

INITIAL CONSULTATION DOCUMENT

IN SUPPORT OF JOINT APPLICATION FOR
CONDUIT EXEMPTION AND LICENSE SURRENDER



PIONEER HYDROELECTRIC PROJECT (FERC PROJECT NO. 2722)



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ACRONYMS AND ABBREVIATIONS**A**

AC	alternating current
ADA	Americans with Disabilities Act
amsl	above mean sea level

C

CFR	Code of Federal Regulations
cfs	cubic feet per second
CWA	Clean Water Act

D

DC	direct current
DDO	Defense Depot Ogden
DUPUC	Daughters of the Utah Pioneers of Uintah County

E

EJ Index	Environmental Justice Index
EPA	U.S. Environmental Protection Agency

F

FERC	Federal Energy Regulatory Commission
Forest Plan	<i>Revised Forest Plan Wasatch-Cache National Forest</i>

G

General Plan	<i>Ogden Valley General Plan 2016</i>
GIS	geographic information system

H

HCC	Hydro Control Center
Hill	Hill Air Force Base
HOA	Homeowners Association
HUC	hydrologic unit code

I

ICD	initial consultation document
IPaC	Information for Planning and Consultation

J

JAPM joint agency and public meeting

K

kV kilovolt

kVA kilovolt amps

M

Master Plan *Ogden City Parks, Recreation, and Trails Master Plan*

MRLC Multi-Resolution Land Characteristics

MW megawatt

N

NAVD-88 North American Vertical Datum of 1988

NHPA National Historic Preservation Act

NRCS Natural Resources Conservation Service

NRHP National Register of Historic Places

O

OHV off-highway vehicle

P

PME protection, mitigation, and enhancement

Project, or Pioneer Project Pioneer Hydroelectric Project

R

RCYBP radiocarbon years before present

Reclamation U.S. Bureau of Reclamation

S

SCORP Statewide Comprehensive Outdoor Recreation Plan

SGCN Species of Greatest Conservation Need

SI socioeconomic indicators

SIO Scenic Integrity Objective

SMS Scenery Management System

SWCA SWCA Environmental Consultants

T

TMDL total maximum daily load

U

UAIDA Utah American Indian Digital Archive
UDAF Utah Department of Agriculture and Food
UDEQ Utah Department of Environmental Quality
UDNR Utah Department of Natural Resources
UDPR Utah Division of Parks and Recreation
UDWR Utah Division of Wildlife Resources
UP&L Utah Power and Light Company
USFS U.S. Forest Service
USFWS U.S. Fish and Wildlife Service
USGS U.S. Geological Survey

W

WW General Plan *Western Weber Planning Area General Plan*

1.0 INTRODUCTION

1.1 BACKGROUND

1.1.1 PIONEER HYDROELECTRIC PROJECT

PacifiCorp is the owner, operator, and licensee of the 5.0-megawatt (MW) Pioneer Hydroelectric Project (Pioneer Project or Project). The Pioneer Project is regulated by the Federal Energy Regulatory Commission (FERC) as FERC Project No. 2722. The current Pioneer Project FERC license was issued on May 26, 2000, with an effective date of September 1, 2000, and expires on August 31, 2030 (FERC 2000a)¹.

The Pioneer Project is partially within both Ogden Canyon—upslope from the Ogden River—and the City of Ogden in Weber County, Utah. The Project Area is defined as a 0.5-mile buffer around Pioneer’s FERC-approved Project Boundary (Project Boundary); the Project Boundary is depicted on Exhibit G-1 of PacifiCorp’s *Application for License for Major Water Power Project* (PacifiCorp 1998) and approved by FERC’s May 26, 2000, Order Issuing New License (FERC 2000a) (Figure 1-1). Unless otherwise specified, the Project Vicinity is defined as a 1-mile buffer around the Project Boundary.

Water to operate the Pioneer Project is now released from the Pineview Reservoir through the Pineview Dam, which is owned and operated by the U.S. Bureau of Reclamation (Reclamation). Prior to the construction of Pineview Dam, the Pioneer Project historically included a separate dam on the Ogden River that was submerged by the construction of Pineview Dam, as described in more detail below. From Pineview Dam, water is now transported to the Pioneer Project via the Ogden Canyon Conduit (flowline), which, along with the surge tank described below, is jointly owned by PacifiCorp (44.6%) and Reclamation (55.4%) and operated by Reclamation in partnership with the Ogden River Water Users’ Association. The current Project Boundary consists of an intake; a 5.5-mile-long steel flowline (Ogden Canyon Conduit); a surge tank at the mouth of the Ogden Canyon; a riveted steel, 72.5-inch-diameter, 4,564-foot-long penstock that bifurcates near the powerhouse; a concrete and brick powerhouse containing two 2,500-kilowatt

¹ Amended August 21, 2001, 96 FERC ¶ 62,176.

generating units and adjacent transformer facilities; a 3,000-foot-long tailrace canal; and appurtenant facilities (PacifiCorp 1998).

The Pioneer Project was originally constructed between 1895 and 1897 by the Pioneer Electric Power Company (a PacifiCorp predecessor company) and consisted of a diversion dam on the Ogden River, approximately 6 miles up Ogden Canyon and now submerged beneath present-day Pineview Reservoir; flowline, penstock, and powerhouse. The existing generating units were installed in 1914. When Reclamation constructed the Pineview Dam and inundated the original Pioneer diversion dam in 1937, a new wood stave flowline (thereafter known as Ogden Canyon Conduit) and surge tank was constructed at the joint expense of Reclamation and PacifiCorp, to accommodate a number of new irrigation developments, rather than just the Pioneer Powerhouse. Between 1989 and 1995, the wood stave flowline was replaced by the parties with a steel flowline (PacifiCorp 1998).

Pursuant to 18 Code of Federal Regulations (CFR) 4.107 and 4.30(b)(30), PacifiCorp is seeking a conduit exemption for the Pioneer Project, with a corresponding surrender of the existing Pioneer Project FERC license, contingent upon FERC approval of the separation of the 5.5-mile flowline and surge tank from the Pioneer Project and granting of conduit exemption for the remaining Project facilities. Upon receiving this exemption, the Pioneer Project would be excluded from further FERC licensing requirements under 18 CFR 4.50. In accordance with 18 CFR 4.38, PacifiCorp has developed this initial consultation document (ICD) to describe the proposed conduit exemption and corresponding license surrender. This ICD is the first stage in FERC's three-stage consultation process.

Prior to the initiation of the formal three-stage consultation process, PacifiCorp held an informal discussion of the Proposed Action with key agencies and interested parties on January 17, 2024. Appendix A contains a record of that early consultation and emails supporting the proposal that have been received to date.

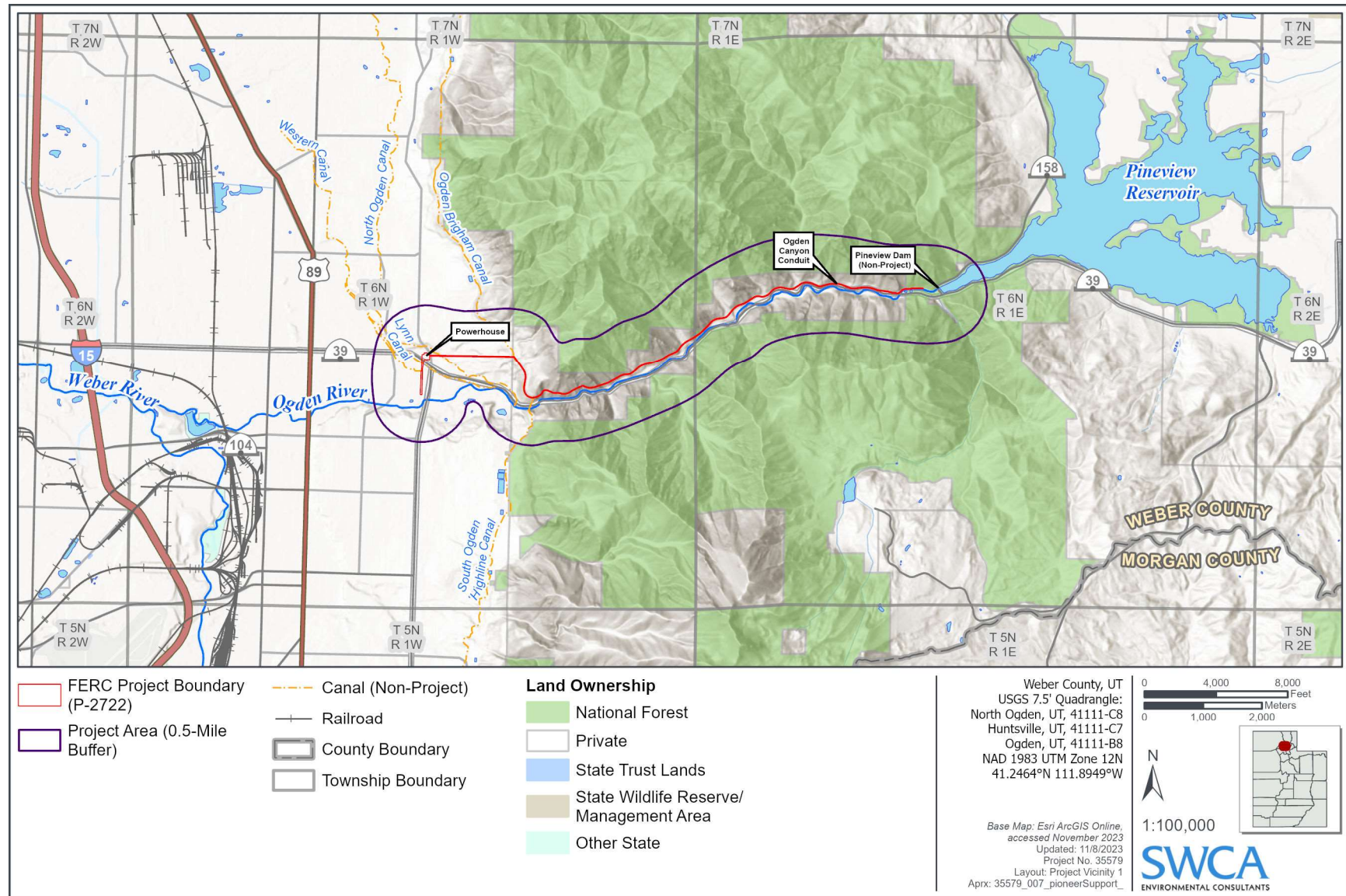


FIGURE 1-1 PROJECT BOUNDARY AND PROJECT AREA

1.1.2 OGDEN RIVER PROJECT (U.S. BUREAU OF RECLAMATION)

Reclamation's mission is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public. Established in 1902, Reclamation is best known for the dams, powerplants, and canals it has constructed in 17 western states. These water projects—now including more than 600 dams and reservoirs—led to homesteading and promoted the economic development of the West, providing irrigation water for 10 million acres of farmland that produce 60% of the nation's vegetables and 25% of its fruits and nuts. One such water project, the Ogden River Project, furnishes an irrigation supply to almost 25,000 acres of land between the Wasatch Mountains and Great Salt Lake, and a supplemental municipal water supply for the City of Ogden. The Ogden River Project features consist of Pineview Dam and Reservoir, the Ogden Canyon Conduit (Pioneer Project's flowline) (Figure 1-2), the Ogden-Brigham Canal, the South Ogden Highline Canal, and the gravity-pressure distribution system constructed for the South Ogden Conservation District (Reclamation 2023a).



FIGURE 1-2 OGDEN CANYON CONDUIT (BURIED)

The Ogden River Project operates by storing water for use in Pineview Reservoir, where irrigation releases are made through one of Pineview Dam's outlets into the Ogden Canyon Conduit. As discussed in more detail in Section 6.3.2, during much of the non-irrigation season, operation of the Pioneer Project is halted when Reclamation collects and stores water in Pineview Reservoir for future irrigation use. During the irrigation season, generally from April 15 to October 15, the Ogden Canyon Conduit conveys approximately 230 to 255 cubic feet per second (cfs) from Pineview Reservoir for both Project and non-Project uses.

As discussed in the paragraphs below, non-Project uses may include such uses as those at Pineview Powerhouse, the City of Ogden's water treatment plan, South Ogden Highline Canal, Ogden-Brigham Canal, and other irrigators downstream of the Pioneer Powerhouse. A portion of the flow may be drawn off the Ogden Canyon Conduit, approximately 750 feet downstream of the dam, to pass through the City of Bountiful and Weber-Box Elder Conservation District's Pineview Powerhouse (non-Project), where flow would likely be returned to the conduit but could also be returned to Ogden River or to the City of Ogden's water treatment plant (non-Project), approximately 1,300 feet downstream of the dam, where water would then be conveyed to the City of Ogden's municipal water supply. The Pioneer Project Boundary begins on the Ogden Canyon Conduit just downstream of the Pineview Powerhouse and upstream of the water treatment plant.

Approximately 4.7 miles downstream of the dam, 35 to 45 cfs of the conduit's flow is diverted south across Ogden Canyon through a suspended siphon to the head of the South Ogden Highline Canal (non-Project). This canal conveys water to a 2,687-acre area along the east bench of the City of Ogden below the canal and extends into the cities of South Ogden, Washington Terrace, and Riverdale (Reclamation 2023a).

Past the siphon, the Ogden Canyon Conduit terminates in a concrete and steel surge tank approximately 5.5 miles downstream of the dam, where the remaining water is divided between valley and bench lands. At this location, approximately 105 cfs is diverted into the Ogden-Brigham Canal (non-Project), which extends from the surge tank northward to Brigham City, serving the higher lands adjacent to and down slope of the canal (Reclamation 2023a).

Distribution from the Ogden-Brigham Canal is made through facilities constructed by the Weber-Box Elder Conservation District and other private irrigation water user entities.

The remaining 90 to 105 cfs (water volume reduced from PacifiCorp's maximum water right of 200 cfs due to irrigation demand), when available, is dedicated for power generation and diverted at the surge tank into the penstock for the Pioneer Powerhouse (PacifiCorp 1998). After passing through the Pioneer Powerhouse, flow is rediverted to the Western Irrigation Company's Western Canal Headgate (non-Project), Lynne Irrigation Company's Lynne Canal Headgate (non-Project), and the Mill Creek Common Feed. Within the Mill Creek Common Feed, water is divided and used by the Perry Ditch Company, North Slaterville Irrigation Company, Farr Orchard Homeowners Association (HOA) and Mound Forts one through six for irrigation of valley lands. If any water is not consumed by downstream irrigators in the tailrace canal, flow may be returned to the Ogden River. Table 1-1 provides a summary of consumptive uses within the Project Boundary.

TABLE 1-1 RELEVANT CONSUMPTIVE USES ALONG RECLAMATION’S OGDEN CANYON CONDUIT AND BELOW PIONEER POWERHOUSE

DIVERSION POINT	DIVERSION LOCATION	DESCRIPTION
Pineview Powerhouse (non-Project)	Ogden Canyon Conduit (approximately 750 feet downstream of Pineview Dam)	Flow may bypass or be diverted from the Ogden Canyon Conduit through the Pineview Powerhouse (non-Project), where flow may then be 1) returned to the Ogden Canyon Conduit or 2) diverted into the Ogden River.
City of Ogden Water Treatment Plant (non-Project)	Ogden Canyon Conduit (approximately 1,300 feet downstream of Pineview Dam)	Flow may bypass or be diverted from the Ogden Canyon Conduit through the City of Ogden’s Water Treatment Plant (non-Project), where flow is then filtered before entering the city of Ogden’s municipal water supply system.
Tunnel 7	Ogden Canyon Conduit (approximately 4.7 miles downstream of Pineview Dam)	At Tunnel 7, flow may be diverted 1) through a siphon to the South Ogden Highline Canal (non-Project), near the mouth of Ogden Canyon, for irrigation purposes in South Ogden; 2) into an overflow spillway, down the rock face cliffs, and into the Ogden River (most typically used when the Pioneer Powerhouse trips offline); or 3) back into the Ogden Canyon Conduit.
Surge Tank	Ogden Canyon Conduit (approximately 5.5 miles downstream of Pineview Dam)	The flowline terminates at a surge tank, where flow is diverted into either the Ogden-Brigham Canal (non-Project) in a northerly direction or into PacifiCorp’s penstock leading to the Pioneer Powerhouse.
Western Canal Headgate (non-Project)	Pioneer Powerhouse Tailrace Canal (approximately 175 feet downstream of Pioneer Powerhouse outlet)	Flow is diverted into the Western Canal (non-Project), owned and operated by the Western Irrigation Company.
Lynne Canal Headgate (non-Project)	Pioneer Powerhouse Tailrace Canal (approximately 505 feet downstream of Pioneer Powerhouse outlet)	Flow is diverted into the Lynne Canal (non-Project), owned and operated by the Lynne Irrigation Company.
Mill Creek Common Feed	Pioneer Powerhouse Tailrace Canal (approximately 505 feet downstream of Pioneer Powerhouse outlet)	Flow is diverted to the Perry Ditch Company, North Slaterville Irrigation Company, Farr Orchard HOA, and Mound Forts one through six (all non-Project).

1.2 PURPOSE AND CONTROL OF THE CONDUIT

As defined under 18 CFR 4.30(b)(30), a “small conduit hydroelectric facility” is “an existing or proposed hydroelectric facility that is constructed, operated, or maintained for the generation of electric power, and includes all structures, fixtures, equipment, and lands used and useful in the operation or maintenance of the hydroelectric facility, but excludes the conduit on which the hydroelectric facility is located and the transmission lines associated with the hydroelectric facility.” Further, an existing facility must be utilized for electric power generation, have an installed capacity that does not exceed 40 MW, not be an integral part of a dam, not rely upon construction of a dam (unless constructed for agricultural, municipal, or industrial consumptive purposes), and must discharge the water it uses for power generation either 1) into a conduit; 2) directly to a point of agricultural, municipal, or industrial consumption; or 3) into a natural water body if a quantity of water equal to or greater than the quantity discharged from the hydroelectric facility is withdrawn from that water body downstream into a conduit that is part of the same water supply system as the conduit on which the hydroelectric facility is located.

As discussed in more detail in Section 6.3.2, PacifiCorp has water rights to divert a maximum of 200 cfs from the Ogden River for power generation at the Pioneer Powerhouse, although water availability is typically limited to 90 to 105 cfs during irrigation season only. Based on contracts and subsequent amendments between PacifiCorp and Reclamation and/or the Ogden River Water Users’ Association, PacifiCorp has no control over the Project intake, the availability of water for power generation, or the operation of water releases that would be made available to the Project. The state-appointed Ogden River commissioner determines how much water is allocated for the various Ogden River Project water users, and water releases from Pineview Dam are the responsibility of the Ogden River Water Users’ Association. PacifiCorp does not have jurisdiction or responsibility over the maintenance or operation of the Ogden-Brigham or South Ogden Highline Canals or their intake equipment. Both the Ogden River Water Users’ Association and PacifiCorp have shared operations and maintenance responsibilities of the Ogden Canyon Conduit and surge tank, which are considered shared assets between PacifiCorp and Reclamation. The concrete butterfly valve (penstock isolation valve [PIV]) vault—approximately 66 feet west of the surge tank—marks the specific location in the conveyance system that is solely and uniquely the Pioneer Project conveyance and under the control of

PacifiCorp. Therefore, although the Ogden Canyon Conduit and associated surge tank are currently included as Project features and within the current Project Boundary, it is more appropriate for these facilities to be excluded from both the Project license and boundary.

As discussed above, Reclamation's Ogden River Project operates irrespective of the Pioneer Project, where flow is diverted to the Ogden-Brigham or South Ogden Highline Canals along the Ogden River Conduit or passes through the Pioneer Project and is re-diverted into the Western, Lynne, and Mill Creek Canals for the primary purpose of supplying irrigation to the 24,801 acres of farmland between the Wasatch Front and Great Salt Lake (PacifiCorp 1998; Reclamation 2023a). Once passed through the Pioneer Project, flows unconsumed by downstream irrigation users, if any, may be returned to the Ogden River. Pursuant to 18 CFR 4.30(b)(30), the Pioneer Project is utilized for electric power generation, has an installed capacity of 5 MW (less than the 40 MW threshold), no longer relies upon the construction of a dam (Pioneer's original dam was submerged when Reclamation's Pineview Dam was constructed for the Ogden River Project), is located on a conduit with the primary purpose of flood control and irrigation, and discharges directly to a point of agricultural consumption; thus, exclusion of the Ogden Canyon Conduit, intake, and surge tank as Project facilities would qualify the Pioneer Project as a small conduit hydroelectric facility.

1.3 PROPOSED ACTION

Since the construction of Reclamation's Ogden River Project and associated water delivery structures in the 1930s, the primary purpose of the Pioneer Project's flowline (now known as the Ogden Canyon Conduit) is no longer for the generation of electricity but for flood control and irrigation supply to approximately 24,801 acres of farmland between the Wasatch Front and Great Salt Lake. Under the Proposed Action, PacifiCorp will convert the Project to the more appropriate conduit exemption, and correspondingly surrender the current FERC Project license once a conduit exemption has been granted, pursuant to 18 CFR 4.90. PacifiCorp requests to surrender the following licensed Project features: 1) the 5.5-mile-long flowline (Ogden Canyon Conduit); 2) the 200-foot-long intake structure² at Reclamation's Pineview Dam; and 3) the 27.4-

² The current Pioneer Project license lists a "the 200-foot-long intake structure" as a Project feature, although this intake structure is for the Ogden Canyon Conduit itself, located upstream of the Pineview Powerhouse and outside of the current FERC Project Boundary. More accurately, the intake for the Pioneer Project is located downstream of the Pineview Powerhouse on the Ogden Canyon Conduit.

foot-high by 35-foot-diameter surge tank. The exempted Project would then consist of the following: 1) the PIV and associated concrete vault; 2) a 72.5-inch-diameter, 4,564-foot-long steel penstock; 3) a brick powerhouse with two generating units with a total installed capacity of 5 MW; 4) a 3,000-foot-long tailrace canal; and 5) appurtenant facilities.

There would be no construction of new facilities, physical changes to current facilities, or changes to Project operations or maintenance activities under the Proposed Action. The FERC Project Boundary would be altered to more appropriately describe the actual Project operation features and remove now unrelated Project lands that surround the current intake, Ogden Canyon Conduit, and surge tank; this will result in a change in dam safety oversight for the flowline from FERC to the Utah Division of Dam Safety. The Proposed Action would not impact ownership, operations, or maintenance of the flowline or surge tank as described under current contracts and agreements with both Reclamation and the Ogden River Water Users' Association; these contracts and agreements would remain in place to manage those facilities into the future. Ownership of the flowline would continue to be shared between Reclamation and PacifiCorp, with PacifiCorp continuing to pay a percentage of the flowline maintenance. All operational and maintenance activities would continue to be directed and undertaken by the Ogden River Water Users' Association. PacifiCorp currently has no control over the Project intake, nor any of the operations and maintenance activities that take place, other than to pay for a set portion of the costs. PacifiCorp and Ogden Canyon Conduit managers will continue to comply with the dam and conduit public safety requirements of the Utah Division of Dam Safety.

2.0 LICENSE AMENDMENT PROCESS PLAN AND SCHEDULE

2.1 AMENDMENT PROCESS AND SCHEDULE

Pursuant to 18 CFR 4.38, PacifiCorp has developed this ICD to describe the Proposed Action, provide background information regarding existing and proposed operations and facilities, describe the existing environment, and involve interested parties with the identification of pertinent resource issues. Such parties include state and federal agencies, local governments, Tribes, non-governmental organizations, adjacent landowners, and members of the public. These consultation requirements will function as a platform for which protection, mitigation, and enhancement (PME) measures and other studies can be developed through consultation with interested parties. This ICD is a precursor to the environmental analysis section of the conduit exemption and corresponding license surrender application and to FERC's separate and independent preparation of the National Environmental Policy Act environmental assessment.

FERC regulations at 18 CFR 4.38(a)(6)(ii) specify a three-stage consultation process in instances involving an "exemption." By filing this ICD, PacifiCorp is formally initiating the first stage of consultation as outlined in Table 2-1 below. Three-stage consultation involves reaching out to relevant agencies, Tribes, and other interested parties; holding a public meeting; conducting study planning and implementation; reporting on study results; and providing a draft application for review and comment. As discussed throughout this document, the Proposed Action would be largely administrative as there would be no construction of new facilities or changes to existing facilities. All contracts and agreements related to ownership, or operations and maintenance activities would remain in place; therefore, PacifiCorp is neither proposing nor anticipating the request for studies at this time, which is reflected in the proposed schedule outlined in Table 2-1. The consultation process culminates in PacifiCorp submitting an application for conduit exemption and license surrender for the Pioneer Project that meets FERC regulations at 18 CFR 4.102 and 18 CFR 4.92.

In addition to making the ICD available on the Pioneer Project website, PacifiCorp will distribute this ICD to currently identified state and federal agencies, local governments, Tribes, non-governmental organizations, and adjacent landowners. Interested parties subscribed to the FERC docket will receive notification via FERC's eFiling system.

