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RECLAMATION

# **Interstate Canal Piping Salinity Control Project Environmental Assessment**

**Summit and Daggett Counties, Utah  
and Sweetwater County, Wyoming**

**PRO-EA-20-016**



## **Mission Statements**

The Department of the Interior conserves and manages the Nation's natural resources and cultural heritage for the benefit and enjoyment of the American people, provides scientific and other information about natural resources and natural hazards to address societal challenges and create opportunities for the American people, and honors the Nation's trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities to help them prosper.

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.

# **Interstate Canal Piping Salinity Control Project Environmental Assessment**

**Summit and Daggett Counties, Utah  
and Sweetwater County, Wyoming**

*prepared for Bureau of Reclamation*

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Cover Photo: Interstate Canal. (Hansen, Allen & Luce, Inc./Brian Andrew)

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Attachment A – Salt Load Reduction Estimate

Attachment B – NRCS Custom Soil Resource Report

Attachment C – Wildlife Habitat Evaluation Report

\*Attachments A-C can be obtained by request

# Chapter 1 – Purpose and Need

## 1.1 Introduction

This Environmental Assessment (EA) has been prepared in compliance with the National Environmental Policy Act (NEPA) to evaluate the potential environmental impacts of the Interstate Canal Salinity Control Project (Project or Proposed Action) proposed by the Interstate Irrigation and Reservoir Company (IIRC or Applicant). The Applicant has proposed to install approximately 11.0 miles of underground pressurized pipeline to replace 13 miles of open unlined canal (Interstate Canal), the canal's diversion structure and headworks, and other associated appurtenances. The pipeline, diversion structure and associated appurtenances would primarily be installed within the easements for the existing canal alignment. However, in several areas the proposed pipeline alignment deviates from the canal alignment to provide a shorter, more direct route.

The Project is located on the north slope of the Uinta Mountains, with the eastern terminus near McKinnon, Wyoming. The Project location, existing facilities, and irrigated lands are shown in Figure 1.1-1. Figure 1.1-2 shows the existing canal alignment, the proposed pipeline alignment, and land ownership status.

The U.S. Department of the Interior Bureau of Reclamation (Reclamation) is authorized by the Colorado River Basin Salinity Control Act to provide funding assistance for the Proposed Action. As the primary funding agency, Reclamation is the lead federal agency for the NEPA evaluation. The operation and maintenance of the constructed Project would be funded through annual water-user assessments.

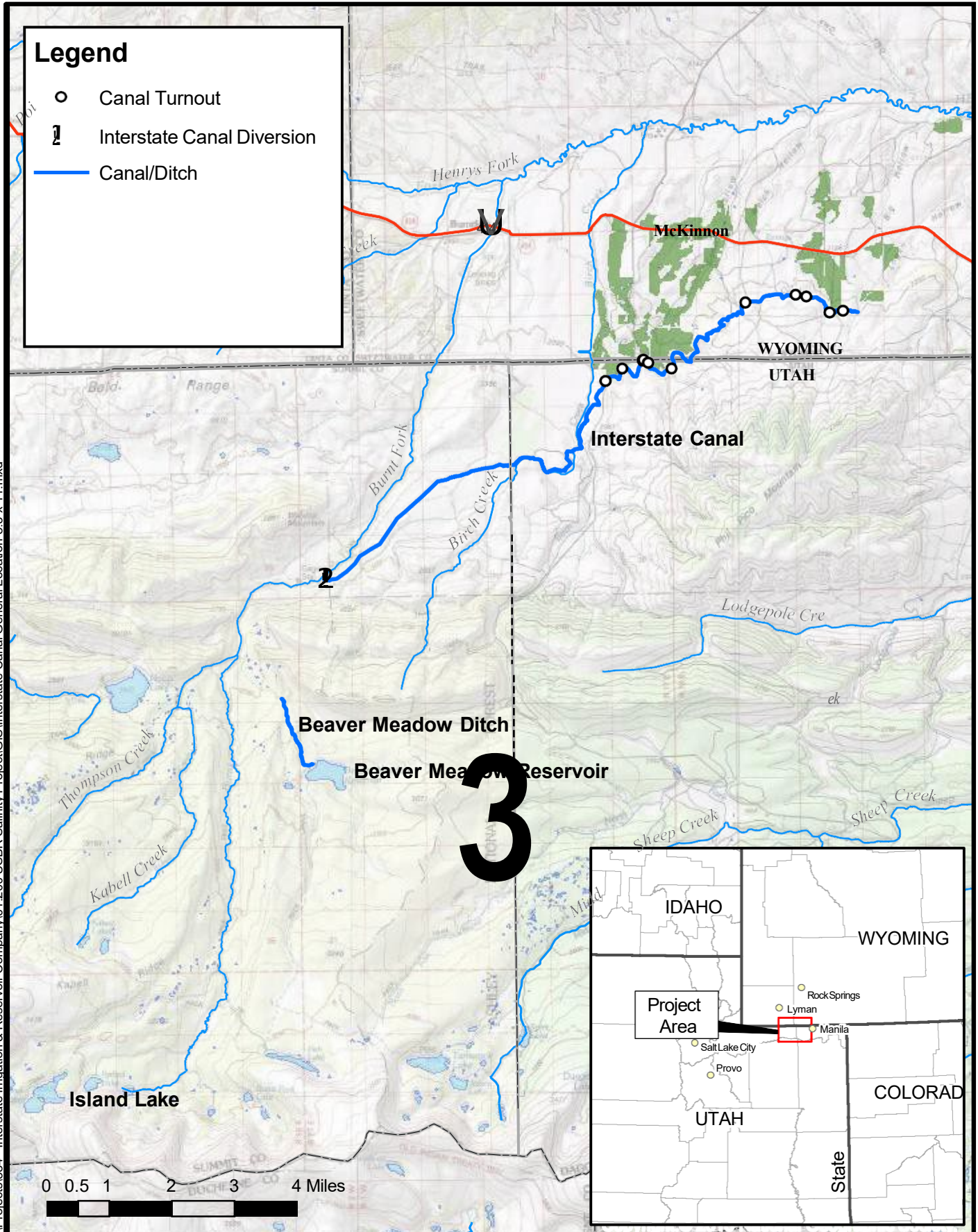
In accordance with the NEPA Council on Environmental Quality (CEQ) Section 1502.13, all federal agencies should consider impacts of proposed actions on the environment and specify the underlying purpose and need to which the agency is responding to proposed actions and alternatives.

The EA assists Reclamation in Project planning and ensuring compliance with NEPA, and in making an determination as to whether any “significant” impacts could result from the Proposed Action. “Significance” is defined by NEPA and is found in regulation 40 CFR 1508.27. An EA provides evidence for determining whether to prepare an Environmental Impact Statement (EIS) or a statement of “Finding of No Significant Impact” (FONSI).



## Legend

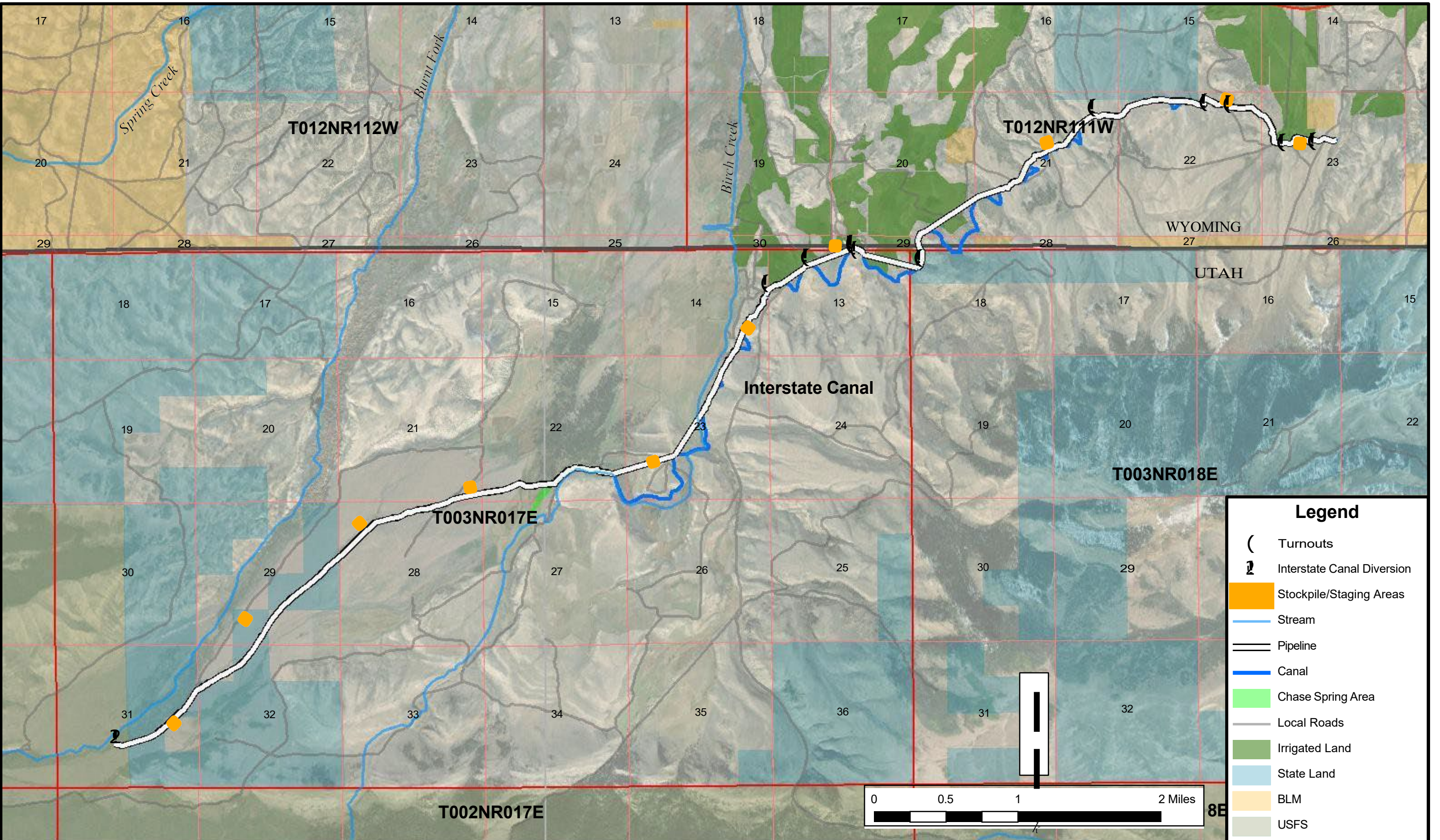
- Canal Turnout
- 1 Interstate Canal Diversion
- Canal/Ditch



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Interstate Canal Salinity Control Project

Project Facilities and Land Ownership

FIGURE  
1.1-2



## **1.2 Background**

### **1.2.1 Colorado River Basin Salinity Control Program**

The Colorado River and its tributaries provide municipal and industrial water to about 40 million people and irrigation water to 5.5 million acres of land in the United States (U.S. Bureau of Reclamation, 2021). The river also serves about 2.3 million people and 500,000 acres in Mexico. The threat of salinity is a major concern in both the United States and Mexico.

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 water quality available in the United States and Republic of Mexico. In October 1984, Congress amended the original act by passing Public Law 98-569.

Salinity affects agricultural, municipal, and industrial water users. From 2005 to 2015, an average of 7.5 million tons of salt flowed into the Colorado River annually, and by the year 2035, it is estimated that 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 (U.S. Bureau of Reclamation, 2017). Irrigated agriculture contributes approximately 37 percent of the salinity in the system. Irrigation increases salinity in the system by both depleting in-stream flows, and mobilizing salts found in underlying geologic formations, especially from flood irrigation practices.

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.

Through two Reclamation programs, the Basinwide Salinity Control Program and the Basin States Program, this agency funds salinity control projects with a one-time grant that is limited to an applicant's competitive bid. Both programs are managed under Reclamation's Colorado River Salinity Control Program (Salinity Control Program). Once constructed, the facilities are owned, operated, maintained, and replaced by the applicant at their own expense. Significant salinity control results from the implementation of measures on private agricultural lands.

### **1.2.2 Interstate Canal**

The Interstate Canal is maintained and operated by the IIRC. The canal is in southwestern Wyoming, and northern Utah, adjacent to the Wyoming-Utah border. Construction of the Interstate Canal was completed, and water was first diverted from Burnt Fork Creek beginning sometime during the 1920s. The canal is 13-mile-long earthen ditch. Its width varies from about 10 feet at the headgate to about six feet at the end. Lateral irrigation ditches are used to divert canal water to irrigate fields and pastures north of the canal. These lateral ditches are maintained by individual farmers.

IIRC also maintains and operates two storage reservoirs. These reservoirs are shown on Figure 1.1-2. Island Lake is a natural lake that was enlarged by constructing a small dike with an outlet gate. Beaver Meadow Reservoir was created by a dam on Lost Creek. Both reservoirs are located

south of McKinnon, high in the Uinta Mountains and provide a combined storage capacity of 2,563 acre-feet.

IIRC irrigates 2,035 acres of land for which the principal crop is grass hay. Most of the irrigated land (1,967 acres) is located in Wyoming. IIRC experiences chronic water shortages, especially towards the end of the growing season. In a typical year IIRC runs out of water in early July when their reservoir storage is depleted.

### **1.3 Purpose and Need**

The purpose of the Proposed Action is to reduce salt loading to the Colorado River. Salt load reduction would be accomplished by reducing or eliminating seepage from the canal. In its current unlined condition, the canal loses about 25 percent of its flow through seepage into the ground. This seepage water passes through salt bearing ground formations as it flows into local streams including Burnt Fork, Birch Creek, and the Henrys Fork River and eventually to the Colorado River. Piping the canal would provide a water-tight conduit that would eliminate this seepage.

Secondary objectives of the Proposed Action are to:

1. increase the efficiency of the existing systems by reducing water losses associated with seepage, evaporation, and operation of the canal,
2. reduce maintenance along the canal, and
3. mitigate impacts to wildlife by establishing and implementing a habitat replacement plan.

