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 & 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
- Southern Ute Tribe, Ute Mountain Ute Tribe, and Ute Indian Tribe (Uintah and Ouray Reservation)

5.2 EA Comments

Reclamation provided the public an opportunity to comment on the Draft EA and FONSI from August 28, 2018 through September 27, 2018. During this time, one comment document was received. A copy of the comment document and responses to the comments are provided in Appendix A and in revisions to this Final EA.

5.3 Distribution

Notice of the public review period and availability of the Draft EA (posted on Reclamation's website) was announced through a press release. Notice was also distributed (via U.S. mail or electronic mail) to private landowners adjacent to the Proposed Action Area, and the organizations and agencies listed in Appendix B. This EA will also be available on Reclamation's website. Publicly-available electronic versions of the Draft and Final EA meet the technical standards of Section 508 of the Rehabilitation Act of 1973, so that the documents can be accessed by people with disabilities using accessibility software tools.

6 REFERENCES

Applegate (Applegate Group, Inc.). 2015. Master Plan Study – Phase II, North Delta Irrigation Company. Prepared for North Delta Irrigation Company. March 11.

Armstrong, D.M., J.P. Fitzgerald, and C.A. Meany. 2011. Mammals of Colorado. 2nd Ed. Boulder, Colorado: Univ. Press of Co. 620 pp.

Beason, Jason (Rocky Mountain Bird Observatory). 2017. Personal communication with D. Reeder (Rare Earth Science). February 10.

Bio-Logic (Bio-Logic Inc.). 2016. North Delta Salinity Control Project Phase I: Wildlife Habitat Evaluation Report. Prepared for U.S. Bureau of Reclamation. September. 46pp.

BLM (U.S. Bureau of Land Management). 2016a. Uncompahgre Field Office Draft Resource Management Plan and Environmental Impact Statement. May.

BLM. 2016b. Environmental Assessment (DOI-BLM-CO-D050-2014-0037 EA) North Delta Grazing Permit Renewals. https://eplanning.blm.gov/epl-front-office/projects/nepa/67645/84417/101118/14-37_EA_North_Delta_Grazing_Permit_Renewal_Final.pdf

BLM. 2015. BLM Colorado special status species list. Date last modified: June 22, 2015. https://www.blm.gov/style/medialib/blm/co/programs/wildlife.Par.31525.File.dat/BLM%20Colorado%20Special%20Status%20Species%20List%202016%20508%20compliance.pdf. Accessed January 2017.

BLM. 2004. Approved Resource Management Plan and Record of Decision. Gunnison Gorge National Conservation Area, Delta and Montrose Counties, Colorado. Gunnison Gorge NCA Office. November. https://eplanning.blm.gov/epl-front-office/projects/lup/65261/97021/117177/GGNCA-RODRMP-Nov2004_web.pdf

BLM. 1989. Uncompahgre Basin Resource Management Plan and Record of Decision. July. https://eplanning.blm.gov/epl-front-office/projects/lup/62103/79132/91393/UB_RMP_ROD.pdf

CDPHE (Colorado Department of Public Health and Environment). 2017a. Regulation No. 35, Classification and Numeric Standards for Gunnison and Lower Dolores River Basins (5 CCR 1002-35) and Appendix 35-1. Water Quality Control Commission. Denver CO. Effective March 1, 2017. https://www.colorado.gov/pacific/sites/default/files/35_2017%2803%29.pdf

CDPHE. 2017b. Regulation No. 31, The Basic Standards and Methodologies for Surface Water (5CCR 1002-31). Water Quality Control Commission. Denver, CO.

CDPHE. 2018. Regulation No. 93. Colorado's Section 303(D) List of Impaired Waters and Monitoring and Evaluation List (5 CCR 1002-93). Water Quality Control Commission, Denver, CO. Effective March 2, 2018. https://www.colorado.gov/pacific/sites/default/files/93_2018%2803%29.pdf.

CDPHE. 2011. Total Maximum Daily Load Assessment: Gunnison River and Tributaries, Uncompahgre River and Tributaries, Delta/Mesa/Montrose Counties, Colorado. January. http://www.seleniumtaskforce.org/images/GunnisonTMDL_Final_corrected_May_2011.pdf

Clauter, Jody A. and Matthew Landt (Alpine Archaeological Consultants, Inc.). 2018. A Class III Survey of the Welfelt Property, Delta County, Colorado. Prepared for Applegate Group, Inc. on behalf of North Delta Irrigation Company. March.

CNHP (Colorado Natural Heritage Program). 1997+. Colorado rare plant guide. http://www.cnhp.colostate.edu/rareplants/. Last updated February 2017.

CPW (Colorado Parks and Wildlife). 2017. Public SAM Data Layer accessed in ArcGIS from the ArcGIS online server. Last updated by CPW on October 26. Accessed July 2018.

CWCB (Colorado Water Conservation Board). 2017. Gunnison River Basin Information, Colorado's Decision Support Systems. Colorado Water Conservation Board, Denver, CO. http://cdss.state.co.us/basins/Pages/Gunnison.aspx

CWCB. 2010. State CU Model v. 13.03. http://cdss.state.co.us/software/Pages/StateCU.aspx

CWCB. 2015. Structure Summary Report generated from Colorado's Decision Support Systems online tools available at http://cdss.state.co.us/onlineTools/Pages/StructuresDiversions.aspx

Dare, M., M. Carrillo, and C. Speas. 2011. Cutthroat trout (*Oncorhynchus clarkii*) Species and Conservation Assessment for the Grand Mesa, Uncompahgre, and Gunnison National Forests. Grand Mesa, Uncompahgre, and Gunnison National Forests, Delta, Colorado.

Delta County. 2010. Delta County Noxious Weed Management Plan. Adopted April 5, 2010. http://www.deltacounty.com/DocumentCenter/View/1013

EPA (U.S. Environmental Protection Agency). 2018. Current nonattainment counties for all criteria pollutants. https://www3.epa.gov/airquality/greenbook/ancl.html.

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

FWS. 2007. National Bald Eagle Management Guidelines. https://www.fws.gov/southdakotafieldoffice/NationalBaldEagleManagementGuidelines.pdf

Hammerson. 1999. *Amphibians and Reptiles in Colorado: A Colorado Field Guide*. Second Edition. Denver: University Press of Colorado & Colorado Division of Wildlife. 483 pp.

Kingery, H. E. (Editor). 1998. *Colorado Breeding Bird Atlas* (1st ed). Denver, CO: Colorado Bird Atlas Partnership and Colorado Division of Wildlife.

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

Otak, Inc. 2009. Visual Resource Inventory. Prepared for U.S. Department of the Interior Bureau of Land Management, Uncompahgre Field Office, Montrose, Colorado. 412 pp. https://eplanning.blm.gov/epl-front-office/projects/lup/62103/78801/90468/Visual_Resource_Inventory_Report.pdf

Padgett, P.E., W. M. Dobrowolski, M J. Arbaugh and S A. Eliason. 2007. Patterns of carbonate dust deposition: Implications for four federally endangered plant species. Madroño 54: 275-285.

Rare Earth (Rare Earth Science, LLC). 2018. Threatened & Endangered Species Inventory, North Delta Canal Salinity Control Project, Delta County Colorado. Prepared for the U.S. Bureau of Reclamation, Environmental Planning Group of the Western Colorado Area Office, Upper Colorado Region.

Reed, C. A. and J. E. Pfertsh (Alpine Archaeological Consultants, Inc.). 2016. A Class III Cultural Resource Inventory for the North Delta Canal Salinity Project, Delta County, Colorado. Prepared for Applegate Group, Inc. on behalf of North Delta Irrigation Company. August.

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

Reclamation. 2013. Basinwide Salinity Control Program: Procedures for Habitat Replacement. 14 pp. May.

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

SWReGAP (U.S. Geological Survey National Gap Analysis Program). 2004. Provisional Digital Land Cover Map for the Southwestern United States. Version 1.0. RS/GIS Laboratory, College of Natural Resources, Utah State University.

USDA (U.S. Department of Agriculture) Natural Resources Conservation Service. 2007. Soil Survey Geographic (SSURGO) database for Paonia Area, Colorado, Parts of Delta, Gunnison, and Montrose Counties, publication co679.

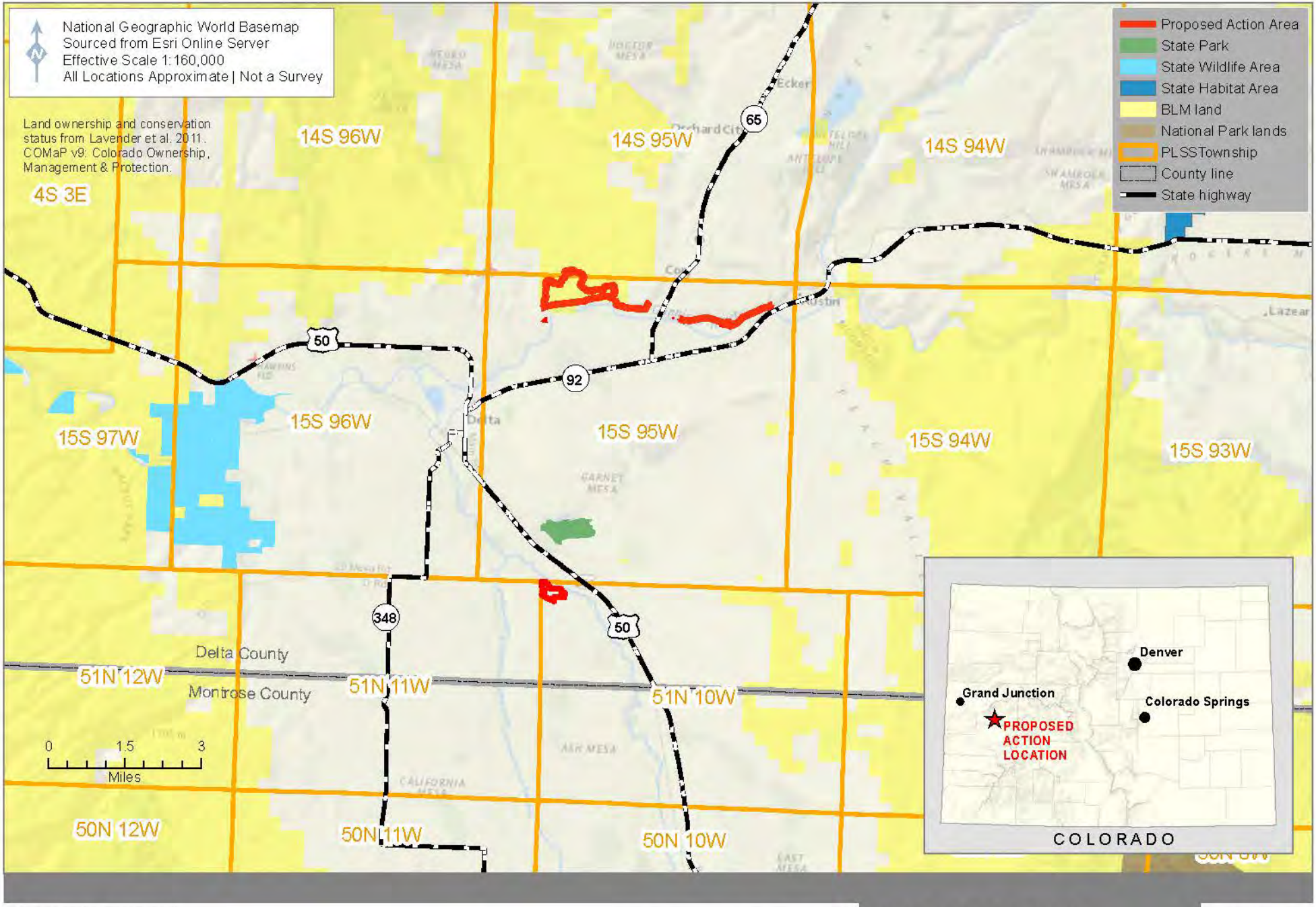
Wickersham, L. (Editor). 2016. Colorado breeding bird atlas (2nd ed). Denver, CO: Colorado Bird Atlas Partnership & Colorado Division of Wildlife. Online dataset retrieved from http://cobreedingbirdatlasii.org/index.html

Zeman, Michael. 2018. North Delta Irrigation Company Salinity Control Project (R16AC0010) Habitat Replacement Plan on Welfelt Property. Prepared by Wildlife and Natural Resource Concepts & Solutions, LLC for North Delta Irrigation Company.

This page left intentionally blank.

FIGURES

This page left intentionally blank.