TABLE 2-1 PRELIMINARY PROCESS SCHEDULE*

RESPONSIBLE ENTITY	MILESTONE	ESTIMATED TIMELINE
Stage 1 Consultation Section 4.38(b)		
PacifiCorp	File and distribute ICD and proposed studies for comment and requesting additional study requests, if applicable Request designation as FERC's non-federal representative for informal consultation pursuant to Section 106 of the National Historic Preservation Act and Section 7 of the Endangered Species Act	1/31/2024
FERC	FERC issues notice of approval of non-federal representative designation for informal consultation	2/14/2024
PacifiCorp	Provide notification of joint agency and public meeting (JAPM) location and timing	15 days in advance of JAPM
PacifiCorp/ Interested Parties	JAPM and site visit ^a	March 2024
FERC/Interested Parties	<i>Comments due:</i> ICD <i>Deadline:</i> Proposed study requests	4/30/2024
Stage 2 Consultation Section 4.38(c)		
PacifiCorp	Evaluate ICD comments and proposed studies received and develop draft study plans if applicable (no studies are anticipated)	5/1/2024 ^b
PacifiCorp	Distribute draft study plans to interested parties for comment	4/15/2024
Interested Parties	<i>Comments due:</i> draft study plans, if applicable (no studies are anticipated)	5/14/2024
PacifiCorp	Conduct studies, if applicable (no studies are anticipated)	Q3–Q4 2024
PacifiCorp	Issue draft study reports for comment , if applicable (no studies are anticipated)	Q3–Q4 2024
Interested Parties	<i>Comments due:</i> draft study reports, if applicable (no studies are anticipated)	14 days following submittal
PacifiCorp	Distribute draft application for conduit exemption and corresponding license surrender to interested parties for comment .	5/15/2024
FERC/Interested Parties	<i>Comments due:</i> draft application for conduit exemption and corresponding license surrender	8/13/2024
Stage 3 Consultation Section 4.38(d)		
PacifiCorp	Submit final application for conduit exemption and license surrender	8/27/2024
PacifiCorp	FERC issues order (subject to change) ^c	2025+

*Note: If a deadline falls on a Saturday, Sunday, or federal holiday, the due date has been advanced to the following Monday.

Note: The current FERC license for the Pioneer Project expires on August 31, 2030; therefore, should no conduit exemption have been issued, PacifiCorp must file a Notice of Intent to relicense the Project no later than September 1, 2025.

^a The JAPM must be held no earlier than 30 days, but no later than 60 days, from the ICD filing date.

^b PacifiCorp is neither proposing nor anticipating the request for studies at this time; therefore, dates associated with study seasons are shown but assumed to not be necessary. The schedule would advance directly to the preparation of a draft application.

^c FERC does not have a specific timeline requirement for amendment application reviews.

3.0 PROJECT FACILITIES

Pursuant to 18 CFR 4.90 and 4.30, PacifiCorp is seeking a conduit exemption and corresponding license surrender for the Pioneer Project. Section 3.1 provides detailed descriptions of current Project facilities, as depicted on Figure 3-1 and Figure 3-2. Section 3.1.7 describes changes to Project facilities under the Proposed Action.

3.1 CURRENT PROJECT FACILITIES

The Pioneer Project's current intake structure is down slope of the main Ogden River Conduit intake, which is in a tunnel within the right abutment of Reclamation's Pineview Dam, a non-Project facility, at an elevation of approximately 4,890 feet above mean sea level (amsl). The Ogden River Conduit intake structure is typically submerged beneath the normal surface elevation (4,900 feet amsl) of Pineview Reservoir and has a maximum capacity of 2,300 cfs, of which a maximum of 200 cfs may be diverted for power generation at the Pioneer Powerhouse. Downstream of this tap, the main 75-inch flowline (Ogden Canyon Conduit) splits into two slide gate-regulated flowlines. One flowline returns flow to the river and the second conveys flow to the City of Bountiful and Weber-Box Elder Conservation District's Pineview Hydroelectric Project (FERC Project No. 4597) and subsequently back to the flowline (Ogden Canyon Conduit). It is at this point on the flowline (Ogden Canyon Conduit)—just downstream of the Pineview Hydroelectric Project—that the Pioneer Project Boundary begins. Also, just downstream of the Pineview Hydroelectric Project, a 42-inch tap branches from the main flowline (Ogden Canyon Conduit) to deliver water to a water treatment plant operated by the City of Ogden and a local co-op. The flowline (Ogden Canyon Conduit) terminates at a surge tank just outside of the mouth of Ogden Canyon, where flow may be diverted to the Pioneer Powerhouse (PacifiCorp 1998; Reclamation 2023a).

3.1.1 INTAKE

As noted previously, the original 1895 Pioneer Project dam and intake was submerged by the construction of Reclamation's Pineview Dam, a non-Project facility. The associated 200-foot-long Ogden River Conduit intake structure is in a tunnel within the right abutment of Reclamation's Pineview Dam. The Ogden River Conduit intake structure is normally submerged beneath the normal surface elevation (approximately 4,900 feet amsl) of Pineview Reservoir and

has a maximum capacity of 2,300 cfs, of which a maximum of 200 cfs may be diverted for power generation at the Pioneer Powerhouse. Water is released from Pineview Dam through a locally operated 75-inch butterfly valve known as the headgate and passes through the dam via a 75-inch outlet conduit. The 75-inch conduit transitions to an 84-inch pipe, passing through an 84-inch valve (Inlet Valve), before terminating at the non-Project Pineview Hydroelectric Plant (Pineview Powerhouse). Discharge from the Pineview Powerhouse is conveyed in an 84-inch steel pipe, passing through an 84-inch butterfly valve (Draft Valve), before transitioning back to the 75-inch steel Ogden Canyon Conduit, which replaced the original Pioneer flowline. A 60-inch steel pipe bifurcates from the 84-inch steel pipe upstream of the Inlet Valve and reconnects to the 84-inch pipe from the Pineview Powerhouse downstream of the Draft Valve, serving as a bypass to the Pineview Powerhouse. There is a 42-inch butterfly valve (Bypass Valve) in the 60-inch length of pipe just upstream of its union with the 84-inch pipe (PacifiCorp 2022) (Figure 3-1).

When the Pineview Powerhouse is operating, water flows from Pineview Reservoir through the 84-inch pipe to the Pineview Powerhouse and from the powerhouse to the Ogden Canyon Conduit. The Bypass Valve is closed and water to the Ogden Canyon Conduit is controlled by the Draft Valve. When the Pineview Powerhouse is not operating, water can be bypassed from the 84-inch conduit through the 60-inch pipe to the Ogden Canyon Conduit. In this case, both the Inlet and Draft Valves are closed, the Bypass Valve is open, and water is controlled by operating the 75-inch headgate at the dam. All three valves at the Pineview Powerhouse can be controlled locally or remotely (PacifiCorp 2022), although none are ever operated by PacifiCorp operators or staff. PacifiCorp has no operational control over any aspect of the Pineview Dam, nor the associated intake, valves, conduit, powerhouse, or bypass system described above. The Pioneer Project Boundary begins in the flowline immediately downstream of the Pineview Powerhouse (see Figure 3-1).

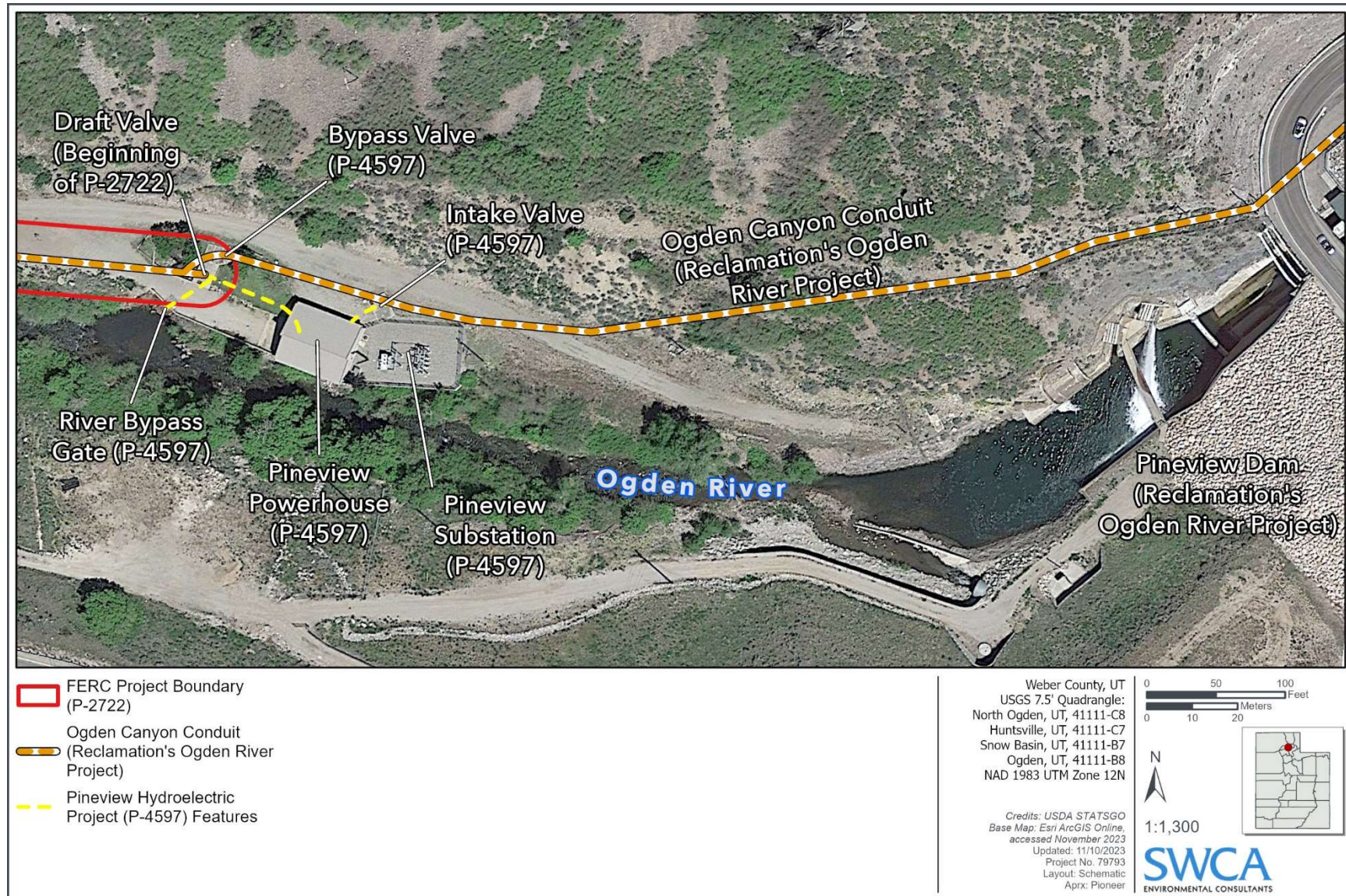


FIGURE 3-1 PINEVIEW DAM AND POWERHOUSE SCHEMATIC

3.1.2 FLOWLINE (OGDEN CANYON CONDUIT)

Water is conveyed from Reclamation's Pineview Dam to the Pineview Powerhouse (underground) before discharging into a 75-inch-diameter, 5.5-mile-long welded steel flowline (Ogden Canyon Conduit), which is the beginning point (upstream-most) boundary of PacifiCorp's current Pioneer Project. A headgate within the Pineview Powerhouse—again, not operated by PacifiCorp personnel—controls the release of water into the flowline. The headgate can be controlled locally or remotely only by personnel of the Pineview Powerhouse and can also be used to divert all flows into the Ogden River, if necessary. Just downstream of the Pineview Powerhouse, a 42-inch tap (non-Project) branches from the main flowline to deliver water to a water treatment plant operated by the City of Ogden and a local co-op. The flowline then travels west through Ogden Canyon, passing through seven tunnels, including Tunnel 7, which is equipped with a headgate, vent, and overflow spillway at the tunnel inlet and a vertical slide gate at the downstream end of the tunnel. At Tunnel 7, flow may be diverted in any of up to three directions:

1. Through a siphon to the South Ogden Highline Canal (non-Project), near the mouth of Ogden Canyon, for irrigation purposes in South Ogden
2. Into the overflow spillway, down the rock face cliffs, and into the Ogden River (most typically used when the Pioneer Powerhouse trips offline)
3. Back into the Ogden Canyon Conduit.

Further downstream, the flowline terminates at a surge tank, where flow is diverted into either the Ogden-Brigham Canal (non-Project) in a northerly direction or into PacifiCorp's penstock, which leads to the Pioneer Powerhouse (PacifiCorp 1998). The flowline is operated in coordination with the Ogden River Water Users' Association and has a maximum capacity of 255 cfs.

Between April 15 and October 15, the aforementioned non-Project water withdrawals from the flowline, prior to its confluence with the Pioneer penstock, typically reduce the amount of water received at the Pioneer Powerhouse to between 90 and 105 cfs. During the non-irrigation season, flows at the Pioneer Powerhouse are determined by water availability, which generally range from 25 to 200 cfs between October and February and then are maintained at PacifiCorp's full

water right of 200 cfs until early April (FERC 2000a). However, as previously mentioned, based on contracts and subsequent amendments with Reclamation and the Ogden River Water Users' Association, PacifiCorp has no control over the availability of water for power generation nor the operation of water releases to the Project. The state-appointed Ogden River commissioner determines how much water is allocated for the various water users, and water releases from Pineview Dam are the responsibility of the Ogden River Water Users' Association.

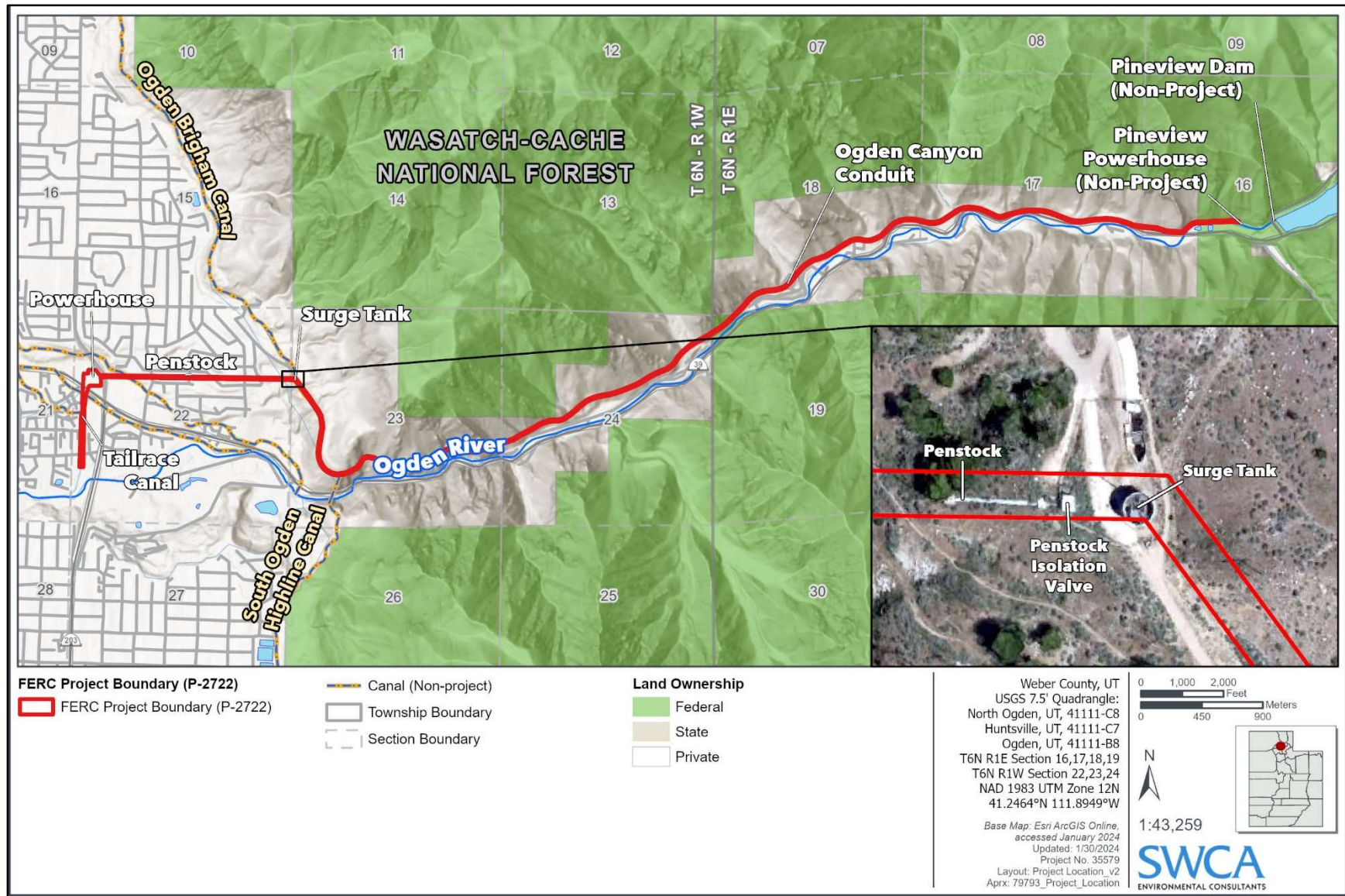


FIGURE 3-2 PROJECT FACILITIES

3.1.3 SURGE TANK AND PENSTOCK

The 27.4-foot-high, 35-foot-wide steel surge tank (Figure 3-3) is at the mouth of Ogden Canyon at approximately 4,754 feet msl. The surge tank serves as a control structure to distribute flows to both the Ogden-Brigham Canal (a non-Project water conveyance) in a northerly direction during the irrigation season and/or to PacifiCorp's penstock (Figure 3-4) leading to the Pioneer Powerhouse. Flows to the penstock and canal are controlled by two 4-foot-high, 5-foot-wide vertical slide gates within the surge tank. The slide gate that controls water to the penstock is in the west side of the surge tank foundation beneath the exposed steel tank. A caged ladder on the south side provides access to the grated platform on top of the surge tank for operation and maintenance tasks. Operators for the slide gates are on the top of the surge tank and can be locally operated electrically or manually. Flow into the canal is operated by the Ogden River Water Users' Association. PacifiCorp does not have jurisdiction or responsibility over the maintenance or operation of the Ogden-Brigham Canal or its intake equipment (PacifiCorp 2022). Both the Ogden River Water Users' Association and PacifiCorp have shared operations and maintenance responsibilities of the surge tank, which is considered a shared asset between PacifiCorp and Reclamation, similar to the Pioneer flowline/Ogden Canyon Conduit.

A set of trash racks in the surge tank strain the penstock intake leading to the Pioneer Powerhouse. A slide gate, which is normally held in the open position, isolates the penstock from the shared-operation surge tank. In addition to the slide gate in the surge tank, flow in the penstock is also controlled by a 72-inch-diameter, vertical-stem PIV with an electric operator, approximately 66 feet downstream of the surge tank in a concrete vault. The PIV valve can be operated manually from the PIV vault; closed remotely from PacifiCorp's Hydro Control Center (HCC) in Ariel, Washington; or automatically closed by the leak-detection and emergency closure system (PacifiCorp 2022). The concrete PIV vault marks the specific location in the conveyance system that is solely and uniquely the Pioneer Project conveyance, under the control of PacifiCorp's Project operators, from that point through the Pioneer Powerhouse and eventual discharge to the Pioneer tailrace.

There are two relief-vacuum valves in the penstock at high points to allow air to enter and exit as needed during emptying and filling procedures. From the PIV vault, the 4,564-foot-long, 72.5-inch-diameter riveted steel penstock passes through several Ogden residential neighborhoods that

have been developed over the century-plus since the Project was constructed. The penstock follows a continuous, non-Project PacifiCorp transmission line right-of-way on its route to the Pioneer Powerhouse. On-site, the penstock passes through a venturi tube used for flow measurement and bifurcates down to two 48-inch diameter penstocks. These penstocks further reduce to 24 inches and then feed Unit 3 and Unit 6 turbines (PacifiCorp 1998, 2022).



FIGURE 3-3 SHARED-USE SURGE TANK AND NON-PROJECT OGDEN-BRIGHAM CANAL INTAKE



FIGURE 3-4 CONCRETE PENSTOCK ISOLATION VALVE VAULT AND PIONEER PENSTOCK

3.1.4 POWERHOUSE

The historic Pioneer Powerhouse, which is included within the Pioneer historic district and much of which is outside of the FERC Project Boundary, is a one-story, brick building with turbine centerlines at 4,359 feet amsl and a normal tailwater elevation of 4,347 feet amsl (Figure 3-5). When originally constructed in 1895, the powerhouse contained six generating units, but over time, through innovation, repairs, and additional water diversions related to the Ogden River Project, only two units remain. The powerhouse currently houses the two, horizontal shaft, Francis-type hydraulic turbine generator units with a combined rated capacity of 5 MW under 425 feet rated net head, associated electrical switch gear, transformers, and an operator control room that contains the generating units' controls and relay protection equipment (PacifiCorp 1998, 2022).



FIGURE 3-5 PIONEER POWERHOUSE AND NON-PROJECT SWITCHYARD

3.1.5 TURBINES, GENERATOR, AND APPURTENANT EQUIPMENT

The Pioneer Project turbine-generator sets are horizontal shaft, Francis-type hydraulic turbines coupled to horizontal synchronous, open air-cooled Westinghouse generators. Both units transitioned from brass runners to stainless steel runners in 1987. Flows from the turbines discharge below the powerhouse floor into the Pioneer Powerhouse tailrace. Two Westinghouse 60-hertz, three-phase transformers step-up power from the generators from 2.3 kilovolt (kV) to 46-kV. Transformer number five and number seven serve generating unit three and six, respectively. Both Project transformers are rated at 2,500-kilovolt amps (kVA)/2,800-kVA open air and 3,125-kVA/3,500 kVA forced air (PacifiCorp 1998). The power generated flows from the two transformers to the generation station unit (GSU), which is connected to the grid at that point via the adjacent non-Project switchyard and associated transmission lines.

Three non-Project, 46-kV transmission lines branch out from the substation to the El Monte and Second Street tap, 17th Street and Gibson, and El Monte Substation. One additional, non-Project distribution line steps down in power from 46 kV to 12 kV and supplies four 12-kV local lines in residential areas (PacifiCorp 1998).

3.1.6 TAILRACE

Water is discharged from the Pioneer Powerhouse for use by downstream irrigators into an open tailrace channel that exits the powerhouse footprint on the west end and, after traveling approximately 100 feet, curves to the south and continues through now mostly residential City of Ogden areas for approximately 3,000 feet (Figure 3-6). The tailrace canal is lined with dry stacked masonry and rock for a short distance downstream of the powerhouse, then turns to a concrete-lined trapezoidal section until it flows under 12th Street and continues downstream in an unlined canal section for approximately 175 feet to the headgate structure for the Western Canal, owned and operated by the Western Irrigation Company. Downstream of the Western Canal, the canal returns to the concrete-lined trapezoidal open channel for another 330 feet until reaching the diversion headgates of the Mill Creek Common Feed where it is diverted to the Perry Ditch Company, North Slaterville Irrigation Company, Farr Orchard HOA, Mound Forts one through six, and Lynne Canal, owned and operated by the Lynne Irrigation Company. Any remaining water that is not consumed by downstream irrigators enters a 1,350-foot-long culvert, which discharges into a concrete-lined energy dissipation section and then returns to the Ogden River via a natural streambed. This energy dissipation structure marks the downstream boundary of the Pioneer FERC Project Boundary.



FIGURE 3-6 PIONEER TAILRACE, ADJACENT TO NON-PROJECT SUBSTATION

3.1.7 PROPOSED CHANGES TO PROJECT FACILITIES

No physical changes to Pioneer Project facilities are anticipated under the Proposed Action; however, under the Proposed Action, PacifiCorp will obtain a FERC conduit exemption and subsequently surrender the following FERC licensed but jointly-owned and jointly-utilized current Project features: 1) the 5.5-mile-long flowline (Ogden Canyon Conduit); 2) the intake structure at Reclamation's Pineview Dam; and 3) the 27.4-foot-high by 35-foot-diameter surge tank. Project facilities remaining within the proposed conduit exemption Project Boundary would consist of: 1) the PIV and associated concrete vault; 2) a 72.5-inch-diameter, 4,564-foot-long steel penstock; 3) a brick powerhouse with two generating units having a total installed capacity of 5 MW; 4) a 3,000-foot-long tailrace canal; and 5) appurtenant facilities. Sections 4.2 and 5.2 below provide detail on proposed modifications to the Project Boundary and Project operations, respectively, under the Proposed Action.

4.0 PROJECT BOUNDARY AND LAND OWNERSHIP

4.1 CURRENT PROJECT BOUNDARY AND LAND OWNERSHIP

The Project Boundary is to include only the lands necessary for the operation and maintenance of the Project; however, the current Project Boundary includes additional lands and portions of water conveyance structures that, since the construction of Pineview Dam, are not under Project operational control and that divert the majority of water into the conveyance system for other non-Project purposes. FERC's May 26, 2000, Order Issuing New License approved PacifiCorp's Exhibit G-1 drawing (FERC Drawing No. 1002), which depicts Project lands, including the Licensee's interest in those lands. Based on an analysis of geographic information system (GIS) data digitized from the FERC-approved Exhibit G drawing and GIS parcel data from Weber County, land ownership within the current Project Boundary is primarily composed of lands owned by PacifiCorp or other private landowners (42.5 acres, or 97.5%), with a smaller portion of federal lands near the Project intake managed by Reclamation (1.1 acres, or 2.5%) (Table 4-1).

Water to operate the Pioneer Project comes from Pineview Dam (owned and operated by Reclamation), where flow is pulled from a submerged intake and passed through the City of Bountiful and Weber-Box Elder Conservation District's Pineview Hydroelectric Project (FERC Project No. 4597) prior to discharging into the Ogden Canyon Conduit. It is at this point that the current Project Boundary for the Pioneer Project begins. PacifiCorp has no ownership nor operational interest in Pineview Dam, the intake structure, or the facilities between the intake structure and the Pineview Powerhouse's outlet into the Ogden Canyon Conduit; however, PacifiCorp does pay for 18% of the maintenance costs for the intake structure (PacifiCorp 1998).