The Salinity Control Act (Public Law 93-320) of 1974, as amended, provides that the Basinwide Salinity Control Program and the Basin States Program shall fund projects anywhere in the Colorado River Basin that contribute to salinity control. The Proposed Action qualifies for this funding in part because it would reduce salinity contributions to the Colorado River Basin by an estimated 2,295 tons annually (Attachment A).

The Proposed Action is needed to enhance and protect water quality available in the Colorado River for use in the United States and Republic of Mexico as described in Section 1.2.1.

## 1.4 Authorizing Actions, Permits, and Licenses

Implementation of the Proposed Action may require several authorizations or permits from federal and state agencies. The Applicants would be responsible for obtaining all permits, licenses and authorizations required for the Proposed Action. Potential authorizations or permits may include those listed in Table 1.5-1.

**Table 1.5-1 - Potential Permits and Authorizations**

<b>Agency/Department</b>	<b>Purpose</b>
Bridger Valley Electric Association	Underground Power Crossing Agreement
Daggett County Road Department, Utah	Right of Way Agreement
Private Landowners	Construction and Operation & Maintenance easements
State of Utah School and Institutional Trust Lands Administration (SITLA)	Easement Agreement
Summit County, Utah	Easement Agreements
Utah Department of Environmental Quality, Division of Water Quality (DWQ)	Utah Pollutant Discharge Elimination System (UPDES) Permit for projects that disturb more than one acre of land or any point source discharges into Burnt Fork or Birch Creek.
Utah Department of Natural Resources, Division of Water Rights (UDWR)	Stream Alteration Permit as required under Section 73-3-29 of the Utah Code.
Utah State Historic Preservation Office (SHPO)	Consultation pursuant to Section 106 of the National Historic Preservation Act (NHPA), 16 USC 470.
Sweetwater County, Wyoming	Easement Agreements
Wyoming State Historic Preservation Office (SHPO)	Consultation pursuant to Section 106 of the National Historic Preservation Act (NHPA), 16 USC 470.
US Army Corps of Engineers (USACE)	According to a joint Memorandum between the USACE and the U.S. Environmental Protection Agency, dated July 24, 2020, the canal piping project may be exempt from regulation under Section 404(f)(1)(C) of the CWA. However, applicant will coordinate with Corps of Engineers Utah and Wyoming offices to satisfy any required permits under Sections 401 and 404 of the CWA.
USDA Forest Service (FS)	Special Use Permit within Forest Service-Administered Lands for diversion structure reconstruction.
US Fish and Wildlife Service (FWS)	Consultation pursuant to Section 7 of the Endangered Species Act.



## **1.5 Scope of Analysis**

The purpose of this EA is to present members of the public, including other agencies, interest groups, and key stakeholders, with opportunities to obtain information about the Proposed Action. Reclamation will determine whether to authorize, provide funding, and enter into an agreement with the Applicant for the piping of the Interstate Canal, consistent with Reclamation's Salinity Control Program intent. That determination includes consideration of whether there would be significant impacts to the human and natural environment.

# Chapter 2 – Alternatives

## 2.1 Introduction

In this chapter, the Proposed Action is presented along with a No Action Alternative (Section 2.2) to facilitate comparison of the potential effects of the Proposed Action. Other alternatives that have been considered but eliminated are also described, as are minimization measures that have been incorporated into the Proposed Action.

## 2.2 No Action Alternative

Under the No Action alternative, Reclamation would not authorize funding to the Applicant. The No Action alternative would be the continued use and maintenance of the Canal. There would be no changes to the Canal alignment or structures. If No Action is taken to improve the Canal conveyance system, the estimated 2,295 tons of salt would continue to reach the Colorado River annually. The Canal would continue to lose water due to seepage and evaporation. Maintenance costs of the Canal would continue to rise as sedimentation and vegetation growth increases, displacing the Canal's capacity. Agricultural productivity would continue to be hindered by the reduced water supply.

## 2.3 Proposed Action

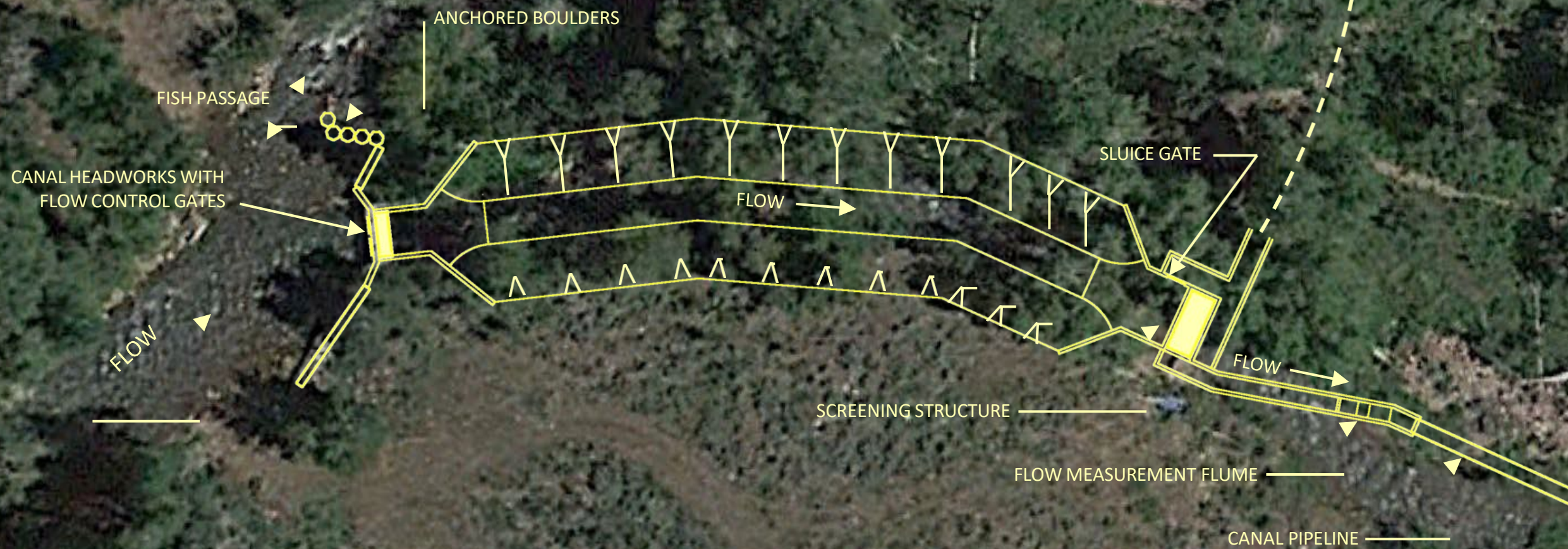
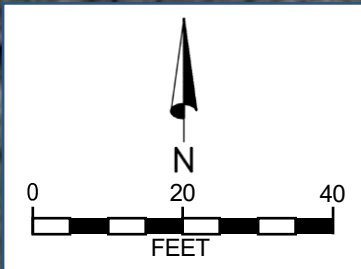
The Proposed Action is to eliminate seepage and evaporation losses by piping the existing earthen Interstate Canal with a 35-cubic feet per second (cfs) capacity, HDPE pipeline as shown in Figure 1.1-2. These improvements will extend from the diversion at Burnt Fork (in Utah) to the end of the Interstate Canal near Logan Hollow (in Wyoming). The Project involves replacement of the entire 13-mile-long canal.

### 2.3.1 Project Components

The Proposed Action would include the following components:

- A new **diversion structure** would be constructed on Burnt Fork at the site of the existing structure. This structure is illustrated in Figure 2.3-1. The structure would include the following elements:







- **Stream channel modifications** would include removing the existing diversion structure. The existing diversion structure has a concrete sill across the entire stream channel and is a barrier to fish passage. Gabion baskets would be installed upstream and downstream from the new pipeline headworks to provide bank armoring. A boulder check dam would also be constructed from the east bank of the channel to approximately the mid-point of the stream. This partial check dam would increase the flow depth in front of the inlet of the pipeline headworks. The west half of the stream channel would remain in its natural condition, allowing for fish passage.
- A new **pipeline headworks** would be constructed about 20 feet upstream from the boulder check dam. The reinforced concrete structure would include two slide gates to control the flow of water into the headworks. An open channel would convey diverted water for about 160 feet to a new screening structure.
- A **screening structure** would include self-cleaning screens (Coanda screens) to remove sediment and other particles from the water. The screens would also prevent fish and fish eggs from entering the pipeline. A sluice gate would be installed to prevent sediment and debris from accumulating within the structure. Water flowing through the sluice gate would enter an existing channel that returns to Burnt Fork 220 feet downstream from the boulder check dam.
- A covered **measurement flume** would be constructed downstream from the screening structure. The flume would facilitate measurement of flows and would serve as the inlet to the pipeline. The flume would be covered with metal plates to provide safety protection against drowning hazards and to prevent debris from entering the water after it has been screened.
- The **canal pipeline** would have a flow capacity of 35 cfs and would be constructed primarily in the canal alignment. However, the pipeline alignment would depart from the canal alignment in 11 locations (Figure 1.1-2) to decrease the amount of pipe required. With these changes in alignment a total of 11 miles of pipe would be needed to replace 13 miles of open canal. The pipeline would be 34 inches in diameter at the upstream end and reduce in size to 10 inches in diameter near the downstream end.
- The pipeline would have 12 **turnout structures** to deliver water to individual farms. Each turnout would include a flow control valve, a flow measurement meter, a combination air-vacuum valve and a drain valve. These components would either be directly buried or in an enclosed underground vault for protection against vandalism or tampering.
- Pipeline **appurtenances** that are essential and necessary for safe and long-term sustainable pipeline operation would be installed as necessary in these sections. These include items such as valves, air and vacuum relief valves, vents, drains, and other various components.

### 2.3.2 Project Location and Surface Disturbance

As shown in Figure 1.1-2, the Project would involve Federal lands administered by USDA Forest Service (Forest Service), state lands administered by the Utah State School and Institutional Trust Lands Administration (SITLA) and private lands.

**Table 2.3-1 - Proposed Surface Disturbance under the Proposed Action**

<b>Project Component</b>	<b>Land Status</b>	<b>ROW (miles)</b>	<b>Temporary Disturbance (acres)</b>	<b>Permanent Disturbance (acres)</b>
Pipelines <sup>1</sup>	Forest Service	0.10	0.5	0.0
	SITLA	1.72	8.3	0.0
	Other Private	9.18	44.5	0.0
Staging Areas <sup>2</sup>	SITLA	N/A	1.0	0.0
	Other Private	N/A	9.0	0.0
Diversion Structure	Forest Service	N/A	0.2	0.1
<b>Subtotal</b>	<b>Forest Service</b>	<b>0.10</b>	<b>0.7</b>	<b>0.1</b>
	<b>SITLA</b>	<b>1.13</b>	<b>17.3</b>	<b>0.0</b>
	<b>Other Private</b>	<b>9.18</b>	<b>45.5</b>	<b>0.0</b>
<b>TOTAL</b>		<b>11.0</b>	<b>63.5</b>	<b>0.1</b>

<sup>1</sup> A 40-foot wide construction corridor would be disturbed for pipeline installation. Installation of turnouts and appurtenances would occur within the 40-foot wide construction corridor.

<sup>2</sup> Each staging area would be approximately 1 acre in size and 10 staging areas would be used.

As shown in Table 2.3-1, the Proposed Action would result in approximately 71.5 acres of temporary surface disturbance, of which 0.7 acres would be on Forest Service land, 17.3 acres would be on SITLA land and 53.5 acres on other private lands. The Proposed Action would result in 0.1 acre of permanent disturbance which would occur at the diversion structure location on Forest Service land. However, this land is presently disturbed by the existing diversion structure.

### 2.3.3 Easement

The Applicant holds a prescriptive easement along the Interstate Canal. As the easement holder, the Applicant has the right to improve the method of carrying the water; i.e., the easement holder generally has the right to convert an unlined ditch into a lined ditch, or convert an open canal to a pipeline. However, there are a few areas where additional permits or easements may be needed to complete rehabilitation efforts. They are listed as follows:

**Special Use Permit, Uinta-Wasatch-Cache National Forest.** The existing diversion structure on Burnt Fork is located on Forest Service land. If the work to be performed is within the existing limits of disturbance, then a new permit is not required. However, the Applicant must provide notification to the Forest Service office regarding the nature and duration of the work to be performed. A Special Use Permit would be required for the work on Forest Service land outside the existing normal limits of use.

**Daggett County Road Department.** The canal crosses Birch Creek Road in Daggett County, Utah in a 44-foot-long corrugated metal pipe culvert. A new crossing permit will be required for the proposed pipeline.

**Utah State School and Institutional Trust Lands Administration.** The canal alignment crosses four parcels of land owned by the State of Utah which are administered by SITLA.

Three of these parcels are located in Summit County, near the beginning of the canal (i.e. diversion structure). The fourth parcel is in Daggett County near the state line.

**Private Landowner Construction Agreements or Easements.** During construction periods a special construction agreement may be needed with local landowners where areas are needed that exceed the normal maintenance area of the canal. These may include area for construction staging, material stockpiles, and construction access.

#### **2.3.4 Construction Schedule**

The implementation of the Project is proposed to occur in phases based on availability of funding. Construction would begin in spring 2023 with completion by summer 2025. This timeframe would include construction shutdown during winter months, January through March and during the irrigation season, April through July. All construction activities must be completed by May 1 each year to make water deliveries to the existing farms and canal shareholders. Construction during winter months may continue at the contractor's discretion if the weather permits. Also, construction of pipe segments outside the canal alignment could proceed during the irrigation season. The phased approach will also allow flexibility and adaptability in performing all necessary requirements for planning, permits, approvals, design, construction and other activities to satisfy all Project commitments.

#### **2.3.5 Staging Area and Access Road**

As shown in Figure 1.1-2, ten proposed staging areas would be located near the existing canal as well as existing roads. Therefore, no access road construction would be required. Each staging area would cover an area of approximately 1 acre in size. Trucks would haul equipment and construction materials to the staging areas to stockpile them. There would also be enough room for trucks to turn around within the staging areas without causing additional surface disturbance.