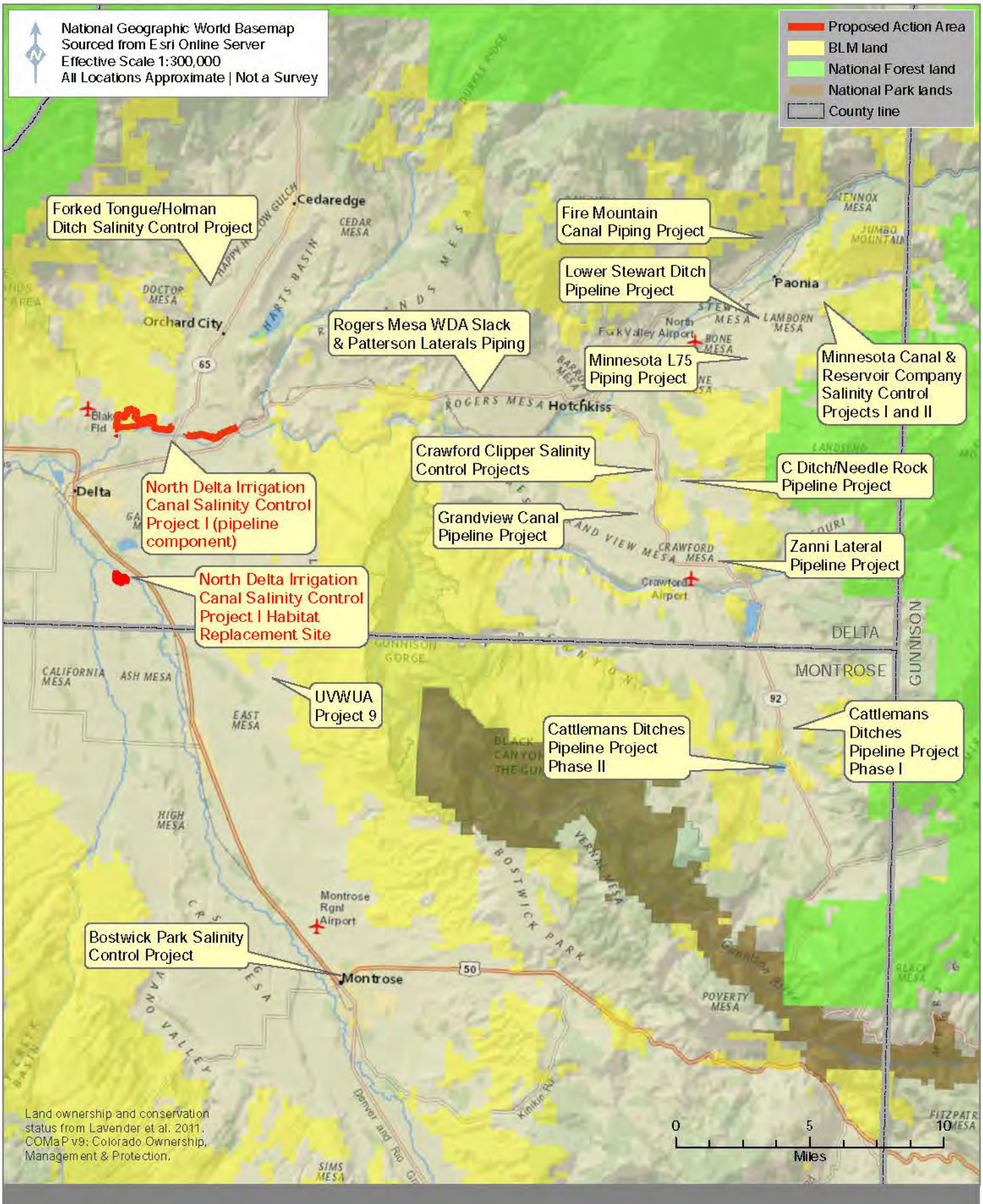


Environmental Assessment
Delta County, Colorado
www.rareearthscience.com
Map by D. Reeder | July 2018

Regional & Local Locator Maps

NDIC SALINITY CONTROL PROJECT I

FIGURE
1

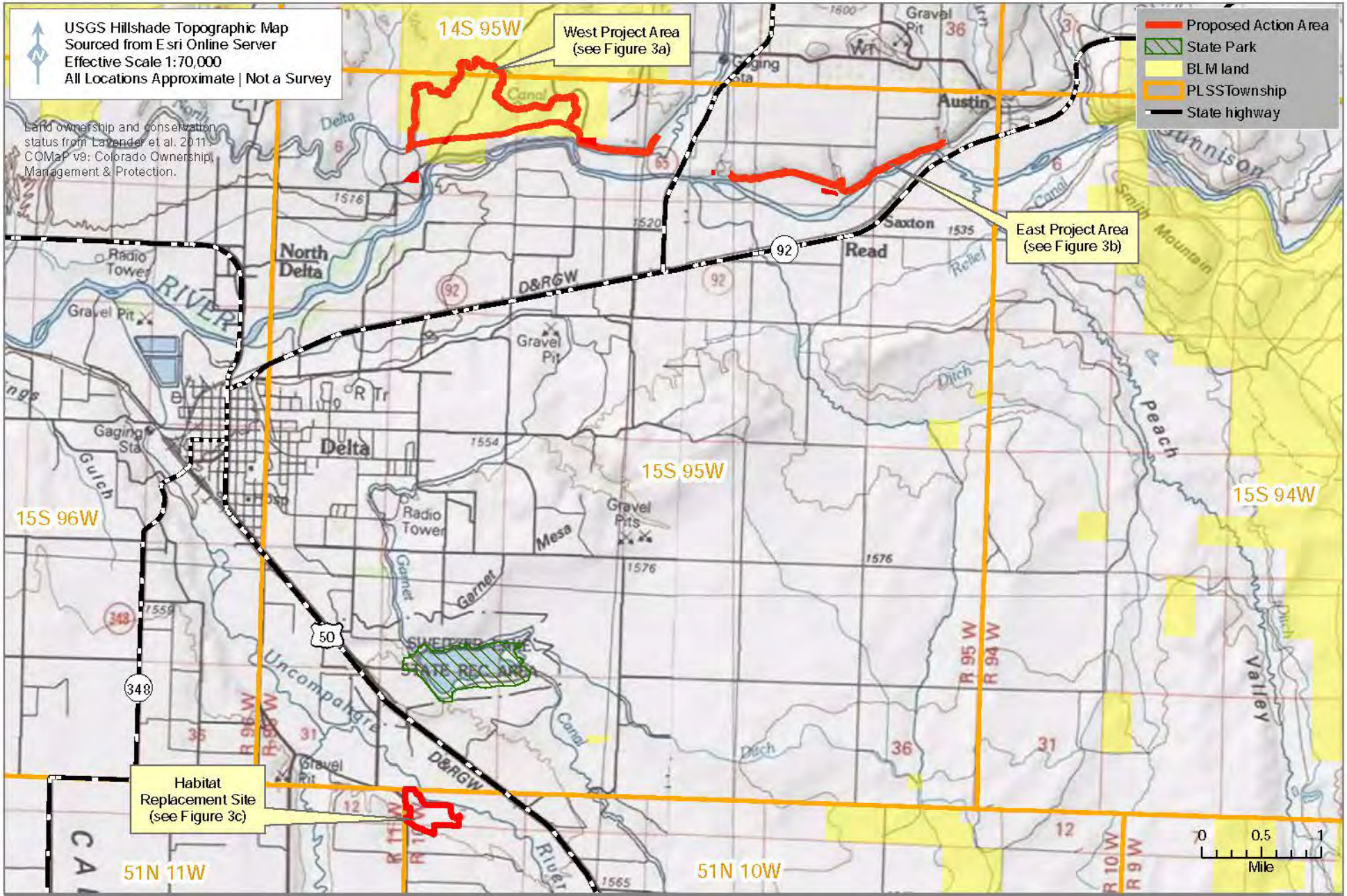


Environmental Assessment
Delta County, Colorado
www.rareearthscience.com
Map by H. Watts | February 2018

Regional Salinity Control Projects

NDIC SALINITY CONTROL PROJECT I

FIGURE
2

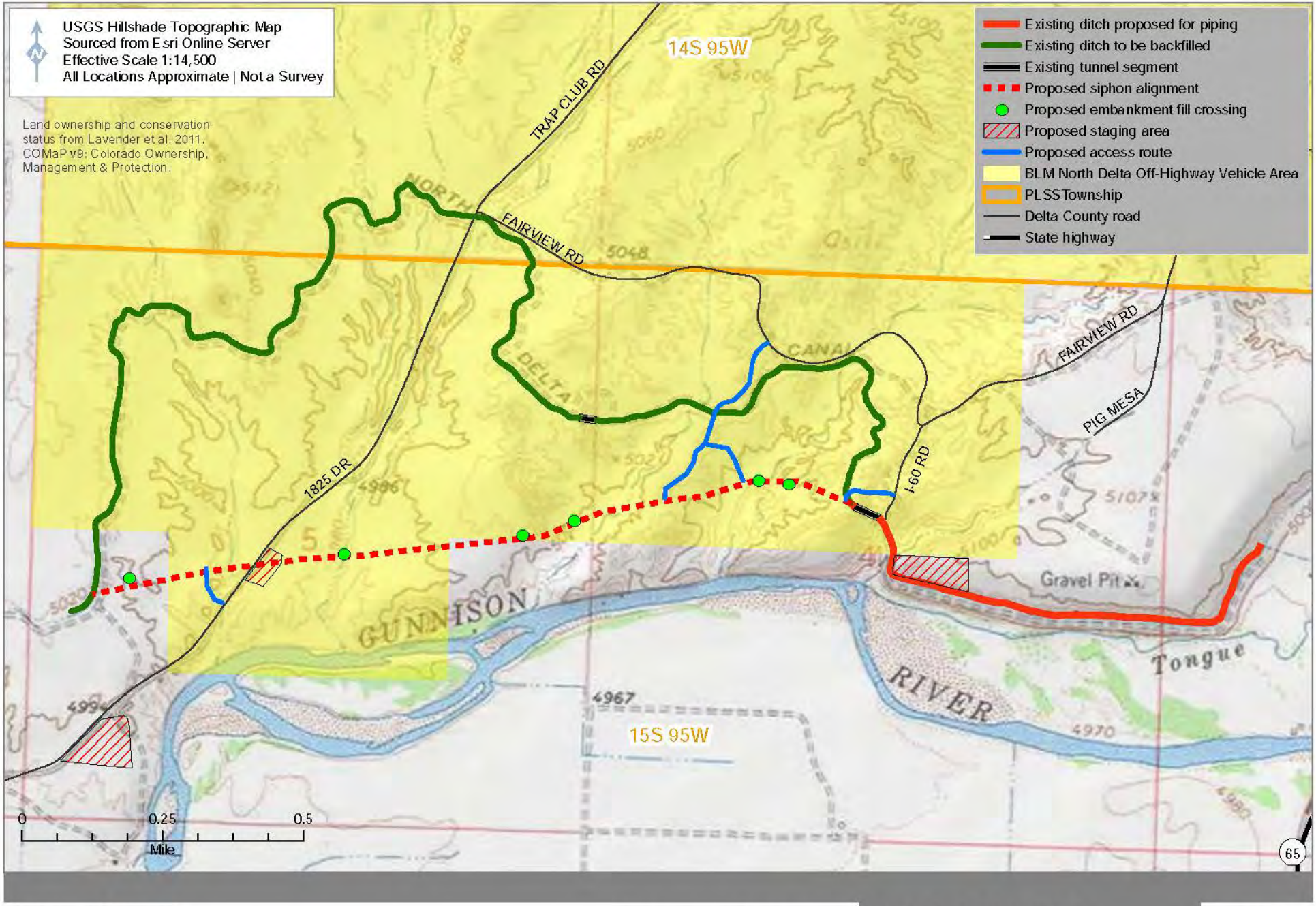


Environmental Assessment
Delta County, Colorado
www.rareearthscience.com
Map by D. Reeder | July 2018