PacifiCorp owns, in fee, the lands upon which the Pioneer powerhouse, transformer, and tailrace and a portion of the lands on which the surge tank and flowline are located. The initial 2,000-foot segment of the 5.5-mile-long flowline (Ogden Canyon Conduit) beginning at the outlet of Pineview Powerhouse is on lands managed by Reclamation, with the remainder of the flowline on lands owned by the City of Ogden, Weber County, PacifiCorp, and other private landowners. PacifiCorp has a perpetual right-of-way for the portions of the penstock, concrete PIV vault, surge tank, and flowline that are not owned in fee (PacifiCorp 2022). The flowline (Ogden

Canyon Conduit) and surge tank are 55.4% owned by Reclamation and 44.6% owned by PacifiCorp, although it is maintained and operated by the Ogden River Water Users' Association (PacifiCorp 1998). All current contracts and agreements with both Reclamation and the Ogden River Water Users' Association dictating ownership, operation, or maintenance of the flowline and surge tank would remain in place to manage those facilities into the future.

4.2 PROPOSED CHANGES TO PROJECT BOUNDARY AND LAND OWNERSHIP

Under the Proposed Action, the current Project Boundary will be modified to exclude the 5.5-mile flowline (Ogden Canyon Conduit) and intake facilities between the Pineview Dam and the concrete Pioneer Project PIV vault, including the surge tank (Figure 4-1). This proposed change would result in a reduction of Project lands from 43.6 acres to 12.6 acres, focusing solely on the existing Project lands encompassing the concrete PIV vault, penstock, powerhouse, and tailrace. This reduction would remove all federal lands from within the Project Boundary.

TABLE 4-1 CURRENT AND PROPOSED FEDERAL ENERGY REGULATORY COMMISSION PROJECT BOUNDARY

LANDOWNER	CURRENT FERC PROJECT BOUNDARY	PROPOSED FERC PROJECT BOUNDARY
Federal	1.1 acres	0 acres
City, County, State (mostly road ROWs)	7.3 acres	1.0 acres
PacifiCorp	16.4 acres	7.0 acres
Private (non-PacifiCorp)	18.8 acres	4.6 acres
<i>Total</i>	<i>43.6 acres</i>	<i>12.6 acres</i>

Sources: PacifiCorp (1998); Weber County (2023b).



FIGURE 4-1 PROPOSED CHANGE TO PROJECT BOUNDARY

5.0 PROJECT OPERATIONS AND LICENSE REQUIREMENTS

5.1 CURRENT OPERATIONS

Operations at Pineview Dam and the Ogden Canyon Conduit are directed and carried out by the Ogden River Water Users' Association (PacifiCorp 2022). The amount of water scheduled to pass through the Pioneer Powerhouse per day is determined by the state-appointed Ogden River commissioner, who monitors all diversions from the Ogden River Distribution System; PacifiCorp adjusts Pioneer Powerhouse operation depending on the amount of flow the river commissioner is releasing from Pineview Reservoir. It is typical for the Pioneer Powerhouse to function with a set amount of water until further advised by the river commissioner. Due to this mode of operation, "peaking" and other methods of increasing efficiency by shifting the timing of flow are not possible (PacifiCorp 2022). The predetermined available flow is directed to one of the generating units until flow rates reach 95 to 100 cfs, at which point the second generating unit is engaged. PacifiCorp has water rights (UT-R-35-7037, 7027, and 5263) to divert a maximum of 200 cfs from the Ogden River (PacifiCorp 1998). The penstock, powerhouse, tailrace, and PacifiCorp portion of the surge tank are operated and maintained by PacifiCorp personnel, who are on duty 8 hours per day, 7 days a week. Powerhouse personnel are available during off hours. Local response time to the Project is 30 minutes (PacifiCorp 2022).

The Pioneer Project is operated as a "run of river" facility and has no peaking capabilities. The Pioneer Powerhouse is normally operated in a semiautomatic mode. The hydraulic turbine generators are placed online locally by PacifiCorp personnel, and PacifiCorp personnel continue to monitor overall operation. When PacifiCorp personnel are off duty (nights, weekends, holidays, etc.), a default switch setting is selected to transfer powerhouse control and monitoring to the Pioneer load control computer. This operating scheme transfers the operation and monitoring of the powerhouse to PacifiCorp's Hydro Control Center (HCC) via the Pioneer Powerhouse Remote Telemetric Unit system. The HCC is at PacifiCorp's Merwin Hydroelectric Project outside of Ariel, Washington, and is staffed 24 hours per day, 7 days per week. The HCC has the capability to monitor the surge tank water level, penstock pressure, tailrace water level, plant generation and transmission system volt-ampere reactive loading, generator status, and powerhouse and substation alarms for both generating units. If an operating condition arises

requiring that either or both generating units be shut down, a protective relay scheme is in place to trip units, and an alarm is sent to notify the HCC control operator that the generating unit(s) are offline. An automated leak-detection system is also in place that consists of two acoustic flow meters that measure the flow through the penstock downstream of the PIV valve. The lower flow meters are in a concrete vault just outside of the powerhouse and were installed in January 1996. The upstream flow meter and the transducers are housed in a concrete vault approximately 25 feet downstream of the vault housing the 72-inch PIV. The downstream acoustic flow meter is installed in the powerhouse, and the transducers are installed on the penstock in a vault. The leak detection system utilizes a programmable logic controller to compare the flow signals from each of the acoustic flow meters at the top and bottom of the penstock. A detected difference in flow of 3 cfs results in the initiation of an alarm, which is received by the HCC. A calculated difference in flow of 5 cfs or greater sustained for a minimum of 2 minutes results in an automatic closure of the 72-inch PIV. In the event of a powerhouse trip, the HCC contacts the on-call, local PacifiCorp personnel, who are typically dispatched to the powerhouse to investigate the unit trip. HCC can also remotely operate the 72-inch PIV, if necessary (PacifiCorp 2022).

Routine maintenance and daily inspections are performed by PacifiCorp personnel. General maintenance and equipment lubrication are applied when necessary. Penstock inspections are also conducted on a predetermined schedule (PacifiCorp 1998).

5.2 PROPOSED CHANGES TO OPERATIONS

Under the Proposed Action, the existing 5.5-mile flowline (Ogden Canyon Conduit) and associated intake and surge tank would be excluded from the Project license and boundary. PacifiCorp would continue to cooperate financially (as all Ogden Canyon Conduit users do) regarding flowline operations, inspection, and maintenance activities according to current contracts and agreements with both Reclamation and the Ogden River Water Users' Association, which would remain in place to manage those facilities into the future. Inspection of safety and security of that portion of the flowline would become the responsibility of Utah Division of Dam Safety.

5.3 CURRENT LICENSE REQUIREMENTS

The Pioneer Project license is subjected to FERC's standard terms and conditions of license designated Articles 1 through 32 set forth in Form L-1, titled *Terms and Conditions of License for Unconstructed Major Project Affecting Lands of the United States*. Additional, Project-specific license articles are stated in the 2000 Order Issuing License (Major) and are summarized in Table 5-1.

TABLE 5-1 SUMMARY OF CURRENT LICENSE REQUIREMENTS

ARTICLE/ CONDITION	REQUIREMENT	STATUS
Article 201	The licensee shall pay the United States an annual charge, effective September 1, 2000: (a) For the purposes of reimbursing the United States for the cost of administration of Part I of the Federal Power Act, a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time. (b) For the purpose of recompensing the United States for the use, occupancy, and enjoyment of 1.49 acres of its lands, other than transmission line right-of-way, a reasonable amount determined in accordance with the provisions of the Commission's regulations in effect from time to time. (c) For the purpose of recompensing the United States for the use of the Bureau of Reclamation's Pineview Dam and other government property, the licensee shall discharge its obligations as set forth in the contract among the licensee, Ogden River Water Users Association, and the United States Department of the Interior dated as of October 18, 1934.	Ongoing
Article 202	Within 45 days of the effective date of the license, the licensee shall file three sets of aperture cards of the approved exhibit drawings. The sets must be reproduced on silver or gelatin microfilm and mounted on type D aperture cards. Prior to microfilming, the FERC drawing number (2722-1001) shall be shown in the margin below the title block of the approved drawing. The exhibit number shall be revised to agree with the exhibit number assigned in ordering paragraph (B) above. Additionally, the project number, FERC exhibit, drawing title, and date of this license must be typed on the upper left corner of each aperture card.	Pertains to initial license implementation. Complete.
Article 401	Within six months of the effective date of this license, the licensee shall file with the Commission, for approval, a plan to place boulders in the lower, natural channel portion of the tailrace using appropriate methods to minimize disturbance. At a minimum, the plan shall include: (1) a description of the methods and material to be used to place boulders in the tailrace; (2) a description of the timing and duration of boulder placement activity; (3) erosion control and reclamation measures, including revegetation of disturbed riparian and upland habitats, and an implementation schedule for the plan; (5) provisions to consult with Utah Division of Wildlife Resources prior to any scheduled flowline or project maintenance which results in tailrace dewatering; and (6) provisions to consult with Utah Division of Wildlife Resources immediately following any unscheduled project outages that result in the tailrace being dewatered in excess of four hours.	Pertains to initial license implementation. Complete.

ARTICLE/ CONDITION	REQUIREMENT	STATUS
Article 402	If archeological or historic sites are discovered during any future project modifications or construction, or during project operation or maintenance, or if the licensee plans any future modifications, other than routine maintenance, to already discovered archeological or historic sites, the licensee shall: (1) consult with the SHPO and the USFS about the discovered sites; (2) prepare a site-specific plan, to evaluate the significance of the sites and to avoid or mitigate any impacts to sites found eligible for inclusion in the National Register of Historic Places; (3) base the site-specific plan on recommendations of the SHPO and the USFS, and the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation; (4) file the site-specific plan for Commission approval, together with the written comments of the SHPO and the USFS; and (5) take the necessary steps to protect the discovered archeological or historic sites from further impact until notified by the Commission that all of these requirements have been satisfied. The Commission may require cultural resources surveys and changes to the site-specific plans based on the filings. The licensee shall not implement a cultural resources management plan, begin any land-clearing or land-disturbing activities in the vicinity of any discovered sites, or modify previously discovered sites until informed by the Commission that the requirements of this article have been fulfilled.	Ongoing
Article 403	Standard land use article, granting the licensee broader authority to authorize relatively routine non-project uses and occupancies (e.g., riprap, small boat docks, etc.) without Commission approval. This authority may only be exercised if the proposed use and occupancy is consistent with the purposes of protecting and enhancing the scenic, recreational, and environmental values of the project.	Ongoing
Article 501	If the licensee's project was directly benefitted by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement during the term of the original license (including extensions of that term by annual licenses), and if those headwater benefits were not previously assessed and reimbursed to the owner of the headwater improvement, the licensee shall reimburse the owner of the headwater improvement for those benefits, at such time as they are assessed, in the same manner as for benefits received during the term of this new license. (F) The licensee shall serve copies of any Commission filing required by this order on any entity specified in this order to be consulted on matters related to that filing. Proof of service on these entities must accompany the filing with the Commission. (G) This order is issued under authority delegated to the Director and is final unless a request for a rehearing by the Commission is filed within 30 days from its issuance, as provided in Section 313(a) of the Federal Power Act. The filing of a request for rehearing does not operate as a stay of the effective date of this license or of any other date specified in this order, except as specifically ordered by the Commission. The licensee's failure to file a request for rehearing of this order shall constitute acceptance of the license.	Pertains to initial license implementation. Complete.
UDEQ Condition 1	The certificate holder shall incorporate appropriate BMPs to minimize erosion-sedimentation load to any adjacent waters during project activities.	Ongoing
UDEQ Condition 2	Appropriate water quality parameters of adjacent waters shall be monitored for effectiveness.	Ongoing
USFS Condition 1	<i>Obtain a Special Use Authorization from the USFS. Deleted by "Order on Rehearing and Denying Stay," 95 FERC ¶ 61,061 (April 13, 2001).</i>	Deleted by "Order on Rehearing and Denying Stay," 95 FERC ¶ 61,061 (April 13, 2001).
USFS Condition 2	Before any construction of the project occurs on National Forest System land, the licensee shall obtain the prior written approval of the USFS for all final design plans for project components which the USFS deems as affecting or potentially affecting National Forest System resources. The licensee shall follow the schedules and procedures for design review and approval specified in the USFS special-use authorization. As part of such prior written approval, the USFS may require adjustments in final plans and facility locations to preclude or mitigate impacts and to ensure that the project is compatible with on-the-ground conditions. Should such necessary adjustments be deemed by the Forest Service, the Commission, or the licensee to be substantial change, the licensee shall follow the procedures of Article 2 of the license. Any changes to the license made for any reason pursuant to Article 2 or Article 3 shall be made subject to any new terms and conditions of the Secretary of Agriculture made pursuant to section 4(e) of the Federal Power.	Ongoing

ARTICLE/ CONDITION	REQUIREMENT	STATUS
USFS Condition 3	Notwithstanding any license authorization to make changes to the project, the licensee shall get written approval from the USFS prior to making any changes in the location of any constructed project feature or facilities, or in the use of project lands and waters, or any departure from the requirements of any approved exhibits filed with the Commission. Following receipt of such approval from the USFS, and at least 60 days prior to initiating any such changes or departure, the licensee shall file a report with the Commission describing the changes, the reasons for the changes, and showing the approval of the USFS for such changes. The licensee shall file an exact copy of this report with the USFS at the same time it is filed with the Commission. This article does not relieve the licensee from the amendment or other requirements of Article 2 or Article 3 of this License.	Ongoing.
USFS Condition 4	Each year during the 60 days preceding the anniversary date of the license, the licensee shall consult with the USFS with regard to measures needed to ensure protection and development of the natural resource values of the project area. Within 60 days following such consultation, the licensee shall file with the Commission evidence of the consultation with any recommendations made by the USFS. The Commission reserves the right, after notice and opportunity for hearing, to require changes in the project and its operation that may be necessary to accomplish natural resource protection.	Ongoing.

Source: FERC (2000a).

5.4 PROPOSED CHANGES TO CURRENT LICENSE REQUIREMENTS

Although there would be no construction of new facilities, physical changes to current facilities, or changes to Project operations or maintenance activities under the Proposed Action, PacifiCorp anticipates that the alteration of the Project Boundary to more appropriately describe the actual Project operation features and remove now unrelated Project lands surrounding the current intake, Ogden Canyon Conduit, and surge tank may result in the following administrative changes to current Project license requirements, language, and associated exhibits, as summarized below:

- License Article 201: Would no longer be necessary as no federal lands would remain in the proposed, future Project Boundary.
- Exhibit A, Project description: Revised to describe only those Project features that would remain in the proposed, future Project Boundary, as described in the sections above. Revised to update Project acreage and remove discussion of federal lands.
- Exhibit F, Project design drawings: Revised to describe only those Project features that would remain in the proposed, future Project Boundary, as described in the sections above.
- Exhibit G, Project Boundary: Revised to depict only those Project features that would remain in the proposed, future Project Boundary, as described in the sections above.

- U.S. Forest Service (USFS) Conditions 2 and 3: Would no longer be required as no federal lands would remain within the proposed, future Project Boundary; further, these federal lands are now administered by Reclamation.

6.0 ENVIRONMENTAL REPORT

Pursuant to 18 CFR 4.38(b), this section describes the affected environment and significant resources present in the area around the Pioneer Project. Proposed environmental PME measures and studies are presented in Section 7.0 of this ICD. Due to the administrative nature of the Proposed Action, PacifiCorp is not proposing nor anticipating any resource studies at this time.

6.1 GENERAL DESCRIPTION OF RIVER BASIN

This section provides a general description of the Ogden River Basin in which the Pioneer Project is located and information on other major rivers, streams, and waterways that are tributaries to the basin. This section also describes general land and water use in the basin. More detailed descriptions of resources within the Pioneer Project's FERC Project Boundary and nearby area are included below in the respective resource sections of this document.

6.1.1 OGDEN RIVER BASIN

The headwaters of the Ogden River and much of the Ogden River Basin are in the Cache National Forest in northeastern Utah (Figure 6-1), and on private lands adjacent to and downstream of Cache National Forest lands. The flows from the basin discharge into the Pineview Reservoir, at the entrance to the Ogden Valley (Figure 6-2). The three forks of the Ogden River—North, Middle, and South—are the major rivers flowing into Pineview Reservoir. The North, Middle, and South Forks of the Ogden River have headwaters at Ben Lomond Peak (9,712 feet amsl), Sharp Mountain (9,088 feet amsl), and Monte Cristo Peak (9,148 feet amsl), respectively. Downstream of the Pineview Dam (4,908 feet amsl), the Ogden River flows southwest down Ogden Canyon and through the lower valley for another 35 miles, where it converges with the Weber River, ultimately draining into Great Salt Lake near Ogden Bay Waterfowl Management Area. As defined by the U.S. Geological Survey's (USGS's) National Hydrography Dataset, the Ogden River Basin is composed of two watersheds—Headwaters Ogden River (Hydrologic Unit Code [HUC] 1602010202) and Outlet Ogden River (HUC 1602010203)—that combine for a drainage area of 333.4 square miles. Within the Ogden River Basin, the North Fork Ogden River contributes approximately 61.8 square miles, the Middle Fork Ogden River 62.7 square miles, and the South Fork Ogden River 181.1 square miles of drainage area prior to their confluence in Pineview Reservoir. Downstream of Pineview

Reservoir, another 27.7 square miles of drainage contributes to the mainstem of the Ogden River (PacifiCorp 1998; USGS 2023a).

6.1.2 TRIBUTARY INFORMATION

Most flow into the Ogden River consists of releases from Pineview Reservoir throughout the year. Additionally, there are two major tributaries that contribute flow into the Ogden River downstream of Pineview Dam: 1) Wheeler Creek, which converges with the Ogden River just south of the Pineview Dam, and 2) Goodale Creek, which joins further downstream, north of the town of Wildwood, Utah (Eriksson 1960).

6.1.3 LAND AND WATER USE

Recreational opportunities in the Ogden River Basin include hiking, biking, and fishing. Upstream of Pineview Dam, the Pineview Reservoir is used for boating, waterskiing, and jet surfing, among other motorized recreational activities. The Ogden River downstream of the Pineview Dam provides a fishery for native Bonneville cutthroat trout (*Oncorhynchus clarki utah*). In order to preserve the fishery, the Ogden River Water Users' Association maintains a minimum flow release of 10 cfs at the USGS gaging station just downstream of the Pineview Dam (FERC 1998). According to Utah Division of Water Resources Water-Related Land Use Program, approximately 8,827.9 acres of land within Ogden Valley and surrounding Pineview Reservoir is used for agriculture, with primary crops consisting of hay and turf (6,072.9 acres), pastureland (2,212.6 acres), fallow or idle (525.5 acres), garden (10.6 acres), and orchard (6.3 acres) (Utah Division of Water Resources 2023). At Pineview Dam, water may also be diverted into Reclamation's Ogden River Project, a series of conduits and canals providing irrigation supply to approximately 24,801 acres of land between the Wasatch Mountains and Great Salt Lake. The water supply has improved economic conditions in the area and brought fertile land under cultivation for crops such as peaches, apples, apricots, vegetables, sugar beets, small grains, corn, and hay (Reclamation 2023a).



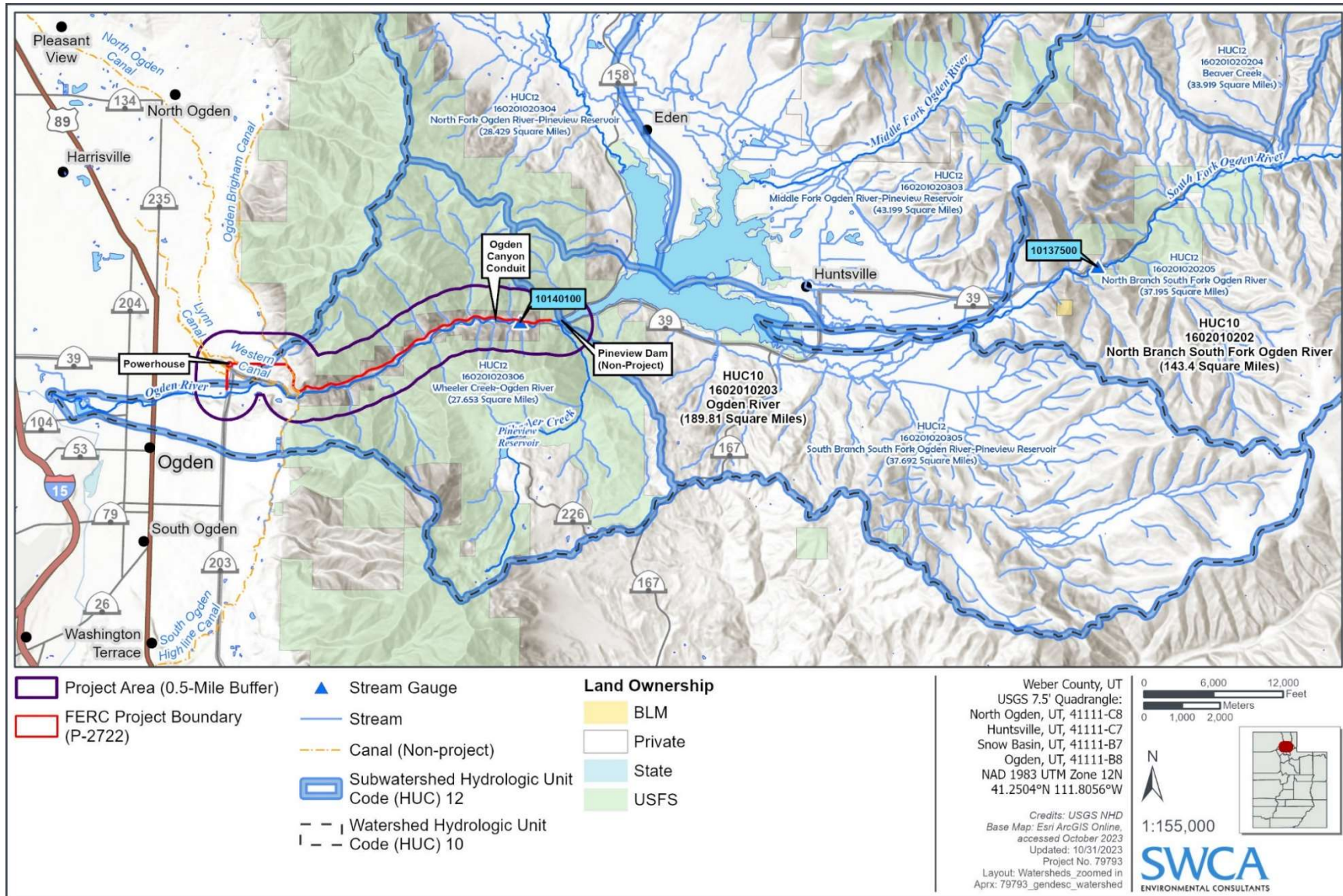


FIGURE 6-2 OGDEN RIVER BASIN

6.2 GEOLOGY AND SOILS

The following section provides a general description of the geological processes and formations across the Project Vicinity, defined as Weber County, Utah, and the City of Ogden.

6.2.1 GEOLOGICAL FEATURES

The Project Area is between two physiographic provinces: the Middle Rocky Mountains, represented by the Wasatch Front, and the Basin and Range (Milligan 2000).³ The glacially carved Wasatch Mountains trend north-south through the Project Vicinity at elevations ranging from 5,000 to over 11,000 feet amsl (Milligan 2000; PacifiCorp 1998). Pineview Reservoir (elevation 4,900 feet amsl) is in the Ogden Valley, a graben separated from the rest of the Great Salt Lake Basin by a horst that forms the east side of the westernmost Wasatch ridgeline.⁴ The Ogden Valley has an area of 23 square miles and is enclosed by the westernmost Wasatch ridgeline. Beginning at the Pineview Reservoir and cutting through the range, the Project Area is mostly encompassed by Ogden Canyon, with the downstream-most portion extending out of the valley and into the City of Ogden. The canyon creates a throughway for the Ogden River (trending southwest), connecting the two physiographic provinces and providing water to the City of Ogden (elevation 4,280 feet amsl), and eventually to its terminus in the globally important Great Salt Lake and associated habitats (Leggette and Taylor 1937; PacifiCorp 1995, 1998; Utah State University 2023).

Ogden Canyon extends approximately 6 miles from the Pineview Reservoir downstream to the City of Ogden and is characterized by rugged ridges that are generally sharp and narrow. The topographical relief between the highest ridges and the bottom of the canyon is over 3,000 feet. Ogden Canyon has two main tributary canyons: Wheeler Canyon, which connects just downstream of the Pineview Dam south of the Ogden River; and Goodale Canyon, 1.5 miles down the canyon north of the town of Wildwood (Eriksson 1960). Smaller tributaries provide additional inflows to the Ogden River, including Dry Canyon, Cold Water Canyon, and Sardine Canyon (Figure 6-3). Substrate in this reach of the Ogden River is fairly uniform cobbles and

³ Features that commonly distinguish physiographic regions arise from a shared distinct geology. This could include prominent rock types, erosional characteristics, or formation history (Milligan 2000).