Once construction activities are complete, soil stabilization would be performed within two weeks. Additionally, the staging areas would be recontoured and revegetated as deemed necessary by landowners as per negotiated easement agreements. After construction is complete, the construction contractor would be required to repair road damage caused by construction.

#### **2.3.6 Sanitation**

Portable toilets would be provided during construction activities. The toilets would be supplied and serviced by a local supplier and would be removed upon construction completion. The portable toilets would be placed within the construction corridor near the work site. Other materials, including scraps, trash, and unusable equipment, would be removed regularly, and disposed of in accordance with federal, state, and local regulations by the construction contractor.

#### **2.3.7 Project Construction**

As described in Section 2.3.4, above, the construction of the Project is anticipated to begin in spring 2023 with completion by summer 2025 depending on the availability of funding. The exact start date would depend on when the NEPA process is completed.



A general contractor would complete the work. Standard operating procedures approved by Reclamation would be used to ensure compliance with all construction standards, and Best Management Practices (BMPs) would be employed (Section 2.5 and Section 4). Construction inspections would be conducted by representatives from Reclamation and the Applicants to ensure quality construction and environmental compliance.

Construction activities would entail using cranes, pickup trucks, flatbed trucks, dump trucks, concrete trucks, excavators, and bulldozers. The following briefly discusses interrelated and sometimes concurrent construction activities:

**1. Preconstruction Activities:**

- Completion of NEPA, National Historic Preservation Act (NHPA) and Endangered Species Act (ESA) consultation processes
- Final design of the Project
- Contractor selection

**2. Construction Activities:**

- Preconstruction coordination/meeting
- Mobilization
- Site preparation
- Diversion structure construction
- Trenching and pipeline installation
- Revegetation
- Wildlife habitat mitigation
- Demobilization

A preconstruction meeting with representatives from Reclamation, the Applicant, and the contractor would be held to ensure compliance with all construction standards. This meeting is expected to occur summer 2023.

Following the preconstruction meeting, mobilization would begin. The contractor would first transport construction equipment and materials to the site, continuing throughout construction on an “as-needed” basis using the existing site access roads. Construction materials and equipment would be stored in the staging areas with care not to cause any storm water pollution issues. Landowner access to adjacent agricultural areas would be maintained during the construction phase.

Site preparation activities would follow construction equipment mobilization. All site preparation would be conducted using heavy equipment such as excavators, front-end loaders and bulldozers. BMPs (Section 2.5 and Section 4 Environmental Commitments) would be used to minimize soil erosion and prevent sediment discharge offsite.

Meanwhile, the construction of other Project components would proceed, including the excavation of trenches, fusing of pipe segments (i.e., welding), trench backfilling and compaction, and restoration and reseeding of the disturbed areas. Excavation activities would be performed utilizing appropriately sized construction equipment to minimize disturbance to

surrounding areas. All excavated material would be stockpiled to the side of the trenches within the construction easement and used as backfill around the new pipelines. BMPs (Section 2.5 and Section 4) would also be utilized to minimize soil erosion and prevent sediment discharge offsite.

Once construction work is complete, equipment would be demobilized from the site. Some equipment may be demobilized earlier once it is no longer required onsite. Construction debris would be securely transported to a local landfill.

### **2.3.8 Operation and Maintenance**

Operation of the canal (pressurized pipeline) after the Project is implemented would remain essentially unchanged. However, the irrigation season would be extended by about one month due to increased water delivery efficiency. Required maintenance would be significantly reduced. Operation would occur primarily from April 15 to August 31.

## **2.4. Alternatives Considered and Eliminated from Further Study**

Section 2.4.1 describes one alternative that was evaluated, but eliminated from further study as it did not meet the purpose or need for the Project.

### **2.4.1 Increased Pipe Capacity**

Under this alternative, the pipeline capacity would be 70 cfs, which is the maximum diversion allowed under the Applicant's water rights. Although more water could be diverted during the snowmelt runoff period, the timing of the higher flow is during the spring when irrigation requirements are low. Therefore, the increased diversion capacity would not contribute to the needed water supply. At double the pipeline capacity of the Proposed Action, this alternative would cost significantly more but would not provide any more salinity reduction benefit. This alternative was only evaluated in the feasibility stage and eliminated from further analysis.

## **2.5. Minimization Measures Incorporated into the Proposed Action**

Minimization measures have been proposed and are identified throughout this EA. These measures are intended to lessen the potential adverse effects to sensitive resources. The minimization measures listed below, along with other measures listed under each resource in Section 3 (Affected Environment), and Section 4 (Environmental Commitments) have been incorporated into the Proposed Action. These minimization measures include, but are not limited to, the following:

- Staging areas would be located where they would minimize new disturbance of area soils and vegetation.
- Ground disturbance would be minimized to the extent practicable.
- Construction vehicles and equipment would be inspected and cleaned prior to entry into the Project area to ensure that they are free of weed seeds.
- Stockpiling of materials would be limited to those areas approved and cleared in advance.

- Wildlife habitat enhancement/improvement has been incorporated into Project design.
- Best management practices (BMPs) would be applied to comply with the Clean Water Act Sections 401, 402, and 404. A stormwater pollution prevention plan (SWPPP) would be prepared and implemented to minimize erosion, prevent soils from leaving the site, and prevent sediment and other pollutants from discharging into downstream water sources during construction.
- Topsoil would be segregated from the subsoil, stockpiled separately from other soil materials, and maintained for future use in rehabilitating the site.
- After construction is complete, salvaged topsoil would be re-distributed evenly over disturbed surfaces.
- Soil compaction would be relieved as needed by loosening the top several inches of soil, conducive to seedbed preparation.
- If livestock were grazing in areas where Proposed Action activities occur, temporary fencing would be used to keep livestock out of the Proposed Action area. Existing fences that were removed as part of Proposed Action activities would be repaired as soon as practicable.
- Noxious weed control would be implemented according to county standards.
- Disturbed areas would be seeded with an appropriate mix based on existing native vegetation.
- A migratory bird nest clearance would be performed if vegetation is cleared during the bird nesting season.

# Chapter 3 – Affected Environment and Environmental Consequences

## 3.1 Introduction

This chapter describes the environment potentially affected by the Proposed Action and No Action alternatives, and the predicted impacts of the alternatives. These impacts are discussed under the following resource issues:

- Geology and soils resources
- Visual resources
- Cultural resources
- Paleontological resources
- Hydrology
- Water quality
- System operations
- Health, safety, air quality and noise
- Prime and unique farmlands
- Floodplains
- Wetlands, vegetation and wildlife
- Fisheries resources
- Special status species
- Recreation
- Socioeconomics
- Access and transportation
- Water rights
- Indian Trust Assets
- Environmental justice
- Cumulative effects

The present condition or characteristics of each resource is discussed first, followed by a discussion of the predicted impacts under the Proposed Action and No Action alternative. The environmental effects are summarized in Section 3.7, Summary of Environmental Effects. Implementing the Environmental Commitments (Section 4) would ensure impacts are minimal and short-term. Section 3, Affected Environment, presents the impact analysis for resources after the Environmental Commitments and BMPs have been successfully implemented.

## 3.2 Resources Considered and Eliminated from Further Analysis

The following resources in Table 3.2-1 were considered but eliminated from further analysis as they do not occur in the Project area or the potential effect to the resource is so minor that it is discountable.

**Table 3.2-1 - Resources Eliminated from Analysis**

<b>Resource</b>	<b>Rationale for Elimination from Further Analysis</b>
Health, Safety, Air Quality and Noise	<p>Public health and safety would not be affected by implementing the Proposed Action or the No Action alternative as the canals would remain open as they historically have been.</p> <p>The State of Utah National Ambient Air Quality Standards Areas of Non-attainment and Maintenance shows Summit and Daggett Counties as attainment areas. It is unlikely that any potential emissions associated with the Proposed Action would cause or contribute to an exceedance of the State of Utah National Ambient Air Quality Standards, or cause or contribute to any localized air quality issues. However, Summit and Daggett Counties are subject to R307-205-5: Fugitive Dust of the Utah Air Quality Rules due to the excavating phases of the Project. An approval order permit is not required, but steps need to be taken to minimize fugitive dust.</p> <p>Air quality in Wyoming is regulated by the EPA and the Wyoming Department of Environmental Quality (WDEQ). Sweetwater County in Wyoming is classified as an attainment area. A construction permit would be required for this portion of the Project.</p> <p>Therefore, Air Quality will not be discussed further in this EA.</p> <p>No long-term effects due to the Proposed Action are anticipated related to air quality or noise.</p>
Paleontological Resources	<p>Consultation with the Utah State Paleontologist indicates that there are no paleontological localities recorded in the Utah portion of the Project area (Hayden, 2021). Also, museum and agency records searches performed for the Wyoming portion of the Project area indicates that there are no previously recorded fossil localities present (Murphy, 2021).</p>
Prime and Unique Farmlands	<p>There may be Prime and Unique Farmland within the Project area. However, there would be no conversion of farmland to non-agricultural use, as defined by the Farmland Protection Policy Act (USC 4201-4209), by implementing the Proposed Action or the No Action alternative.</p>
Recreation Resources	<p>There are no developed recreation resources within or directly adjacent to the Project area. Dispersed recreation would suffer only minor temporary impacts during construction of the buried pipeline. No impacts to dispersed recreation would linger after site restoration is completed.</p>
Wilderness and Wild and Scenic Rivers	<p>There are no designated Wilderness Areas or Wild and Scenic Rivers within or adjacent to the Project area.</p>
Water Rights	<p>Existing water rights would not change under the Proposed Action.</p>



### **3.3 Affected Environment and Environmental Consequences**

This section describes the affected environment (baseline conditions) and environmental consequences (impacts as a result of the Proposed Action) on the quality of the human environment that could be impacted by the construction and operation of the Proposed Action, as described in Chapter 2. The human environmental resources, including social and economic conditions, occurring in the impact area of influence.

#### **3.3.1 Geology and Soils Resource**

Natural Resources Conservation Service (NRCS) Soil Survey data (Natural Resources Conservation Service, 2021) were used to determine soil mapping units, soils series, and soil characteristics for the Project area. Thirteen soil types occur in the Project area of disturbance. These soils are generally deep and well drained except soils in riparian areas. Some soils near ridge tops and adjacent to rock outcrops are shallower. With most of these soils wind and water erosion hazards become critical issues when protective vegetation is removed during and following construction activities. Typically, soils found on steeper slopes have a high water-erosion hazard, and soils found on gentler slopes have a low water-erosion hazard. Finer grained soils are at greater risk of wind erosion, while soils with more gravel and/or stones have a lower risk of wind erosion.

In addition, other factors may affect revegetation following surface disturbance. Revegetation-limiting factors within the 13 soil types that would be impacted by the Proposed Action consist of soil droughtiness and rooting depth. Droughty soils are characterized by coarse texture, excessively rapid percolation rates, and low organic matter content; as such, they are prone to soil erosion and have limited restoration potential. Rooting depth, or depth to bedrock, is the soil depth to fixed rock; shallow soils are often not conducive to vegetation establishment and are prone to erosion. Table 3.3-1 contains a summary of the acreage and characteristics of soil types within the Project area.

In summary, all 13 soil types (100 percent of Project area of disturbance) have features that could limit Project revegetation. Eleven soil types (70.3 percent of the Project area of disturbance) are highly restrictive for erosion; two soil types (48.4 percent of the Project area of disturbance) are highly restrictive for droughtiness. One soil type (4.8 percent of the Project area of disturbance) is moderately restrictive for wetness. Soil maps and data summary are provided in Attachment B.

**Table 3.3-1 - Acres and Characteristics of Soil Types within the Project Area**

<b>Soil Type (MapSymbol)</b>	<b>Impacted Area(acres)</b>	<b>Percentageof Project Area</b>	<b>Revegetation Limiting Factors</b>
Blazon-Delphill complex, 6 to 30 percent slopes (106)	5.9	9.2 percent	Highly restrictive: erosion, rooting depth
Brownsto-Luhon complex, 10 to 35 percent slopes (110)	8.9	14.1 percent	Highly restrictive: erosion
Brownsto-Luhon-McFadden complex, 3 to 15 percent slopes (111)	15.0	23.6 percent	Highly restrictive: erosion and droughtiness
Dahlquist very cobbly sandy loam, 1 to 3 percent slopes (118)	15.8	24.9 percent	Highly restrictive: droughtiness
Hickey cobbly sandy loam, 10 to 40 percent slopes (137)	4.6	7.2 percent	Highly restrictive: erosion
Kappes-McFadden fine sandy loams, 2 to 6 percent slopes (141)	1.5	2.4 percent	Highly restrictive: erosion
Luhon loam, 3 to 6 percent slopes (146)	2.0	3.2 percent	Highly restrictive: erosion
McFadden fine sandy loam, 6 to 10 percent slopes (153)	0.6	0.9 percent	Highly restrictive: erosion
Poposhia loam, 3 to 6 percent slopes (162)	2.0	3.2 percent	Highly restrictive: erosion
Poposhia loam, 6 to 10 percent slopes (163)	3.1	4.9 percent	Highly restrictive: erosion
Poposhia clay loam, 0 to 3 percent slopes (164)	0.6	0.9 percent	Highly restrictive: erosion
Roto-Rockinchair-Rencot complex, 1 to 10 percent slopes (178)	0.4	0.7 percent	Highly restrictive: erosion and droughtiness
Turson-Menbar clay loams, 0 to 2 percent slopes (191)	3.1	4.8 percent	Moderately restrictive: wetness
<b>Total</b>	<b>63.5</b>	<b>100 percent</b>	

### **3.3.1.1 No Action Alternative**

Under the No Action alternative, there would be no adverse impact to soil erosion and sedimentation. Soil erosion from water and wind would continue in the area at the current rate with those areas exposed to high winds and located on slopes experiencing the most erosion.

### **3.3.1.2 Proposed Action**

The Proposed Action would not have any impact on geological resources since all disturbance would generally occur in surficial soils.