Topography & Land Status Overview

NDIC SALINITY CONTROL PROJECT I

FIGURE 3

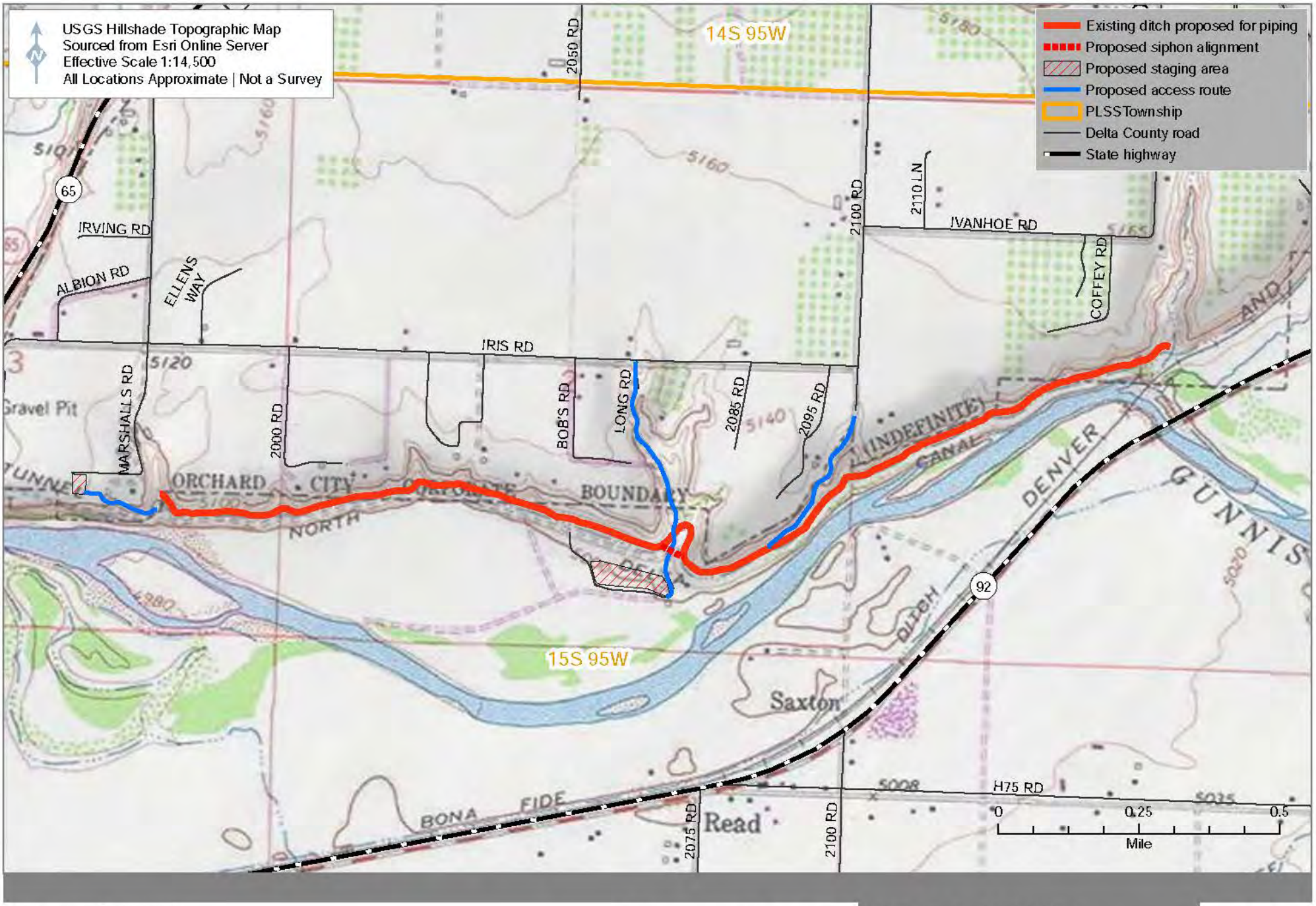


Environmental Assessment
Delta County, Colorado
www.rareearthscience.com
Map by D. Reeder| July 2018

Topographic Map
West Project Area

NDIC SALINITY CONTROL PROJECT I

FIGURE
3a

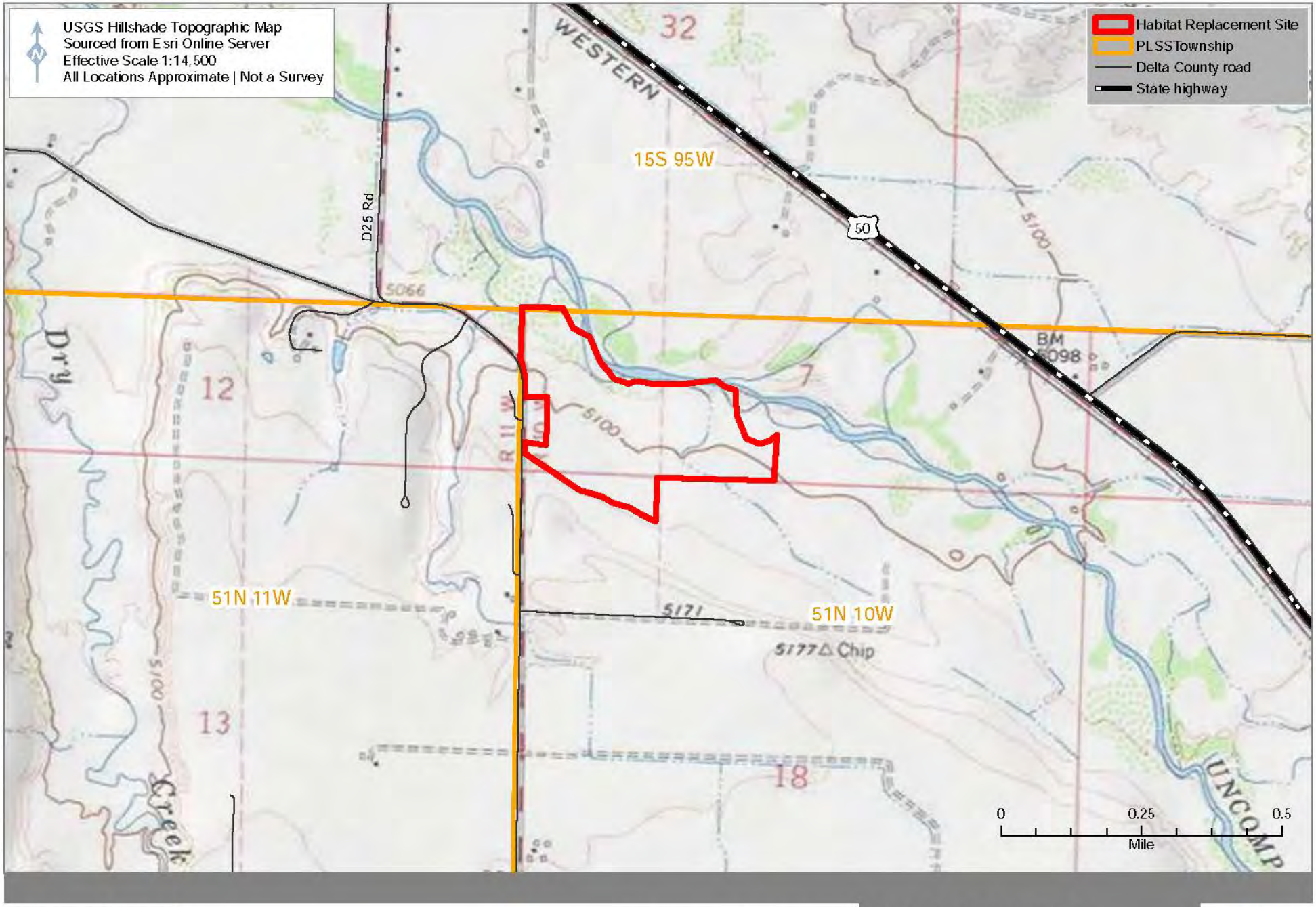


Environmental Assessment
Delta County, Colorado
www.rareearthscience.com
Map by H. Watts | February 2018

Topographic Map
East Project Area

NDIC SALINITY CONTROL PROJECT I

FIGURE
3b

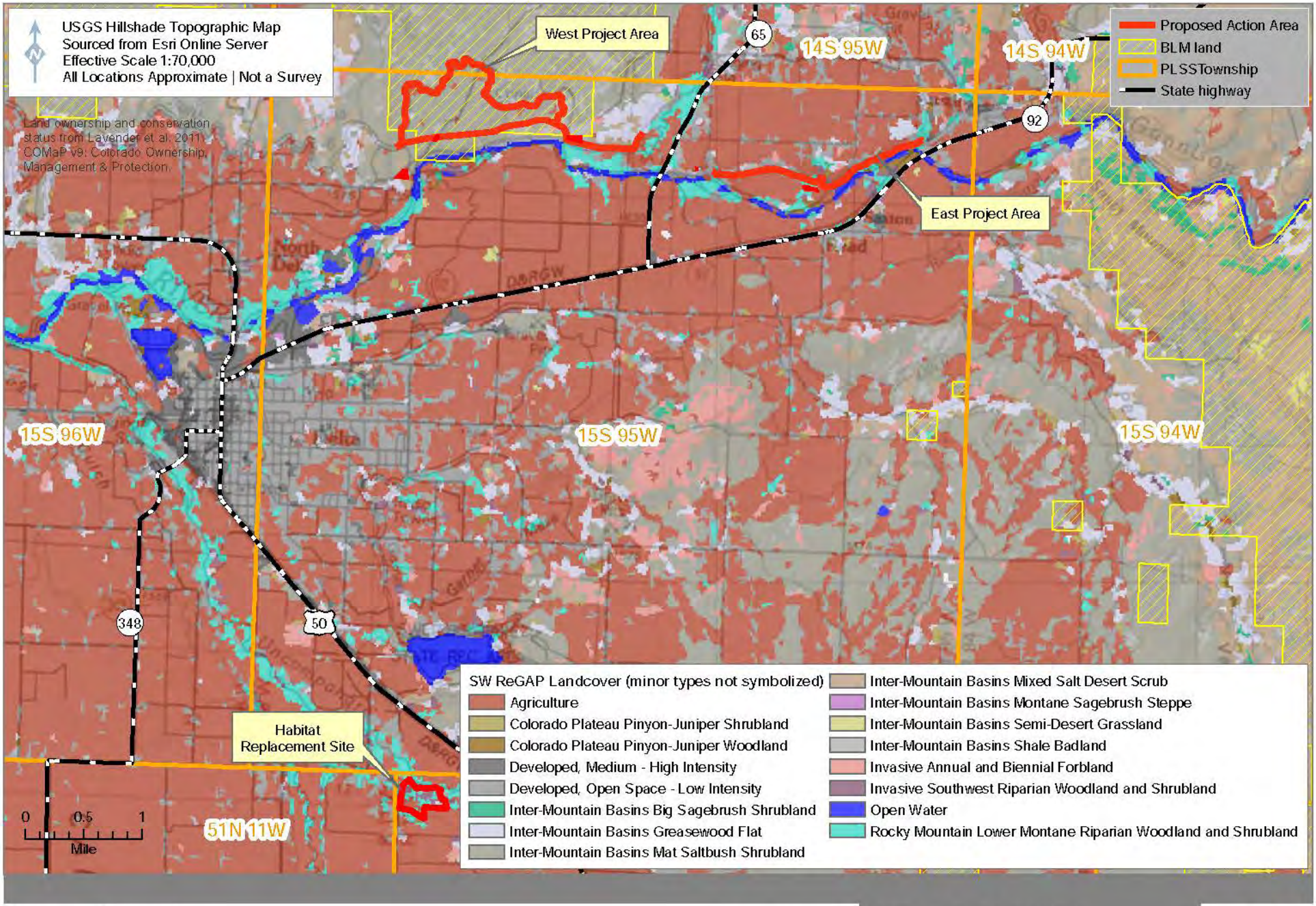


Environmental Assessment
Delta County, Colorado
www.rareearthscience.com
Map by D. Reeder | July 2018