⁴ USGS defines a graben as “a piece of Earth’s crust that is shifted downward in comparison to adjacent crust known as “horsts,” which are shifted upward” (USGS 2015).

boulders, with several areas of silt and gravel (FERC 1998; Natural Resources Conservation Service [NRCS] 1999).

6.2.2 BEDROCK GEOLOGY

The mountainous area east of the Pioneer Project has core foundations of ancient Precambrian rocks, some over 2 billion years old. Periods of mountainous uplift creating the modern Wasatch Mountains can be traced to within the last 12 to 17 million years. Periods of compression throughout the Cretaceous period (138 to 66 million years ago) created large, thrust sheets of rock and granitic intrusions both heavily eroded with time that can be seen today (Milligan 2000). The mountains within the Project Vicinity are composed of Paleozoic and Precambrian rocks and contain a mixture of sedimentary, igneous, and metamorphic rock structures. Commonly found rock types are limestone, dolomite, shale, gneiss, and quartzite. The Ogden Valley itself is primarily composed of Quaternary alluvial and colluvial deposits (PacifiCorp 1998).

The floor of the Ogden Canyon is covered in layers of alluvial deposits dating back to the Holocene and consists of unconsolidated gravel, silt, clay, and sand. The Pioneer Powerhouse and penstock are surrounded by these unconsolidated layers as well as lacustrine deposits commonly derived from giant Pleistocene lakes, in this case, Lake Bonneville, the precursor lake to the remnant Great Salt Lake (PacifiCorp 1998). Below the alluvial and lacustrine deposits there is thought to be more alluvium that predates Lake Bonneville entirely (Leggette and Taylor 1937). The walls of the Ogden Canyon are composed of overthrust Proterozoic beds that include Devonian Jefferson dolomite, Mississippian Madison limestone, Deseret limestone, and Tertiary Knight conglomerate (Eriksson 1960). Near the Pineview Dam, the geology is dominated by sedimentary carbonates.

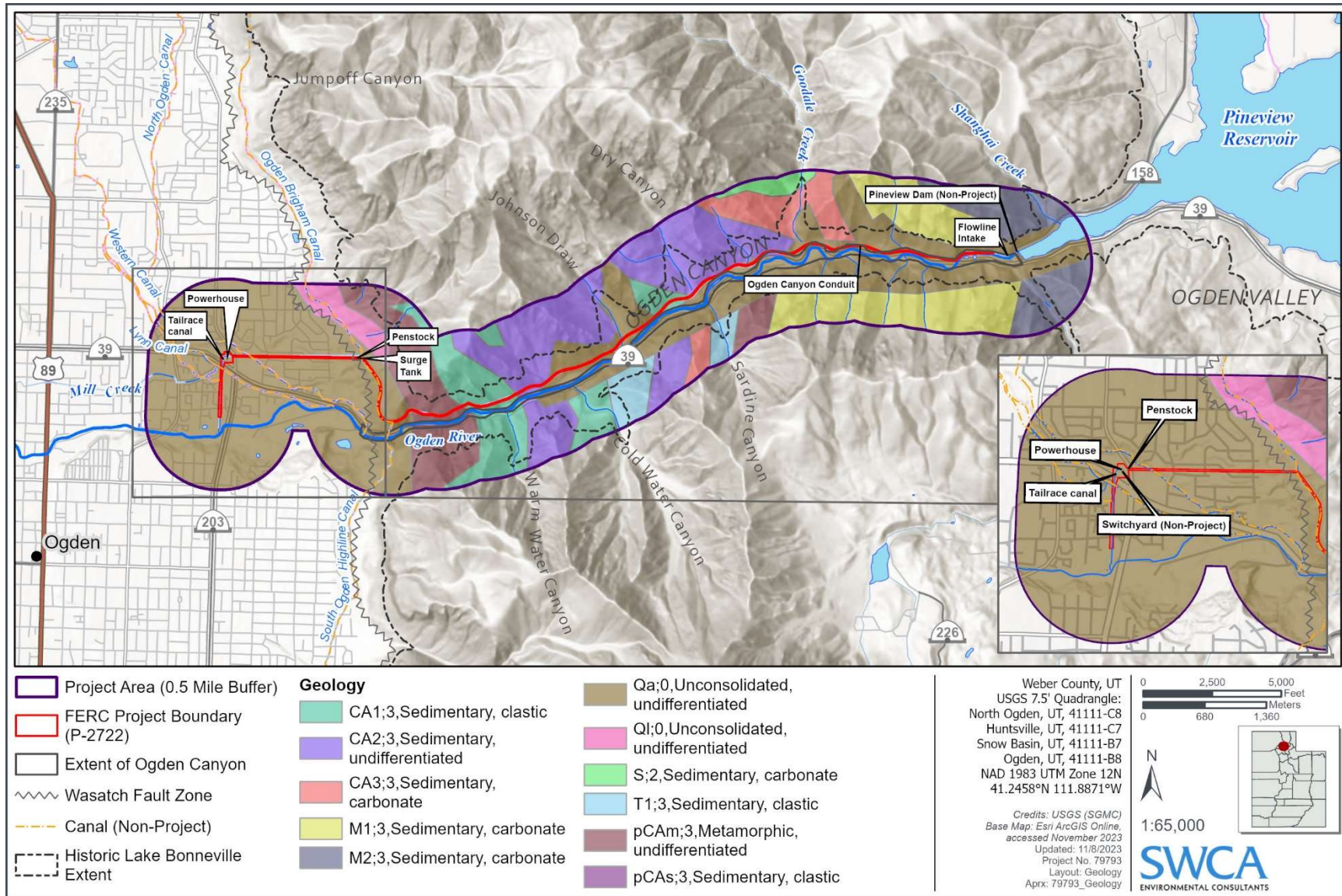


FIGURE 6-3 GEOLOGICAL FEATURES

6.2.3 SOILS

There are a variety of soils throughout the Project Area. Soils range from nearly level or gently sloping alluvium at the floor of the Ogden Canyon to steep soil interspersed with rocky outcrops that make up the canyon walls and mountainous slopes. Multiple soil associations can be found at various points along the Project Area (PacifiCorp 1998) (Figure 6-4).

The Pioneer Powerhouse is within the Parleys-Timpanogos-Kidman soil association, characterized by deep and well-drained soils. The soil series found under the powerhouse itself is Ackmen loam, which is very deep and somewhat poorly drained (PacifiCorp 1998). Ackmen loam commonly occurs on floodplains and alluvial fans (NRCS 1999). The Project tailrace canal crosses into fine and silty floodplain soils, including the Sunset, Steed, Refuge, Martini, and Kirkham series.

East of the Pioneer Powerhouse, but on the west end of the Ogden Canyon below the mountain slopes, is the Kilburn soil association. This association is characterized by well-drained soils that range from moderately deep to very deep, well drained to somewhat excessively well drained, and gravelly to cobbly. Kilburn soils are commonly found along terraces, alluvial fans, and old deltas. Within the Project Area, the mapped soil series is a complex of Francis loamy sand and Kilburn sandy loam (PacifiCorp 1998).

Throughout the Ogden Canyon and surrounding area, the dominant soil type ranges between a Nagitsy-rock outcrop-Broad Canyon soil association and a Sterling-Sheep-Creek-Richmond-Foxol-Elzing-Agassiz association. This association is characterized by well-drained soils that range from moderately deep to very deep and is commonly found on subalpine and alpine canyon walls and mountainsides throughout northern Utah. The Nagitsy-Patio-rock outcrop complex is the only series that occurs in both the Project Area and within the Broad Canyon association. The Nagitsy-Patio-rock outcrop complex also occurs higher up the canyon, west of Pineview Reservoir, though as part of a separate Sessions-Poleline-Patio soil association. This association shares many similarities with its lower Nagitsy counterpart, including depth and drainage characteristics, but is commonly found in high mountains. Along with the Nagitsy-Patio-rock complex, the Nordic-patio complex can be found in the Project Area (NRCS 1999; PacifiCorp 1998).

The Pineview Reservoir is surrounded by two additional soil associations: the Utaba-Eastcan-Pringle association to the north and east, and the Hawkins-Ostler-Manila soil association to the south. Soils to the north and east sides of the reservoir tend to be very deep and range dramatically from well drained to poorly drained and gently to strongly sloping. There are multiple soil series that make up this association, including Parleys loam, Sunset loam, Brownlee loam, Utaba cobbly loam, and Phoebe fine sandy loam. The south side of the Pineview Reservoir tends toward deep to moderately deep, well-drained soils on foothills and rolling slopes. Soil series found here include Smarts loam, Ostler loam, Nebeker loam, and Hawkins silty clay (PacifiCorp 1998).

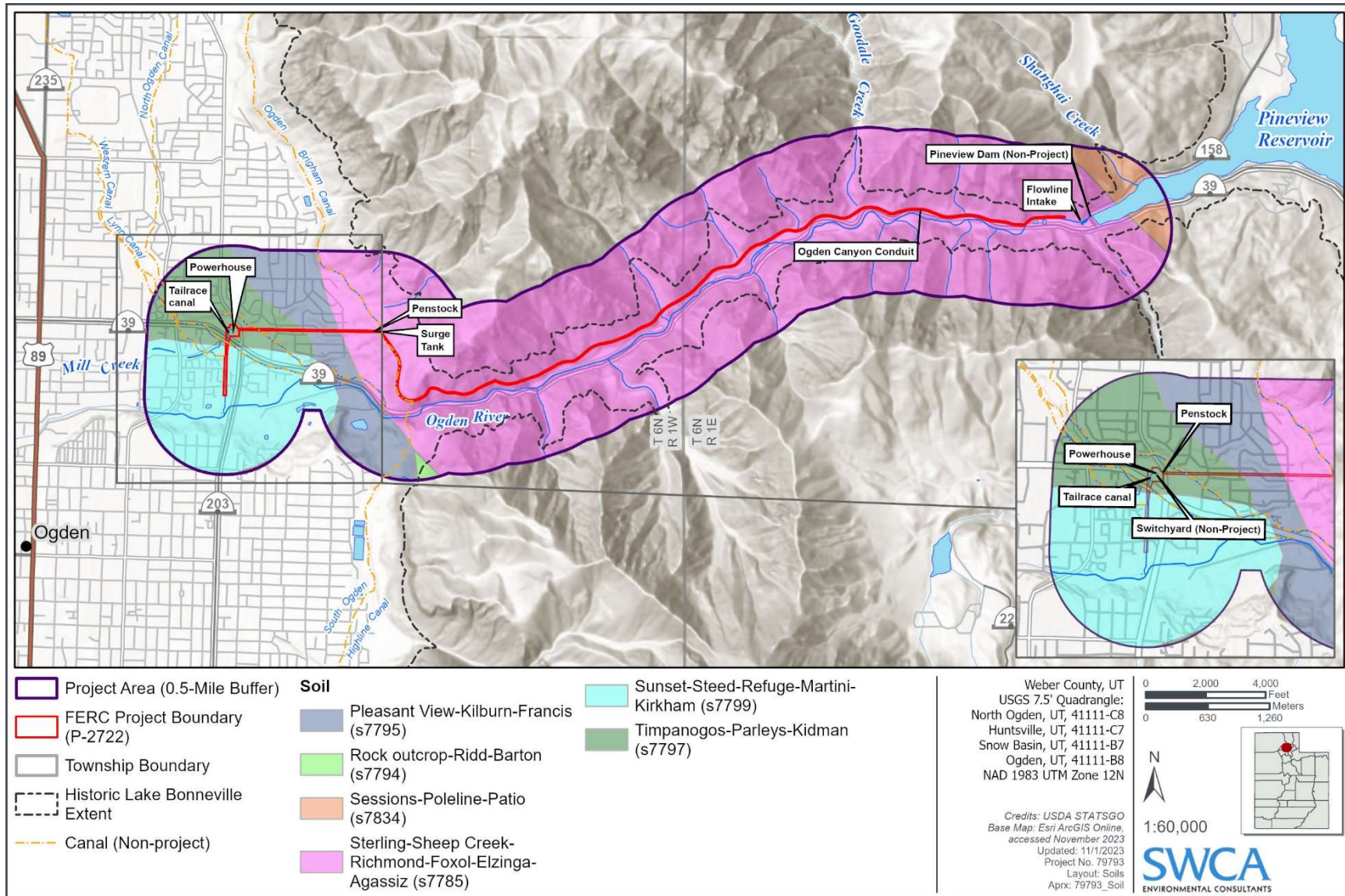


FIGURE 6-4 SOIL CLASSIFICATIONS IN THE PROJECT AREA

6.2.4 EROSION AND SEDIMENT CONTROL

Erosion susceptibility varies between location and the dominant soil association throughout the Project Area. The soil erodibility factor (K factor) is the highest within the City of Ogden itself, in the area surrounding the Pioneer Powerhouse and tailrace canal. This could be due to a variety of factors, including a high percentage of silt or the varied permeability of floodplain soils (NRCS 2019, 2023). For the length of the Ogden Canyon Conduit, the dominant soil type is the Nagitsy-Patio complex, which has a K factor value of 0.28, making it moderately susceptible to erosion. Additional elements that make erosion in the Project Vicinity more likely are summarized below.

Steep canyon slopes frequently both create and perpetuate an environment for erosion as it is difficult, given those constant erosional forces, to remain either vegetated or stabilized. Higher-than-normal precipitation can create conditions where erosion and landslides can occur, a correlation that has been noted within the Ogden Valley (Ashland 2003). The Pioneer Project is within an area classified as at-risk for ‘very strong’ to ‘severe’ earthquake shaking due to proximity of the Wasatch fault zone, which stretches 220 miles from central Utah to southeastern Idaho (USGS 2020).

6.2.5 ENVIRONMENTAL EFFECTS

Given the nature of the Proposed Action, PacifiCorp does not anticipate any construction, deconstruction, or excavation of any kind, which negates any risks of erosion, soil and bedrock damaging, or excessive sediment loading. Maintenance of the Ogden Canyon Conduit and associated access will continue, reducing the risk of increased erosion on either the conduit or the access routes to and along the conduit. No environmental effects on geology and soils are expected under the Proposed Action.

6.3 WATER RESOURCES

This section provides a summary of the water resources within the Project Area and Project Vicinity (see Figure 6-2). For the purposes of this chapter, the Project Vicinity is described as the Ogden River Basin.

6.3.1 WATER QUANTITY

As defined by the USGS's National Hydrography Dataset, the Ogden River Basin is composed of two watersheds—Headwaters Ogden River (HUC 1602010202) and Outlet Ogden River (HUC 1602010203)—that combine for a drainage area of 333.4 square miles. Three rivers—the North, Middle, and South Forks of the Ogden River—discharge into Reclamation's Pineview Reservoir, where flow is then discharged into the mainstem Ogden River at Pineview Dam and through Ogden Canyon. The North Fork Ogden River contributes approximately 61.8 square miles, the Middle Fork Ogden River 62.7 square miles, and the South Fork Ogden River 181.1 square miles of drainage area prior to their confluence in Pineview Reservoir. Downstream of Pineview Reservoir, another 27.7 square miles of drainage contributes to the main stem of the Ogden River (USGS 2023a) (see Figure 6-1). The hydrology of the Ogden River Basin is dominated by the accumulation and melting of annual snowpack, with runoff at Pineview Dam averaging approximately 161,000 acre-feet annually.

6.3.1.1 CURRENT FLOW DATA

No gaging stations exist to measure the total flow into Pineview Reservoir or the flow available to the Pioneer Powerhouse, given that the Pioneer Project has not been an individual development with its own diversion dam since 1937. As a result, flow data measurements are neither available nor representative of the Project alone, given that it takes water from a common conduit (the Ogden Canyon Conduit). Arguably, USGS Gage No. 10137500, on the North Branch of the South Fork Ogden River, can be considered most representative of the flow regimes upstream of Pineview Reservoir because it has been maintained over the longest and most continuous period in the basin (approximately 102 years), and because the South Fork Ogden River contributes the greatest flows to Pineview Reservoir (PacifiCorp 1998; USGS 2023b). USGS Gage No. 10140100, on the Ogden River downstream of Pineview Dam, measures additional volume input from Wheeler Creek, a tributary entering the Ogden River

directly downstream of Pineview Dam (USGS 2023c). This gage does not measure flow directly into the Pioneer Project but is an approximate measurement of the total amount of water available upstream of the Project intake, including Wheeler Creek. Streamflow in the North and Middle Forks of the Ogden River has only been measured for the period of 1960 to 1965, resulting in a lack of long-term or recent inflow data for Pineview Reservoir.

As noted previously, due to the lack of reliable and comprehensive flow data upstream of Pineview Reservoir, it is more appropriate to analyze computed inflow for the reservoir, as provided by Reclamation, for the 30-year period of record January 1993 through December 2022. Inflow at Pineview Reservoir is computed based on reservoir release and change in reservoir storage (and reservoir evaporation and change in bank storage when these parameters are accounted for) (Reclamation 2023b). Reclamation's computed inflow data indicate that annual flow into Pineview Reservoir has averaged 239 cfs for the past 30 water years (1993–2022), with average monthly flows that range from 71 to 731 cfs (Reclamation 2023b).

Over previous decades, mean monthly flows in the Ogden River Basin peak in May, when snowmelt is most active, and are lowest from October through January, after snowmelt dissipates and input to the system is negligible (PacifiCorp 1998). Monthly minimum, mean, and maximum flows were calculated for Pineview Reservoir over the 30-year record-of-flow between Water Year 1993 and Water Year 2022 (Reclamation 2023b) (Table 6-1 and Table 6-2). Figure 6-5 illustrates monthly flow durations for Pineview Reservoir for the period of record Water Year 1993 through 2022. However, as discussed throughout this document, PacifiCorp has no control over the distribution of water from Pineview Dam, the availability of water for power generation, or the operation of water releases that would be made available to the Project. The state-appointed Ogden River commissioner determines how much water is allocated for the various water users, and water releases from Pineview Dam are the responsibility of the Ogden River Water Users' Association.

TABLE 6-1 COMPUTED MONTHLY MINIMUM, MEAN, AND MAXIMUM INFLOW AT PINEVIEW RESERVOIR (NON-PROJECT)

INFLOW	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Minimum (cfs)	0.9	2	5	6	8.8	0.2	0.7	0.8	0.3	0.9	0	0.9
Mean (cfs)	115	151	372	636	731	346	114	84	85	75	71	85
Maximum (cfs)	1710	1854	2702	2797	2791	2477	695	613	450	417	449	886

Source: Reclamation (2023).

Note: Inflow at Pineview Reservoir is computed based on reservoir release and change in reservoir storage (and reservoir evaporation and change in bank storage when these parameters are accounted for) for the 30-year period of record January 1993 through December 2022.

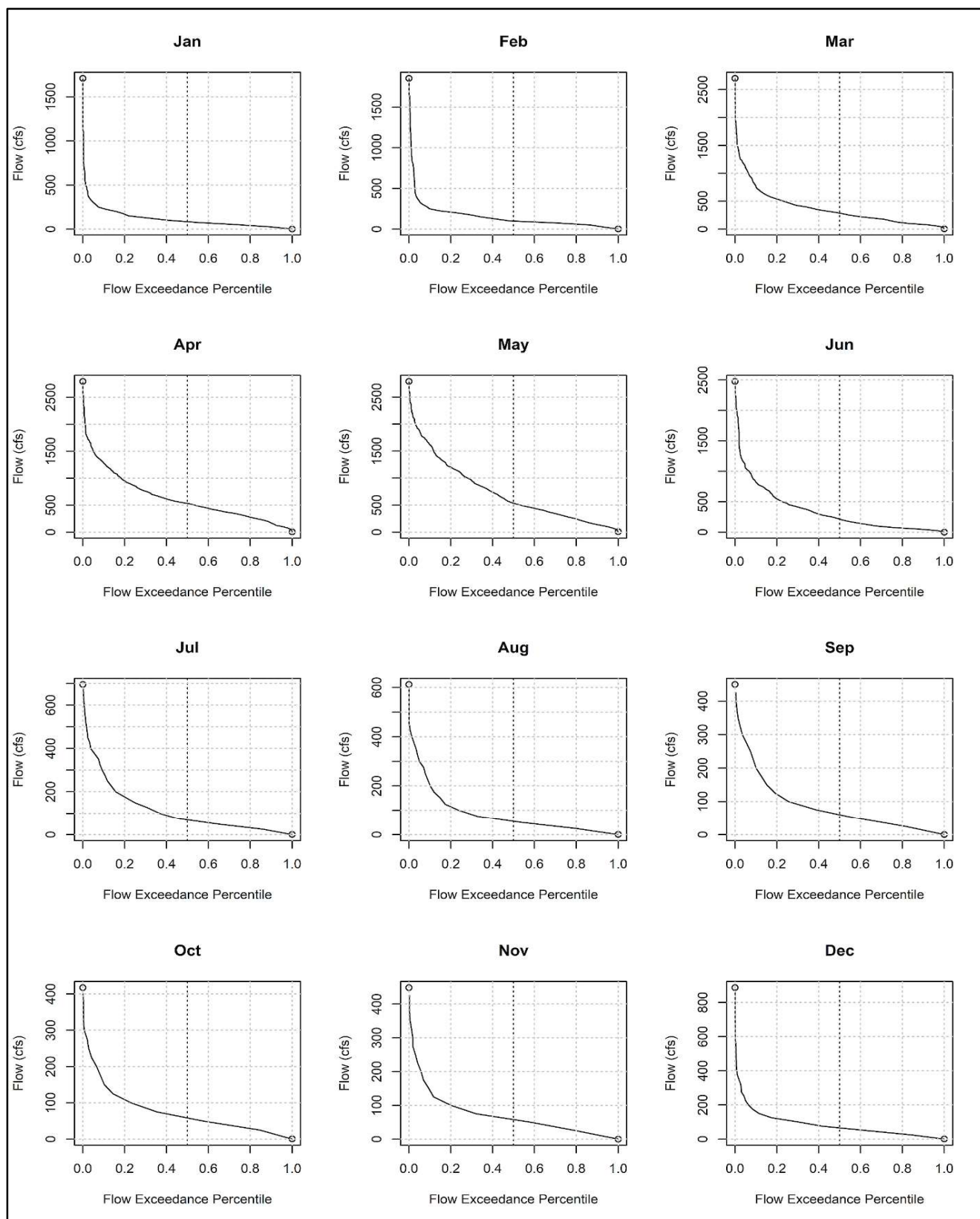


FIGURE 6-5 MONTHLY FLOW DURATION CURVES FOR PINEVIEW RESERVOIR FROM THE PERIOD 1991 THROUGH 2022

6.3.2 WATER RIGHTS

PacifiCorp has water rights (UT-R-35-7037, 7027, and 5263) to divert a maximum of 200 cfs from the Ogden River (PacifiCorp 1998). Water in the Ogden River Basin is relied upon for irrigation, hydroelectric power production, and domestic use. The Pioneer Powerhouse is operated based on irrigation agreements established with the surrounding water conservation districts. These agreements are coordinated with a state-appointed Ogden River commissioner whose jurisdiction includes both the Ogden and Weber Rivers (the state engineer serving the State of Utah appoints river commissioners for each of the state's river systems). The river commissioner determines how much water is allocated for the various water users. These water users include the South Ogden Conservation District, the North Ogden Box Elder Conservation Districts, and the various lower valley users downstream of the Pioneer Powerhouse. Operational criteria relating to water releases at the dam are the responsibility of the Ogden River Water Users' Association through contracts with Reclamation, Utah Power and Light Company (UP&L) (a predecessor company to PacifiCorp), and the Weber Basin Water Conservancy District. The contract defining operational criteria for Pineview Reservoir among the Ogden River Water Users' Association, Reclamation, and UP&L is dated October 18, 1934 (No. ILR-773) (1934 contract [Reclamation 1934]) and has since been amended by contracts dated October 22, 1962 (Ogden River Water Users' Association and Utah Power & Light Company 1962) and November 7, 1985 (Ogden River Water Users' Association and Utah Power & Light Company 1985). PacifiCorp has a water right to divert up to 200 cfs from the Ogden River for power generation, with the balance allocated for irrigation and municipal uses (FERC 2000b; PacifiCorp 1998).

Based on the 1934 contract and subsequent amendments, during non-irrigation season, the Ogden River Water Users' Association is permitted to store all power water that would otherwise be available to PacifiCorp. Withheld water may be returned back to PacifiCorp between December 1 and April 1; withheld water not returned to PacifiCorp will be paid for at a rate of \$4 per acre-foot. If the Ogden River Water Users' Association makes storage releases at other times of the year for the purpose of power generation by PacifiCorp, the Ogden River Water Users' Association will be credited back at a rate of \$4 per acre-foot (Ogden River Water Users' Association and Utah Power & Light Company 1962, 1985; Reclamation 1934). A 1938 contract

with the John Farr Ditch Company (ditch company) also allows the ditch company to use Pioneer's penstock and tailrace canal as a conduit for the delivery of water to their system but in no way assures the delivery of that water; the ditch company assumes all responsibility for ensuring delivery of its water (Utah Light and Traction Company, Utah Power & Light Company, and John Farr Ditch Company 1938).

6.3.3 WATER USE

Water rights, irrigation agreements, weather conditions, and snowpack dictate water use and the amount of water scheduled for Pioneer Powerhouse generation. Reclamation's Ogden River Project—a system of conduits and canals that furnishes irrigation supply to almost 25,000 acres of land between the Wasatch Mountains and Great Salt Lake—operates by storing water for use in Pineview Reservoir, where irrigation releases are made through one of Pineview Dam's outlets into the Ogden Canyon Conduit.