Construction activities could result in soil compaction, soil erosion (from wind and water) and loss of soil productivity (ability to support vegetation). Under the Project, there would be a total of 63.5 acres of surface disturbance during construction. There would be an estimated 0.1 acres of long-term surface disturbance for the diversion structure. Table 3.3-1 identifies the soil types in the Project area and the acreage of the Proposed Project features that overlap each soil type. Project-related surface disturbance would result in direct adverse impacts to soils associated with removal of protective vegetation, excavation and mixing of soil horizons, alteration of soil chemistry (e.g., minerals, water content, organic matter, soil organisms, and nutrients), and soil compaction. These impacts could increase the susceptibility of soils to wind and water erosion, increase surface runoff and sedimentation, contribute to the establishment or spread of invasive species and noxious weeds, and decrease soil productivity and restoration potential.

To facilitate revegetation, all topsoil within 12 inches of the surface would be stripped and stockpiled separately from other excavated soil. This topsoil would be spread over the excavated area after pipe installation and backfill are completed. As soon as feasible, following construction, the Applicant would begin reseeding of surface disturbance in the pipeline easement and staging areas where necessary. Reseeding would include the reapplication of topsoil temporarily removed and stockpiled during construction operations. Because of the presence of highly erodible and droughty soils, other BMPs will be necessary to prevent erosion and to ensure the success of the reseeding. These BMPs could include performing reseeding in the late fall and use of erosion blankets and straw bales in channels on slopes. Impacts to soils within the pipeline easement would be considered short-term if revegetation objectives are achieved within five years of the initial disturbance. The revegetation objective for the Proposed Action is to establish a vegetation community comprised of desired and/or seeded species with vegetation cover of at least 75 percent of a similar undisturbed, adjacent, and native vegetation community within two years. If cover is less than 30 percent after three years, additional seeding and restoration efforts may be required.

During proposed construction activities, there would be direct impacts to soils through surface disturbance and vegetation removal on approximately 63.5 acres. All the potentially disturbed soils contain one or more characteristics that may limit the success of restoration following disturbance.

**Table 3.3-2 - Acres of Surface Disturbance at Risk of Restricted Restoration**

<b>Restriction</b>	<b>Highly Restrictive Erosion</b>	<b>Highly Restrictive Droughtiness</b>	<b>Moderately Restrictive Wetness</b>
Acres	44.6	30.8	3.1
(Percentage)	70.3%	48.4%	4.8%

The Applicant's soil stabilization effort during and after construction would minimize the total acreage of erosion at any given time. The Applicant would also cover any stockpiled soil, if needed, to further minimize erosion. The Applicant would inspect erosion controls in the spring, mid-summer and fall and following rainstorm events with more than 0.5 inch of precipitation.

Soil stabilization for the Project would be considered a short-term effect if the timing of revegetating the construction corridor coincides with the completion of construction during the growing season, as permanent stabilization would likely occur that growing season. However, if construction completion occurs in winter, permanent stabilization may be considered long-term as the growing season would be a few months away. However, non-vegetation, temporary stabilization measures (e.g., straw) would be implemented to minimize the temporary effect if practicable. With the implementation of the Environmental Commitments described in Section 4, the direct impacts on soils would be minimized to the extent practicable.

### **3.3.2 Visual Resources**

The natural and constructed features contribute to the visual resources within the Project area, including mountain views, agricultural fields, and very sparse vegetation along the canal corridors. Viewers, including local residents, workers and recreationists, have a perception of the existing physical characteristics. This section assesses the extent to which the Proposed Action would change the perceived visual character and quality of the environment where the Project is located.

#### **3.3.2.1 No Action Alternative**

Under the No Action alternative, there would be no impact to the existing visual resources.

#### **3.3.2.2 Proposed Action**

Under the Proposed Action, the proposed pipeline would be buried, and the site would be restored to its original condition.

The diversion structure is located adjacent to Burnt Fork in a densely vegetated area. Additionally, the structure is fairly small and encompasses only about 0.1 acres. This area is rarely traversed by humans and there is no major road in the vicinity of the diversion structure. Consequently, the structure would have a negligible long-term impact to visual resources.

### **3.3.3 Cultural Resources**

Cultural resources are defined as physical or other expressions of human activity or occupation. Cultural resources include archaeological resources, which are the material remains of past human activity. Archaeological resources can be either prehistoric or historic in age (i.e., dating

to either before or after the time of Euro-American settlement), and they include artifacts (portable objects of human manufacture); features such as firepits, houses, and other types of structures; rock art; and archaeological sites where any of the above may be found. Cultural resources can also include other types of places that are important to the heritage of contemporary peoples (e.g., traditional cultural properties).

Section 106 of the National Historic Preservation Act of 1966, as amended, mandates Reclamation consider the potential effects of a proposed federal undertaking on historic properties. Historic properties are a subset of cultural resources that include prehistoric or historic districts, sites, buildings, structures, or objects that are at least 50 years of age and are included in, or eligible for, inclusion in the National Register of Historic Places (NRHP). Potential effects of the described alternatives on historic properties are the primary focus of this analysis.

In compliance with the regulations specified in Section 106 of the NHPA (36 CFR Section 800.16), the affected environment for cultural resources is identified as the area of potential effects (APE). The APE is defined as the geographic area within which federal actions may directly or indirectly cause alterations in the character or use of historic properties. The APE for this Proposed Action includes the area that could be physically affected by any of the Proposed Project alternatives (the maximum limit of disturbance).

Bighorn Archaeological Consultants, LLC (Bighorn) conducted a Class I literature review and a Class III cultural resource inventory of the APE of the Proposed Action for purposes of review under Section 106 of the NHPA.

In accordance with 36 CFR 800.4, cultural resources located in the APE are evaluated for significance in terms of NRHP eligibility. The significance criteria applied to evaluate cultural resources are defined in 36 CFR Section 60.4 as follows:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and that

- Are associated with events that have made a significant contribution to the broad patterns of our history; or
- Are associated with the lives of persons significant in our past; or
- Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- Have yielded, or may be likely to yield, information important in prehistory or history.

A cultural resource inventory report was completed by Bighorn (Bighorn Archaeological Consultants, LLC, 2021). The inventory resulted in the recording of one new site, the Interstate Canal-(42SM853/42DA2248/48SW20320) and 11 isolated finds. These findings are not recommended eligible for inclusion on the National Register of Historic Places. Additional work



is not recommended for site 42SM853/42DA2248/48SW20320, or the Interstate Canal. Reclamation presented this determination to the State Historic Preservation Offices of Utah and Wyoming, and they concurred.

#### **3.3.3.1 No Action Alternative**

Under the No Action Alternative, there would be no foreseeable impacts to historic properties. There would be no need for ground disturbance for pipe installation or staging areas. The existing conditions would remain intact and would not be affected.

#### **3.3.3.2 Proposed Action**

Under the Proposed Action, the Interstate Canal would be changed from an open canal to an enclosed canal. Based on the file search data and the inventory reports, the proposed Project will have no effect on historic properties.

### **3.3.4 Hydrology**

The Project is in the Henrys Fork watershed. Burnt Fork and Birch Creek, tributaries of Henrys Fork, originate in the Uinta Mountains of Utah which form the southern boundary of the Henrys Fork drainage. Winter snowfall in the mountains typically provides year-round flow into Burnt Fork as it melts throughout the year. The Interstate Canal diverts water from Burnt Fork, in accordance with water rights, to supply irrigation water to agricultural lands along the canal alignment, near McKinnon, Wyoming. Only a portion of Burnt Fork flow is diverted at that location. The remainder of the flow is needed to satisfy downstream water rights. Along its route, the canal crosses Birch Creek through a piped crossing. The Applicant does not hold water rights in Birch Creek and does not divert water at the crossing.

In addition to direct flows of Burnt Fork, the Applicant stores up to 2,563 acre-feet of water each year in two high-mountain reservoirs, Island Lake and Beaver Meadow Reservoir. These reservoirs are located high in the Uinta Mountains, near the headwaters of Burnt Fork. Water is released from these reservoirs into Burnt Fork after high spring flows subside, usually in late June. These releases have typically been about 35 cfs. Water from the reservoirs is diverted from Burnt Fork at the Interstate Canal diversion structure. The stored water is typically depleted by the end of July.

#### **3.3.4.1 No Action Alternative**

Under the No Action alternative, the hydrology in the Project area would remain unchanged in its current state.

#### **3.3.4.2 Proposed Action**

The Proposed Action would increase the efficiency of water delivery through the Interstate Canal system by practically eliminating seepage and evaporation losses. Upstream from the Interstate Canal diversion structure, Burnt Flow flows would remain unchanged from September through late June. The total annual volume of water stored and released from upstream reservoirs would remain unchanged. Historically reservoir releases of about 35 cfs have typically begun in late

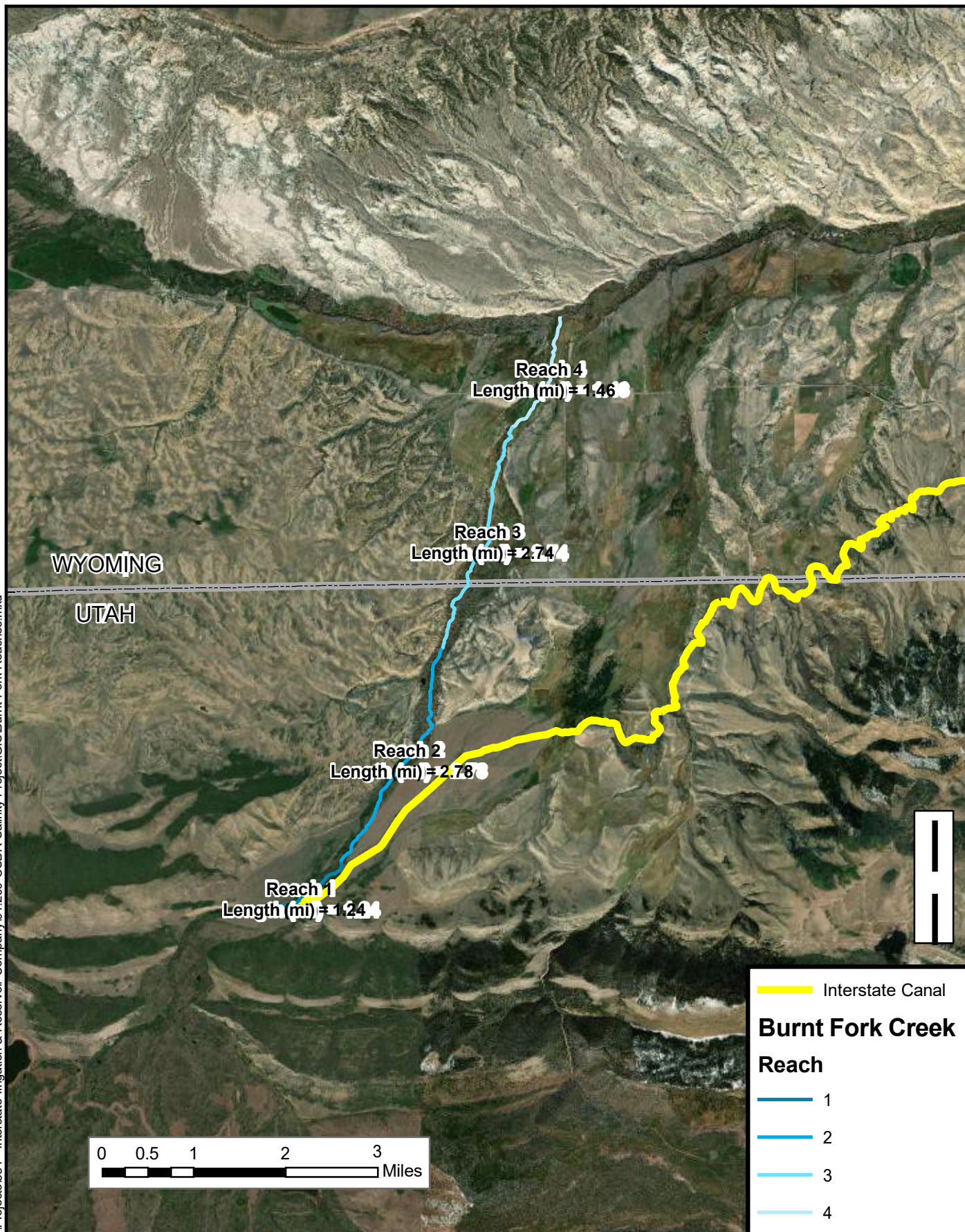
June and lasted until late July when the reservoir runs empty. Under the Proposed Action, because of increased conveyance efficiency that release rate would be reduced to about 21 cfs. This lower release rate would allow reservoir releases to continue until late August before the reservoir storage is depleted.

Because of increased conveyance efficiency, the maximum diversion of Burnt Fork water into the canal would be reduced from 70 cfs to 35 cfs. This reduced diversion would result in an increase of natural stream flow, up to 35 cfs, in Burnt Fork below the diversion structure. Increased flows in Burnt Fork would occur during the irrigation season (May through August) and would only occur under certain hydrologic conditions. At all other times of the year, September through April, flow in Burnt Fork downstream of the Interstate Canal diversion would remain unchanged in its current state.

Four reaches of Burnt Fork were identified to provide a better understanding of Proposed Action effects on stream flow. These reaches are shown in Figure 3.3-1. Table 3.3-3 provides a comparison of historical and Proposed Action flows in Burnt Fork by reach. The table only compares flows for the months of May through August. During the other months of the year flows under the Proposed Action would be the same as historical.

Overall, the total water volume diverted from Burnt Fork would be reduced by up to 2,080 acre-feet per year, primarily during May and June. During this period, crop consumptive use is low. The water would continue to be used for agricultural purposes and would not alter the water rights, water usage or amount of water in the current systems.

Under the Project, the existing open canal would be backfilled and replaced with a buried pipeline. Runoff that was previously collected by the open canal along its entire length would sheet flow over ground until it is collected by existing natural drainage channels and riverine systems. By piping the canal, natural runoff patterns that existed prior to canal construction would be restored. These minor differences in runoff would occur only during intense and infrequent severe rain events. The end result would be that this water would eventually find its way to Henrys Fork where the overall hydrologic pattern would be unaltered.