Topographic Map
Habitat Replacement Site

NDIC SALINITY CONTROL PROJECT I

FIGURE
3c

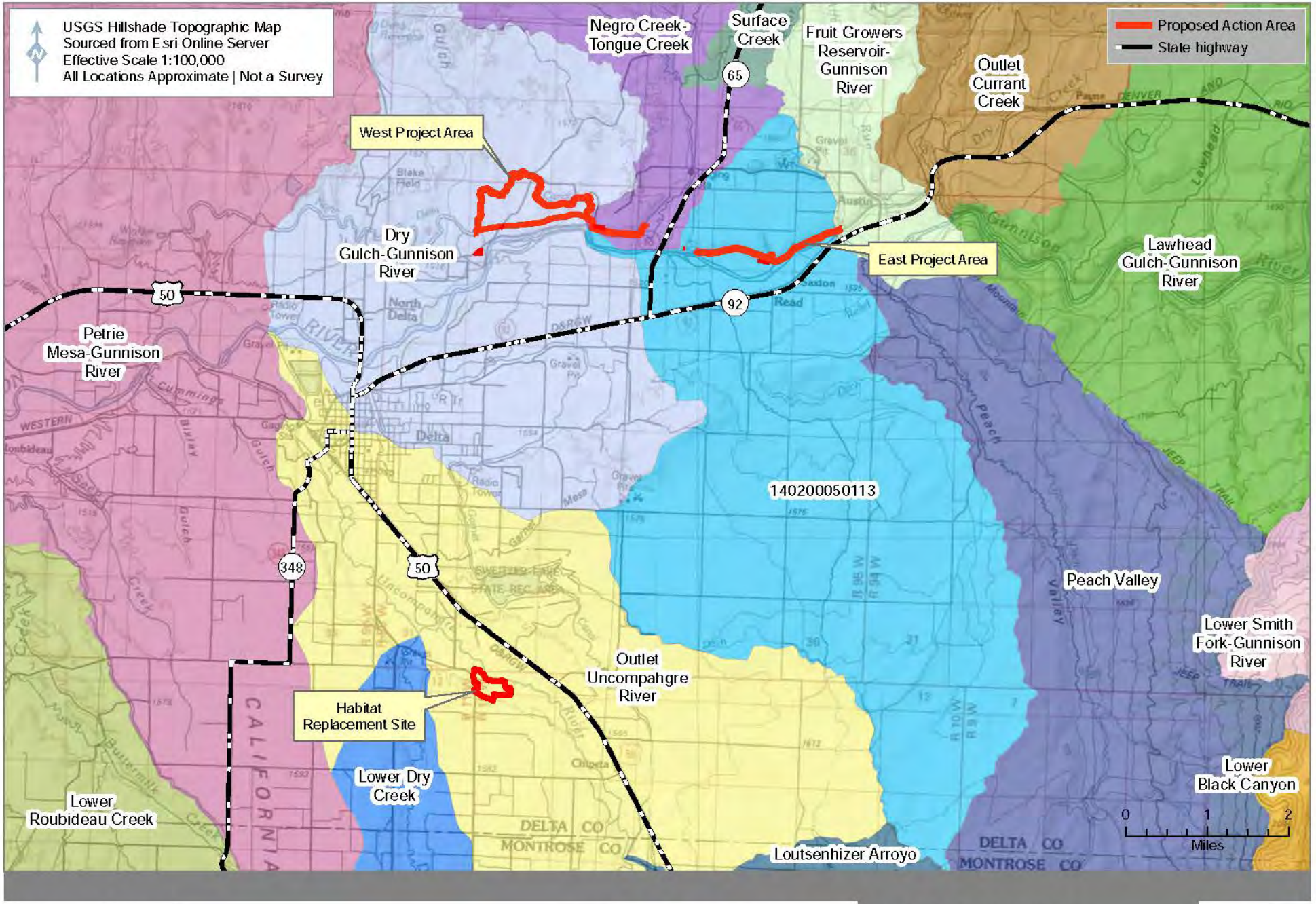


Environmental Assessment
Delta County, Colorado
www.rareearthscience.com
Map by H. Watts | February 2018

Landcover Overview

NDIC SALINITY CONTROL PROJECT I

FIGURE
4

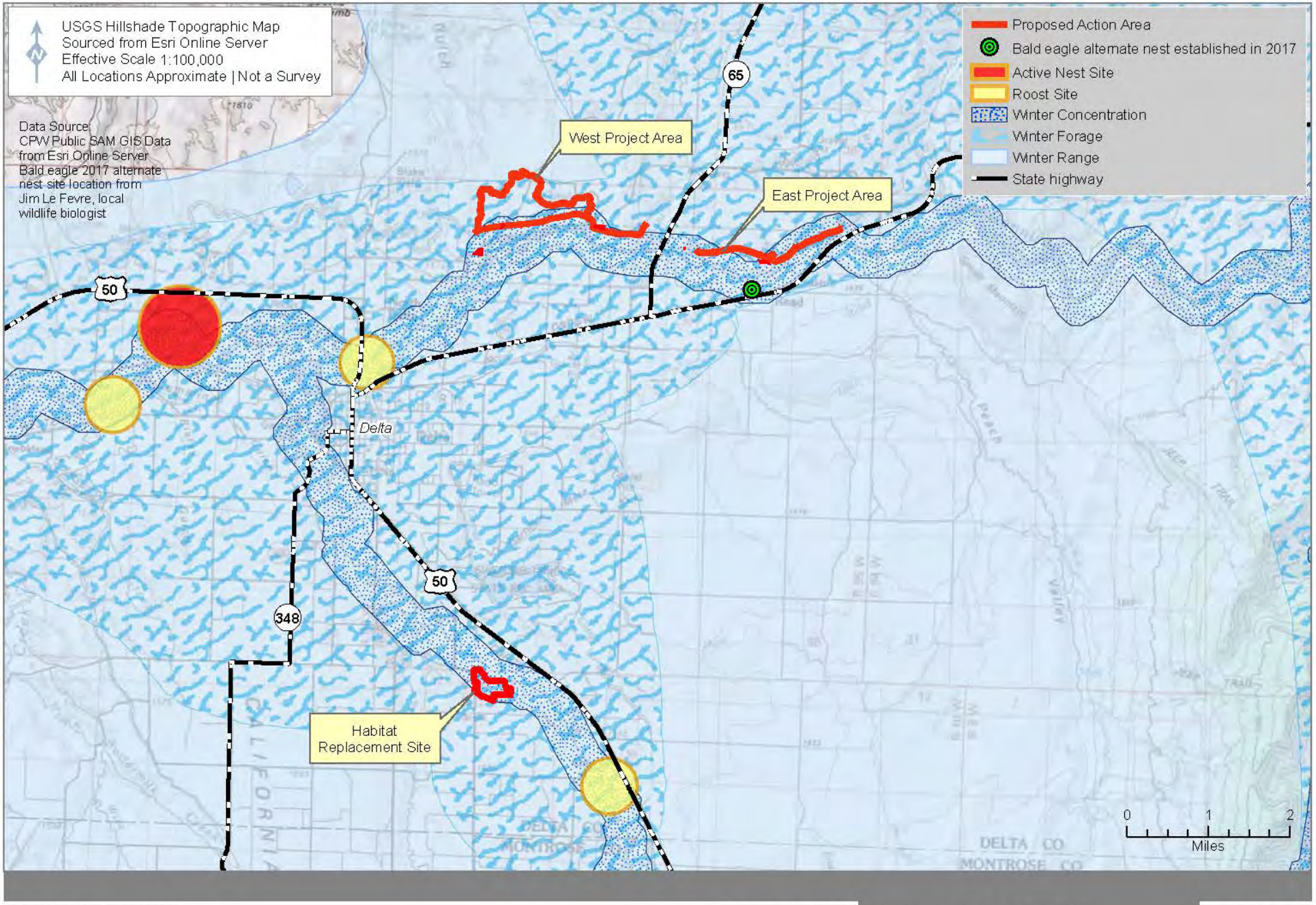


Environmental Assessment
Delta County, Colorado
www.rareearthscience.com
Map by H. Watts | February 2018

Hydrologic Units Map of the Project Vicinity

NDIC SALINITY CONTROL PROJECT I

FIGURE
5

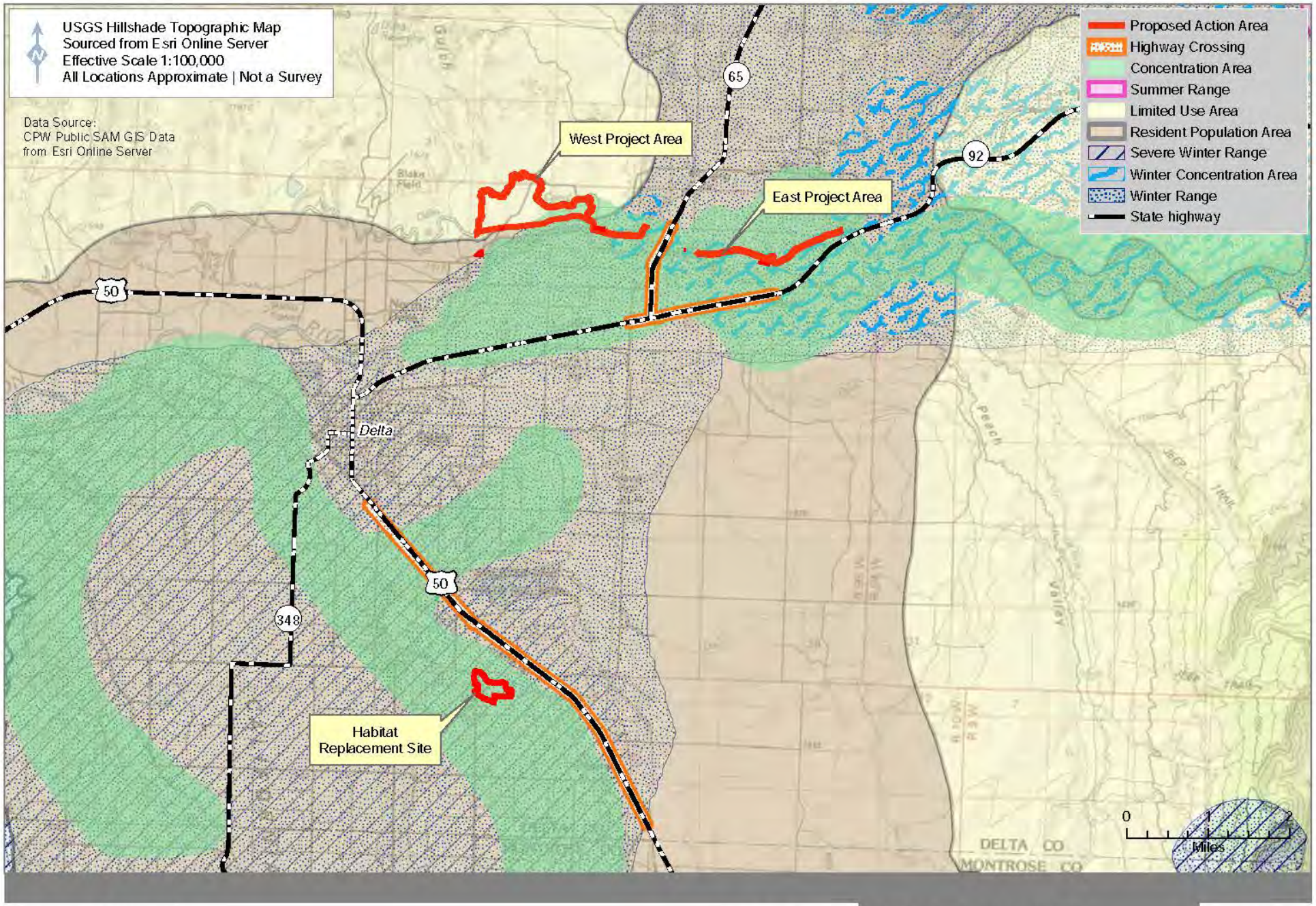


Environmental Assessment
Delta County, Colorado
www.rareearthscience.com
Map by D. Reeder | August 2018