During the irrigation season, from April 15 to October 15, the Ogden Canyon Conduit conveys approximately 230 to 255 cfs from Pineview Reservoir. A small portion of this may be drawn off the Ogden Canyon Conduit directly downstream of the dam to pass through the Pineview Powerhouse (non-Project)—where flow will likely be returned to the conduit but could also be returned to Ogden River—or the City of Ogden's water treatment plant, where water is then sent through the City of Ogden's municipal water supply. At a point 4.7 miles downstream of Pineview Dam, 35 to 45 cfs of the conduit's flow is diverted south across Ogden Canyon through a suspended siphon to the head of the South Ogden Highline Canal. The South Ogden Highline Canal conveys water to a 2,687-acre area along the east bench of the City of Ogden below the canal and extends into the cities of South Ogden, Washington Terrace, and Riverdale (Reclamation 2023a). Past the siphon, the Ogden Canyon Conduit terminates in a concrete and steel surge tank, where the remaining water is divided between valley and bench lands. At this location, during the irrigation season, approximately 105 cfs is diverted into the Ogden-Brigham Canal, which extends from the surge tank approximately 24 miles northward to Brigham City, serving the higher lands adjacent to and below the Ogden-Brigham Canal (Reclamation 2023a). The remaining 90 to 105 cfs (water volume reduced from the maximum of 200 cfs due to irrigation demand) is available for power generation at the Pioneer Powerhouse, and downstream

subsequent irrigation of valley lands via several irrigation companies' canals that divert water from Pioneer Powerhouse's tailrace (PacifiCorp 1998).

During the fall and winter, after the irrigation season, generally from October to mid-February, the South Ogden Highline and Ogden-Brigham Canals are dry, and flows available for power generation at the Pioneer Powerhouse range from 25 to 200 cfs, depending on water availability determined by the state-appointed Ogden River commissioner and according to winter water storage contracts with Reclamation and the Ogden River Water Users' Association and the Weber Basin Water Conservancy District. The Pioneer Powerhouse is unable to generate power at flows less than 20 cfs (PacifiCorp 1998).

During the spring, from mid-February to April 15, the Pioneer Powerhouse generating units are normally operated at the full 200 cfs allowed by PacifiCorp's water rights, depending on available water. The South Ogden Highline and Ogden-Brigham Canals are typically not yet drawing water from the Ogden Canyon Conduit at this time of year (PacifiCorp 1998).

To protect environmental resources, the Ogden River Water Users' Association attempts to maintain a flow of 10 cfs into the Ogden River immediately downstream of Pineview Dam; however, operational criteria specify that the instream flows can be decreased in proportion to the reduction in delivery of irrigation water during low water years (FERC 2000b).

6.3.4 WATER QUALITY

As discussed above, water for the Pioneer Project is sourced directly from an intake at Pineview Reservoir, where it then flows through the Ogden Canyon Conduit before entering the Project penstock, passing through Pioneer Powerhouse, and exiting through the tailrace. Pineview Reservoir is owned and operated by Reclamation; therefore, PacifiCorp has no control over water quality or activity within or surrounding the reservoir or any of its tributaries. The following sections describe water quality and water quality standards within the Ogden River Basin using available information.

Based on Utah water quality standards developed to conform with the Clean Water Act (CWA), the Utah Department of Environmental Quality (UDEQ) has designated the beneficial use classes for the South, Middle, and North Forks of the Ogden River as 1C: Domestic/Drinking Water

Source, 2B: Infrequent Primary Contact Recreation, 3A: Cold Water Fishery/Aquatic Life, and 4: Agriculture. Beneficial use classes for Pineview Reservoir are 1C: Domestic/Drinking Water Source, 2A: Frequent Primary Contact Recreation, 3A: Cold Water Fishery/Aquatic Life, 4: Agriculture (UDEQ 2023a–c).

Dissolved oxygen, pH, water temperature, total dissolved solids, nitrate, and phosphate concentrations are within Utah’s water quality standards for designated use classes in the North Fork of the Ogden River (UDEQ 2023a). The Middle Fork is within all water quality standards for its use classes, with the exception of dissolved oxygen (UDEQ 2023b). The South Fork is within all water quality standards for its use classes with the exception of nutrient/eutrophication biological indicators (UDEQ 2023c). Pineview Reservoir is within all water quality standards for its use classes except dissolved oxygen, pH, phosphorous, and temperature (UDEQ 2023d; U.S. Environmental Protection Agency [EPA] 2022a). Pineview Reservoir data used were taken at three monitoring locations: Pineview Reservoir South Arm 02 (4923820), Pineview Reservoir Middle Arm 03 (4923830), and Pineview Reservoir North Arm 04 (4923840). The North, Middle, and South Fork data were taken at two monitoring locations each: North Fork Ogden River at U162 Crossing (4924650) and North Fork Ogden River upstream of Pineview Reservoir at U166 Crossing (4923960), Middle Fork Ogden River at Forest Boundary (4924510) and Middle Fork Ogden River at U166 Crossing (4924660), and South Fork Ogden River South Leg below U166 Crossing (4924670) and South Fork Ogden River North Leg below U166 Crossing (4924680), respectively (UDEQ 2023e). Applicable Utah water quality standards (Utah Administrative Code Rule R317-2, Standards of Quality for Waters) are presented as reference in Table 6-2 below.

TABLE 6-2 UTAH DESIGNATED BENEFICIAL USES AND STATE WATER QUALITY STANDARDS

WATER QUALITY PARAMETER	STANDARD FOR DESIGNATED BENEFICIAL USE ^a				
	1C	2A	2B	3A	4
Temperature (maximum)				20°C	
Dissolved oxygen (minimum)				30-day average 6.5 (all life stages) 7-day average 9.5 mg/L (early life stages) 5.0 mg/L (all life stages) Minimum 8.0 mg/L (early life stages) 4.0 mg/L (all life stages)	
pH (range)	6.5–9.0	6.5–9.0	6.5–9.0	6.5–9.0	6.5–9.0
Total suspended solids	No beneficial use narrative standard; numeric standard is 70 mg/L				
Turbidity (NTE)		10 NTU	10 NTU	10 NTU	10 NTU
Total coliform	30-day geometric mean 206 no./100 mL Maximum 668 no./100 mL	30-day geometric mean 126 no./100 mL Maximum 409 no./100 mL	30-day geometric mean 206 no./100 mL Maximum 668 no./100 mL		
Total Kjeldahl nitrogen (TKN)	No beneficial use standard				
Nitrate, total (maximum)	4 mg/L	4 mg/L		4 mg/L	
Total phosphorous ^b	0.05 mg/L	0.05 mg/L		0.05 mg/L	
Orthophosphate (dissolved)	No beneficial use standard				

WATER QUALITY PARAMETER	STANDARD FOR DESIGNATED BENEFICIAL USE ^a				
	1C	2A	2B	3A	4
Narrative standard	“It shall be unlawful, and a violation of these rules, for any person to discharge or place any waste or other substance in such a way as will be or may become offensive such as unnatural deposits, floating debris, oil, scum or other nuisances such as color, odor or taste; or cause conditions which produce undesirable aquatic life or which produce objectionable tastes in edible aquatic organisms; or result in concentrations or combinations of substances which produce undesirable physiological responses in desirable resident fish, or other desirable aquatic life, or undesirable human health effects, as determined by bioassay or other tests performed in accordance with standard procedures; or determined by biological assessments in Subsection R317-2-7.3.” (Utah Administrative Code R317-2)				

Source: Utah Administrative Code Rule R317-2, Standards of Quality for Waters.

Notes: mg/L = milligrams per liter; mL = milliliter; no. = number of individuals; NTE = not to exceed background level; NTU = nephelometric turbidity units.

^a 1C = Protected for domestic purposes with prior treatment by treatment processes as required by the Utah Division of Drinking Water.

2A = Protected for frequent primary contact recreation where there is a high likelihood of ingestion of water or a high degree of bodily contact with the water. Examples include swimming, rafting, kayaking, diving, and water skiing.

2B = Protected for infrequent primary contact recreation. Also protected for secondary contact recreation where there is a low likelihood of ingestion of water or a low degree of bodily contact with the water. Examples include wading, hunting, and fishing.

3A = Protected for cold water species of game fish and other cold water aquatic life, including the necessary aquatic organisms in their food chain.

4 = Protected for agricultural uses, including irrigation of crops and stock watering.

^b Utah state standard states that phosphorus concentrations of 0.05 mg/L or above in all other streams or rivers indicate pollution.

The EPA requires development of a total maximum daily load (TMDL) for all 303(d)-listed water bodies. TMDLs describe the amount of an identified pollutant that a specific stream, lake, river, or other water body can contain while preserving its beneficial uses and maintaining state water quality standards. Using existing data, the study calculates the maximum allowable load of a pollutant from permitted discharge sources (waste load allocations), and non-point sources (load allocations) of pollution discharge (EPA 2022b). The TMDL then calculates a pollutant reduction target necessary to reduce pollutant loads in accordance with the water body’s applicable water quality standards or use classifications. In 2002, UDEQ and the Utah Division of Water Quality submitted a TMDL for dissolved oxygen, pH, and total phosphorus for Pineview Reservoir, which the EPA approved that same year (EPA 2022a). TMDLs have not yet been developed for the Middle and South Forks of the Ogden River. The Middle and South Forks of the Ogden River and their associated watersheds are listed as impaired for aquatic wildlife (cold water) under the CWA Section 303(d), for dissolved oxygen for the Middle Fork, and nutrient/eutrophication biological indicators for the South Fork (EPA 2022c, 2022d). The

Pineview Reservoir is listed as impaired aquatic wildlife (cold water) as well by the EPA CWA Section 303(d) for dissolved oxygen, pH, total phosphorous, and temperature (EPA 2022a).

The Pineview Reservoir TMDLs cover dissolved oxygen, pH, and total phosphorous but do not cover temperature (EPA 2022a). During typical years, Pineview Reservoir begins to stratify in early June and becomes strongly stratified by late June and July. By August, the reservoir has completely overturned and become homothermic. This results in an increase of nutrients to the photic zone causing an algae bloom in mid-to-late August, a common occurrence in Pineview Reservoir (PacifiCorp 1998).

6.3.5 ENVIRONMENTAL EFFECTS

Under the Proposed Action, there would be no changes to Project operations that would affect water quantity or quality at the Pioneer Project. With the proposal to modify the Project Boundary to exclude the Ogden Canyon Conduit as a Project feature, there would be no change to water rights or flow requirements associated with the Project, nor would operation of Reclamation's Ogden River Project change. No environmental effects on water resources are anticipated under the Proposed Action.

6.4 FISHERIES

This section provides a summary of the fisheries resources known or suspected to occur within the Project Area. Three forks of the Ogden River, the North, Middle, and South, originate in the Wasatch Mountain Range in north-central Utah and drain into the Pineview Reservoir. Outflow from the Pineview Reservoir forms the Ogden River. The Ogden River flows westward into the Weber River, crossing through urban areas where the banks are predominantly rip-rap or concrete.

6.4.1 RESIDENT FISH

The Ogden River is within the historic native range of the Bonneville cutthroat trout; however, introductions of non-native species, including brown trout (*Salmo trutta*) and rainbow trout (*Oncorhynchus mykiss*), as well as habitat disturbance and water diversions, have extirpated the Bonneville cutthroat trout from the Ogden River drainage downstream of Pineview Dam. The Ogden River drainage is currently managed by UDWR as a naturally reproducing brown trout fishery (FERC 2000b). Rainbow trout are stocked to support recreational fishing, but brown trout make up approximately 98 percent of fish in the Project Area (FERC 2000b). Additional fish species include largemouth bass (*Micropterus salmoides*), green sunfish (*Lepomis cyanellus*), common carp (*Cyprinus carpio*), sculpin (*Cottus* sp.), speckled dace (*Rhinichthys osculus*), reidside shiner (*Richardsonius balteatus*), Utah sucker (*Catostomus ardens*), and tiger trout (*Salmo trutta x Salvelinus fontinalis*) (Broderius 2023; FERC 2000b).

6.4.2 ANADROMOUS AND SPECIAL-STATUS FISH

No fish that use marine waters as a part of their life cycle (anadromous fish) are present within the Project Area. The following resources were analyzed to determine which special-status fish species have the potential to occur in the Project Area:

- U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) list of threatened and endangered species (USFWS 2023a)
- USFS Region 4 sensitive species list (USFS 2016a)
- Utah Species of Greatest Conservation Need (SGCN) (Utah Division of Wildlife Resources [UDWR] 2022a, 2023a)

Table 6-3 below provides a list of species identified by each of the three data sources above. Further review of UDWR range maps for each species found that only one USFWS IPaC, Utah SGCN (UDWR 2022a) or USFS sensitive species (USFS 2016a)—the Bluehead sucker (*Catostomus discobolus*)—could potentially occur in the Project Area, but this species is not known to occur in either Pineview Reservoir or the closest reach of the Ogden River. Sources for those determinations are provided in Table 6-3. No special-status fish species are known or suspected to occur within the Project Area (USFWS 2023a).

TABLE 6-3 LIST OF SPECIES IDENTIFIED BY USFWS IPAC, USFS REGION 4 SENSITIVE SPECIES LIST, AND UTAH SGCN IN THE PROJECT AREA

COMMON NAME	SCIENTIFIC NAME	DESIGNATION	KNOWN DISTRIBUTION WITHIN PROJECT AREA?
Bear Lake sculpin	<i>Cottus extensus</i>	Utah SGCN	No (UDWR 2023b)
Bear Lake whitefish	<i>Prosopium abyssicola</i>	Utah SGCN	No (UDWR 2023c)
Bluehead sucker	<i>Catostomus discobolus</i>	Utah SGCN	Yes (UDWR 2023d)
Bonneville cisco	<i>Prosopium gemmifer</i>	Utah SGCN	No (UDWR 2023e)
Bonneville cutthroat trout	<i>Oncorhynchus clarkia utah</i>	Utah SGCN	No (UDWR 2023f)
Bonneville whitefish	<i>Prosopium spilonotus</i>	Utah SGCN	No (UDWR 2023g)
Bonytail	<i>Gila elegans</i>	Utah SGCN; USFS Sensitive	No (UDWR 2023h; USFS 2016a)
Colorado pikeminnow	<i>Ptychocheilus lucius</i>	Utah SGCN; USFS Sensitive	No (UDWR 2023i; USFS 2016a)
Colorado River cutthroat trout	<i>Oncorhynchus clarkia pleuriticus</i>	Utah SGCN	No (UDWR 2023j)
Desert sucker	<i>Catostomus clarkia</i>	Utah SGCN	No (UDWR 2023k)
Flannelmouth sucker	<i>Catostomus latipinnis</i>	Utah SGCN	No (UDWR 2023l)
Humpback chub	<i>Gila cypha</i>	Utah SGCN; USFS Sensitive	No (UDWR 2023m; USFS 2016a)
June sucker	<i>Chasmistes liorus</i>	Utah SGCN; USFS Sensitive	No (UDWR 2023n; USFS 2016a)
Least chub	<i>Iotichthys phlegethontis</i>	Utah SGCN	No (UDWR 2023o)
Razorback sucker	<i>Xyrauchen texanus</i>	Utah SGCN	No (UDWR 2023p)
Roundtail chub	<i>Gila robusta</i>	Utah SGCN	No (UDWR 2023q)
Virgin chub	<i>Gila seminuda</i>	Utah SGCN	No (UDWR 2023r)
Virgin spinedace	<i>Lepidomeda mollispinis</i>	Utah SGCN	No (UDWR 2023s)
Woundfin	<i>Plagopterus argentissimus</i>	Utah SGCN	No (UDWR 2023t)
Yellowstone cutthroat trout	<i>Oncorhynchus clarkia bouvieri</i>	Utah SGCN	No (UDWR 2023u)

6.4.3 ENVIRONMENTAL EFFECTS

There is no disturbance associated with the Proposed Action that could impact fishery species. No ground-disturbing activities are anticipated that could result in the sedimentation or modification of fish habitat. No environmental effects on fisheries are expected under the Proposed Action.

6.5 WILDLIFE RESOURCES

This section provides a summary of wildlife resources known or suspected to occur within the Project Area and Project Vicinity. The Project Area includes forested habitat near Pineview Dam (non-Project) and the 5.5-mile flowline (Ogden Canyon Conduit) dominated by maple and oak woodland and sagebrush steppe habitats, and the suburban neighborhood setting downhill of the surge tank and concrete PIV vault near the Pioneer Powerhouse. The Project Vicinity is defined as four USGS 1:24,000-scale quadrangles [North Ogden, Huntsville, Ogden, and Snow Basin] that intersect the Project Area. A summary of wildlife resources known or suspected to occur within the Project Area and Project Vicinity is detailed below based on a review of available literature and documents. A general summary is provided for each taxonomic group of wildlife followed by a more detailed discussion of threatened and endangered species (Section 6.5.8). Principal data sources consisted of the following:

- USFWS IPaC list of threatened and endangered species (USFWS 2023a)
- USFS Region 4 sensitive species list (USFS 2016a)
- Utah SGCN (UDWR 2022a, 2023a)

At the federal level, the USFWS IPaC tool identifies any federally threatened, endangered, or candidate species that could potentially be within the Project Area or Project Vicinity or impacted by Project activities (USFWS 2023a). Additionally, the USFS maintains regional lists that identify species with declining populations that might be sensitive to USFS management actions (USFS 2016a). Both USFWS and USFS lists were used to identify any federally threatened, endangered, or sensitive species that could be present in the Project Area or Project Vicinity.

At the state level, UDWR maintains a list of SGCN (UDWR 2022a). This source identifies species in Utah that require conservation efforts at the state level.

6.5.1 GENERAL WILDLIFE

This section provides information on the terrestrial wildlife that are likely to exist within the Project Area that are not listed as threatened or endangered by the USFWS or the Utah SGCN. General terrestrial wildlife is defined herein as any species that is not exclusively aquatic,

including birds, mammals, mollusks, reptiles, and amphibians. Fish species that could potentially occur in the Project Area are discussed in Section 6.4. Although the Project Area and Project Vicinity are small and limited, they contain diverse habitats that support many species. These habitats include upland, riparian, and wetland habitats and are discussed in more detail in Section 6.6 on Botanical Resources.

6.5.1.1 MAMMALS

Common mammal species within the Project Area include, but are not limited to, beaver (*Castor canadensis*), badgers (*Taxidea taxus*), skunk (*Mephitis*), and moose (*Alces alces*). Mule deer (*Odocoileus hemionus*) and elk (*Cervus elaphus nelsoni*) travel through the Project Area year-round and use the area as a wintering ground; the habitat and populations of these species are managed by the State of Utah by considering carrying capacity and land use (UDWR 2019, 2022b). The full list of mammal species that may occur in the Project Area can be found in Appendix B.

6.5.1.2 BATS

Multiple species of non-special-status bats may be found within the Project Area and Project Vicinity, both within the canyon and near the powerhouse. These include, but are not limited to, the big brown bat (*Eptesicus fuscus*), the little brown bat (*Myotis lucifugus*), and the hoary bat (*Lasiurus cinereus*). Other species of common bats that may occur within the Project Area are listed in Appendix B.

6.5.1.3 REPTILES AND AMPHIBIANS

The riparian and wetland habitats within the Project Area are limited to the corridor along the Ogden River, along the shoreline of Pineview Reservoir, and the area just southwest of the tailrace and powerhouse (see Sections 6.6.2 and 6.6.3). These habitat types are suitable for many species, and the reptiles and amphibians that may potentially occur here include different species of snakes, lizards, frogs, toads, and salamanders, such as the valley gartersnake (*Thamnophis sirtalis fitchi*), Great Basin rattlesnake (*Crotalus oreganus lutosus*), leopard frog (*Lithobates pipiens*), and tiger salamander (*Ambystoma tigrinum*). A full list of reptile and amphibian species with the potential to occur in the Project Area can be found in Appendix B.

6.5.1.4 BIRDS

The mixed habitats within the Project Area are refuges to both resident and migratory birds. A list of bird species with potential to occur within the Project Area can be found in Appendix B. Species listed as federally threatened or endangered, or given special-status, are discussed below in Section 6.5.2.

6.5.2 SPECIAL-STATUS SPECIES

The following subsections discuss special-status species that have the potential to occur within the Project Area and include tables with any relevant threatened or endangered species. Other special-status species that are listed by IPAC as having suitable habitat in the Project Area and Vicinity but have not been observed by PacifiCorp staff biologists and are unlikely to be present within the Project Boundary, are not listed in the tables. Only species with the potential to occur within the Project Area and Project Vicinity are listed in the tables below.

6.5.2.1 MAMMALS

The USFS Region 4 sensitive species list (USFS 2016a) and Utah SGCN list (UDWR 2022a) were evaluated to determine which special-status mammals have the potential to occur in the Project Area and Project Vicinity. Ten special-status mammal species have potential habitat in the Project Area and Project Vicinity (Table 6-4).

TABLE 6-4 LIST OF MAMMAL SPECIES IDENTIFIED BY USFWS IPaC, USFS REGION 4 SENSITIVE SPECIES LIST, AND UTAH SGCN IN THE PROJECT AREA

SCIENTIFIC NAME	COMMON NAME	HABITAT DESCRIPTION	DESIGNATION		KNOWN DISTRIBUTION WITHIN PROJECT AREA?
			SGCN	USFS	
<i>Myotis yumanensis</i>	Yuma myotis	Summer roosts: variety of upland and lowland habitats, including riparian, desert scrub, moist woodlands, and forests, usually near open water. Hibernacula: similar to summer roosts but in general are poorly known.	Yes	—	No (UDWR 2023v)
<i>Myotis volans</i>	Long-legged myotis	Summer roosts: typical habitat is montane or subalpine forest, conifer woodlands, and montane shrubs with willows or well-watered stands of sagebrush. Hibernacula: old buildings, rock crevices, and hollow trees.	Yes	—	Yes (UDWR 2023w)
<i>Myotis lucifugus</i>	Little brown myotis	Summer roosts: riparian woodland in the mountains and lower valleys, urban areas, woodlots, and shelterbelts. Hibernacula: rock crevices, caves, mines, and buildings.	Yes	—	Yes (UDWR 2023x)
<i>Myotis evotis</i>	Long-eared myotis	Summer roosts: ponderosa pine woodland. Hibernacula: winter habits are unknown.	Yes	—	Yes (UDWR 2023y)
<i>Plecotus townsendii</i>	Townsend's big-eared bat	Summer roosts: mines, caves, and large rock cavities below 9,000 feet msl. Hibernacula: caves, mines, and buildings.	Yes	Sensitive	Yes (UDWR 2023z)
<i>Euderma maculatum</i>	Spotted bat	Summer roosts: crevices in cliff walls are the primary roosting sites. Hibernacula: caves and rock crevices.	—	Sensitive	Yes (UDWR 2023aa)

SCIENTIFIC NAME	COMMON NAME	HABITAT DESCRIPTION	DESIGNATION		KNOWN DISTRIBUTION WITHIN PROJECT AREA?
			SGCN	USFS	
<i>Martes pennanti</i>	Fisher	Montane coniferous forest and meadows at an elevation of approximately 10,000 feet msl.	—	Sensitive	No (UDWR 2023bb)

Sources: USFS (2016a); UDWR (2022a, 2023a).

6.5.3 BATS

There are six special-status species of bats that could potentially occur in the Project Area and Project Vicinity during the summer months, roosting in woodlands, caves, or rock crevices (see Table 6-4). Roosting habitat is present in the Project Area, but no surveys have been completed to identify potential roosts as there would also be no changes nor potential effects to any such roosting areas. Wintering habits of long-eared myotis (*Myotis evotis*) are unknown; the remaining five bat species are known to winter in Utah in caves, mines, or rock crevice hibernacula (see Table 6-4). These habitat types are present within the Project Area.

6.5.4 CARNIVORES

Three carnivore species have very low potential to occur in the Project Area and Project Vicinity but are included here given their inclusion in the lists consulted: wolverine (*Gulo gulo*), fisher (*Martes pennanti*), and gray wolf (*Canis lupus*) (see Table 6-4). These three species are unlikely to be found in the forested zones in the Project Area (UDWR 2023a) but could theoretically travel through the area.

6.5.5 BIRDS

The USFS Region 4 sensitive species list (USFS 2016a) and the list of Utah SGCN (UDWR 2022a) were evaluated to determine which special-status birds have potential to occur in the Project Area and Project Vicinity. Eleven species have potential habitat in the Project Area and Project Vicinity (Table 6-5).