**Table 3.3-3 Comparison of Burnt Fork Historical and Proposed Action Flows by Reach<sup>1</sup>**

Reach Length		Reach 1 length= 6,560 feet		Reach 2 length = 14,660 feet		Reach 3 length = 14,450 feet		Reach 4 length= 7,710 feet	
May									
Year	Mean Monthly Discharge at Gage (cfs)	Historical (cfs)	Proposed Action (cfs)	Historical (cfs)	Proposed Action (cfs)	Historical (cfs)	Proposed Action (cfs)	Historical (cfs)	Proposed Action (cfs)
2012	179.79	92.81	127.81	81.15	116.15	58.45	93.45	53.96	88.96
2013	77.49	0.00	25.51	0.00	13.85	0.00	0.00	0.00	0.00
2014	38.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2015	55.01	0.00	3.03	0.00	0.00	0.00	0.00	0.00	0.00
2016	147.88	60.90	95.90	49.24	84.24	26.54	61.54	22.05	57.05
2017	79.20	0.00	27.22	0.00	15.56	0.00	0.00	0.00	0.00
2018	62.10	0.00	10.12	0.00	0.00	0.00	0.00	0.00	0.00
2019	27.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2020	77.40	0.00	25.42	0.00	13.76	0.00	0.00	0.00	0.00
2021	23.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
June									
2012	131.81	44.83	79.83	33.17	68.17	10.47	45.47	5.98	40.98
2013	137.96	50.98	85.98	39.32	74.32	16.62	51.62	12.13	47.13
2014	44.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2015	165.66	78.68	113.68	67.02	102.02	44.32	79.32	39.83	74.83
2016	235.56	148.58	183.58	136.92	171.92	114.22	149.22	109.73	144.73
2017	69.80	0.00	17.82	0.00	6.16	0.00	0.00	0.00	0.00
2018	70.73	0.00	18.75	0.00	7.09	0.00	0.00	0.00	0.00
2019	107.45	20.47	55.47	8.81	43.81	0.00	21.11	0.00	16.62
2020	90.54	3.56	38.56	0.00	26.90	0.00	4.20	0.00	0.00
2021	77.39	0.00	25.41	0.00	13.75	0.00	0.00	0.00	0.00
July									
2012	27.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2013	18.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2014	21.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2015	122.58	35.60	70.60	23.94	58.94	1.24	36.24	0.00	31.75
2016	189.47	102.49	137.49	90.83	125.83	68.13	103.13	63.64	98.64
2017	62.04	0.00	10.06	0.00	0.00	0.00	0.00	0.00	0.00
2018	29.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	84.74	0.00	32.76	0.00	21.10	0.00	0.00	0.00	0.00
2020	56.56	0.00	4.58	0.00	0.00	0.00	0.00	0.00	0.00
2021	21.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
August									
2012	13.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2013	4.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2014	17.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2015	113.76	26.78	61.78	15.12	50.12	0.00	27.42	0.00	22.93
2016	151.98	65.00	100.00	53.34	88.34	30.64	65.64	26.15	61.15
2017	38.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	7.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	60.95	0.00	8.97	0.00	0.00	0.00	0.00	0.00	0.00
2020	15.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2021	66.23	0.00	14.25	0.00	2.59	0.00	0.00	0.00	0.00

<sup>1</sup>. Flows were estimated based on recorded flows at the Burnt Fork gage operated by the Wyoming State Engineer's office and the water right diversion capacity and priority of the ditches and canals that divert from Burnt Fork.



### 3.3.5 Water Quality

Utah and Wyoming surface water quality standards, identify designated uses, water quality criteria, and antidegradation provisions to maintain water uses and water quality. The standards are intended to be consistent with the federal Clean Water Act. Streams within the Project area include Burnt Fork, Birch Creek, and Henrys Fork. Table 3.3-4 summarizes water quality standards for these streams.

**Table 3.3-4 – Water Quality Standards for Burnt Fork, Birch Creek and Henrys Fork**

Stream Name	Designated Uses
<b>Burnt Fork</b>	<b>Utah</b> Use Class 2B = Infrequent primary contact recreation (e.g. wading, fishing); Use Class 3A = Cold water fishery/aquatic life; Use Class 4 = Agricultural uses (crop irrigation and stock watering)  <b>Wyoming</b> Use Class 2AB = Cold water game fish, non-game fish, aquatic life other than fish; drinking water, fish consumption; agriculture, industry, wildlife, scenic value; primary contact recreation
<b>Birch Creek</b>	<b>Utah</b> Use Class 2B = Infrequent primary contact recreation (e.g. wading, fishing); Use Class 3A = Cold water fishery/aquatic life; Use Class 4 = Agricultural uses (crop irrigation and stock watering)  <b>Wyoming</b> Use Class 2AB = Cold water game fish, non-game fish, aquatic life other than fish; drinking water, fish consumption; agriculture, industry, wildlife, scenic value; primary contact recreation
<b>Henrys Fork</b>	<b>Wyoming</b> Use Class 2AB = Cold water game fish, non-game fish, aquatic life other than fish; drinking water, fish consumption; agriculture, industry, wildlife, scenic value; primary contact recreation

**Sources:** (Utah Division of Water Quality, 2021), (Wyoming Department of Environmental Quality, 2021)

In its current condition, the Interstate Canal seepage water percolates into soil and bedrock formations that are high in naturally occurring salts. The seepage dissolves salts in the formations which then leach into the groundwater. This groundwater discharges into Burnt Fork, Birch Creek and Henrys Fork through naturally occurring seeps and springs. As the groundwater returns to local waterways and eventually the Upper Colorado River, salinity increases. The canal is estimated to contribute 2,295 tons of salt per year (Attachment A). This salt loading degrades the river's water quality.

#### 3.3.5.1 No Action Alternative

Under the No Action alternative, the water quality would remain unchanged. Seepage from the Interstate Canal would continue to contribute 2,295 tons of salt per year to Henrys Fork and the Upper Colorado River.

#### 3.3.5.2 Proposed Action

The Proposed Action would have potential to temporarily affect water quality in Burnt Fork and Birch Creek due to construction activities. Construction of the Interstate Canal Diversion Structure would be partly within the Burnt Fork stream channel. Project construction would also



include an open-cut buried pipeline crossing of the Birch Creek channel. This construction activity would cause a temporary, localized increase in sediment downstream from the construction. This impact would be minimized by constructing the crossing in the fall months when flows are typically low. Stream flow would be conveyed through the construction site through a temporary culvert. All construction activities would comply with State of Utah Stream Alteration Permits.

The Proposed Action would reduce seepage from the Interstate Canal. The reduced seepage would result in an estimated 2,295 fewer tons of salt from reaching Henrys Fork and the Upper Colorado River Basin annually (Attachment A).

### **3.3.6 System Operations**

The Wyoming State Engineer maintains records of water diverted at the Interstate Canal diversion structure. The monthly summary of average daily discharge at the diversion is converted to acre-feet to quantify delivery of water rights. The average annual water delivery in the Interstate Canal for the years from 2010 through 2016 was 4,525 acre-feet. Water delivery in the Interstate Canal normally begins mid-April and flows through mid-July. Water availability for the canal is dependent upon the flows in Burnt Fork and water stored in Island Lake and Beaver Meadow Reservoir.

Water is proportioned in the Burnt Fork according to water rights. The Applicant's water rights in Burnt Fork are high-flow rights. These rights end after the snowmelt runoff at which time the Interstate Canal relies on water stored in Island Lake and Beaver Meadow Reservoir.

#### **3.3.6.1 No Action Alternative**

Under the No Action alternative, the canal system would continue to operate under current conditions. Existing water losses in the system would continue and potentially increase as the canal continues to deteriorate over time. This in turn is anticipated to cause an increase in maintenance requirements compared to current costs.

#### **3.3.6.2 Proposed Action**

The Proposed Action would increase the efficiency of the system operations by reducing the amount of water lost through the open canal. Future system operations would also improve under the Proposed Action as maintenance frequency and cost would be greatly reduced. The Proposed Action would therefore result in a long-term beneficial impact on the operation of the canal irrigation system.

### **3.3.7 Floodplains**

A floodplain is flat or nearly flat land adjacent to a naturally occurring water body (e.g., wetland or stream) that experiences occasional or periodic flooding. It includes the floodway, which consists of the stream channel and adjacent areas that carry flood flows, and the flood fringe, which are areas covered by the flood that do not experience a strong current and provide flood water storage. A 100-year flood is calculated to be the level of flood water expected to be equaled or exceeded every 100 years on average. The 100-year flood is more accurately referred to as the 1 percent flood, since it is a flood that has a 1 percent chance of being equaled or exceeded in any single year. Based on the expected flood water level, a predicted area of inundation can be mapped out.

The Federal Emergency Management Agency (FEMA) website was reviewed for Flood Insurance Rate Maps (FIRMs) covering the Project area. The Project area is included in FIRM 5600870096A (FEMA, 2021). However, according to the website this map was not printed. The Map Index for Community Panel No. 560087 has a footnote that reads as follows: “Not Printed, Undeveloped Area.” A lack of mapping would generally indicate a sparsely populated area that has a low risk of flood damage to structures and the human environment.

#### **3.3.7.1 No Action Alternative**

Under the No Action alternative, the existing conditions for the Project area would be maintained and there would be no impacts to the floodplain or the potential for flooding.

#### **3.3.7.2 Proposed Action**

As stated above, there is no available FIRM map for the Project area. However, limited floodplains exist along the Burnt Fork and Birch Creek. Under the Proposed Action, construction in these floodplain areas would occur during the fall (September through December) when stream flows are typically low. Any impact on floodplains would be minimized by following Best Management Practices during construction. After the pipeline installation is complete, the impact on floodplains would cease since the pipeline would be buried and the ground surface would be restored to the preconstruction conditions.

### **3.3.8 Wetlands, Vegetation and Wildlife**

BIO-WEST, Inc. (BIO-WEST) prepared a wildlife habitat evaluation report for the Interstate Canal Salinity Control Project (Attachment C). An evaluation of existing wetland habitat was included within the habitat evaluation. The purpose for conducting the wildlife habitat evaluation was to provide a summary of the existing habitat along the Interstate Canal, and to estimate potential habitat loss following the proposed pipe placement.

The Project area is situated within the Wyoming Basin Ecoregion, a broad intermontane basin containing rolling plains, high hills, mesas, and low mountains. The Ecoregion is subdivided into Rolling Sagebrush Steppe, Wet Valleys, and Semiarid Bare Hills. The Interstate Canal crosses the Rolling Sagebrush Steppe ecoregion which is comprised of semiarid rolling plains, hills, and mesas; wetter hills, ridges, and outwash fans that occur near the Uinta Mountains. Big sagebrush (*Artemisia tridentata*) and bluebunch wheatgrass (*Pseudoroegneria spicata*) are common and the ecoregion is primarily rangeland. Repeated fires and grazing have affected the natural vegetation and, as a result, introduced annual grass species are common (Woods et al. 2001).

Several perennial streams, springs and seeps, and other aquatic resource habitat drain through the high elevation hills of the Rolling Sagebrush Steppe. As mentioned above, the interstate canal is a diversion of Burnt Fork, which flows parallel to the canal at the diversion point and supports a well-developed riparian forest. Birch Creek crosses the canal within the central portion of the Project area at a lower elevation than Burnt Fork and the low floodplain of Birch Creek supports riparian scrub-shrub and herbaceous wetland habitat. A wetland complex of emergent vegetation and willows is supported by a private spring area known as Chase Spring (Figure 1.1-2). The spring daylight adjacent to the canal and water from the spring is collected by a 24-inch steel

pipe, which crosses the interstate canal. A 24-inch flanged opening on the underside of the pipe allows the property owner to drain the spring water into the Interstate Canal for non-irrigation season stockwater use (Hansen, Allen, & Luce, Inc. 2015).

Riparian vegetation communities supported by canal flows consist of narrow, multi-aged forests and shrublands in the upper elevations, and small, narrow floodplain shelves along the canal that support herbaceous hydrophytes. The multi-aged forests were dominated by an overstory layer comprised of narrowleaf cottonwood (*Populus angustifolia*). Douglas fir (*Psuedotsuga menziessi*), quaking aspen (*Populus tremuloides*), and Engelman spruce (*Picea engelmannii*) were also dominant in areas where the canal drained through forested montane slopes. The shrub layer within these riparian forests contained various densities of riparian shrubs including yellow willow (*Salix lutea*), narrowleaf willow (*Salix exigua*), other willows (*Salix* spp.), Wood's rose (*Rosa woodsia*), mountain snowberry (*Symphoricarpos oreophilus*), gray alder (*Alnus incana*), black hawthorne (*Crataegus douglasii*), and aspen and cottonwood saplings. The herbaceous layer within these forests was typically sparse in cover due to shading from the overstory layers and contained a mix of graminoids and forbs typical of riparian corridors and the adjacent rangeland habitat.

Riparian shrublands along the canal lack the overstory component of the riparian forests and usually contain dense to sparse willow, hawthorne, and occasionally Wood's rose. The shrublands are typically very narrow, mostly growing along the water's edge on low shelves at the bottom of canal banks. In some areas where the canal crosses springs, seeps, or streams (e.g., Birch Creek) where the hydrology is more complex, a broader riparian forest exists. The herbaceous layer within the riparian shrublands typically contains herbaceous hydrophytes also growing on the low shelves where the shrublands are not overly dense. Conversely, some areas along the canal contain dense willow or hawthorne thickets with a very sparse to sometimes absent herbaceous layer.

The small, narrow floodplain shelves supporting herbaceous hydrophytes are dominated by wetland graminoids such as sedges, rushes, and some grasses. Higher up on the canal banks the herbaceous layer is typically a mix of pasture grasses and forbs adapted to dryer environments. Some noxious weed species occur in both the shrubland and herbaceous dominant sites.