Bald Eagle Range Map

NDIC SALINITY CONTROL PROJECT I

FIGURE
6

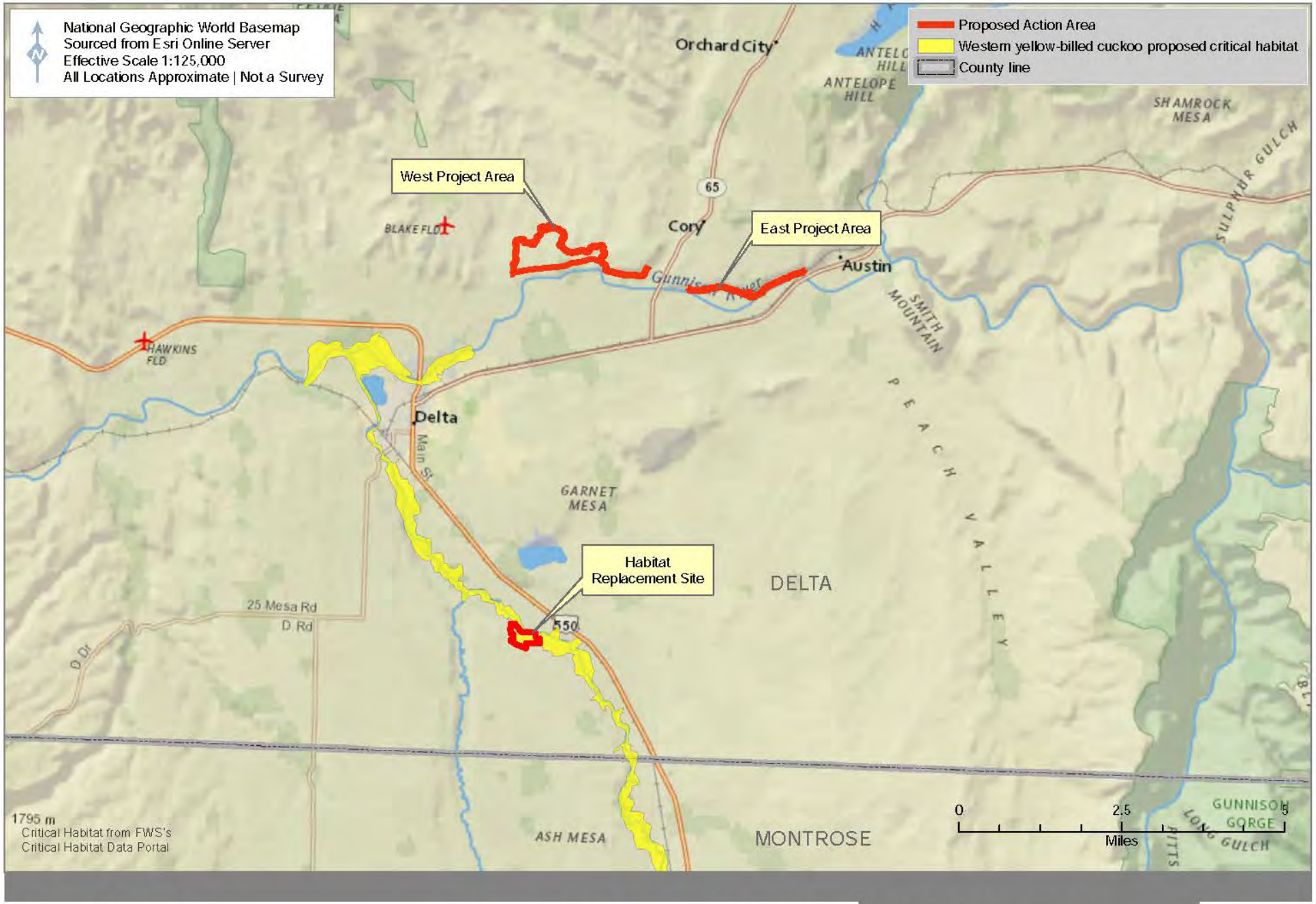


Environmental Assessment
Delta County, Colorado
www.rareearthscience.com
Map by D. Reeder | July 2018

Mule Deer Range Map

NDIC SALINITY CONTROL PROJECT I

FIGURE
7

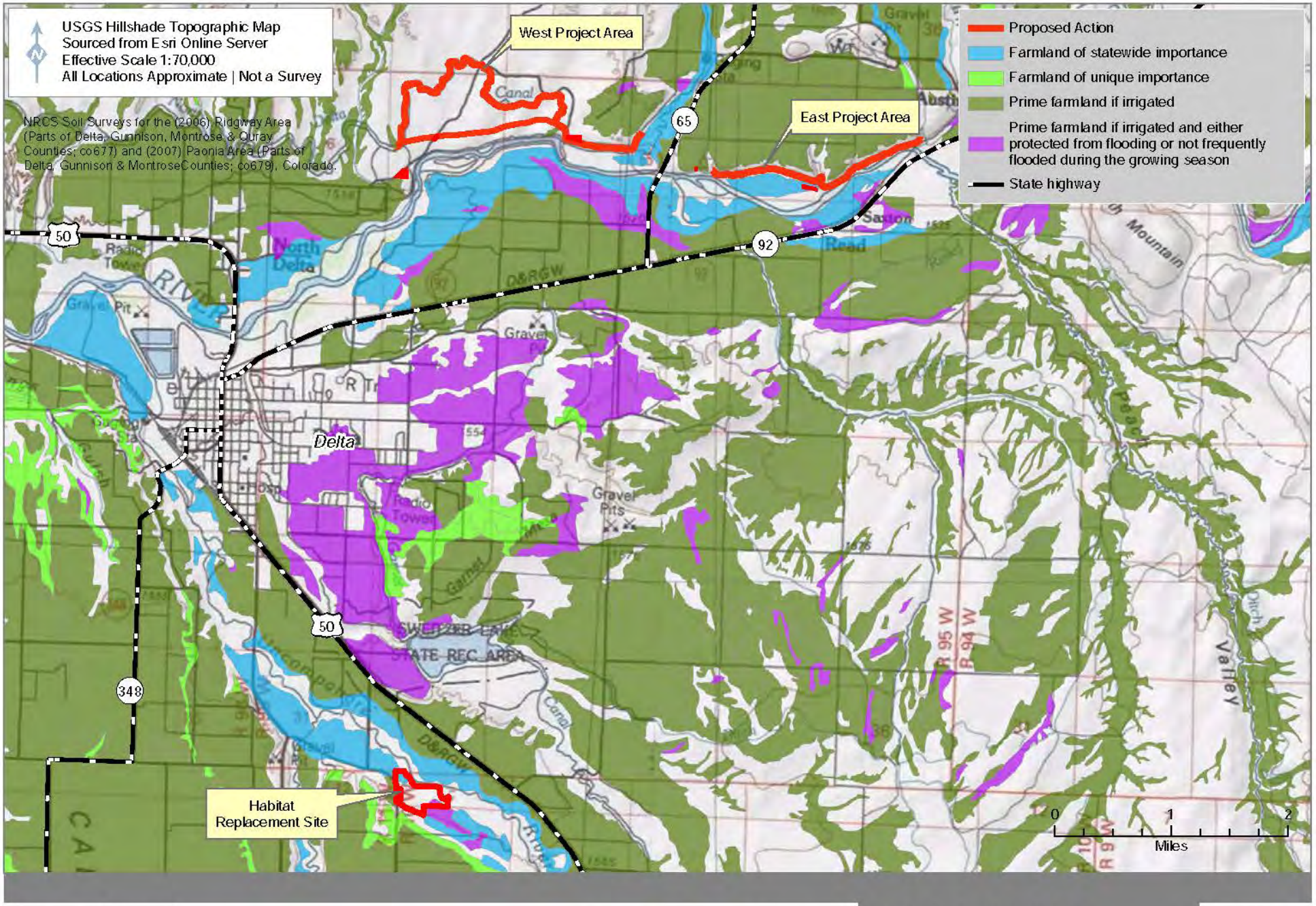


Environmental Assessment
Delta County, Colorado
www.rareearthscience.com
Map by H. Watts | February 2018

Western Yellow-Billed Cuckoo
Proposed Critical Habitat

NDIC SALINITY CONTROL PROJECT I

FIGURE
8



Environmental Assessment
Delta County, Colorado
www.rareearthscience.com
Map by D. Reeder | July 2018

Soils of Agricultural Significance

NDIC SALINITY CONTROL PROJECT I

FIGURE
9

APPENDIX A

Comments on the DRAFT EA and Responses

This page left intentionally blank.

Comment Summaries and-Responses

One comment document was received during the comment period containing two distinct, substantive comments. The comments questioned the range of alternatives analyzed in the Draft EA and the location of the habitat replacement project. In compliance with 40 CFR 1503.4, possible responses to these comments include:

- Modifying the alternatives or developing and evaluating new alternatives

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

Category: Alternatives

Comment Number: 1

Summary comment: Commenter was concerned that the Draft EA did not analyze supplying irrigation water via a pump from the Gunnison River and/or the Hartland Canal as an alternative to piping the canal.

Response: As cited in the comment letter, NDIC studied the feasibility of pumping from the Gunnison River and/or the Hartland Canal (pump alternative) in its 2015 Master Plan Study (Study). At the time the Study was finalized, the pump alternative was deemed to be feasible, and included NDIC operating a solar plant for the purpose of selling power to the Delta-Montrose Electric Association (DMEA) to offset the cost of operating the pump. In July 2015, DMEA determined any power purchase agreement (agreement) would be at a rate which was less than half the rate that was assumed in the 2015 Study. This would require the size of the solar plant to be increased by a factor of 2-3 in order to generate sufficient income to fully offset the power consumption cost of the pump station. In addition, DMEA would only commit to a year-to-year agreement with no guarantee for an agreement the next year, rather than a 50-year (life of the salinity project) agreement. This made the pump alternative substantially more expensive and risky, and therefore NDIC dropped the pump alternative from further consideration and proposed piping the canal in their grant application. A discussion on the pump alternative and a canal lining alternative, and why these alternatives were not further analyzed in the EA, has been added to Section 1.4 of the Final EA.

Category: Habitat Replacement Project

Comment Number: 2

Summary comment: Commenter indicated there are other lands closer to the project area, including Lawhead Gulch on BLM land, that are suitable for similar habitat replacement projects, and requested NDIC develop a habitat replacement project on the Gunnison River closer to the project area.

Response: Reclamation does not select the habitat replacement site, but reviews the grant recipient's proposal to determine if the land has legal protection and if the habitat replacement plan would adequately replace habitat losses. There is no requirement to select a site closest to the location of the habitat losses. The grant recipient selects the site based on considerations

such as availability, land protection, access, potential for habitat improvements, and potential to achieve the required habitat credits. Initially, NDIC worked with the BLM to develop a habitat replacement project at Lawhead Gulch, but this habitat replacement site was ultimately rejected by NDIC due to complications such as allowable access to the site, sheep grazing on the site, and right-of-way costs.

TROUT UNLIMITED

September 26th, 2018

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

CC: Leslie McWhirther
Bureau of Reclamation
lmcwhirter@usbr.gov

Re: Draft Environmental Assessment and Finding of No Significant Impact
North Delta Irrigation Canal Salinity Control Project I

Dear Mr. Warner,

Trout Unlimited ("TU") submits the following comments on the Draft Environmental Assessment (the "EA") and Finding of No Significant Impact (the "FONSI") on the North Delta Canal Salinity Control Project 1 on behalf of the 10,000 TU members within Colorado and the nearly 150,000 volunteers throughout the nation who are concerned with the health of coldwater fisheries, and the recreation opportunities healthy rivers and streams support.

TU appreciates the hard work and dedication of Reclamation to reduce salinity levels in the Colorado River and its tributaries. We support processes which will reduce salt and selenium from leaching out of the North Delta Canal and other canals, especially when those improvements result in improved efficiency and water conservation.

TU has worked with the North Delta Irrigation District ("NDIC") since 2012 to address structural deficiencies within the canal to increase the efficiency of the canal system, improve flows in the Gunnison River, and reduce the impacts of irrigation diversions. Through this process, we worked with engineers and other parties interested in supporting the infrastructure and management improvements to develop recommendations and alternatives to traditional operations. The Gunnison River upstream and downstream of the NDIC diversion provides healthy habitat for trout, flannelmouth sucker, bluehead sucker, and roundtail chub and is also a valued destination for recreational river users.

Comment #

1

Our primary concern with the EA and the associated FONSI is that they were based on a process that did not analyze supplying irrigation water via a pump from the Gunnison River and/or the Hartland Canal as an alternative to the proposed piping project. The pumped water alternative was recommended by Applegate Engineers in a report titled Master Plan Study- Phase II which was provided to the NDIC in March of 2015 and in a report by King Engineering and Associates titled, "North Delta Irrigation Company Thinking of the Next 100 Years, Carrier System Alternatives" provided to the irrigation company in March of 2014 and presented to the company at its annual shareholder meeting that same year. It is worth noting that Applegate Engineers provided the engineering for the NDIC Salinity Control FOA submission which resulted in the EA and FONSI.

The pumped water alternative, as described in the Applegate report, would achieve a greater reduction in salinity loading to the Gunnison River compared to the piping alternative described in the EA. Applegate estimated that the pumped water alternative would cost $5.5 million and with an annual salt reduction of 5970 tons or 1587 more tons of salt than the piped alternative would remove, according to

Trout Unlimited: America's Leading Coldwater Fisheries Conservation Organization
Cary Denison, Gunnison Basin Project Manager
264 County Road 4, Montrose, CO 81403 •(970) 596-3291•cdenison@tu.org • www.tu.org

the EA. As described in the Applegate report, the pumped water alternative would provide piped water from the diversion on the Gunnison to the irrigated lands near Austin, eliminate 7 miles of canal-including the Tongue Creek siphon and tunnel which is fraught with maintenance and repair issues, help reconnect Tongue Creek with the Gunnison River, provide pumped water to shareholders near Tongue Creek, improve system efficiency and provided a solar array that would offset pumping costs and $2000 of annual maintenance costs. If implemented the pumped water alternative would reduce diversions from the current NDIC diversion resulting in improved flows and a reduction in loss of fish to entrainment in the canal. Pumping water to the canal and piping the three major laterals in the north Delta area would reduce overall diversions and result in more efficient use or water within the NDIC service area thereby reducing salt loading from on-farm sources and reduce loss of water from off farm consumptive uses.