TABLE 6-5 LIST OF BIRD SPECIES IDENTIFIED BY USFWS IPAC, USFS REGION 4 SENSITIVE SPECIES LIST, AND UTAH SGCN IN THE PROJECT AREA

SCIENTIFIC NAME	COMMON NAME	HABITAT DESCRIPTION	DESIGNATION		KNOWN DISTRIBUTION WITHIN PROJECT AREA?
			SGCN	USFS	
<i>Haliaeetus leucocephalus</i>	Bald eagle	Occur near aquatic habitats that have open water for foraging.	Yes	Sensitive	No (UDWR 2023cc)
<i>Accipiter gentilis</i>	Northern goshawk	Mature woods, particularly coniferous, but also deciduous or mixed coniferous-deciduous, mostly near edges of forest.	—	Sensitive	Yes (UDWR 2023dd)
<i>Psiloscops flammeolus</i>	Flammulated owl	Primarily open, mature-to-old ponderosa pine or other forest with similar features, e.g., dry montane conifer or aspen (<i>Populus</i> sp.) forests.	Yes	Sensitive	Yes (UDWR 2023ee)
<i>Aegolius funereus</i>	Boreal owl	Boreal and subalpine forest and mixed woodland.	—	Sensitive	No (UDWR 2023ff)
<i>Melanerpes lewis</i>	Lewis's woodpecker	Three principal habitats are open pine forest, open riparian woodland dominated by cottonwood, and logged or burned pine.	Yes	—	Yes (UDWR 2023gg)
<i>Centrocercus urophasianus</i>	Greater sage-grouse	Principal habitat is sagebrush communities where there are water sources.	Yes	Sensitive	No (UDWR 2023hh)
<i>Tympanuchus phasianellus columbianus</i>	Columbian sharp-tailed grouse	Native bunchgrass and shrub-steppe communities.	Yes	Sensitive	No (UDWR 2023ii)
<i>Falco peregrinus</i>	Peregrine falcon	Utilize variable habitat types for foraging. Rely on cliffs and inaccessible areas for nesting.	Yes	Sensitive	Yes (UDWR 2023jj)
<i>Pelecanus erythrorhynchos</i>	American white pelican	Migrates inland, along river valleys, over deserts and mountains.	Yes	—	No (UDWR 2023kk)

SCIENTIFIC NAME	COMMON NAME	HABITAT DESCRIPTION	DESIGNATION		KNOWN DISTRIBUTION WITHIN PROJECT AREA?
			SGCN	USFS	
<i>Picoides dorsalis</i>	American Three-toed Woodpecker	Habitat limited to spruce-fir forests.	–	Sensitive	No (UDWR 2023ll)
<i>Strix nebulosa</i>	Great gray owl	Dense evergreen pine and fir forests with small openings or meadows nearby.	–	Sensitive	No (USFS 2016b)

Sources: Bull and Duncan (2020); USFS (2016a, 2016b); UDWR (2022a, 2023).

6.5.6 REPTILES AND AMPHIBIANS

The USFS Region 4 sensitive species list (USFS 2016a) and the list of Utah SGCN (UDWR 2022a) were evaluated to determine which special-status reptiles and amphibians have the potential to occur in the Project Area and Project Vicinity. Three species have potential habitat in the Project Area and Project Vicinity (Table 6-6).

TABLE 6-6 LIST OF REPTILE AND AMPHIBIAN SPECIES IDENTIFIED BY USFWS IPAC, USFS REGION 4 SENSITIVE SPECIES LIST, AND UTAH SGCN IN THE PROJECT AREA

SCIENTIFIC NAME	COMMON NAME	HABITAT DESCRIPTION	DESIGNATION		KNOWN DISTRIBUTION IN PROJECT AREA?
			SGCN	USFS	
<i>Lithobates pipiens</i>	Northern leopard frog	Wetlands, ponds, and slow-moving streams.	Yes	–	No (UDWR 2023mm)
<i>Rana luteiventris</i>	Columbia spotted frog	Small, clear, cold-water habitats where shallow water is present with an abundance of herbaceous emergent vegetation.	–	Sensitive	No (USFWS 2023b)

Sources: USFS (2016a); UDWR (2022a, 2023a).

6.5.7 INVERTEBRATES

The USFS Region 4 sensitive species list (USFS 2016a) and the list of Utah SGCN (UDWR 2022a) were evaluated to determine which special-status invertebrates have the potential to occur in the Project Area. Six species have potential habitat in the Project Area and Project Vicinity (Table 6-7).

TABLE 6-7 LIST OF INVERTEBRATE SPECIES IDENTIFIED BY USFWS IPAC, USFS REGION 4 SENSITIVE SPECIES LIST, AND UTAH SGCN IN THE PROJECT AREA

SCIENTIFIC NAME	COMMON NAME	HABITAT DESCRIPTION	DESIGNATION		KNOWN DISTRIBUTION IN PROJECT AREA?
			SGCN	USFS	
<i>Stagnicola montanensis</i>	Mountain marsh snail	Clear mountain streams and spring outflows.	Yes	—	No (UDWR 2023nn)
<i>Stagnicola traski</i>	Widelip pondsnail	Found in sloughs and small, slow streams.	Yes	—	Yes (UDWR 2023oo)
<i>Oreohelix haydeni</i>	Lyrate mountainsnail	Found in limestone talus and outcrops.	Yes	—	Yes (UDWR 2023pp)
<i>Oreohelix peripherica</i>	Deseret mountainsnail	Associated with the leaf litter on maple and oaks.	Yes	—	Yes (UDWR 2023qq)
<i>Fluminicola coloradoensis</i>	Green River pebblesnail	Found in cold, clear streams with high dissolved oxygen.	Yes	—	No (UDWR 2023rr)

Sources: Hersheler and Frest (1996); USFS (2016a); UDWR (2022a, 2023a).

6.5.8 THREATENED AND ENDANGERED SPECIES

The USFWS IPaC list of threatened and endangered species was queried to determine which federally listed species have the potential to occur in the Project Area and Project Vicinity (USFWS 2023a). Two species have a very low potential to be present in the Project Area and Project Vicinity: Canada lynx (*Lynx canadensis*) and yellow-billed cuckoo (*Coccyzus americanus*); one species (monarch butterfly (*Danaus plexippus*)) is likely present within the Project Area and Project Vicinity (Table 6-8).

TABLE 6-8 THREATENED AND ENDANGERED SPECIES WITH THE POTENTIAL TO OCCUR WITHIN THE PROJECT AREA AND PROJECT VICINITY

SCIENTIFIC NAME	COMMON NAME	HABITAT DESCRIPTION	DESIGNATION			KNOWN DISTRIBUTION IN PROJECT AREA?
			USFWS IPAC	USFS	SGCN	
<i>Lynx canadensis</i>	Canada lynx	Coniferous boreal and montane regions with dense understory.	Threatened	Sensitive	—	No (UDWR 2023ss)
<i>Coccyzus americanus</i>	Yellow-billed cuckoo	Breeding habitat: deciduous riparian woodland.	Threatened	Sensitive	Yes	No (UDWR 2023tt)
		Non-breeding habitat: various types of forest, woodland, and scrub.				
<i>Danaus plexippus</i>	Monarch butterfly	Relies on milkweed (<i>Asclepias</i> spp.) for breeding, which grows in open fields, meadows, roadsides, and gardens; observed within the Project Area.	Candidate	—	—	Yes (NatureServe 2023a)

Sources: UDWR (2022a, 2023); USFS (2016a); USFWS (2023a).

6.5.8.1 CANADA LYNX

Canada lynx were listed as threatened in the United States in 2000; critical habitat was designated in 2006 and revised in 2014 (USFWS 2000, 2014a). No Canada lynx critical habitat is designated in Utah (USFWS 2014a), and none are expected to occur within the Project Area. General habitat information for this species is summarized below.

A typical home range for Canada lynx includes a matrix of habitat types, but often features conifer forests with dense understory that supports their main prey, snowshoe hare (*Lepus americanus*). Denning habitat includes areas with downed woody debris, frequently in old-growth stands that feature this habitat type (NatureServe 2023b).

Canada lynx would be considered exceedingly rare near the Pioneer Project; although the Project Area and Project Vicinity qualify as suitable habitat home range, there have been no record of species occurrence for many years (UDWR 2023). Given the high level of recreational use, lack of appropriate habitat, and lack of key prey species, it is exceedingly unlikely that Canada lynx frequent the area around the Pioneer Project.

6.5.8.2 YELLOW-BILLED CUCKOO

Yellow-billed cuckoo were listed as threatened in the United States in 2014 (USFWS 2013). Critical habitat was designated in 2014 and revised in 2021 (USFWS 2014b, 2021). Utah contains some critical habitat for yellow-billed cuckoos, although not in the regions near the Project (USFWS 2021).

During the breeding season, yellow-billed cuckoo utilize open riparian woodlands, especially those with dense understories. During the non-breeding season, yellow-billed cuckoo occupy forest, woodland, and scrub type habitats (NatureServe 2023c). Threats to this species include habitat loss, degradation, and fragmentation of riparian habitat (UDWR 2023tt).

6.5.8.3 MONARCH BUTTERFLY

Monarch butterflies were listed as a candidate species in 2020. Although the USFWS stated that listing this species as threatened was warranted, this action was precluded by higher priority species (USFWS 2020). No critical habitat has been designated for monarch butterflies (USFWS 2022a).

Monarch butterflies utilize habitat that supports nectar-producing flowers, which can include meadows, fields, wetlands, roadsides, and urban areas. Their habitat needs are more restricted for reproduction because they are reliant on milkweed (*Asclepias* spp.) for egg laying and larval development. Monarch butterflies migrate from limited locations in Mexico and coastal California (NatureServe 2023a). Threats to this species include habitat loss in their winter range, use of pesticides and herbicides, climate change, and wildfires (NatureServe 2023a). Monarch butterflies are occasionally observed in the Project Area or Project Vicinity, similar to most river valleys in northern Utah.

6.5.9 ENVIRONMENTAL EFFECTS

Given the nature of the Proposed Action, PacifiCorp does not anticipate any construction, deconstruction, or excavation of any kind. No environmental effects on any wildlife resources are expected under the Proposed Action.

6.6 BOTANICAL RESOURCES

This section provides a summary of the botanical resources known or suspected to occur within the Project Area. The Project Area includes forested habitat near Pineview Dam and the 5.5-mile flowline dominated by maple and oak woodland and sagebrush steppe habitats, and the suburban neighborhood setting downhill of the surge tank and concrete PIV vault near the Pioneer Powerhouse. No rare, threatened, or endangered plant species have been documented within the Project Area. Noxious weeds are monitored and addressed as required through permitting regulations.

6.6.1 UPLAND HABITAT

Habitat within the Project Area varies by topography and aspect as it changes from the higher elevation Pioneer Dam to the lower elevation powerhouse and tailrace. The 5.5-mile flowline from Pioneer Dam to the canyon outlet includes mountain brush communities with Gambel oak (*Quercus gambelii*), bigtooth maple (*Acer grandidentatum*), and chokecherry (*Prunus virginiana*), reflecting the warmer and drier microclimate of south-facing slopes. The north-facing side of the canyon is dominated by Douglas fir (*Pseudotsuga menziesii*) and mixed conifer forest, reflecting a cooler microclimate. The lower elevation penstock, powerhouse, and tailrace from the powerhouse to 16th Street includes dry sagebrush steppe and landscaped vegetation found in the neighborhoods that have grown up around the Project penstock, powerhouse, and tailrace (FERC 2000b; USGS 2005) (Figure 6-6).

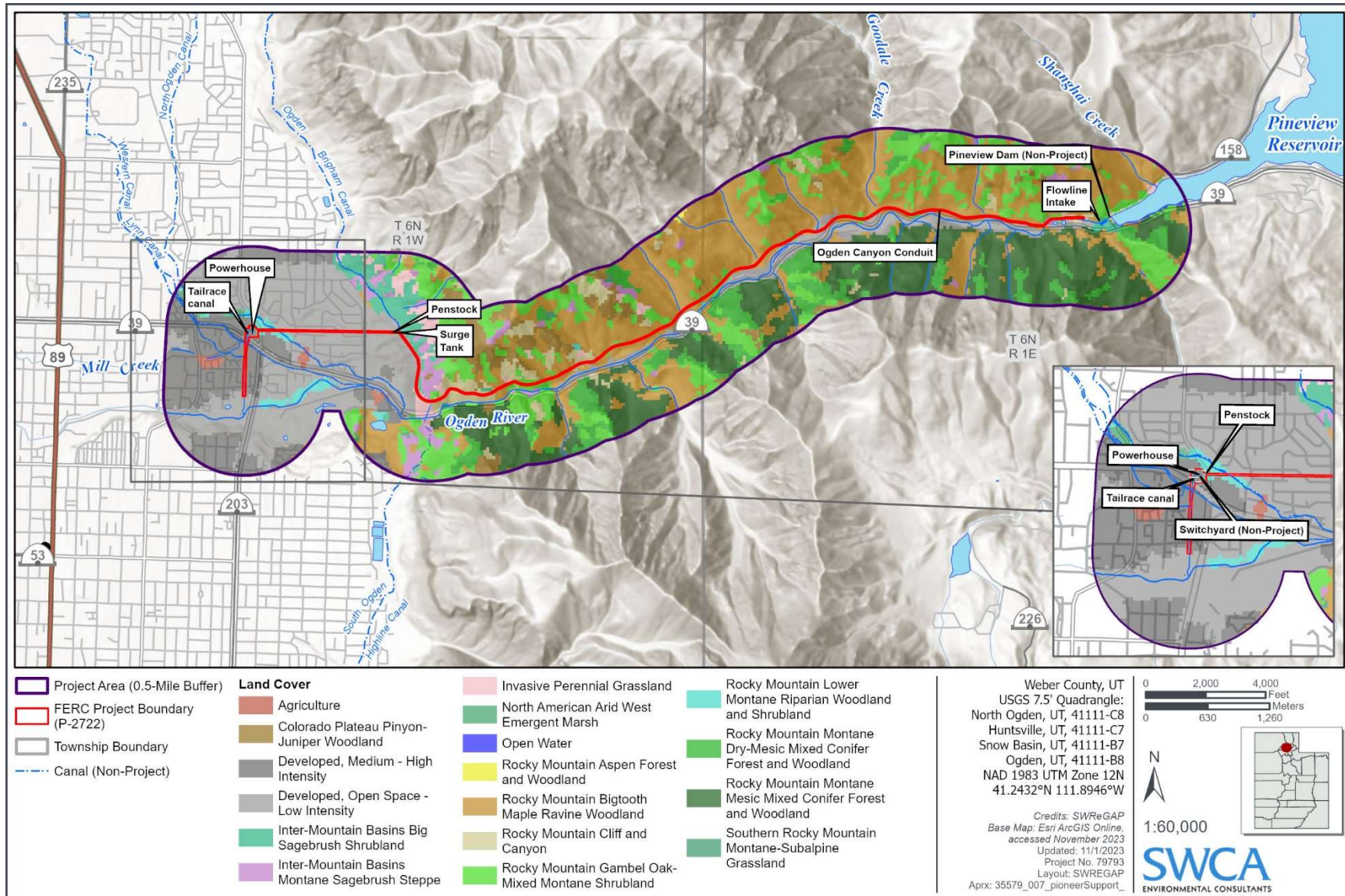


FIGURE 6-6 VEGETATION TYPES WITHIN THE PROJECT AREA

6.6.2 RIPARIAN HABITAT

Riparian habitat within the Project Area is limited to the corridor along the Ogden River and shoreline of Pineview Reservoir. As the Ogden River exits the canyon, the forested area changes into mature narrowleaf cottonwood (*Populus angustifolia*) riparian habitat with a dense understory. Common trees include narrowleaf cottonwood, box elder (*Acer negundo*), Douglas fir, and white fir (*Abies concolor*). Common understory plants include water birch (*Betula occidentalis*), chokecherry, bigtooth maple, Utah juniper (*Juniperus osteosperma*), willows (*Salix* spp.), Oregon grape (*Mahonia aquifolium*), Wood's rose (*Rosa woodsia*), serviceberry (*Amelanchier* spp.), red osier dogwood (*Cornus sericea*), poison ivy (*Toxicodendron radicans*), wheatgrass (*Triticum* spp.), and red top (*Agrostis alba*) (FERC 2000b; USGS 2005).

6.6.3 WETLAND HABITAT

The USFWS Wetlands Inventory Mapper Tool delineates wetlands within the Project Area (USFWS 2022b). The Pineview Reservoir is classified as a Freshwater Lake. The portion of the lake adjacent to the flowline intake and the Ogden River are classified as Riverine habitat. The only wetlands within the Project Area are just southwest and downstream of the tailrace canal and powerhouse along the portion of the Ogden River that flows through residential areas. These areas are classified as Freshwater Forested/Shrub Wetlands (Figure 6-7).

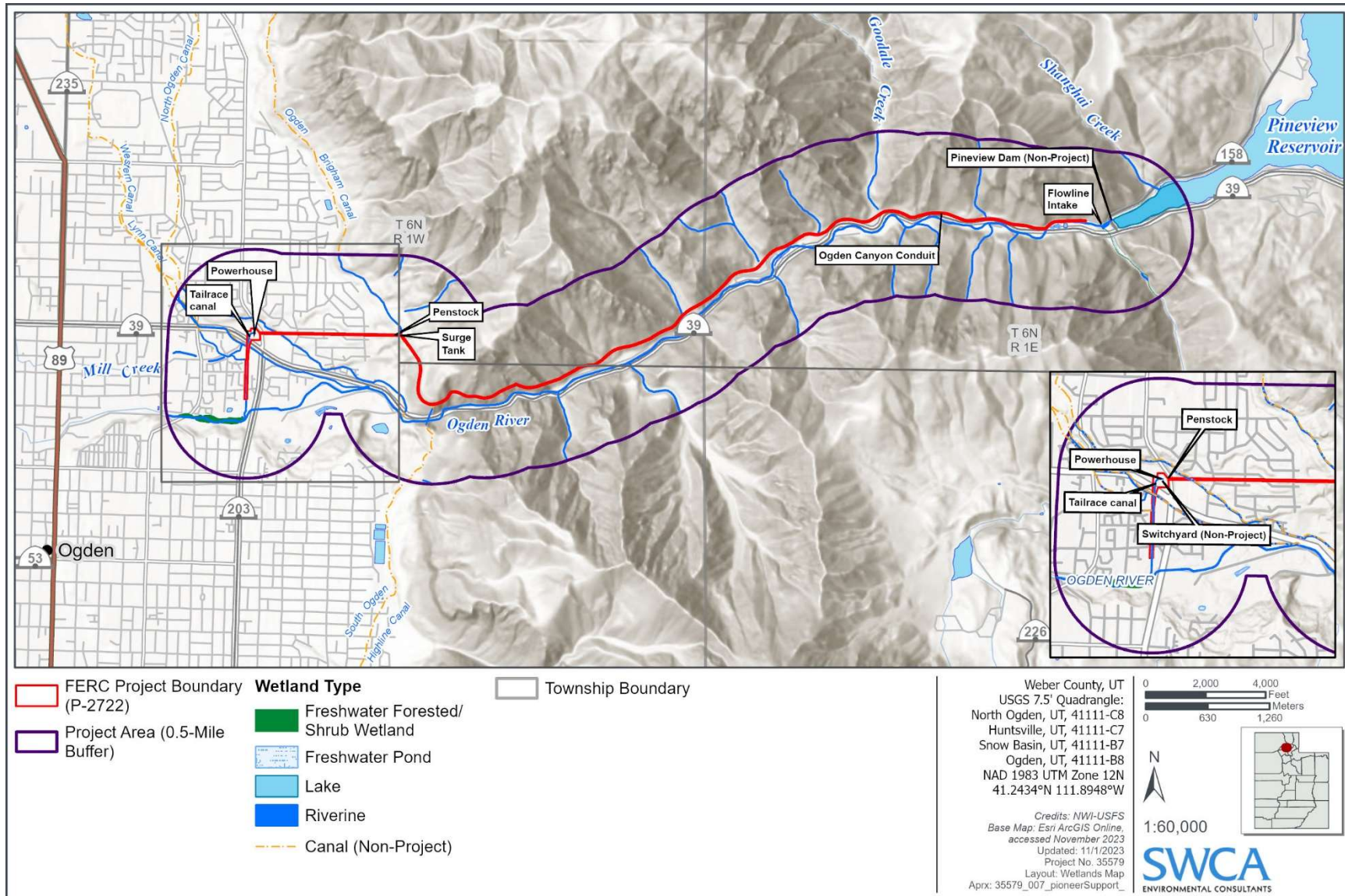


FIGURE 6-7 WETLANDS AND AQUATIC HABITAT TYPES WITHIN THE PROJECT AREA

6.6.4 NOXIOUS WEEDS

Weber County designates noxious weeds according to the State of Utah Noxious Weed List, tiering each weed into classes based on status and state presence (Utah Department of Agriculture and Food [UDAF] 2015; Weber County 2023a) (Table 6-9). Class 1A species are not known to occur in Utah and, therefore, are not included in this analysis. Class 1B species are listed as Early Detection Rapid Response species and are known from limited populations throughout the state. They pose a serious threat to the state and are considered high priority for control. Class 2 species occur throughout the state but at a level where eradication may be possible. Therefore, Class 2 species also receive high priority for control. Class 3 species occur throughout the state in populations where eradication would be difficult. Control efforts are focused on eliminating new or expanding populations. Class 4 species are prohibited from sale in the retail industry and, therefore, are not included in this analysis.

Weber County specifically lists nine species as an issue for the county (see Table 6-9). Two of these, the dalmatian toadflax (*Linaria dalmatica*) and phragmites (*Phragmites australis* ssp.) have been noted within the Project Area but not along the 5.5-mile flowline or within the Project Boundary (UDAF 2023).

The USFS maintains a list of noxious weeds classified as a priority for removal. Several of the USFS-listed species are also noted as issues for Weber County (see Table 6-9). All USFS-listed species are managed through an integrated weed management system using biological, herbicide, manual, or mechanical controls, or prescribed fire (USFS 1994).

TABLE 6-9 NOXIOUS WEEDS POTENTIALLY OCCURRING IN THE PROJECT AREA

SCIENTIFIC NAME	COMMON NAME	STATE OF UTAH NOXIOUS WEED LIST	NOTED IN PROJECT AREA	NOTED AS COUNTY ISSUE	USFS NOXIOUS WEEDS
<i>Acroptilon repens</i>	Russian knapweed	Class 3			X
<i>Aegilops cylindrica</i>	Jointed goatgrass	Class 3			X
<i>Alhagi maurorum</i>	Camelthorn	Class 1B			
<i>Alliaria petiolata</i>	Garlic mustard	Class 1B			
<i>Arctium minus</i>	Burdock	—			X

SCIENTIFIC NAME	COMMON NAME	STATE OF UTAH NOXIOUS WEED LIST	NOTED IN PROJECT AREA	NOTED AS COUNTY ISSUE	USFS NOXIOUS WEEDS
<i>Arundo donax</i>	Giant reed	Class 1B			
<i>Brassica elongata</i>	Elongated mustard	Class 1B			
<i>Brassica tournefortii</i>	African mustard	Class 1B			
<i>Cardaria</i> spp.	Hoary cress (whitetop)	Class 3		X	X
<i>Carduus nutans</i>	Musk thistle	Class 3			X
<i>Centaurea calcitrapa</i>	Purple star-thistle	Class 1B			
<i>Centaurea diffusa</i>	Diffuse knapweed	Class 2			X
<i>Centaurea solstitialis</i>	Yellow star-thistle	Class 2		X	X
<i>Centaurea stoebe</i>	Spotted knapweed	Class 2			X
<i>Centaurea virgata</i>	Squarrose knapweed	Class 2			X
<i>Chondrilla juncea</i>	Rush skeletonweed	Class 2			
<i>Cicuta maculate</i>	Water hemlock	–			X
<i>Cirsium arvense</i>	Canada thistle	Class 3			X
<i>Cirsium canescens</i>	Platte thistle	–			X
<i>Cirsium vulgare</i>	Bull thistle	–			X
<i>Conium maculatum</i>	Poison hemlock	Class 3			X
<i>Convolvulus</i> spp.	Field bindweed (wild morning glory)	Class 3			X
<i>Cynodon dactylon</i>	Bermudagrass	Class 3			
<i>Cynoglossum officinale</i>	Houndstongue	Class 3		X	X
<i>Echium vulgare</i>	Blueweed (Vipers bugloss)	Class 1B			
<i>Elymus repens</i>	Quackgrass	Class 3			
<i>Euphorbia esula</i>	Leafy spurge	Class 2		X	X
<i>Euphorbia myrsinites</i>	Blue spurge	–			X
<i>Galega officinalis</i>	Goat's rue	Class 1B			
<i>Hyoscyamus niger</i>	Black henbane	Class 2			X
<i>Hypericum perforatum</i>	Common St. Johnswort	Class 1B			
<i>Isatis tinctoria</i>	Dyer's woad	Class 2		X	X
<i>Lemna</i> spp.	Duckweed	–			X

SCIENTIFIC NAME	COMMON NAME	STATE OF UTAH NOXIOUS WEED LIST	NOTED IN PROJECT AREA	NOTED AS COUNTY ISSUE	USFS NOXIOUS WEEDS
<i>Lepidium latifolium</i>	Perennial pepperweed (tall whitetop)	Class 3			X
<i>Leucanthemum vulgare</i>	Oxeye daisy	Class 1B			
<i>Linaria dalmatica</i>	Dalmatian toadflax	Class 2	X	X	X
<i>Linaria vulgaris</i>	Yellow toadflax	Class 2			
<i>Lythrum salicaria</i>	Purple loosestrife	Class 2		X	X
<i>Madia glomerata</i>	Tarweed	—			X
<i>Onopordum acanthium</i>	Scotch thistle (cotton thistle)	Class 3			X
<i>Phragmites australis</i> ssp.	Phragmites (common reed)	Class 3	X	X	
<i>Polygonum cuspidatum</i>	Japanese knotweed	Class 1B	X		
<i>Scorzonera laciniata</i>	Cutleaf vipergrass	Class 1B			
<i>Sorghum halepense</i> and <i>Sorghum alnum</i> <i>Sorghum alnum</i>	Perennial sorghum	Class 3			
<i>Taeniatherum caput-medusae</i>	Medusahead	Class 2			
<i>Tamarix ramosissima</i>	Tamarisk (saltcedar)	Class 3			X
<i>Tribulus terrestris</i>	Puncturevine (goathead)	Class 3		X	
<i>Verbascum thapsus</i>	Mullein	—			X
<i>Wyethia amplexicaulis</i>	Mules-ear dock	—			X

Sources: USFS (1994); UDAF (2015, 2023); Weber County (2023a).