The Project area overlaps year-long crucial habitat for the black bear and dusky grouse, year-long American crow habitat, winter crucial habitat for elk, mule deer, and year-long crucial habitat and fawning habitat for pronghorn (UDWR 2021a). Several moose, deer, pronghorn, and a coyote were observed during the site visit and the Project area contains habitat for a variety of wildlife species including various avian species, lagomorphs, and other small mammals. In addition, there was some evidence of past beaver use within some habitat evaluation sites.

The multi-story riparian forests and multi-species riparian shrublands that are primarily situated at the upper elevations near the Burnt Fork diversion are unique habitats in sagebrush steppe foothills on the north slope of the Uinta Mountains. These riparian areas have high value for wildlife as they provide cover, nesting and breeding areas, and a food source for a wide variety of species. These areas are all located in Utah and include the upper elevation evaluation sites in

the diversion structure area adjacent to Burnt Fork, sites adjacent and down gradient of the Chase Spring wetland complex, sites adjacent to Birch Creek, and wetland areas along the low floodplain of Birch Creek. Only the upper 0.75 mile of the pipeline alignment is on Forest Service or State of Utah land. The remainder are on private property. Downstream from the Birch Creek crossing, the remaining sites have somewhat fragmented, discontinuous adjacent wildlife habitat. Some of the sites are bordered by sagebrush steppe that is relatively intact and provides a corridor for wildlife movement, while some of the sites are bordered by rangeland and pasture that appeared to be overgrazed and contained human alteration such as roads, ranch buildings, water delivery diversions, and ditch laterals.

The water supply for most of the habitat evaluation sites is sustained by the Burnt Fork diversion. Chase Spring contributes a large amount of water to the evaluation sites down gradient of this area. Several smaller springs and seepage areas appear to augment the hydrologic conditions along the canal as well, and Birch Creek, as well as other smaller unnamed tributaries flowing from the north slope of the Uinta Mountains also contribute water.

Standard Habitat Replacement Site Evaluation Forms were completed as part of the habitat evaluation (BIO-WEST, 2021). The forms show the habitat quality scoring for each parameter (Vegetative Diversity, Stratification, Noxious Weeds, Overall Vegetative Condition/Health, Interspersion of Open Water, Connectivity, Wildlife Use, Uniqueness/Abundance, Water Supply, and Alteration). In addition, the tables show the current pre-Project and predicted post Project calculated Habitat Quality Score (HQS - average value of habitat quality), Total Habitat Value (THV – HQS multiplied by acreage of each site) or habitat units for each site, and the THV or habitat units for all sites (sum of THV's for each site). The current, or pre-Project cumulative THV is 248.4 units.

#### **3.3.8.1 No Action Alternative**

Under the No Action alternative, the existing conditions for the Project area would be maintained and there would be no impacts to wetlands, vegetation, and wildlife.

#### **3.3.8.2 Proposed Action**

With the changes in flow in portions of Burnt Fork listed in Table 3.3-3, there would be a corresponding increase in submerged area along the stream. Stream reaches are shown in Figure 3.3-1. Submerged area was estimated by using existing 1 meter LIDAR data and a two-dimensional hydraulic model. Table 3.3-5 lists the changes in submerged area. As shown in the table, there could be an increase in submerged area of up to 2 percent at certain times. This increase in submerged area could indicate a slight increase in aquatic and riparian habitat along the stream.

Under the Proposed Action there would be no permanent negative impacts to wetlands along the pipeline alignment. However, there would be minor temporary impacts to wetlands during pipeline construction.

**Table 3.3-5 Comparison of Burnt Fork Historical and Proposed Action Submerged Area by Reach**

Reach Length		Reach 1 length = 6560 ft		Reach 2 length = 14660 ft		Reach 3 length = 14450 ft		Reach 4 length = 7710 ft		Project Total length = 43380 ft	
May											
Year	Mean Monthly Discharge at Gage (cfs)	increase in Submerged Area (acres)	Percent Increase	increase in Submerged Area (acres)	Percent Increase	Increase in Submerged Area (acres)	Percent Increase	increase in Submerged Area (acres)	Percent Increase	increase in Submerged Area (acres)	Percent Increase
2012	179.79	8.50	1.58	31.53	1.98	6.04	2.00	7.68	1.88	53.75	1.91
2013	77.49	6.24		10.14		0.00	0.00	0.00	0.00	16.38	
2014	38.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2015	55.01	3.25		0.00	0.00	0.00	0.00	0.00	0.00	3.25	
2016	147.88	7.02	1.82	18.79	2.21	2.03	1.48	3.81	1.68	31.66	1.81
2017	79.20	6.31		10.45		0.00	0.00	0.00	0.00	16.76	
2018	62.10	5.30		0.00	0.00	0.00	0.00	0.00	0.00	5.30	
2019	27.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2020	77.40	6.23		10.14		0.00	0.00	0.00	0.00	16.37	
2021	23.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
June											
2012	131.81	4.90	1.68	11.03	1.89	3.04	2.31	4.55		23.51	2.02
2013	137.96	5.70	1.75	14.23	2.06	2.66	1.89	8.96	1.75	31.55	1.90
2014	44.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2015	165.66	7.67	1.65	28.66	2.28	4.66	1.88	8.96	1.85	49.94	1.98
2016	235.56	7.75	1.27	50.90	1.55	13.03	1.77	8.96	1.51	80.64	1.58
2017	69.80	5.90		7.92		0.00	0.00	0.00	0.00	13.82	
2018	70.73	5.93		8.41		0.00	0.00	0.00	0.00	14.34	
2019	107.45	2.50	1.45	6.46		3.83		8.96		21.75	1.45
2020	90.54	5.13		11.82		1.91		0.00	0.00	18.86	
2021	77.39	6.23		10.14		0.00	0.00	0.00	0.00	16.37	
July											
2012	27.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2013	18.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2014	21.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2015	122.58	3.68	1.56	7.53	1.69	4.68		8.96		24.85	1.65
2016	189.47	9.08	1.54	35.84	1.91	7.21	2.03	8.96	1.82	61.09	1.88
2017	62.04	5.30		0.00	0.00	0.00	0.00	0.00	0.00	5.30	
2018	29.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	84.74	6.61		11.19		0.00	0.00	0.00	0.00	17.79	
2020	56.56	4.04		0.00	0.00	0.00	0.00	0.00	0.00	4.04	
2021	21.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
August											
2012	13.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2013	4.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2014	17.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2015	113.76	2.69	1.44	6.53	1.70	4.46		8.96		22.64	1.62
2016	151.98	7.31	1.80	20.75	2.26	2.26	1.50	8.96	1.70	39.27	1.84
2017	38.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	7.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	60.95	5.20		0.00	0.00	0.00	0.00	0.00	0.00	5.20	
2020	15.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2021	66.23	5.63		5.21		0.00	0.00	0.00	0.00	10.84	

Vegetation and wildlife habitat that rely on canal flow would be lost as a result of piping the canal under the Proposed Action. The Project has the potential to adversely impact vegetation and wildlife habitat adjacent to the canal because of the canal piping; however, implementation of the proposed minimization measures will offset the adverse impacts and there will be no overall loss of vegetation or wildlife habitat as a result of the Project. The Project, or post-Project cumulative THV is 189.1 units. The difference in the current THV and projected THV is 59.3. Therefore, the results of the habitat evaluation estimate a loss of approximately 59.3 habitat units associated with the proposed Project. It should be noted sites 7, 10, and 11 were factored into the habitat unit scoring. Those three sites account for a combined THV of 2. These are alternate sites that would be considered if site # 9, a steep “falls” area of the canal that is lined with bedrock and that drops abruptly toward Birch Creek, was not included as part of the canal replacement.



Site #9 accounts for a THV of 3.6. Site #13, an alternate site that crosses through a sloping irrigated pasture that contains some wetland habitat, was factored into the habitat unit score as well. Site #13 accounts for a THV of 15.8.

Other temporary impacts to vegetation would occur during construction activities associated with clearing, grubbing and excavation activities. To facilitate revegetation, all topsoil within 12 inches of the surface would be stripped and stockpiled separately from other excavated soil. This topsoil would be spread over the excavated area after pipe installation and backfill are completed. As soon as feasible, following construction, the Applicant would begin reseeding of surface disturbance in the pipeline easement and staging areas where necessary. Reseeding would include the reapplication of topsoil temporarily removed and stockpiled during construction operations. Because of the presence of highly erodible and droughty soils, other BMPs will be necessary to prevent erosion and to ensure the success of the reseeding. These BMPs could include performing reseeding in the late fall and use of erosion blankets and straw bales in channels on slopes. Impacts to soils within the pipeline easement would be considered short-term if revegetation objectives are achieved within five years of the initial disturbance. The revegetation objective for the Proposed Action is to establish a vegetation community comprised of desired and/or seeded species with vegetation cover of at least 75 percent of a similar undisturbed, adjacent, and native vegetation community within two years. If cover is less than 30 percent after three years, additional seeding and restoration efforts may be required.

### 3.3.9 Special Status Species

Federal agencies are required, under Section 7 of Endangered Species Act (ESA), to consult with FWS to protect species listed under the ESA and their critical habitat.

A FWS Information for Planning and Consultation (IPaC) Resource List was generated for the Project area. The IPaC list shows several federally listed species that could potentially be impacted by activities occurring within the Project area. The IPaC Resource List also showed that no critical habitat for any of the listed species is present within the Project area. The IPaC Resource List is illustrated in Table 3.3-6. A detailed discussion of fish species is provided in Section 3.3.10.

**Table 3.3-6. Federally Threatened and Endangered Species from the IPaC Resource List**

Common Name	Scientific Name	Status	CriticalHabitatin the Project Area	Suitable Habitat Observed within the Project Area	Taxonomic Group
Bonytail	<i>Gila elegans</i>	Endangered	No	No	Fish
Colorado Pikeminnow	<i>Ptychocheilus lucius</i>	Endangered	No	No	Fish
Humpback Chub	<i>Gila cypha</i>	Endangered	No	No	Fish
Razorback Sucker	<i>Xyrauchen texanus</i>	Endangered	No	No	Fish
yellow-billed cuckoo	<i>Coccyzus americanus</i>	Threatened	No	No	Birds
Ute ladies'-tressesorchid	<i>Spiranthes dihuivialis</i>	Threatened	No	No	Flowering Plants

In addition to the Federally listed species above, the States of Utah and Wyoming have identified numerous other species of wildlife that are of concern and/or have a special status within those states. Table 3.3-7 describes Utah state-specific species and their potential to occur within the Project area. The table was prepared using data obtained from the Utah Natural Heritage Program for the Project area (Utah Division of Wildlife Resources, 2021).

**Table 3.3-7. Utah State-listed sensitive species occurring in or near the Project area**

Common Name	Scientific Name	Status	Suitable Habitat in the Project area	Species Occurrence in the Project area
Lewis's Woodpecker	<i>Melanerpes lewis</i>	SGCN	Y	Potential to occur within riparian forests, Douglas-fir and mixed conifer stands within the Project area, particularly within nesting cavities of dead and/or burnt trees.
Northern Goshawk	<i>Accipiter gentilis</i>	SGCN	Y	Potential to occur within or adjacent to the Project area. Nesting habitat includes mature coniferous forests or aspen stands, in large tall trees with open understories, which is characteristic of the forest type within and around the Project area.
White-tailed Prairie Dog	<i>Cynomys leucurus</i>	SGCN	Y	Potential to occur but likely eliminated within the Project area by ranching activities in the past. The species occupies shrub-steppe, short grass prairie, meadow, mountain valley habitat with mixed stands of shrubs and grasses where the grasses dominate and shrubs are relatively sparse. The majority of the area that fits this habitat type in and adjacent to the Project area has been greatly impacted by farming activities and livestock grazing.
Wolverine	<i>Gulo</i>	SGCN	Y	Marginally suitable habitat is found in the forested higher elevation part of the Project area around the Burnt Fork riparian and forested areas.
Idaho pocket gopher	<i>Thomomys idahoensis</i>	SGCN	Y	Potential to occur within the mountain foothills, subalpine meadow, grassland, and sagebrush shrublands

SGCN = Species of Greatest Conservation Need listed in the Utah Wildlife Action Plan.

Table 3.3-8 describes Wyoming state-specific species and their potential to occur within the Project area. The table was prepared using data obtained from the Wyoming Natural Diversity Database (WYNDD) for the Project area (Wyoming Natural Diversity Database, 2021).

**Table 3.3-8. Wyoming State-listed sensitive species occurring in or near the Project area**

Common Name	Scientific Name	Status	Suitable Habitat in the Project area	Species Occurrence in the Project area
Western Toad	<i>Anaxyrus boreas</i>	S1	Y	Potential to occur within open water, wetland, and meadow areas adjacent to wet areas in the Project area.
Woodhouse's Scrub-Jay	<i>Aphelocoma woodhouseii</i>	S1	N	Unlikely to occur within the Project area. The Project area lacks rocky woodlands dominated by Utah Juniper and Mountain Mahogany that is characteristic habitat of this species.
Black Tern	<i>Chlidonias niger</i>	S1	N	Unlikely to occur within the Project area. Some wetland habitat exists within the Project area but is not suitable for Black Tern nesting.