The following is an excerpt from the recommendations section of Applegate's 2015 report:

> "The best option evaluated in this study would be to take advantage of grant money from the USBR Salinity Control Program to significantly change the current system. Other grants are likely available in smaller amounts and could be used to compliment USBR funding, however, no program is capable of providing such a large grant without matching funds from NDIC. Abandoning over 7 miles of canal in the middle of the system and installing a pump station near Delta would likely be able to secure enough grant money to fully pay for the project without any financial contribution by NDIC. As discussed above, a hydropower or solar power plant would be included in the project in order to offset the annual cost of power for the pump as well as annual maintenance of the system. The proposed system would also include piping three key laterals, installing 9 check structures, improvements to existing canal infrastructure, as well as other items listed earlier in the report."

2 We are also concerned about the habitat replacement plan described in the EA. The area of the habitat replacement plan is described as land adjacent to the Uncompahgre River. Through our involvement in conservation work on the Gunnison we know of other lands, including Lawhead Gulch on BLM land less than one mile upstream of the North Delta Canal diversion, that are suitable for similar habitat replacement projects.

In conclusion we ask Reclamation to consider alternatives to the North Delta Irrigation Salinity Project that will achieve reductions in salinity loading as well as improve flows and habitat in the Gunnison River. We also ask Reclamation to work with NDIC to develop a habitat replacement project that is on the Gunnison River and closer to the project area than the one described in the EA.

Sincerely,

Cary Denison

Trout Unlimited: America's Leading Coldwater Fisheries Conservation Organization
Cary Denison, Gunnison Basin Project Manager
264 County Road 4, Montrose, CO 81403 •(970) 596-3291 •cdenison@tu.org • www.tu.org

APPENDIX B

Distribution List

All landowners adjacent to the Proposed Action
BLM Permit Holder for the Ward Creek-Doughspoon Grazing Allotment
Citizens for a Healthy Community
City of Delta
Colorado Department of Transportation
Colorado Office of Archaeology and Historic Preservation Colorado Parks and Wildlife
Colorado River Water Conservation District
Colorado Water Conservation Board
Delta Area Chamber of Commerce
Delta Montrose Electric Association
Delta County Planning & Development Department
Delta County Road & Bridge Department
Delta County Independent
Trout Unlimited
U.S. Army Corps of Engineers
U.S. Bureau of Land Management
U.S. Department of Agriculture Natural Resources Conservation Service
U.S. Fish and Wildlife Service
Western Slope Conservation Center

This page left intentionally blank.

APPENDIX C

Section 404 Clean Water Act Exemptions Documentation

This page left intentionally blank.

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

October 30, 2018

Regulatory Division (SPK-2018-00884)

Bureau of Reclamation
Attn: Ms. Jennifer Ward
445 W Gunnison Avenue
Grand Junction, Colorado 81501
jward@usbr.gov

Dear Ms. Ward:

This concerns the proposed North Delta Irrigation Canal Salinity Control Project I Salinity Control (NDIC 1) project which would replace ~ 6.1 miles of open, unlined North Delta Canal with a total of ~ 4.3 miles of buried irrigation pipe, ~ 2.9 miles of existing canal would be decommissioned and backfilled, and ~ 1.4 miles of pipe (an inverted siphon) would be buried outside the existing canal alignment, and ~ 3 miles of existing canal would be decommissioned and backfilled. Included in the Proposed Action is an offsite habitat replacement project. The project site is located near the Gunnison River, in Sections 1, 2, 3, 4, and 5, Township 15 South, Range 95 West, 6th P.M., centered approximately at Latitude 38.8613997795871°, Longitude -107.863197407268°, Delta County, Colorado.

Based on the information you have provided, we have determined that the proposed work is exempt from Section 404 of the Clean Water Act. 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 on site 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.

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*.

Please refer to identification number SPK-2018-00884 in any correspondence concerning this project. If you have any questions, please contact me at the Colorado

West Section, 400 Rood Avenue, Room 224, Grand Junction, Colorado 81501, by email at w.travis.morse@usace.army.mil or telephone at (970) 243-1199 X 1014. For more information regarding our program, please visit our website at www.spk.usace.army.mil/Missions/Regulatory.aspx.

Sincerely,

Travis Morse
Senior Project Manager
Colorado West Section
Regulatory Division

cc:
Ms. Dawn Reeder, Rare Earth Science, dawn@rareearthscience.com
Ms. Stephanie Connolly, Bureau of Land Management, s.connolly@blm.gov
Ms. Jeanie McCulloch, Delta County, planning@deltacounty.com

APPENDIX D

BLM ROW Permit DRAFT Legal Description and Stipulations

This page left intentionally blank.

COC-78739
Exhibit A

DRAFT Legal Description of ROW on public land

Permanent ROW for buried pipeline

Adobe Siphon
6th Principal Meridian, Colorado
T. 15 S., R., 95 W.,
sec. 4, S1/2NW1/4;
sec. 5, SE1/4NE1/4, NE1/4SW1/4, and NW1/4SE1/4.
30 feet wide by 5,712 feet long and contains 3.9 acres, more or less.

Adobe Siphon – in existing ditch – Rent Exempt
6th Principal Meridian, Colorado
T. 15 S., R., 95 W.,
sec. 4, SW1/4NE1/4.
30 feet wide by 428 feet long and contains 0.29 acres, more or less.

"Section 4" in existing ditch – Rent Exempt
6th Principal Meridian, Colorado
T. 15 S., R., 95 W.,
sec. 4, SW1/4NE1/4.
30 feet wide by 360 feet long and contains 0.25 acres, more or less.

Temporary ROW for access and staging
Staging Area - Site
6th Principal Meridian, Colorado
T. 15 S., R., 95 W.,
sec. 5, NE1/4SW1/4.
Contains 1.4 acres, more or less.

Access Road – Trap Club
6th Principal Meridian, Colorado
T. 15 S., R., 95 W.,
sec. 5, NE1/4SW1/4.
30 feet wide by 396 feet long and contains 0.3 acres, more or less.

Access Road – J 25 / Fairview
6th Principal Meridian, Colorado
T. 15 S., R., 95 W.,
sec. 4, lots 3 and 4, S1/2NW1/4.
30 feet wide by 2,415 long and contains 1.7 acres, more or less

Access Road – I 60
6th Principal Meridian, Colorado
T. 15 S., R., 95 W.,
sec. 4, SE1/4NW1/4, and SW1/4NE1/4.
30 feet wide by 450 feet long and contains 0.3 acres, more or less

This page left intentionally blank.

Exhibit B

STIPULATIONS

1. The holder shall contact the authorized officer at least five days prior to the anticipated start of construction and/or any surface disturbing activities. For emergencies, the holder will contact the BLM as soon as possible after maintenance activities. The authorized officer may require and schedule a preconstruction conference with the holder prior to the holder's commencing construction and/or surface disturbing activities on the right-of-way. The holder and/or his representative shall attend this conference. The holder's contractor, or agents involved with construction and/or any surface disturbing activities associated with the right-of-way, shall also attend this conference to review the stipulations of the grant. The BLM authorized representative is the Environmental Protection Specialist, who can be reached at the Uncompahgre Field Office, 2465 South Townsend, Montrose, Colorado 81401 or phone at (970) 240-5333. An alternate contact is the Realty Specialist, Uncompahgre Field Office, (970) 240-5322.

2. The holder shall construct, operate, and maintain the facilities, improvements, and structures within this right-of-way in conformance with the design plans developed by Applegate Group, Inc., dated August 2017, titled "North Delta Irrigation Company Salinity Control Project 2017-2018". Any relocation, additional construction, or use that is not in accord with the approved conditions herein shall not be initiated without the prior written approval of the authorized officer. A copy of the complete right-of-way grant, including all plans and stipulations shall be made available at the right-of-way site during construction. Noncompliance with the above will be grounds for an immediate temporary suspension of activities if it constitutes a threat to public health or the environment.

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

4. Pursuant to 43 CFR 10.4(g), the holder of this authorization must notify the authorized officer, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

5. Use of pesticides/herbicides shall comply with the applicable Federal and state laws. Pesticides/herbicides shall be used only in accordance with their registered uses and within limitations imposed by the Secretary of the Interior. Prior to the use of pesticides/herbicides, the holder shall obtain from the authorized officer written approval of the applicant's plan showing the type and quantity of material to be used, pest(s) to be controlled, method of application, location of storage and disposal of containers, and any other information deemed necessary by the authorized officer. The plan should be submitted no later than March 1st of any calendar year

to cover the proposed activities for the next growing season. Emergency use of pesticides/herbicides shall be approved in writing by the authorized officer prior to such use.

6. The holder shall be responsible for noxious weed control within the limits of the right-of-way. The holder is responsible for consultation with the authorized officer and/or local authorities for acceptable weed control methods (within limits imposed in the grant stipulations), including pesticides/herbicides approved for use on BLM land.

7. To reduce the chance of introducing, establishing or spreading noxious weeds in the area all trailers and heavy equipment used for construction of the project in weeded areas will be power washed and free of debris before moving the equipment to a new location.

8. Noxious weed inventories will be conducted prior to construction of the pipeline and if necessary, weeds will be treated to reduce spreading along the right-of-way and onto adjacent lands.

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

10. Any fueling or maintenance of vehicles or equipment will not be conducted within 100 feet of any live water or drainage. All spills, regardless of size, shall be cleaned up promptly and contaminated soil will be disposed of at an approved facility. Any spills will be promptly reported to the BLM Authorized Officer.

11. It is the holder's responsibility to comply with all applicable Federal, State, and local laws and regulations existing or hereafter enacted or promulgated.

12. The holder shall obtain and comply with all County, State and Federal permit requirements, regulations and resolutions.

13. The authorized officer may suspend or terminate in whole, or in part, any construction or maintenance activities, when in his judgment, unforeseen conditions arise which result in the approved terms and conditions being inadequate to protect the public health and safety or to protect the environment.

14. All construction, operation and maintenance shall be within the authorized limits of the right-of-way granted herein. The holder shall clearly flag the exterior boundaries of the right-of-way,

prior to any surface disturbing activities, in order to identify the location and limits for all surface disturbing activities as determined by the authorized officer.

15. All brush, grasses and other woody material cleared from the right-of-way shall be removed from the public land and not scattered on site; unless the debris is mulched and used for reclamation as natural materials to enhance surface stability and re-vegetation efforts.

16. All rocks cleared from the right-of-way shall be removed from the public land and not scattered on site, unless the rocks can be reduced in size if appropriate and used to stabilize and reclaim the area or used as rip-rap on the right-of-way.

17. Existing soil materials within the right-of-way shall be used to the extent possible to backfill the pipeline and recontour the disturbed areas. Any additional fill material needed shall be acquired from private sources.

18. No burning of trash, litter, trees, brush or other vegetative material shall be allowed under this grant.

19. No construction or routine maintenance activities shall be performed during periods when the soil is too wet to adequately support such equipment. If the equipment creates ruts in excess of four (4) inches deep, the soil shall be deemed too wet to adequately support the construction equipment. Emergency repairs to restore and maintain the authorized facility are exempt; however, any damages to resources caused by emergency repairs during wet conditions will be repaired as directed by the authorized officer as soon as possible after the occurrence.

20. The holder shall disturb and remove only the minimum amount of soils and vegetation necessary for the pipeline construction, operation, and maintenance. Topsoil shall be conserved during excavation and reused as cover on disturbed areas to facilitate regrowth of vegetation. The holder shall re-contour disturbed areas as necessary by grading to restore the area to approximately the original contour of the ground as directed by the authorized officer.

21. On the public land construction holes or pipeline trenches left open overnight shall be covered. Covers shall be secured in place and shall be strong enough to prevent livestock or wildlife from falling through.

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

23. As appropriate, the holder shall construct waterbars on all disturbed areas to the spacing and cross sections specified by the authorized officer. Waterbars are to be constructed to: (1) simulate the imaginary contour lines of the slope (ideally with a grade of one or two percent); (2) drain away from the disturbed area; and (3) begin and end in vegetation or rock whenever possible. The waterbars shall be constructed at 50-foot intervals on grades over 14%, 100 feet apart on grades 10-14%, and 200 feet apart on grades 5-10%.

24. The holder shall seed all disturbed areas with the following seed mix. There shall be no primary or secondary noxious weed seed in the seed mixture. In addition, there should be no more than

0.5% total weed seed, less than 2% other seed, and no trash larger than ¼ inch in length. Seed shall not be stored in burlap bags. Seed going on projects less than 20 acres or less than 200 lbs. shall be tested, and the viability testing of seed shall be done in accordance with State law(s). Seed tests shall be less than one year old and can be from the company's seed test. Seed test documents can be from: a) certified "blue" tag(s); b) an independent seed lab test; or c) a seed lab analysis either by seed lot or by seed mix. Copies of the seed test documents shall be forwarded to the BLM, Uncompahgre Field Office. Commercial seed shall be either certified or registered pure live seed (PLS). The seed container shall be tagged in accordance with State law(s) and available for inspection by the authorized officer. Only State Certified weed free mulch shall be used.