6.6.5 RARE, THREATENED, AND ENDANGERED SPECIES

The following documents were evaluated to determine which threatened, endangered, sensitive or rare plants have the potential to be present near the Project Area based on known distributions and habitat characteristics:

- USFWS IPaC list of threatened and endangered species (USFWS 2023a)
- USFS Region 4 sensitive species list (USFS 2016a)
- Utah SGCN (UDWR 2022a)

Table 6-10 below provides a list of species identified by each of the three data sources above; a further review of NRCS range maps for each species found that no Utah SGCN (UDWR 2022a) or USFS sensitive species (USFS 2016a) are known to occur in the Project Area. References for those determinations are also provided in Table 6-10.

The USFWS identified Ute ladies'-tresses (*Spiranthes diluvialis*) as potentially occurring within the Project Area. Ute ladies'-tresses is a threatened species that utilizes moist meadows and perennial stream floodplains, spring-fed or irrigated stream channels, and lakeshores (USFWS 2023a, 2023c). Previous surveys concluded that suitable habitat for this species is not present within the Project Area due to a lack of established floodplain. No individuals have been identified within the Project Area (FERC 2000b).

TABLE 6-10 LIST OF SPECIES IDENTIFIED BY USFWS IPAC, USFS REGION 4 SENSITIVE SPECIES LIST, AND UTAH SGCN

COMMON NAME	SCIENTIFIC NAME	DESIGNATION	KNOWN DISTRIBUTION WITHIN PROJECT AREA?
Autumn buttercup	<i>Ranunculus aestivalis</i>	Utah SGCN	No (NRCS 2023a)
Barneby ridge-cress	<i>Lepidium barnebyanum</i>	Utah SGCN	No (NRCS 2023b)
Barneby's reed mustard	<i>Hesperidanthus barnebyi</i>	Utah SGCN	No (NRCS 2023c)
Cisco milkvetch	<i>Astragalus sabulosus</i>	Utah SGCN	No (NRCS 2023d)
Clay phacelia	<i>Phacelia argillacea</i>	Utah SGCN, USFS Sensitive	No (NRCS 2023e)
Clay reed-mustard	<i>Hesperidanthus argillaceus</i>	Utah SGCN	No (NRCS 2023f)
Deseret milkvetch	<i>Astragalus desereticus</i>	Utah SGCN	No (NRCS 2023g)

COMMON NAME	SCIENTIFIC NAME	DESIGNATION	KNOWN DISTRIBUTION WITHIN PROJECT AREA?
Despain pincushion cactus	<i>Pediocactus despainii</i>	Utah SGCN	No (NRCS 2023h)
Dwarf bearclaw-poppy	<i>Arctomecon humilis</i>	Utah SGCN	No (NRCS 2023i)
Giersisch's globemallow	<i>Sphaeralcea gierischii</i>	Utah SGCN	No (NRCS 2023j)
Goose Creek milkvetch	<i>Astragalus anserinus</i>	Utah SGCN	No (NRCS 2023k)
Graham's beardtongue	<i>Penstemon grahamii</i>	Utah SGCN	No (NRCS 2023l)
Heliotrope milkvetch	<i>Astragalus montii</i>	Utah SGCN	No (NRCS 2023m)
Isley's milkvetch	<i>Astragalus iselyi</i>	Utah SGCN	No (NRCS 2023n)
Jones cycladenia	<i>Cycladenia humilis</i> var. <i>jonseii</i>	Utah SGCN	No (NRCS 2023o)
Kodachrome bladderpod	<i>Physaria tumulosa</i>	Utah SGCN	No (iNaturalist 2023)
Last chance townsendia	<i>Townsendia aprica</i>	Utah SGCN	No (NRCS 2023p)
Maguire primrose	<i>Primula maguirei</i>	Utah SGCN	No (NRCS 2023q)
Navajo sedge	<i>Carex specuicola</i>	Utah SGCN	No (NRCS 2023r)
Paradox milkvetch	<i>Astragalus holmgreniorum</i>	Utah SGCN	No (NRCS 2023s)
Pariette cactus	<i>Sclerocactus brevispinus</i>	Utah SGCN	No (NRCS 2023t)
San Rafael Cactus	<i>Pediocactus despainii</i>	USFS Sensitive	No (USFS 2016a)
Shivwits milkvetch	<i>Astragalus sabulosus</i> var. <i>vehiculus</i>	Utah SGCN	No (NRCS 2023u)
Shrubby reed-mustard	<i>Hesperidanthus suffretescens</i>	Utah SGCN	No (NRCS 2023v)
Siler pincushion cactus	<i>Pediocactus sileri</i>	Utah SGCN	No (NRCS 2023w)
Stage station milkvetch	<i>Astragalus sabulosus</i> var. <i>vehiculus</i>	Utah SGCN	No (NRCS 2023x)
Ute ladies'-tresses	<i>Spiranthes diluvialis</i>	USFWS IPaC	No (FERC 2000b)
Uinta Basin hookless cactus	<i>Sclerocactus wetlandicus</i>	Utah SGCN	No (NRCS 2023y)
Welsh's milkweed	<i>Asclepias welshii</i>	Utah SGCN	No (NRCS 2023z)
White River beardtongue	<i>Penstemon albifluvis</i>	Utah SGCN	No (NRCS 2023aa)

COMMON NAME	SCIENTIFIC NAME	DESIGNATION	KNOWN DISTRIBUTION WITHIN PROJECT AREA?
Winkler's pincushion cactus	<i>Pediocactus winkleri</i>	Utah SGCN	No (NRCS 2023bb)
Wright fishhook cactus	<i>Schlerocactus wrightiae</i>	Utah SGCN	No (NRCS 2023cc)

6.6.6 ENVIRONMENTAL EFFECTS

There is no disturbance associated with the Proposed Action that could impact upland, riparian, or wetland habitat, or special-status species. No ground-disturbing activities are anticipated that could result in the spread or establishment of noxious weeds. No environmental effects on botanical resources are expected under the Proposed Action.

6.7 CULTURAL AND HISTORIC RESOURCES

Pursuant to 18 CFR 5.6(d)(3)(x) and (xii), this section provides a brief discussion of cultural and historic resources, including a description of the known cultural or historic resources within the Project Vicinity (defined as a 1-mile buffer around the Project Boundary); a description of Native American Tribes, Tribal lands, and interests that may be affected; and a statement of environmental effects potentially resulting from the Proposed Action.

Cultural resources may include the built environment, archaeological resources, historic resources, places associated with cultural practices and beliefs, and cultural landscapes. Built environment resources include buildings, structures, objects, and districts. Archaeological resources may include pre- and post-contact archaeological sites associated with indigenous Native American Tribes, or historic-era sites (50 years or older) associated with activities that are directly or indirectly documented in the historic record, may be linear or non-linear in nature, and may also be grouped into districts. Historic resources may also include resources such as National Historic Landmarks, battlefields, and National Historic Trails. This section specifically focuses on the potential environmental effects on historic properties, which are defined in the National Historic Preservation Act (NHPA) as cultural resources that are listed in or are eligible for listing in the National Register of Historic Places (NRHP) (36 CFR 60). Section 106 of the NHPA directs federal agencies to take into account the effect of any undertaking (that is, a federally funded or assisted project) on historic properties (36 CFR 800).

6.7.1 PREHISTORIC PERIOD

Key sources for this summary include the detailed discussions of eastern Great Basin prehistory provided by Madsen et al. (2005) and Madsen and Schmitt (2005), as well as works on the Great Basin more generally (e.g., Beck and Jones 1997; Grayson 1993; Kelly 1997; Madsen and Simms 1998); greater detail than is provided here can be found in these sources. The time periods used here are those employed by Madsen et al. (2005) and Madsen and Schmitt (2005), and it is important to emphasize the point that Madsen et al. (2005) make to the effect that there was considerable adaptive variability, and perhaps also ethnic diversity, within the region during any of these periods.

6.7.1.1 PREHISTORY OF THE EASTERN GREAT BASIN

Evidence of prehistoric human occupation in the eastern Great Basin begins in the terminal Pleistocene and continues until Euro-American explorers and settlers began providing a written history of the region. This section summarizes current knowledge about the prehistory of the region; trends in the archaeological record of the Great Basin more broadly are discussed as a backdrop. This summary provides a context for prehistoric cultural resources likely to be encountered in the region, and it also points to research issues relevant to evaluating prehistoric sites for eligibility for the NRHP.

PALEOARCHAIC (>11,000–8,000 RCYBP)

As is the case throughout North America, the earliest compelling evidence for a human presence in the Great Basin dates to just before 11,000 radiocarbon years before present (RCYBP) or to approximately 13,000 calendar years ago (Beck and Jones 1997; Graf and Schmidt 2007). A majority of archaeologists who study the period from this time through the early Holocene (approximately 10,000–8,000 RCYBP) in the Great Basin refer to this period as the Paleoarchaic. This contrasts with usage elsewhere in the Americas, where the period of initial human occupation is termed Paleoindian, due to regional differences in subsistence (Beck and Jones 1997; Cannon and Meltzer 2004). Madsen et al. (2005) divide the Paleoarchaic into Early and Late sub-periods at approximately the beginning of the Holocene.

EARLY PALEOARCHAIC (>11,000–10,000 RCYBP)

Diagnostic artifacts of the Early Paleoarchaic period in the Great Basin include both fluted and stemmed projectile point varieties (e.g., Beck and Jones 1997). A number of named stemmed point types exist, all generally grouped together into the Great Basin Stemmed point series. Another diagnostic artifact of the Great Basin Paleoarchaic period is the crescent, which is commonly found in association with stemmed points and which dates from just before 10,000 to approximately 8,500 RCYBP (Beck and Jones 1997).

Most known Paleoarchaic sites are open; however, a few cave sites with Paleoarchaic deposits have been excavated (Huckleberry 2001; Jennings 1957; Goebel et al. 2003). The majority of known Paleoarchaic sites are situated in places that would have been adjacent to pluvial lakes or near other wetland settings (Beck and Jones 1997; Duke and Young 2007; Schmitt and Madsen 2005). This appears especially to have been the case during the Early Paleoarchaic (Taylor 2003; see also Grayson 1993).

LATE PALEOARCHAIC (10,000–8,000 RCYBP)

Late Paleoarchaic diagnostic artifacts include stemmed points, crescents and, after approximately 9,000 RCYBP, Pinto points (Hockett 1995; Madsen et al. 2005). Most known sites from this period are not cave sites but open sites near the shorelines of pluvial lakes or in areas that would have been wetlands associated with alluvial systems. Basketry and ground stone first appear in the region during the Late Paleoarchaic (Jennings 1957; Aikens 1970; Rhode et al. 2006).

ARCHAIC (8,000–2,400 RCYBP)

The Archaic period spans both the middle Holocene (8,000–4,500 RCYBP) and the early part of the late Holocene (4,500 RCYBP to the present). Madsen et al. (2005) divide the Archaic into Early, Middle, Late and Terminal sub-periods, and their usage is followed here.

EARLY ARCHAIC (8,000–5,300 RCYBP)

During the Early Archaic, human occupation continued in places where lakeshore and other wetland habitats remained (Madsen et al. 2005). Continuing the trend that began during the Late Paleoarchaic, higher elevation settings began to be used even more frequently during the Early

Archaic (Janetski 1985). An increase in the frequency of ground stone artifacts occurs across the Great Basin during this period (Grayson 1993; Rhode et al. 2006; Rhode and Madsen 1998).

Diagnostic artifacts of the Early Archaic, in chronological order of first appearance, include Pinto points, Elko series points, and Northern side-notched points, all of which were likely used to tip atlatl darts and all of which were used through the end of the period. Basketry continued to be important, and netting, probably used for hunting small vertebrates, became common (e.g., Aikens 1970; also see Broughton et al. 2008 and Byers and Broughton 2004).

MIDDLE ARCHAIC (5,300–4,500 RCYBP)

The Middle Archaic period spans the remainder of the middle Holocene. Aside from the cessation of Pinto projectile points and the appearance of Humboldt points, material culture is largely similar to that of the Early Archaic (Madsen et al. 2005). Sites in the Bonneville Basin continued to be settled in suitable settings near lakes or marshes, including in dunes adjacent to such wetland areas, (Madsen and Simms 1998; Rhode and Madsen 1998; Simms et al. 1999). Throughout the eastern Great Basin more broadly, however, residential and logistical use of upland settings increased even beyond that seen in the Early Archaic (Dalley 1976).

LATE ARCHAIC (4,500–3,000 RCYBP)

The beginning of the Late Archaic approximately coincides with the time at which the climate of the Great Basin began to approach modern conditions. Material culture of the Late Archaic does not differ appreciably from that of the Middle Archaic, with the exception that Gatecliff and Gypsum point types appear in tool assemblages. Throughout the broader eastern Great Basin region, occupation of upland areas continued, and in places such areas appear to have been used more intensively than lower elevation areas (Madsen and Schmitt 2005:125).

TERMINAL ARCHAIC (3,000–2,100 RCYBP)

This period witnessed increases in precipitation, such that Great Salt Lake overflowed into the Great Salt Lake Desert at times. This may have led to the abandonment or reduced use of some lake-side caves in the Bonneville Basin, but occupation of upland settings continued (Madsen 2005). Diagnostic artifacts include Elko series and Gypsum points; otherwise, material culture is similar to that of the previous Archaic sub-periods.

FREMONT (150 B.C.– A.D. 1450)

The Fremont period corresponds to the span of time during which at least some groups of the eastern Great Basin, Wasatch Plateau, and northern Colorado Plateau practiced agriculture. The date range that Madsen and Schmitt (2005) use for this period is approximately 150 B.C. to A.D. 1450; calibrated B.C. and A.D. dates will be used from this point forward.

Although there is evidence for considerable adaptive diversity in the eastern Great Basin and surrounding areas throughout prehistory, this is especially the case for the Fremont period. Fremont sites range from fairly large, settled villages to more ephemeral camps that suggest a high degree of mobility; caves also continued to be used during the Fremont period (e.g., Aikens 1970; Bryan 1977). Substantial village sites are in the eastern portions of the Bonneville Basin (Madsen and Schmitt 2005; Taylor 1954; Wilde and Soper 1999). Villages in the vicinity of the Wasatch Plateau include multi-room adobe pueblos after ca. A.D. 800; these were preceded by pit structures with adjacent aboveground granaries and even earlier, before A.D. 500 or so, by ephemeral structures with subterranean storage pits.

Elko series dart points continued to be used in the Fremont period. After A.D. 200, the Rosegate point type appears. Desert side-notched and Cottonwood triangular points appear near the end of the Fremont period (Madsen et al. 2005). Maize and associated technology such as pottery, basin-shaped metates, and subterranean storage pits spread throughout the Fremont area by ca. A.D. 500.

Beginning ca. A.D. 1000, Fremont sites and material culture gradually become less common in the archaeological record; they then decline steeply in frequency at ca. A.D. 1300 and are gone altogether by ca. A.D. 1450 (Massimino and Metcalfe 1999).

LATE PREHISTORIC (A.D. 1450–1850)

The Late Prehistoric period in the eastern Great Basin begins with the disappearance of agriculture and Fremont material culture and lasts until the Historic period. Projectile points of the Late Prehistoric period include the Cottonwood triangular and Desert side-notched types, and the one-rod-and-bundle basketry of the Fremont period is replaced by other types. Pottery continued to be made during the Late Prehistoric, though this was a brownware that contrasts

with earlier Fremont pottery types. Chipped stone assemblages, basketry, and ceramics have all been used as archaeological evidence of the Numic expansion (e.g., Madsen 1994).

Late Prehistoric sites in the eastern Great Basin are most common in riparian or lakeside wetland habitats (e.g., Janetski and Smith 2007; Simms and Heath 1990), though caves and upland areas were also used (e.g., Aikens 1970; Janetski 1985; Janetski and Smith 2007; Simms 1989).

6.7.2 HISTORIC PERIOD

The Historic period refers to the time recorded by Euro-American written history. The Historic period in Utah started with Euro-American explorers entering the region to establish settlements and continues to the present day. The sources of information are primarily Poll et al. (1989), Roberts and Sadler (1997), and Strack (1977). For additional information on the history of Weber County, please see these sources.

6.7.2.1 WEBER COUNTY HISTORY

Weber County has long been the crossroads of Utah and the Intermountain West. Established January 31, 1850, Weber County was the first of six counties to be created in the Utah Territory. The original boundary of this county spanned a huge territory from the Rocky Mountains to the Sierra Nevada but was reduced in size over time. Presently, its eastern boundary is the spine of the Wasatch Mountains, and the county extends to the west into Great Salt Lake.

As early as 1800, various American and British mountain men began entering the area in pursuit of the lucrative beaver pelt trade. For the next two decades, fur trappers would play key roles in exploring, trapping, and mapping the future Weber County. In 1824, John Henry Weber, answering an ad from the famous Ashley and Henry trapping enterprise, trapped the Bear River and Bear Lake area and wintered in Cache Valley (Roberts and Sadler 1997:22). While Weber and his men were trapping in the area, Jim Bridger became the first white man to report sighting Great Salt Lake. By the spring of 1825, Weber and his men had begun trapping the streams west of the Wasatch Mountains, including the lower Bear River, Ogden River, and what would, from that time on, be named the Weber River (Roberts and Sadler 1997:22).

In the spring of 1825, Peter Skene Ogden, a competitive British trapper from Oregon representing the Hudson's Bay enterprise, made his way south from Missoula. By late May,

Ogden and his men arrived in Ogden Valley, or “Ogden’s Hole” as it came to be called and camped there for almost 1 week. While camped there, they noted large quantities of beaver and came into contact with the American trappers led by Weber (Roberts and Sadler 1997:24). An ensuing conflict between the two companies resulted in the desertion by many men from Ogden’s party to Weber’s group. The remnants of Ogden’s original trapping expedition were pushed out of the area and back to the north, and Weber may have remained in the area until 1827 (Roberts and Sadler 1997:22–31).

Noted explorer, soldier, and politician John C. Frémont is credited with the first accurate Euro-American maps of the area, which he developed after visiting the mouth of the Weber River in 1843 (Roberts and Sadler 1997:35). When an initial attempt to establish an emigrant route across northern Colorado was unsuccessful, Frémont continued on the Oregon Trail past Fort Bridger, and eventually traveled down the Bear River to Great Salt Lake where he camped for 1 week with his group. While camped there, a reconnaissance of western Weber County and Fremont Island were conducted by the party. Their accounts of these activities, when published, would provide the impetus for the westward ambitions of settlers who belonged to The Church of Jesus Christ of Latter-day Saints (the LDS church) and their leader, Brigham Young (Roberts and Sadler 1997:34–37).

When the once-lucrative trapping business began to wane in the 1830s, Miles Goodyear recognized the necessity of exploring new business ventures. He established Fort Buenaventura, located very near present-day downtown Ogden, Utah, in 1846, the first permanent settlement in the area, as a way station to provide immigrants with supplies, fresh horses, and produce on their journey west (Roberts and Sadler 1997:39). Fort Buenaventura was near the junction of the Weber and Ogden Rivers. Due to a population explosion, Goodyear sold his fort in late 1847 to James Brown, a veteran of the Mormon Battalion, which was a Latter-day Saint volunteer unit that fought in the Mexican-American War. Goodyear’s success with agriculture at the location was viewed by newly arrived Latter-day Saints in Salt Lake City as a sign encouraging northward expansion. The property became Brown’s Fort, also known as Brownsville. Within 3 years, the community had 1,141 residents, its name was changed permanently to Ogden, and the surrounding area was designated as Weber County (Roberts and Sadler 1997:39–43).

In 1869, the nation's first transcontinental railroad was completed on May 8 at Promontory Summit, 60 miles northwest of Ogden. The junction for the transfer of rolling stock, passengers, and freight was quickly moved to Ogden, nicknamed "Junction City," which was a more convenient location (Roberts and Sadler 1997:109; Strack 1977). Within 1 week of the golden spike ceremony held to commemorate the junction of the Union Pacific and Central Pacific lines at Promontory Point, groundbreaking for a railway connecting Ogden with Salt Lake City had begun. Brigham Young began construction of the Utah Central line in late May of 1869 when he realized that the Union Pacific and Central Pacific lines were to be routed north of Great Salt Lake, not through Salt Lake City. The Utah Central line was completed in early January of 1870, connecting the largest city between Denver and San Francisco to the trans-continental line and to Ogden.

On January 13, 1869, 3 days after completion of the Utah Central line, the first carloads of coal arrived in Salt Lake City. The importance of coal to the Utah economy was such that the second of Utah's locally constructed lines was completed in 1874 (Strack 1977:11–14). Organized on August 23, 1871, the Utah Northern line ran from Ogden to Soda Springs, Idaho, making transportation available from Ogden and Weber County in the four cardinal directions across the state. The Utah Northern line was completed as far as Franklin, Idaho, by early May of 1874.

The arrival of the Denver & Rio Grande Western railroad in Ogden in May of 1883 was another substantial connection to the east. Following present-day Interstate 70 to Green River, Utah, then heading north through Price and continuing into Utah Valley at Spanish Fork, the railroad purchased valuable mining lines along the way.

Weber County's next sizeable population explosion came just before and during World War II when the U.S. military built Defense Depot Ogden (DDO) in northern Weber County and Hill Air Force Base (Hill) and the Naval Supply Depot in nearby Davis County. The war also placed increased demands on the transportation network, and nearly 150 regular and special trains moved through Ogden's Union Station on many days in 1944 (Roberts and Sadler 1997:276). DDO and Hill continue to provide many jobs for Weber residents at the present time.

During the first half of the twentieth century, rail traffic through Ogden would continue to grow, with trains carrying livestock, agricultural goods, mining ores, salt, passengers, and a wide

variety of other items (Strack 1977:42). The Ogden yard was a passenger train hub into the 1990s, although the station building was purchased by the town of Ogden in 1976 (Strack 2022). The station building became a convention center and cultural hub and was designated as the Utah State Railroad Museum in 1988 (Strack 2018).

6.7.2.2 IRRIGATION IN WEBER COUNTY

An essential infrastructure development throughout the desert west was reliable irrigation systems. This was especially true in Weber County. In 1852, the control and distribution of water and natural resources was granted to the county courts by the territorial legislature. In 1865, irrigation districts were organized. Two years later, these irrigation districts were granted the power to form irrigation companies. The Weber Irrigation Company was formed by Bradley B. and Barlow B. Wilson, who constructed the historic Wilson Canal in 1879 (Roberts and Sadler 1994:75). By the late 1880s, various small irrigation works had been developed near the mouths of many canyons along the Wasatch Front to tap into the perennial streams flowing into the Great Basin.

The first canals, although useful, were generally rudimentary at best and required constant maintenance. These canals were constructed from basic materials such as rock, straw, logs, and dirt. Horses and oxen pulling wooden frames and slip scrapers would start the excavation and men following with picks and shovels would complete the task. Once built, maintenance of the canal became a major concern and obstacle. For example, the construction and maintenance of a flume on the Wilson Canal proved to be a major problem for early pioneers. The first wooden flume for the canal was built in 1888, but this flume proved to be too low. The flume had to be rebuilt in 1893, only to be repaired year after year until 1919. By 1919, the flume lay in shambles and “not one post remained” (Sadler and Roberts 1994:39). In 1920, the flume was again rebuilt, but this time it was constructed of concrete (Sadler and Roberts 1994:39).

With the size and number of farms growing during the last two decades of the nineteenth century, the need to regulate water consumption and establish water rights was inevitable. The general condition of the shallow, now inadequate, irrigation system was also a problem. The 1894 Carey Act and the Reclamation Act of 1902 provided some federal assistance, but many companies turned to private funds from eastern investors. In 1891, the first National Irrigation

Congress was held in Salt Lake City. This congress resulted in the establishment of the Office of State Engineer, who was given the duty of managing the water resources. The signing of the Colorado River Compact on November 24, 1922, was the impetus for irrigation reform in the west. Weber County was directly influenced by this legislation. Essentially, the compact divided the waters of the Colorado River between the upper and lower basin states and Mexico. This compact stimulated new irrigation projects in Utah. In 1924, Weber County would set the precedent for multicomponent water use projects. Weber County farmers and Reclamation collaborated on the Echo Dam Project which further developed the Weber River and was the nation's first multipurpose project with a design that included recreation, municipal and industrial use, fish and wildlife, flood control, and irrigation programs (Sadler and Roberts 1994:110–114).

6.7.2.3 ELECTRICAL GENERATION

The use of electricity to provide light and power to homes and businesses is a relatively recent development. In 1882, Thomas Edison opened the Pearl Street Station in lower Manhattan, the first centralized power plant composed of multiple generators that served numerous homes and customers by sending electricity over a grid of wires (Institute for Energy Research 2021). Dense cities and high-volume waterways in the East allowed for larger facilities and companies to develop quickly in order to keep up with demand (Institute for Energy Research 2021).

Electric power generation in the Intermountain West followed a slightly different pattern, particularly with respect to hydroelectric power. Unlike the densely packed cities of the Eastern Seaboard, residents of the West were more widely dispersed. In more arid areas, such as Utah, southern Idaho, and Colorado, the locations of water sources where hydroelectricity could be generated were sometimes a significant distance from towns and cities. Despite these differences, electric power was still in high demand by western consumers. This demand for electric power was stimulated by two major forces: community demand for domestic and urban infrastructure and demand for power to drive industrial operations (Southworth et al. 1999:31).