Common Name	Scientific Name	Status	Suitable Habitat in the Project area	Species Occurrence in the Project area
Western Rattlesnake	<i>Crotalus oreganus</i>	S1	Y	Potential to occur within the Project area. This species may occur in a variety of habitat types where small mammal prey is available and human activities have not eliminated the local population.
Midget Faded Rattlesnake	<i>Crotalus oreganus concolor</i>	S1	N	Unlikely to occur within the Project area. This species requires south facing rock and canyon wall habitat which is not present within the Project area.
Caspian Tern	<i>Hydroprogne caspia</i>	S1	N	Unlikely to occur within the Project area, typically found around lakes and large river systems.
Scott's Oriole	<i>Icterus parisorum</i>	S1	N	Unlikely to occur within the Project area, typically found nesting in Juniper woodlands and Joshua tree/cactus associations.
Virginia's Warbler	<i>Leiothlypis virginiae</i>	S1	Y	Potential to occur in the Burnt Fork area within the forested areas with shrubby understory which could potentially provide breeding and nesting habitat for this species.
Franklin's Gull	<i>Leucophaeus pipixcan</i>	S1	N	Unlikely to occur within the Project area. Lakes and marshes are generally the preferred habitat of this species.
Water Vole	<i>Microtus richardsoni</i>	S1	Y	Potential to occur in larger wetland complexes adjacent to stream corridors.
Uinta Pika	<i>Ochotona princeps uinta</i>	S1	N	Unlikely to occur within the Project area. Rocky slopes that this species requires are not present within the Project area.
Blue Grosbeak	<i>Passerina caerulea</i>	S1	Y	Potential to occur within the riparian woodlands and scrub habitats along waterways within the Project area.
Canyon Deer mouse	<i>Peromyscus crinitus</i>	S1	N	Unlikely to occur within the Project area. Rocky canyon habitats preferred by this species are not present within the Project area.
Pinon Deer mouse	<i>Peromyscus truei</i>	S1	N	Unlikely to occur within the Project area. This species prefers high canopy coverage of Juniper habitat with rocky slopes. This habitat type is not present within the Project area.
White-faced Ibis	<i>Plegadis chihi</i>	S1	Y	Potential to occur within the wetland habitats within the Project area.
Purple martin	<i>Progne subis</i>	S1	N	Unlikely to occur. Purple martins are rare in Wyoming and are not typically found at the higher elevations such as the Project area.
Flammulated Owl	<i>Psiloscops flammeolus</i>	S1	Y	Potential to occur within the upper elevations of the Project area in the vicinity of mature woodland forests.
Plateau Fence Lizard	<i>Sceloporus tristichus</i>	S1	N	Unlikely to occur as they are typically found at lower elevations in the Lower Green River Valley.
Forster's Tern	<i>Sterna forsteri</i>	S1	N	Unlikely to occur within the Project area, typically found around lakes and large river systems.
Common Tern	<i>Sterna hirundo</i>	S1	N	Unlikely to occur within the Project area, typically found around lakes and large river systems.

Common Name	Scientific Name	Status	Suitable Habitat in the Project area	Species Occurrence in the Project area
Cliff Chipmunk	<i>Tamias dorsalis</i>	S1	N	Unlikely to occur within the Project area. Preferred habitat - cliffs and rock boulder fields are not present within the Project area.
Utah Cliff Chipmunk	<i>Tamias dorsalis utahensis</i>	S1	N	Unlikely to occur within the Project area. Preferred habitat - cliffs and rock boulder fields are not present within the Project area.
Gray Vireo	<i>Vireo vicinior</i>	S1	N	Unlikely to occur within the Project area. Preferred habitat – mature Juniper with other deciduous shrub thickets is not present within the Project area.
Short-eared Owl	<i>Asio flammeus</i>	S1	Y	Short eared owl may occur within grasslands and shrublands adjacent to the Project area. They are unlikely to nest within the Project area; however, they could be using the Project area for hunting.
Ringtail	<i>Bassariscus astutus</i>	S1	N	Unlikely to occur, as the primary preferred habitat is lower elevation desert and foothill environments.
Snowy Egret	<i>Egretta thula</i>	S1	N	Unlikely to occur, as the primary preferred habitat is lower elevation lake shallows and marsh wetlands.
Spotted Bat	<i>Euderma maculatum</i>	S1	N	Unlikely to occur, the large rocky cliffs with cracks and crevices which are the preferred habitat are not present with the Project area.
Northern Pygmy-Owl	<i>Glaucidium gnoma</i>	S1	Y	There is potential for this species to occur in the forested woodlands areas around the upper elevation part of the Project area.
Ash-throated Flycatcher	<i>Myiarchus cinerascens</i>	S1	N	Unlikely to occur within the Project area, typically found nesting in Pinyon pine, Juniper, or oak dominated areas.
Juniper Titmouse	<i>Baeolophus ridgwayi</i>	S1	N	Unlikely to occur within the Project area, typically found in Juniper and Pinyon pine habitat.

S1 = Subnational (state/jurisdiction) critically imperiled

The only fish species with any formal protection designation is the Colorado River Cutthroat Trout *Oncorhynchus clarki pleuriticus* which is listed as a Conservation Species in Utah and a Species of Greatest Conservation Need in Wyoming. These designations ensure special management under a Conservation Agreement in order to preclude the need for Federal listing.

### 3.3.9.1 No Action Alternative

The No Action alternative would have no effect on any special status species.

### 3.3.9.2 Proposed Action

The Proposed Action would cause the loss of some areas of tree and shrub cover habitat, which is potential habitat for several special status State listed species. In some locations, these losses would be temporary as cleared vegetation would return with revegetation efforts and natural recruitment. Additionally, where the canal would be backfilled to existing, adjacent ground elevation, herbaceous vegetation would be established with similar efforts. This should result in a net increase in habitat area for those species depending on this cover type. However, due to

future operation and maintenance needs, vegetation over the pipeline would likely be limited to herbaceous plant cover, which minimizes effort and time to access the pipeline in urgent and emergency situations.

Threats of impingement and entrainment of Colorado River Cutthroat Trout on and into the diversion structure on Burnt Fork would continue as they have historically. The entrainment of Colorado River Cutthroat Trout has allowed for downstream dispersal with no opportunity to move back upstream and out of the canal. This causes stranding of individuals annually after the irrigation season and as water in the canal recedes.

The Project could result in a minor short-term impact during construction to individual Colorado River Cutthroat Trout but would have no significant effects at the population level. Reconstruction of the diversion structure to eliminate the historic fish barrier would provide Colorado River Cutthroat Trout spawning habitat upstream from the diversion structure as aquatic organism passage would be restored in Burnt Fork.

### 3.3.10 Fisheries Resources

There are seven fish species with the potential to be present within Burnt Fork, and subsequently have the potential to be found within the Interstate Canal in Utah and Wyoming (Wyoming Natural Diversity Database, 2021) (Bosworth, 2003) (Keith, 2021) (Birchell, 2021) (McKell, 2021). As shown in Table 3.3-9, fish species include five natives and two nonnatives. None of these species are listed under the ESA.

**Table 3.3-9. Species potentially present within the study area and their federal and state listing status**

COMMON NAME	SCIENTIFIC NAME	STATUS		
		ESA <sup>a</sup>	UTAH <sup>b</sup>	WYOMING <sup>c</sup>
Redside Shiner	<i>Richardsonius balteatus</i>	NL <sup>d</sup>	Native	NP <sup>e</sup>
Speckled Dace	<i>Rhinichthys osculus</i>	NL	Native	Native
Mountain Sucker	<i>Catostomus platyrhynchus</i>	NL	NP	Native
Rainbow Trout	<i>Oncorhynchus mykiss</i>	NL	NP	Nonnative
Colorado River Cutthroat Trout	<i>Oncorhynchus clarki pleuriticus</i>	NL	CS <sup>f</sup>	SGNC <sup>g</sup>
Brook Trout	<i>Salvelinus fontinalis</i>	NL	NP	Nonnative
Mottled Sculpin	<i>Cottus bairdii</i>	NL	Native	Native

<sup>a</sup> Endangered Species Act

<sup>b</sup> Utah Division of Wildlife Management designation

<sup>c</sup> Wyoming Game and Fish Department designation

<sup>d</sup> Not listed

<sup>e</sup> Not present

<sup>f</sup> Conservation species

<sup>g</sup> Species of greatest conservation need

Although Rainbow Trout were historically present on private land in Utah within the Project area drainage, stocking was stopped due to Whirling Disease. Although plausible, it may be unlikely that Rainbow Trout *Oncorhynchus mykiss* reside in Burnt Fork. Brook trout were also visually observed on private land in Utah but have not been collected during survey efforts on Burnt Fork (Birchell, 2021).



The Colorado River Cutthroat Trout is a subspecies of *Oncorhynchus clarki*, the Cutthroat Trout. This species is included on the UDWR Sensitive Species List (Utah Division of Wildlife Resources, 2017) as a Conservation Species. A multi-agency conservation agreement (Converse, 2006) discusses strategies for the recovery of this species.

The Colorado River Cutthroat Trout historically occupied portions of the Colorado River drainage in Wyoming, Colorado, Utah, Arizona, and New Mexico (Behnke, 1992). Though it is now restricted to headwater streams and lakes, its original distribution probably included portions of larger streams, such as the Green (Simon, 1935), Yampa, White, Colorado, and San Juan Rivers (Young, Colorado River cutthroat trout In M.K. Young, ed. Conservation assessment for inland cutthroat trout. General Technical Report RM-GTR-256, 1995). This subspecies is restricted to the upper Colorado River drainage, occurring in headwater streams and mountain lakes of the Uinta, La Sal, and Abajo mountains, the Tavaputs Plateau, and the Escalante and Fremont river drainages in Utah (Young, Schmal, Kohley, & Leonard, 1996) (Lentsch & Converse, 1997). In Wyoming, the Colorado River Cutthroat Trout can be found in the Green River, Black's Fork and Little Snake River drainages (Wyoming Game and Fish Department, 2017).

Colorado River Cutthroat Trout historically occupied large rivers and lakes but are now typically found in headwater streams (Wyoming Game and Fish Department, 2017) where adults feed on fishes and aquatic and terrestrial invertebrates (Sigler & Sigler, 1996). Spawning by this subspecies begins after flows have peaked in spring or early summer and ends before runoff subsides (Quinlan, 1980).

#### **3.3.10.1 No Action Alternative**

There would be no impact to fisheries resources under the No Action Alternative.

#### **3.3.10.2 Proposed Action**

Fish may temporarily be disturbed within areas where construction activities affect riparian or riverine habitats. Fish would likely move to areas unaffected by the proposed Project, either upstream or downstream. Sedimentation could potentially be a short-term effect to the downstream reaches of Burnt Fork and Birch Creek during construction. However, the construction would be timed to avoid the spawning season. A Coanda screen would be installed to serve in the removal of sand, organic matter, and other debris from the water including fish eggs and larvae greater than 0.25mm in diameter. The screen would prevent entrainment of fish, including the Colorado River Cutthroat Trout into the piped Interstate Canal. Additionally, design of the reconstruction of the Interstate Canal Diversion would provide for fish passage, thus removing a fish barrier that has previously existed.

#### **3.3.11 Socioeconomics**

With only a couple of exceptions, the households in the Project area are within Sweetwater County, Wyoming. According to the U.S. Census Bureau (2019), the population of Sweetwater County was 43,521. The ethnic makeup in 2019 was 93.4 percent white and 6.6 percent other races. The median household income in 2019 was \$74,843. In 2019, 13.5 percent of the children under 18 were below the poverty line (US Census Bureau, 2021).

#### **3.3.11.1 No Action Alternative**

The No Action alternative would have no effect on the socioeconomic conditions or activities of those living within the Project area.

#### **3.3.11.2 Proposed Action**

Implementation of the Proposed Action would have minor short- and long-term beneficial socioeconomic impacts to the Project area. The proposed pipeline would continue to provide needed water supply to the Applicant's shareholders. Directing the majority of irrigation water through the proposed pipeline rather than into the existing canal is expected to save substantial water due to the elimination of loss due to canal leakage, evaporation and plant transpiration. In addition, piping and pressurizing the water would make switching from flood irrigation to sprinkler irrigation optimal. The water saved would result in increased water supply for the Applicant to make available to existing shareholders and would help offset existing water supply shortages. The Proposed Action could potentially have a short-term beneficial impact by creating jobs and increasing revenue to local business during construction. The improved efficiency of the water delivery system would provide a long-term economic benefit. This benefit would come from increased crop production due to increased water delivery efficiency to irrigated lands.

### **3.3.12 Access and Transportation**

One major transportation corridor, Wyoming Highway 414, is located within the Project area. In addition, several county roads are located in the area. The canal crosses one county road (Birch Creek Road) in Daggett County, Utah.

#### **3.3.12.1 No Action Alternative**

Access and transportation resources would not be impacted under the No Action alternative.

#### **3.3.12.2 Proposed Action**

The Proposed Action may cause limited delays along Wyoming Highway 414 due to construction vehicles entering and exiting the highway. Installation of the pipeline across the Birch Creek Road would cause partial road closures. Therefore, the construction activities would slow the traffic flow locally, potentially resulting in traffic accidents. The implementation of a Traffic Control Plan, as identified in the Environmental Commitments (Section 4) would help reduce the traffic accident risk. All the impacts would be local for a short time and the impact would cease to occur once the construction activities are completed.

## **3.4 Indian Trust Assets**

Indian Trust Assets (ITAs) are legal interests in property held in trust by the United States for Indian tribes or individuals. The U.S. Department of the Interior's policy is to recognize and fulfill its legal obligations to identify, protect, and conserve the trust resources of federally recognized Indian tribal members, and to consult with tribes on a government-to-government basis whenever plans or actions affect tribal trust resources, or tribal safety (see the Departmental Manual, 512 DM 2). Under this policy, as well as Reclamation's ITA policy, Reclamation is committed to carrying out its activities in a manner that avoids adverse impacts to ITAs when possible, and to mitigate or compensate for such impacts when it cannot. All impacts to ITAs,

even those considered nonsignificant, should be discussed in the trust analysis in NEPA compliance documents, and appropriate compensation or mitigation would then be implemented.

Trust Assets can be real property, physical assets, or intangible property rights such as lands, minerals, hunting and fishing rights, traditional gathering grounds, and water rights. Impacts to ITAs are evaluated by assessing how the Proposed Action would affect the use and quality of ITAs. Any action that would adversely affect the use, value, quality, or enjoyment of an ITA is considered an adverse impact on the resources.

Implementation of the No Action or Proposed Action would have no foreseeable negative impacts on ITAs. No trust assets were identified by Reclamation for this Project. Inquiries about ITA concerns were included in the cultural consultation letters for the Proposed Action that were sent out to the Apache Tribe of Oklahoma, Cheyenne and Arapaho Tribes, Comanche Nation, Eastern Shoshone Tribe of the Wind River Reservation, Fort Belknap Indian Community of the Fort Belknap Reservation of Montana, Shoshone-Bannock Tribes of the Fort Hall Reservation of Idaho, Ute Indian Tribe of the Uintah & Ouray Reservation, on May 10, 2022. Reclamation has received no responses from the tribes to date.