The seed shall be evenly and uniformly planted over any disturbed areas. Seed shall be broadcast and the area shall be raked or chained to cover the seed. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of the second growing season after seeding. The authorized officer is to be notified a minimum of two days prior to seeding of the project. Seeding shall be completed at a time of optimum soil moisture content, i.e., early spring or the fall.

Seed Mix?

26. Construction activity and surface disturbance will be prohibited during the period from December 1st to April 30th for the protection of elk and mule deer winter range and bald eagle winter foraging areas. Any exceptions to this requirement must have prior written approval from the authorized officer.

29. Locates Requirement: Prior to any surface disturbing activities, the Utility Notification Center of Colorado, telephone number 811, shall be contacted to verify any existing utilities buried within the project area.

30. Prior to termination of the right-of-way, the holder shall contact the authorized officer to arrange a joint inspection of the right-of-way. This inspection will be held to agree to an acceptable termination and rehabilitation plan as necessary. This plan shall include, but is not limited to, removal of facilities, drainage structures, or surface material, recontouring, topsoiling, or seeding. The authorized officer must approve the plan in writing prior to the holder's commencement of any termination activities.

APPENDIX E

Endangered Species Act Compliance Documents

This page left intentionally blank.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Colorado Ecological Services

IN REPLY REFER TO:
FWS/R6/ES CO

Front Range:
Post Office Box 25486
Mail Stop 65412
Denver, Colorado 80225-0486

Western Slope:
445 W. Gunnison Avenue
Suite 240
Grand Junction, Colorado 81501-5711

TAILS 06E24100-2018-F-0161

October 16, 2018

Memorandum

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

From: Western Slope Supervisor, U.S. Fish and Wildlife Service, Ecological Services, Grand Junction, Colorado Ann Timberman 10/16/2018

Subject: Request for Consultation under Section 7 of the Endangered Species Act for North Delta Irrigation Pipeline Project, Colorado

In accordance with section 7 of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 et seq.), and the Interagency Cooperation Regulations (50 CFR 402), the Fish and Wildlife Service (Service) transmits this correspondence to serve as the final biological opinion (BO) for the North Delta Irrigation Pipeline Project, located in Delta County, Colorado.

Under the proposed action, approximately 4.8 miles of the open, unlined North Delta Canal would be replaced with a total of approximately 2.4 miles of buried gravity-flow irrigation pipe (including an approximately 1.4-mile long buried inverted siphon). Water transported in the North Delta Canal is diverted from the Gunnison River approximately 9 miles east of the city of Delta, and involves a historic average annual depletion of 5,972 acre-feet/year (AF/yr) to the Gunnison River. This water depletion adversely affects the endangered Colorado pikeminnow (*Ptychocheilus lucius*), razorback sucker (*Xyrauchen texanus*), humpback chub (*Gila cypha*), bonytail (*Gila elegans*), and their designated critical habitats.

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

On December 4, 2009, the Service issued a final Gunnison River Basin Programmatic Biological Opinion (PBO) (this document is available for viewing at the following internet address: http://www.coloradoriverrecovery.org/documents-publications/section-7-consultation/GUPBO.pdf). The Service has determined that projects that fit under the umbrella of the Gunnison River PBO would avoid the likelihood of jeopardy and/or adverse modification of critical habitat for depletion impacts. The Gunnison River PBO states that in order for actions to fall within the umbrella of the PBO and rely on the RIPRAP to offset its depletion, the following criteria must be met.

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

2. A fee to fund recovery actions will be submitted as described in the proposed action for new depletion projects greater than 100 acre-feet/year (AF/yr). The 2019 fee is $21.61 per AF and is adjusted each year for inflation.

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

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

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

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

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

- and magnitude of the impact of projects.

Through these bi-annual Sufficient Progress reviews the Service evaluates the best available and current information to determine if the Recovery Program continues to offset depletion effects identified in existing Section 7 consultations including the depletions covered by these PBOs. In the most recent assessment (dated December 10, 2017), the Service determined that sufficient progress has been made towards recovery. Sufficient Progress reports can be found at: http://www.coloradoriverrecovery.org/documents-publications/section-7-consultation/sufficient-progress-letters.html.

If you have any questions regarding this consultation or would like to discuss it in more detail, please contact Creed Clayton of our Western Slope Field Office at (970) 628-7187, Email: creed_clayton@fws.gov.

Attachment: Recovery Agreement

cc: FWS/UCREFRP, Lakewood; Email: Kevin_McAbee@fws.gov

This page left intentionally blank.

GUNNISON BASIN RECOVERY AGREEMENT

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

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

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

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

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

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

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

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

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

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

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

Water User Representative
North Delta Irrigation Company

10-12-2018
Date

Western Colorado Supervisor
U.S. Fish and Wildlife Service

10/15/18
Date

APPENDIX F

Cultural Resource Compliance Documents

This page left intentionally blank.

MEMORANDUM OF AGREEMENT
BETWEEN
THE WESTERN COLORADO AREA OFFICE, BUREAU OF RECLAMATION, BUREAU OF LAND MANAGEMENT, NORTH DELTA IRRIGATION COMPANY, AND THE COLORADO STATE HISTORIC PRESERVATION OFFICER REGARDING PHASE I OF THE NORTH DELTA CANAL PIPING PROJECT, SALINITY CONTROL PROGRAM, DELTA COUNTY, COLORADO

WHEREAS, the Bureau of Reclamation (Reclamation) and the North Delta Irrigation Company (NDIC) plan to pipe a 7.2-mile segment of the North Delta Canal (Project); and

WHEREAS, Reclamation plans to fund NDIC to pipe and partially reroute a 7.2-mile segment of the North Delta Canal, as allowed for by the Basinwide Salinity Control Program, thereby making the Project an undertaking subject to review under Section 106 of the National Historic Preservation Act (NHPA), 16 U.S.C. § 470f, and its implementing regulations, 36 CFR Part 800; and

WHEREAS, Reclamation has defined the undertaking's area of potential effect (APE) as contained within a 100-foot-wide corridor centered on the 7.2-mile segment of the existing North Delta Canal, a 1.37-mile long segment of proposed siphon, proposed access roads, and eight staging areas, totaling 59.75 acres on BLM-managed land and 70-acres on private land, as described in Attachment A; and

WHEREAS, Reclamation as lead Federal agency has determined that the Project will have an adverse effect on the North Delta Canal/5DT1738, including segments 5DT1738.1 and 5DT1738.5. This cultural resource has been determined by Reclamation, in consultation with the Colorado State Historic Preservation Officer (SHPO), to be eligible for inclusion on the National Register of Historic Places under Criteria A; and

WHEREAS, the Bureau of Land Management has participated in the consultation and has been invited to sign the Memorandum of Agreement (MOA); and

WHEREAS, the NDIC is the sponsor of the Project, has participated in the consultation, and has been invited to sign the MOA; and

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

WHEREAS, Reclamation has notified Tribes on other irrigation ditch piping projects in which the proposed pipe alignment route will differ significantly from the existing ditch alignment, and the Tribes have chosen not to participate in the consultation; and

NOW, THEREFORE, pursuant to Section 106 of the NHPA, Reclamation and the SHPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect on historic properties

STIPULATIONS

Reclamation shall ensure that the following measures are carried out:

I. Prior to any modification of the recorded segments of the North Delta Canal (5DT1738.1 and .5), Reclamation will ensure that these properties will be recorded in accordance with the guidance for Level I Documentation found in "Historic Resource Documentation, Standards for Level I, II, and III Documentation" (Office of Archaeology and Historic Preservation Publication 1595, March 2013). The documentation will be of archival quality, and will include a detailed narrative history, mapping of the properties and photographic documentation of the portions of the historic properties to be included in the project. Photographs will be black and white archival quality (4" x 6") prints. Features will be plotted on the maps with GPS waypoints and will be extensively described and indexed in the report.

II. In addition, Level I Documentation will include one to three oral history interviews of people who work or worked on the ditch as an effort to increase the public benefit of the project.

III. Stipulation I must be satisfied prior to construction and/or any earth disturbances within the APE.

IV. Reclamation will submit a copy of the Level I Documentation to the SHPO within one (1) year of the execution of this MOA. The SHPO shall review and provide comments within thirty (30) calendar days of receipt. Once accepted by SHPO, SHPO shall receive a minimum of one archivally stable copy of the final recordation for its files and one digital report copy for its digital archive and provide documentation of acceptance. The activities prescribed by the stipulations of this MOA shall be carried out by or under the direct supervision of a person or persons meeting, at minimum, the Secretary of the Interior Profession Qualification Standards (48 FR 44738-39) (PQS) in the appropriate discipline. This does not preclude the use of properly supervised persons who do not meet the PQS.

V. DURATION

This MOA will be null and void if its terms are not carried out within one (1) year from the date of its execution. Prior to such time, Reclamation may consult with the other signatories to reconsider the terms of the agreement. Unless terminated pursuant to Stipulation X, below, this MOA will be in effect through Reclamation's implementation of the stipulations of this MOA, and will terminate and have no further force or effect when Reclamation, in consultation with the SHPO, determines that the terms of the MOA have been fulfilled in a satisfactory manner.

VI. POST-REVIEW DISCOVERIES

If potential historic properties are discovered or unanticipated effects on historic properties found, the NDIC shall implement the discovery plan included as Attachment B of this MOA.

VII. MONITORING AND REPORTING

Each year following the execution of this MOA until its stipulations are carried out, it expires, or is terminated, NDIC shall provide all parties to this MOA a summary report detailing work carried out pursuant to its terms. Such report shall include any scheduling changes proposed, any problems encountered, and any disputes and objections received in NDIC's efforts to carry out the terms of this MOA.

The signatories may monitor activities pursuant to this MOA, and the Council will review such activities if so requested by a party to this MOA. Reclamation will cooperate with the signatories in carrying out their review and monitoring responsibilities.

VIII. DISPUTE RESOLUTION

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

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

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

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

IX. AMENDMENTS

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

X. TERMINATION

If any signatory to this MOA determines that its terms will not or cannot be carried out, that party shall immediately consult with the other signatories to attempt to develop an

amendment per Stipulation IX, above. If within thirty (30) days (or another time period agreed to by all signatories) an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories.

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

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

SIGNATORIES:

Colorado State Historic Preservation Officer

Signed on other page

By:_____ Date:
Steve Turner, AIA, SHPO

Bureau of Land Management, Uncompahgre Field Office

By:_____ Date:
Barbara Sharrow, Field Manager

Bureau of Reclamation, Western Colorado Area Office

By:_____ Date:
Ed Warner, Area Manager

INVITED SIGNATORIES:

North Delta Irrigation Company

By:_____ Date: 10/31/16
Roy Lynn Nelson, President

amendment per Stipulation VIII, above. If within thirty (30) days (or another time period agreed to by all signatories) an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories.