### **3.5 Environmental Justice**

Executive Order 12898 established Environmental Justice as a federal agency priority to ensure that minority and low-income groups are not disproportionately affected by federal actions.

As of 2019, the population of Sweetwater County was 43,521, The ethnic makeup in 2019 was 93.4 percent white and 6.6 percent other races. In 2019, 13.5 percent of the children under 18 were below the poverty line (US Census Bureau, 2021). However, implementation of the Proposed Action would not disproportionately (unequally) affect any low-income or minority communities within the Project area. The Proposed Project would not involve major facility construction, population relocation, health hazards, hazardous waste, property takings, or substantial economic impacts. This action would therefore have no adverse human health or environmental effects on minority and low-income populations.

### **3.6 Summary of Environmental Consequences**

Table 3.6-1 summarizes environmental effects under the No Action Alternative and the Proposed Action. This table does not include resources that were eliminated from analysis (detailed in Table 3.2-1).

**Table 3.6-1 Summary of Environmental Consequences**

<b>Project Resources</b>	<b>No Action</b>	<b>Proposed Action</b>
Geology and Soil Resources	No Effect	Temporary impact to soil surface disturbance. Mitigate with the Environmental Commitments. Long-term negligible effect at diversion structure.
Visual Resources	No Effect	Minor temporary impact from construction activities.
Cultural Resources	No Effect	No Effect
Hydrology	No Effect	Long-term benefits due to increased efficiency of the water delivery system and reduced salt loading in the Colorado River Basin.
Water Quality	Long-term minor to moderate impacts to water quality due to continued salt loading of the Colorado River Basin.	Long-term benefits to water quality from decreased salinity loading.
System Operations	Long-term minor to moderate impacts from deterioratingsystem and maintenance requirements.	Long-term benefits from increased efficiency and decreased maintenance.
Floodplains	No Effect	Negligible impact on floodplain.
Wetlands, Vegetation and Wildlife	No Effect	Long-term beneficial effect by increasing Burnt Fork stream channel inundated area by up to 2 percent during certain periods. Loss of approximately 59.3 wildlife habitat units
Special Status Species	No Effect	Loss of some potential habitat for several special status State listed species.
Fisheries Resources	No Effect	Minor short-term impact to individual Colorado River Cutthroat Trout but no significant effects at the population level.
Socioeconomics	No Effect	Short-term beneficial effect by creating jobs and increasing revenue to local business during construction.
Access and Transportation	No Effect	Temporary impact during construction.
Indian Trust Assets	No Effect	No Effect
Environmental Justice	No Effect	No Effect

## Chapter 4 – Environmental Commitments

Environmental Commitments, along with Minimization Measures in Section 2.5, Minimization Measures incorporated into the Proposed Action, have been developed to further lessen the potentially minimal effects of the Proposed Action. The following environmental commitments will be implemented as an integral part of the Proposed Action.

1. **Additional Analyses** - If the Proposed Action were to change significantly from that described in the EA, because of additional or new information, or if other construction areas are required outside the areas analyzed in this EA, additional environmental analyses may be completed if necessary.
2. **Standard Reclamation Best Management Practices** - Standard Reclamation BMPs will be applied during Project activities to minimize environmental effects and will be implemented by Project work forces or included in Project activity specifications. Such practices or specifications include erosion control, public safety, dust abatement, air pollution, noise abatement, water pollution abatement, waste material disposal, archaeological and historical resources, vegetation, wildlife, and flood control. Excavated material and debris may not be wasted in any stream or river channel in flowing waters. This includes material such as grease, oil, joint coating, or any other possible pollutant. Excess materials must be wasted at a Reclamation approved upland site well away from any channel. All materials, including bedding material, excavation material, etc. may not be stockpiled in riparian or water channel areas. If necessary, silt fencing will be appropriately installed and left in place until after revegetation becomes established, at which time the silt fence can then be carefully removed. Machinery must be fueled and properly cleaned of dirt, weeds, organisms, or any other possibly contaminating substances offsite prior to commencing the Project.
3. **UPDES, WYPDES and LCGP Permits** - A Utah Pollution Discharge Elimination System Permit (UPDES) and Wyoming Pollution Discharge Elimination System Permit (WYPDES) will be required from the States of Utah and Wyoming before any discharges of water, if such water is to be discharged at a point source into a regulated water body in Utah. A Large Construction General Permit (LCGP) will be required from the State of Wyoming for storm water discharges from construction activities that disturb 5 or more acres. Appropriate measures will be taken to ensure that Project activity related sediments will not enter the stream either during or after Project activity. Settlement ponds and intercepting ditches for capturing sediments will be constructed, and the sediment and other contents collected will be hauled off the site for appropriate disposal upon completion of the Project. A Storm Water Pollution Prevention Plan (SWPPP) is required in order to obtain UPDES/WYPDES and LCGP Permits. A Spill Prevention, Control and Countermeasure (SPCC) Plan will also be prepared as part of the Permit application process.
4. **Site Restoration** - A site restoration and revegetation plan will be developed to reclaim the areas disturbed by Project activity and prevent erosion and sedimentation. Impacts to soils within the pipeline construction area would be considered short-term if revegetation



objectives are achieved within two years of the initial disturbance. The revegetation objective for the Proposed Action is to establish vegetation comprised of desired and native species with vegetation cover of at least 75 percent of a similar undisturbed, adjacent native vegetation community within two years. If cover is less than 30 percent after three years, additional seeding and restoration efforts may be required.

5. **Fugitive Dust Control Permit** - This Project is in a portion of Utah where air quality meets national air quality standards and is known as an attainment area. Fugitive dust in an attainment area is regulated under Utah R307-205. This rule requires implementation of control measures to minimize fugitive dust. While the rule does NOT require that a formal fugitive dust control plan be filed with the Utah Department of Environmental Quality (DEQ), the Contractor will be required to develop a fugitive dust control plan using the DEQ fugitive dust attainment tool. The Project will be subject to DEQ enforcement inspections and the tool contains DEQ pre-approved and recommended control measures. Similarly, the Wyoming Department of Environmental Quality (DEQ), Air Quality Division (AQD), is responsible for regulating air quality in Wyoming. The Contractor will be responsible for implementing management actions that ensure compliance with the DEQ's air quality regulations, through the use of Best Management Practices (BMPs) and site specific requirements to alleviate air quality impacts.
6. **Cultural Resources** - In the event that any previously unidentified cultural resources are discovered within the area of proposed surface disturbance, the Applicants would ensure that all activities within 30 feet of the discovery are halted, and the discovery is appropriately protected. The Applicants will notify Reclamations' Provo Area Office archaeologist. All work in the inadvertent discovery will cease until Reclamation issues a Notice to Proceed. A Notice to Proceed may be issued by Reclamation under any of the following conditions:
  - Evaluation of potentially eligible resource(s) by a professional archaeologist results in a determination that the resource(s) are not eligible;
  - The fieldwork phase of the mitigation and treatment has been completed; and
  - Reclamation has approved a summary description of the fieldwork performed and a reporting schedule for that work and has made recommendations for further work.

The Applicant would inform all persons associated with the Project that knowingly disturbing cultural resources (historic or archaeological) or collecting artifacts is illegal.

7. **Paleontological Resources** - In the event that paleontological resources of potential scientific interest are encountered during Project activities (including all vertebrate fossils and deposits of petrified wood), the activities would be stopped within 30 feet of the discovery and Reclamation's Provo Area Office archaeologist would be notified. Activities that might impact the identified paleontological find would be suspended until after the discovery has been evaluated by a qualified paleontologist, any necessary minimization measures completed, and Reclamation has issued a written Notice to Proceed.

8. **Human Remains** - If a person knows or has reason to know that she or he has inadvertently discovered possible human remains on state or federal lands or during the course of a federally funded Project, she or he must immediately notify Reclamation's Provo Area Office archaeologist by telephone about the discovery. Work will stop until the proper authorities are able to assess the situation on site. This action will promptly be followed by written confirmation from the Applicants to the responsible federal agency official with respect to federal land. The Utah and/or Wyoming SHPO and interested Native American tribal representatives will be promptly notified by Reclamation. Consultation will begin immediately. This requirement is prescribed under the Native American Graves Protection and Repatriation Act (43 CFR Part 10) and the Archaeological Resources Protection Act of 1979 (16 USC Section 470).
9. **Migratory Birds and Raptors** - Where possible, land clearing and surface disturbance would be timed to prevent destruction of active bird nests or young birds during the avian breeding season (March 1 to August 15, annually) to comply with the Migratory Bird Treaty Act (MBTA). If surface-disturbing activities are unavoidable during this period, the Applicants would have a qualified biologist survey the areas proposed for immediate disturbance for the presence of active nests.  
If active nests are located, or if other evidence of nesting is observed (mating pairs, territorial defense, carrying of nesting material, transporting of food), the area would be avoided to prevent destruction or disturbance of nests until the birds are no longer present. Avian surveys would be conducted only during the avian breeding season and immediately prior (within 7 days) to conducting construction activities that would result in disturbance. After such surveys are performed and disturbance created, the Applicants would not conduct any additional disturbance during the avian breeding season without first conducting another avian survey. After August 15, construction activities would continue; no further avian surveys, in compliance with MBTA, would be conducted until the next year.
10. **Public Access** - Project activity sites will be closed to public access. Temporary fencing, along with signs, will be installed to prevent public access.
11. **Previously Disturbed Areas** - Project activities will be confined to previously disturbed areas where possible, for such activities as work, staging, and storage, waste areas and vehicle and equipment parking areas. Vegetation disturbance will be minimized as much as possible.
12. **Disturbed Areas** - All disturbed areas resulting from the Project will be smoothed, shaped, contoured, and rehabilitated to as near the pre-Project condition as practicable. After completion of the Project and restoration activities, disturbed areas will be seeded at appropriate times with weed-free, native seed mixes having a variety of appropriate species (especially woody species where feasible) to help hold the soil around structures, prevent excessive erosion, and to help maintain other riverine and riparian functions. The composition of seed mixes will be coordinated with wildlife habitat specialists and Reclamation biologists. Weed control on all disturbed areas will be required. Successful

revegetation efforts must be monitored and reported to Reclamation, along with photos of the completed Project.

13. **Traffic Control Plan** - A Traffic Control Plan would be developed in coordination with Summit County and Daggett County, Utah, and Sweetwater County, Wyoming officials to protect public health and safety.
14. **Health, Safety, Noise and Dust** - The Contractor would be responsible during Project activity for safety measures, noise control, dust control, and air and water pollution.

# **Chapter 5 - Consultation and Coordination**

## **5.1 Introduction**

This chapter details other consultation and coordination between Reclamation and other federal, state, and local government agencies, Native American Tribes, and the public during the preparation of this EA. Compliance with NEPA is a federal responsibility that involves the participation of all of these entities in the planning process. The NEPA requires full disclosure about major actions taken by federal agencies and accompanying alternatives, impacts, and potential mitigation of impacts.

## **5.2 Public Involvement**

The Wyoming Water Development Office held public meetings on April 8<sup>th</sup>, 2019, December 12<sup>th</sup>, 2020, and November 30<sup>th</sup>, 2022 in McKinnon, WY. The time and location of these meeting were published in the local newspaper. The scope of the project was discussed at these meetings where all interested parties were welcome to attend.

## **5.3 Native American Consultation**

Reclamation conducted Native American consultation. A consultation letter and copy of the Class III Cultural Resource Inventory Report were sent to the Ute Indian Tribe of the Uintah Ouray Reservation, the Shoshone-Bannock Tribes of the Force Hall Reservation of Idaho, and the Shoshone Tribe of the Wind River Reservation on May 10<sup>th</sup>, 2022. This consultation was conducted in compliance with 36 CFR 800.2(c)(2) on a government-to-government basis. Through this effort, the tribe is given a reasonable opportunity to identify any concerns about historic properties; to advise on the identification and evaluation of historic properties, including those of traditional religious and cultural importance; and to express their views on the effect of the Proposed Action on such properties. Reclamation has received no response from the consulted tribes to date.

## **5.4 Paleontological Resources**

Consultation with the Utah State Paleontologist indicates that there are no paleontological localities recorded in the Utah portion of Project area. Also, museum and agency records searches performed for the Wyoming portion of the Project area indicates that there are no previously recorded fossil localities are present.

## **5.5 Wyoming State Historic Preservation Office**

A copy of the Class III cultural resource report and a determination of historic properties affected for the proposed Project were submitted to the WYSHPO. In a letter dated June 14<sup>th</sup>, 2022 they accepted Reclamation's determination of effect.

## **5.6 Utah State Historic Preservation Office**

A copy of the Class III cultural resource report and a determination of historic properties affected for the proposed Project were submitted to the UTSHPO. In a letter dated June 14<sup>th</sup>, 2022 they accepted Reclamation's determination of effect.

# Chapter 6 – Preparers

## 6.1 USBR Preparers and Reviewers

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Erik Kemp	Fish and Wildlife Biologists	Overview Document, Environmental Compliance
Peter Crookston	Environmental Group Chief	Overview Document, Environmental Compliance, Approval
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Maggie Erlick	Archeologists	Indian Trust Assets and Native American Consultation

## 6.2 Non-USBR Preparers and Reviewers

Name	Title	Responsible for the Following Section(s) of this Document
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Tyler Ashby	Engineer Intern	Preliminary design
Dan Jones, P.E.	Professional Engineer	Section 3.3.7
Richard Noble, P.E.	Principal	Report writing - all chapters, Sections 3.3.1, 3.3.2, 3.3.4, 3.3.5, 3.3.6, 3.3.7, 3.3.11, 3.3.12
Greg Thomas, P.E.	Professional Engineer	Preliminary design
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Bob Thomas	Wetland Scientist	Sections 1.2-1.5, 2.1-2.3, 3.1, 3.3, 3.6, 3.7, Chapter 4, 5.1-5.6
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Sean Keenan	NEPA Specialist	Sections 1.2-1.5, 2.1-2.3, 3.6, 5.1-5.6
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## Chapter 6 – Preparers

Paul Murphy, Ph.D.	Paleontologist	Paleontological Technical Study
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