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

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

SIGNATORIES:

Colorado State Historic Preservation Officer

By: Holly K. Norton Date: 12/21/16
fr Steve Turner, AIA, SHPO

Bureau of Reclamation, Western Colorado Area Office

By: Ed Warner Date: 12-1-16
Ed Warner, Area Manager

Bureau of Land Management, Uncompahgre Field Office

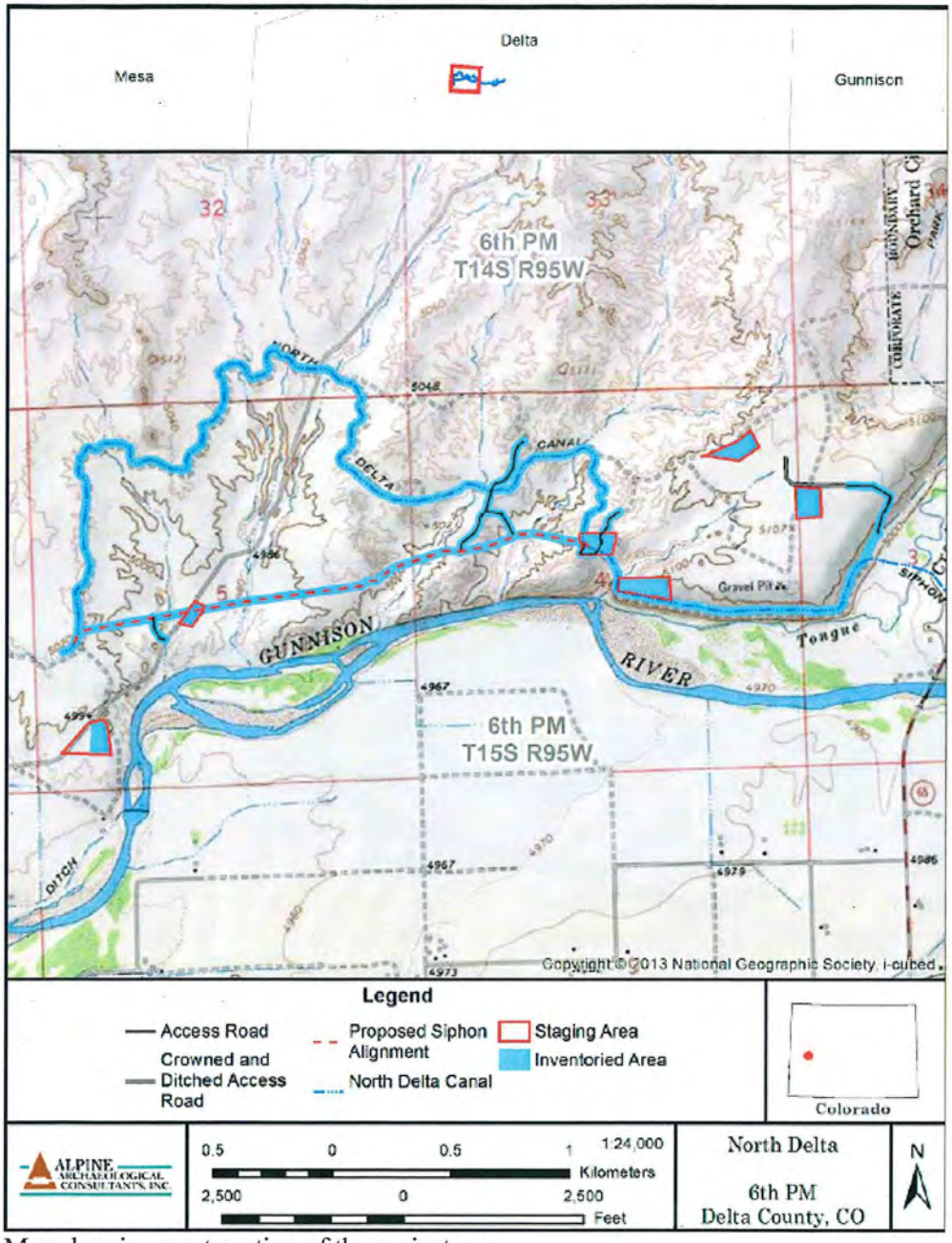
By: Sam Dearstyne Date: 11/17/2016
Sam Dearstyne, Acting Field Manager

INVITED SIGNATORIES:

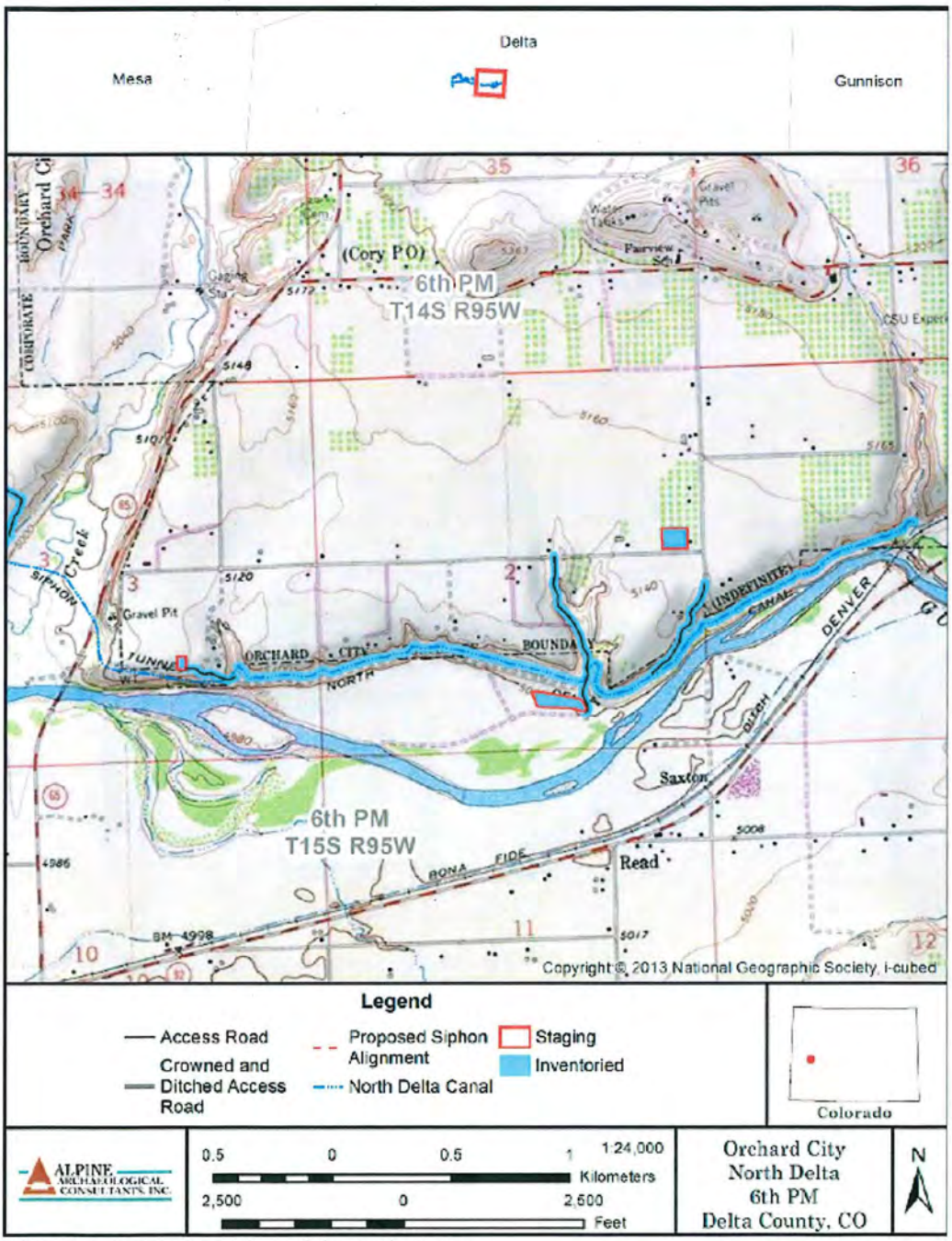
North Delta Irrigation Company

By: Signed other page Date:
Roy Lynn Nelson, President

ATTACHMENT A – AREA OF POTENTIAL EFFECT



Map showing west portion of the project area.



Map showing east portion of the project area.

ATTACHMENT B – UNANTICIPATED DISCOVERY PLAN

PLAN AND PROCEDURES FOR THE UNANTICIPATED DISCOVERY OF CULTURAL RESOURCES

NORTH DELTA CANAL PIPING PROJECT
SALINITY CONTROL PROGRAM,
DELTA COUNTY, COLORADO

1. INTRODUCTION

The North Delta Irrigation Company (NDIC) plans to pipe and partially reroute approximately 7.2 miles of the North Delta Canal. The purpose of this project is to reduce the salt load in the Colorado River Basin. The following Unanticipated Discovery Plan (UDP) outlines procedures to follow, in accordance with state and federal laws, if archaeological materials are discovered.

2. RECOGNIZING CULTURAL RESOURCES

A cultural resource discovery could be prehistoric or historic. Examples include, but are not limited to:

- An accumulation of shell, burned rocks, or other food related materials
- An area of charcoal or very dark stained soil with artifacts,
- Stone tools or waste flakes (i.e. an arrowhead, or stone chips),
- Clusters of tin cans or bottles, logging or agricultural equipment that appears to be older than 50 years,
- Buried railroad tracks, decking, or other industrial materials.

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

3. ON-SITE RESPONSIBILITIES

STEP 1: STOP WORK. If any NDIC employee, contractor or subcontractor believes that he or she has uncovered a cultural resource at any point in the project, all work adjacent to the discovery must stop. The discovery location should be secured at all times.

STEP 2: NOTIFY MONITOR. If there is an archaeological monitor for the project, notify that person. If there is a monitoring plan in place, the monitor will follow its provisions. If there is not an archaeological monitor, notify the project manager.

STEP 3: NOTIFY BUREAU OF RECLAMATION. Contact the Project Overseer at the Bureau of Reclamation:

Project Manager:	Reclamation Project Overseer:
Mr. Ray Lynn Nelson	Jennifer Ward
(970)-216-0174	970-248-0651
NDIC1913@gmail.com	jward@usbr.gov

The Project Manager or the Reclamation Project Overseer will make all other calls and notifications.

If human remains are encountered, treat them with dignity and respect at all times. Cover the remains with a tarp or other materials (not soil or rocks) for temporary protection in place and to shield them from being photographed. Do not call 911 or speak with the media.

4. FURTHER CONTACTS AND CONSULTATION

A. Project Manager's Responsibilities:

- Protect Find: The NDIC Project Manager is responsible for taking appropriate steps to protect the discovery site. All work will stop in an area adequate to provide for the total security, protection, and integrity of the resource. Vehicles, equipment, and unauthorized personnel will not be permitted to traverse the discovery site. Work in the immediate area will not resume until treatment of the discovery has been completed following provisions for treating archaeological/cultural material as set forth in this document.
- Direct Construction Elsewhere On-site: The NDIC Project Manager may direct construction away from cultural resources to work in other areas prior to contacting the concerned parties.
- Contact CR Manager: If there is a CR Program Manager, and that person has not yet been contacted, the Project Manager will do so.
- Contact Project Overseer: If the Project Overseer at the Bureau of Reclamation has not yet been contacted, the Project Manager will do so.
- Identify Find: The Project Manager will ensure that a qualified professional archaeologist examines the find to determine if it is archaeological.
    - If it is determined not archaeological, work may proceed with no further delay.
    - If it is determined to be archaeological, the Project Manager will continue with notification.
    - If the find may be human remains or funerary objects, the Project Manager will ensure that a qualified physical anthropologist examines

the find. If it is determined to be human remains, the procedure described in Section 5 will be followed.

B. Project Overseer's Responsibilities

- Notify SHPO: The Project Overseer will notify the Colorado State Historic Preservation Office (SHPO).

Colorado State Historic Preservation Office:
Mr. Steve Turner, AIA
State Historic Preservation Officer
Colorado Historical Society
1200 Broadway
Denver CO, 80203
(303)-866-2776

C. Further Activities

- Archaeological discoveries will be documented as described in Section 6.
- Construction in the discovery area may resume as described in Section 7.

5. SPECIAL PROCEDURES FOR THE DISCOVERY OF HUMAN SKELETAL MATERIAL

Any human skeletal remains, regardless of antiquity or ethnic origin, will at all times be treated with dignity and respect.

Because the project is a Federal undertaking, the provisions of the Native American Graves Protection and Repatriation Act of 1990 apply, and the Project Overseer will follow their provisions. In areas where the project extends off of Federal lands, the requirements under State Law Colorado Revised Statute (CRS) 24-80 part 13 apply. If the remains are not modern, NAGPRA and ARPA apply if they are found to be Native American. ARPA and the Unmarked Human Graves Colorado Statute (CRS 24-80-1301-1305) apply if the human remains are Native American and/or determined to be of archaeological interest.

In the event possible human skeletal remains are discovered, NDIC will comply with applicable state and federal laws, and the following procedure:

A. Notify Law Enforcement Agency or Coroner's Office:

In addition to the actions described in Sections 3 and 4, the Project Manager will immediately notify the local law enforcement agency or coroner's office.

The coroner (with assistance of law enforcement personnel) will determine if the remains are human, whether the discovery site constitutes a crime scene, and will notify SHPO.

Delta County Coroner
(970) 874-5918

B. Further Activities:

When consultation and documentation activities are complete, construction in the discovery area may resume as described in Section 7.

6. DOCUMENTATION OF ARCHAEOLOGICAL MATERIALS

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

The Project Manager will ensure the proper documentation and assessment of any discovered cultural resources in cooperation with the Bureau of Reclamation, SHPO, affected tribes, and a contracted consultant (if any). All prehistoric and historic cultural material discovered during project construction will be recorded by a professional archaeologist in accordance with all state and federal laws.

7. PROCEEDING WITH CONSTRUCTION

Project construction outside the discovery location may continue while documentation and assessment of the cultural resources proceed. A professional archaeologist must determine the boundaries of the discovery location. In consultation with SHPO and affected tribes, the Project Manager and Project Overseer will determine the appropriate level of documentation and treatment of the resource.

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