Prior to the late 1800s, the challenge of developing successful hydroelectric facilities was the reliable transmission of electricity over a substantial distance, because direct current (DC) could not be sustained at a predictable and constant level when transmitted over long distances. This

changed in the 1890s when Nikola Tesla invented alternating current (AC), and it was improved by Lucien L. Nunn, who built the Ames Hydroelectric Generating Plant near Telluride, Colorado. Nunn's success set the precedent for similar systems throughout the region (Hydro Review 2013).

The earliest power plants in the region circumscribed by the Project were established by Nunn, who built plants first in Colorado and later in Utah to power his mining operations (Southworth et al. 1999:31).

6.7.2.4 PIONEER HYDROELECTRIC POWER PLANT DEVELOPMENT

In 1850, 3 years after the settlement of Salt Lake City, the first diversions of water were made from the Ogden River to irrigate crops. Prior to 1900, 3,000 acres of land were irrigated either partially or fully from the Ogden River. The fertile soil and the favorable climate made it possible to grow fruit and vegetables of excellent quality to supply the local market. As the diversions increased, however, the late summer natural flow was not sufficient to irrigate all of the developed land. As subsequent settlers moved to Ogden Valley near present day Huntsville, farmers immediately began diverting the waters of the Ogden River for their use, drastically decreasing the amount of water available for the original settlers of Ogden and its immediate surrounding area, setting the stage for water conflicts for years to come. The completion of the Transcontinental Railroad in 1869 also began to transition Ogden from a farming community to the "Junction City" of many western rail lines. To accommodate the expanding urban development and the need for supplemental power, Pioneer Electric Power Company⁵ constructed the Pioneer Project between 1895 and 1897. At that time, the Pioneer Project consisted of a diversion dam (Pioneer Dam), flowline, penstock, and powerhouse. Ogden continued to grow, and the need for more water to satisfy domestic and agricultural uses grew along with it (Reclamation 2023a).

Ogden was the world's sixth city to adopt a central electric power system for lighting—after Salt Lake City, London, New York, San Francisco, and Cleveland. Based on the Edison model in

⁵ Just 4 months after the Pioneer Hydroelectric Power Plant opened, the Union Light and Power Company brought the Pioneer Electric Power Company and the Big Cottonwood Power Company under the same management. Several years later, in 1899, a further consolidation occurred when the Union Light and Power Company became Utah Power and Light Company, a predecessor company to PacifiCorp.

Manhattan, an electric plant powered by coal-fired boilers was opened in Salt Lake City in 1881, the first in Utah (Haycock 1977:174). The Ogden City Electric Light Company was also created in the spring of 1881, and a similar boiler system to that in Salt Lake City was built with the capacity to power eight streetlights (*Salt Lake Herald* 1881). A small, short-lived DC hydroelectric plant was also installed on the Ogden River in 1883 and destroyed in 1884 (Haycock 1977:184). By the mid-1890s, however, the Nunn brothers began to take interest in the water generation potential of Utah. Plants under their oversight sprang up in canyons east of Provo, along the Bear River in Idaho, and others using their model appeared in Big Cottonwood Canyon at Stairs and Granite (Haycock 1977:182).

At the same time, officials of the LDS church in Utah took an interest in the growing technological and economic advantages of AC power generated by rushing water. In 1893, the Pioneer Electric Power Company was organized with LDS church officials George Q. Cannon, Wilford Woodruff, and Joseph F. Smith as the directors (*Ogden Standard* 1893). By January 1894, plans were underway to begin construction of a dam in Ogden Canyon, but excavation work did not begin until the spring of 1895 (*Salt Lake Tribune* 1895). Following the construction of the dam and penstock, construction of the powerhouse itself was begun in late summer 1896 with the *Salt Lake Herald* (1896) commenting:

A great deal of work will be done on the foundation, as it must be very solid to support the heavy Pelton wheels and other ponderous pieces of machinery.

By early spring 1897, work on the entire project was nearly complete and preparations to construct the superintendent's house were underway (*Salt Lake Herald* 1897a, 1897b). On May 20, the plant was officially reported to be in operation with accompanying lithographs of the plant, penstock construction, and an interior view of the machinery. In addition to the power plant itself and the superintendent's house, the penstock, dam, and brick shop were also constructed between 1896 and 1897 (*Salt Lake Herald* 1897c).

Over the following 3 years, the disparate power plant companies with single plant operations along the Wasatch Front began to consolidate. Just 4 months after the Pioneer Hydroelectric Power Plant opened, the Union Light and Power Company brought the Pioneer Electric Power Company and the Big Cottonwood Power Company under the same management. Several years

later, in 1899, a further consolidation occurred when the Union Light and Power Company became Utah Light and Power and added the plant at Granite at the mouth of Big Cottonwood Canyon to form an interconnected electrical delivery system for both Ogden and Salt Lake City (Fiege and Ore 1989). Further consolidations and mergers of both electrical generators and railway companies during the 1900s and 1910s resulted in the formation of Utah Power and Light (UP&L) (all companies listed here are considered predecessor companies to PacifiCorp) by 1915 (Fiege and Ore 1989).

By the late 1920s, Reclamation began making plans for storage dams on the Ogden and Weber Rivers, although the Reclamation's Ogden River Project would not become possible until the National Recovery Act was passed on June 16, 1933. For the proposed water delivery system to be constructed, certain features of the original Pioneer Project, such as the Pioneer Dam and flowline, would be replaced and the Pioneer Project integrated *as a secondary purpose* to the larger Reclamation Ogden River Project. Preliminary construction was initiated in 1934, beginning with the breaching and eventual inundation of UP&L Pioneer Dam to accommodate the Pineview Dam and Reservoir, which was completed in 1937. At the same time, a new flowline (Ogden Canyon Conduit) was constructed at the joint expense of Reclamation and UP&L (PacifiCorp 1998) that consisted of a 75-inch-diameter wood stave pipeline, designed to deliver water to the Ogden River Project system while also satisfying the water right of UP&L to provide water to the Pioneer Powerhouse for generation. The Ogden-Brigham Canal (constructed 1934 to 1937), South Ogden Highline Canal (constructed 1938 to 1941), and related facilities were also put into service at this time. The completion of the Reclamation's Ogden River Project, including the subsequent enlargement of Pineview Dam and Reservoir in the 1950s, provided invaluable flood control and irrigation supply to approximately 24,801 acres of land. The water supply has improved economic conditions in the area and brought fertile land under cultivation for crops such as peaches, apples, apricots, vegetables, sugar beets, small grains, corn, and hay, although with now-recognized impacts to aquatic systems in both the tributaries to (i.e., the Ogden, Weber, and Bear Rivers) and to the Great Salt Lake itself, generally resulting from over-appropriated water diversions (Reclamation 2023a).

6.7.3 PREVIOUSLY CONDUCTED ARCHAEOLOGICAL SURVEYS AND RESOURCES

A file search of previously conducted cultural resource inventories and previously recorded archaeological sites in the Project Vicinity was conducted from the Utah State Historic Preservation Office (SHPO) Sego database. As depicted in Table 6-11 below, a total of 23 previous surveys (areas with cultural resources identified as polygons) were identified within the Project Vicinity, three of which intersect the Project Area. As a result of those surveys, 28 previously recorded sites were identified within the Project Vicinity, two of which are in the Project Area (Table 6-12). Of those two sites, only 42WB300—the historic Ogden Canyon Conduit—is eligible for the NRHP and is, therefore, a historic property.

GIS layers (with historical topographic information) and General Land Office plat maps were also examined for other possible archaeological resources in and near the Project Area. The GIS layers, available from state and federal agencies, include properties eligible for or listed in the NRHP, Utah historic trails, Utah historic districts, historical topographic maps, historical mining layers, and historical aerial imagery. The Project Area is included on several historical maps and searchable layers. Based on a review of those historical maps and searchable layers, in addition to the two previously recorded sites noted above, nine mapped resources were identified within the Project Area: four main historic roads, including the road that extends through Ogden Canyon; one pipeline; three trails; and the Ogden Bench Canal. These nine mapped resources have not been previously recorded as archaeological sites and may no longer be extant.

TABLE 6-11 PREVIOUS SURVEYS WITHIN THE PROJECT VICINITY

PROJECT NUMBER	TITLE	CONSULTANT
U84SJ0037	Road-Widening Project Along 12th Street/Ogden	Sagebrush Consultants, LLC
U84SJ0469	Survey/Monitor of Monroe Blvd. Extension/2 Reports	Sagebrush Consultants, LLC
U85FS0146	42 Wb 191	USFS
U85SJ0728	Eval. Stone Wall along SR-39 in Ogden River Canyon	Sagebrush Consultants, LLC
U89BC0204 ^a	Ogden Conduct BOR	Office of Public Archaeology

PROJECT NUMBER	TITLE	CONSULTANT
U91BC0524	Lewis Grove Ogden River Access Roads	Office of Public Archaeology
U94FS0144	Ogden Ranger District Recreation Projects	USFS
U94SJ0699	UDOT Bridge Replacement on SR-39, Ogden Canyon	Sagebrush Consultants, LLC
U94SJ0782	Ogden Water Treatment	Sagebrush Consultants, LLC
U95SJ0861	Monitor of Sludge Drying Bed in Ogden Canyon	Sagebrush Consultants, LLC
U00FS0378	Wheeler Creek Trail Improvements	USFS
U05FS0488	Front Trails Reclamation	USFS
U05FS0489	Indian Trail Reroute	USFS
U08ST0687	Questar's FL-19	SWCA
U11LI0827	CRI Of Ogden Canyon Water Pipeline	Logan Simpson Design Inc.
U12SJ0925	SAL Peery Camp II Cell Tower	Sagebrush Consultants, LLC
U14HY0712	Ogden Canyon Siphon Replacement and Rehabilitation	Certus Environmental Solutions, LLC
U15UJ0430	Class III CRI for the SAL Hermitage Communication Facility Expansion Project, Weber County, Utah	USU Archaeological Services, Inc.
U16FS0420	Pineview Open Swim; Pelican Beach Trail; and Causey Reservoir Emergency Boat Ramp	USFS
U16UT0266	SR-39; MO 9.4-9.8. Ogden Canyon Narrows Barrier, Weber County, Utah	UDOT
U17BE1154 ^a	2017 Annual Report for the Programmatic Agreement between the Bureau of Reclamation and the Utah SHPO Regarding NHPA Responsibilities for Minor Agency Projects	Reclamation
U19BE0009 ^a	2018 Annual Report for the Programmatic Agreement Between the Bureau of Reclamation and the Utah SHPO Regarding NHPA Responsibilities for Minor Agency Projects	Reclamation
U21BE0043	2020 Annual Report for the Statewide Programmatic Agreement between the Bureau of Reclamation and the Utah SHPO	Reclamation

Note: Project titles have been taken directly from the Utah SHPO's Sego database and have not been edited.

^a Survey intersects the Project Area.

TABLE 6-12 PREVIOUSLY RECORDED SITES WITHIN THE PROJECT VICINITY

SITE NUMBER	CLASS	TYPE	ELIGIBILITY
42WB301	Historic	Bridge	Eligible Criterion C
42WB300 ^a	Historic	Water conduit	Eligible Criterion A
42WB510	Historic	Irrigation water pipeline (siphon)	Not eligible
42WB329	Historic	Rail grade	Not eligible
42WB483 ^a	Historic	Retaining wall network	Not eligible
42WB299	Historic	Historic ruins	Not eligible
42WB11	Unknown	Unknown	Unknown
42WB35	Prehistoric	Rock shelter	Unknown
42WB36	Prehistoric	Rock shelter	Unevaluated
42WB90	“Shoshoni” (prehistoric or ethnohistoric)	Open, surface	Unevaluated
42WB92	Prehistoric	Lithic scatter/campsite	Unevaluated
42WB191	Multicomponent	Steatite bowl; lime kiln and mining area	Unevaluated
42WB192	Prehistoric	Lithic scatter	Not eligible
42WB218	Prehistoric	Burial and possible campsite	Unevaluated
42WB265	Prehistoric	Open campsite	Unevaluated
42WB266	Historic	Petroglyphs	Unevaluated
42WB289	Prehistoric	Lithic scatter/hunting station	Unevaluated
42WB290	Prehistoric	Lithic scatter	Unevaluated
42WB291	Prehistoric	Open campsite	Unevaluated
42WB298	Historic	Bridge	Eligible Criterion C
42WB362	Historic	Secondary water reservoir and associated pipeline	Eligible Criterion C
42WB423	Historic	Campsite	Not eligible
42WB450	Historic	Industry/processing/ extraction	Not eligible
42WB470	Historic	Structure	Listed
42WB483	Historic	Retaining wall network	Not eligible
42WB486	Historic	Lime manufacturing Site	Eligible Criteria A, B, C, D

SITE NUMBER	CLASS	TYPE	ELIGIBILITY
42WB513	Prehistoric	Open campsite	Eligible Criterion D
42WB543	Historic	Agriculture/subsistence	Eligible Criterion C

^a Site intersects the Project Area.

6.7.4 HISTORIC BUILDINGS

A total of 56 eligible and contributing historic buildings are within the Project Area; over half are in Ogden Canyon. Built environment resources within the Project Vicinity and Project Area were cut from a data search in the SHPO Historic Utah Buildings (HUB) database. Another 158 eligible and contributing historic buildings were identified but are out-of-period, demolished, undetermined, or ineligible and non-contributing and, therefore, are not historic properties. The Pioneer Hydroelectric Power Plant Historic District is within the Project Area and comprises 14 resources documented in 1989 on a NRHP nomination form. Of these, nine were determined as contributing to the historic district and five were determined to be non-contributing at the time of nomination (Table 6-13 and Figure 6-8) (Fiege and Ore 1989). None were determined to be individually eligible. The original 1989 NRHP form was updated in 2023 as a result of planned site upgrades, as detailed below.

In 2022, PacifiCorp conducted a NHPA Section 106 consultation with the Utah SHPO as part of its process to remove three unsafe buildings (Nos. 11, 12, and 13; former operator's cottages previously moved from their original location) in the Pioneer Historic District. Building No. 10, the superintendent's residence, will be carefully remodeled to facilitate office space for plant operations while maintaining the building's historic integrity. Reconnaissance level surveys were conducted at the Historic District and determined that removal of the three buildings would adversely affect the district's historical character (SWCA 2022).

PacifiCorp, in consultation with the SHPO, developed measures to mitigate the adverse Project effects (SWCA 2022). These mitigation measures include the following:

- Complete a National Register Nomination Form update and submit a draft to the SHPO for review within 12 months of Project completion. Finalize the updated National

Register Nomination Form within 6 months of document review and submission to the NRHP.

- Plan, design, and install an interpretive sign at the Project site. This sign may include historical photographs, graphs, and information relating to hydroelectric development in Utah generally.
- Fund all cultural resources fieldwork, analysis, reporting, or other associated mitigation efforts.
- Ensure all work undertaken satisfies the terms of the agreement and meets the Secretary of the Interior's Standards and Guidelines for Archaeological and Historic Preservation (48 *Federal Register* 44716-77442, September 23, 1983) and the Secretary of the Interior's Standards for the Treatment of Historic Properties (36 CFR 68).

TABLE 6-13 BUILDINGS IN THE PIONEER HYDROELECTRIC POWER PLANT HISTORIC DISTRICT AND ELIGIBILITY IN 2023

BUILDING	YEAR BUILT	DISTRICT STATUS	CHANGE FROM 1989	WITHIN FERC BOUNDARY
Cottage 1	1920	Contributing	Previously Building no. 11, status not changed	No
Cottage Shed	1920	Contributing	Not evaluated in 1989	No
Compliance Tech's Storage Shed	1997	Out of Period	Not evaluated in 1989	No
Operator's House	1896–1897	Contributing	Previously Superintendent's House, status not changed	No
Administration Building	1896–1897	Contributing	Previously Shop, status not changed	No
Apparatus Foreman's Office	ca. 1980	Out of Period	Not evaluated in 1989	No
Compliance Tech's Office	ca. 1980	Out of Period	Not evaluated in 1989	No
Electrician's Office	ca. 1980	Out of Period	Not evaluated in 1989	No
Communication Tech's Office	ca. 1980	Out of Period	Not evaluated in 1989	No

BUILDING	YEAR BUILT	DISTRICT STATUS	CHANGE FROM 1989	WITHIN FERC BOUNDARY
Maintenance Shop	ca. 1990	Out of Period	Not evaluated in 1989	No
Power house	1896–1897	Contributing	Name and status not changed	Yes
Communication Building	ca. 1993	Out of Period	Not evaluated in 1989	Yes
Unit 6 Expansion Joint House	1936	Non-contributing	Not evaluated in 1989	Yes
Unit 6 48 Inch Valve House	1936	Non-contributing	Not evaluated in 1989	Yes
Unit 3 Expansion Joint House	1936	Non-contributing	Not evaluated in 1989	Yes
Unit 3 48 Inch Valve House	1936	Non-contributing	Not evaluated in 1989	Yes
Penstock Access	1936	Non-contributing	Not evaluated in 1989	Yes
Lube Oil Shed	ca. 1910	Contributing	Previously Oil house, status not changed	Yes
Substation	Various, 1953–2003	Non-contributing	Previously Switchyard, status not changed	Yes
Substation Control Building	2003	Out of Period	Not evaluated in 1989	Yes
Cottage 2	1920	Demolished (2022)	Previously Building no.12	No
Cottage 3	1920	Demolished (2022)	Previously Building no. 13	No
Cottage 4	1920	Demolished (2022)	Previously Building no. 14	No
Barn	ca.1906	Demolished (2022)	Previously Build building no. 9 (barn)	No

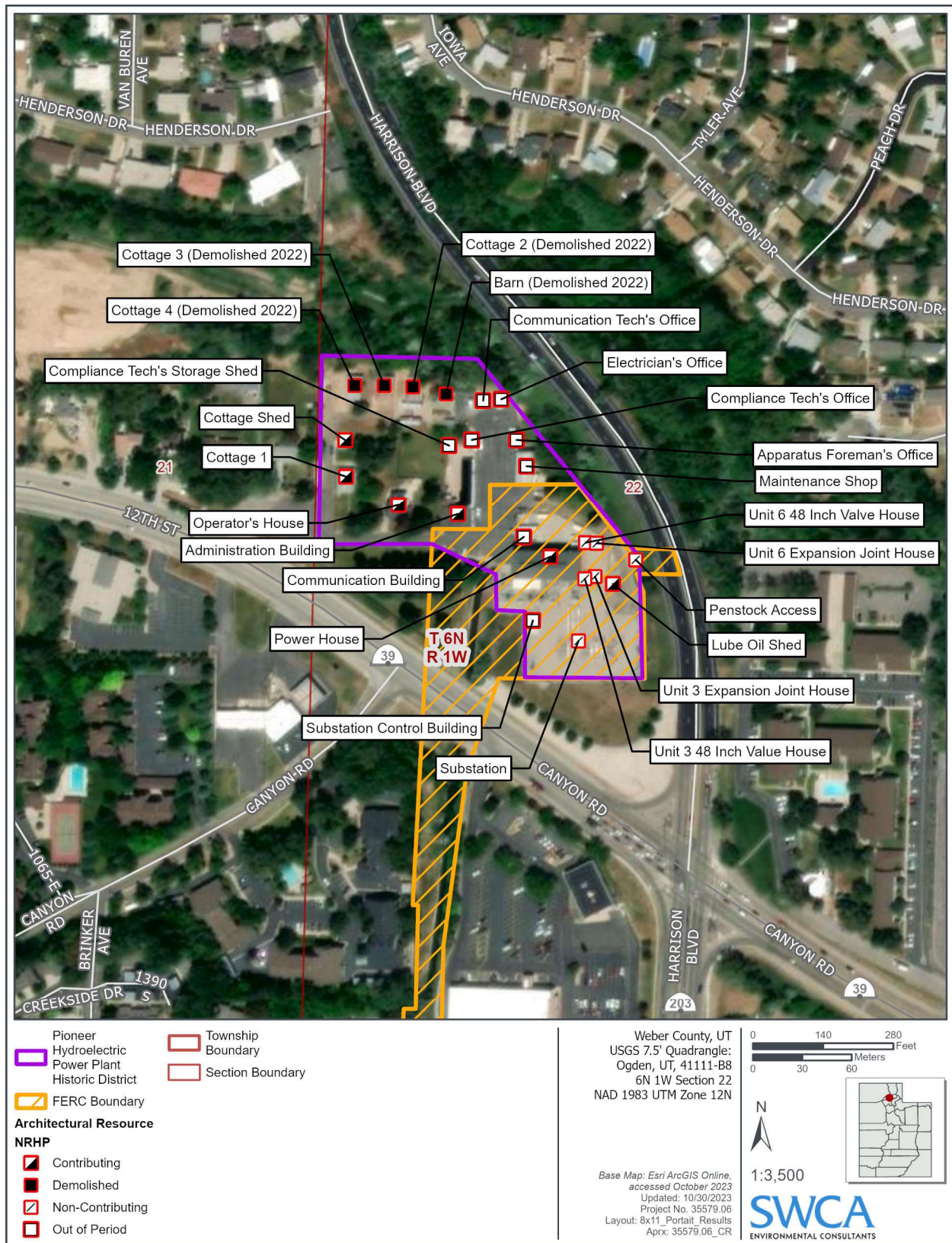


FIGURE 6-8 PIONEER HYDROELECTRIC POWER PLANT HISTORIC DISTRICT BUILDINGS WITH ELIGIBILITY STATUS

6.7.5 TRIBAL RESOURCES IN THE PROJECT AREA

Under Section 106 of the NHPA, FERC is obligated to seek out any federally recognized Indian Tribe that can demonstrate traditional cultural or religious connection to land under its jurisdiction and to involve them in the conduit exemption and subsequent license surrender process.

Although the Project Boundary encompasses no federally recognized Tribal lands, some federally-recognized Tribes may have an interest in the conduit exemption and license surrender application. PacifiCorp has requested to be FERC's non-federal representative for the purposes of informal Section 106 consultation with the Tribes. PacifiCorp will contact these Tribes to determine if they are interested in participating in the conduit exemption application and subsequent license surrender process. These Tribes (also Sovereign Nations), listed on FERC's list and/or are identified on the Federal Housing and Urban Development website, will be invited to meet with PacifiCorp representatives, attend cultural resources meetings, and will be informed of all other meetings for the Project:

- Ute Indian Tribe of the Uintah and Ouray Reservation, Utah
- Skull Valley Band of Goshute Indians of Utah
- Confederated Tribes of the Goshute Reservation, Nevada and Utah
- Paiute Indian Tribe of Utah (Cedar Band of Paiutes, Kanosh Band of Paiutes, Koosharem Band of Paiutes, Indian Peaks Band of Paiutes, and Shivwits Band of Paiutes)
- Shoshone-Bannock Tribes of the Fort Hall Reservation
- Northwestern Band of the Shoshone Nation

6.7.6 IDENTIFICATION OF RESOURCES

Prior to Euro-American settlement in modern-day Utah, the Salt Lake Valley acted as an area of neutral territory between the Utes in Utah Valley, the Goshutes to the west, and the Shoshones to the north (Duncan 2003:187). Although the current Project Area is in Ogden Canyon, which is well within traditional Shoshone territory, the Shoshones, Utes, Goshutes, and Paiutes in Utah are all federally recognized Tribes that may have a traditional cultural or religious connection to the lands in the Project Area.

6.7.6.1 SHOSHONE TRIBES

Historically, Shoshoni-speaking bands lived in the part of the northern Great Basin that includes several river basins: the upper Snake and Salmon Rivers in Idaho, and the Green and Bear Rivers in Utah and Wyoming. In the early 1700s, horses were introduced to North American Tribes and these groups began traveling over large areas, covering portions of what is now Montana, southern Alberta in Canada, and across Wyoming. By the mid-1700s, however, Plains Tribes that had acquired both horses and guns from European settlers resisted this expansion and the Shoshone returned to their earlier territories within the western river valleys: the Lemhi Shoshones and Flathead Salish along the Salmon River, the Northern Shoshones and Bannocks along the Snake River, and the Eastern Shoshones along the Green and Bear Rivers. Throughout the nineteenth century these groups continued to participate in annual bison hunts to the east (Jackson Hole Historical Society 2022; Murphy and Murphy 1986; Steward 1937). Many of these bands later organized into federally recognized Tribes, including the Shoshone-Bannock Tribes, the Northwest Band of the Shoshone Nation, and the Shoshone Tribes of the Wind River Reservation.

Steward (1937) reported that a band known as the Bohogue generally wintered near Fort Hall, although they traveled seasonally from Camas Prairie in the west to Wyoming in the northeast. This band was comprised of two integrated but culturally and linguistically distinct groups: the Bannocks, a Northern Paiute group that moved into the area in the seventeenth century, and the Northern Shoshones (Murphy and Murphy 1986; Shoshone-Bannock Tribes 2021; Steward 1937). Although the Bannocks were a minority, the chief who led the band could come from either group (Murphy and Murphy 1986).

Once horses had arrived in the area in the 1700s, the Northern Shoshones and Bannocks gathered for fall bison hunts in Wyoming, after which they would typically return to winter camps in the Snake River bottoms in southern Idaho (Murphy and Murphy 1986; Shoshone-Bannock Tribes 2021). In the spring, groups would fish for salmon below Shoshone Falls and then travel west to Camas Prairie to gather during the summer months.

British and American fur trappers began moving into the Snake River Valley in the early nineteenth century, and by the 1840s the fur trade had collapsed and the bison herds west of the

Continental Divide had been exterminated (Murphy and Murphy 1986). Emigration along the Oregon Trail brought more Euro-American settlers through the Snake River Valley and settlement by members of the LDS church began in the 1860s (Murphy and Murphy 1986). The last great bison hunt by the Northern Shoshones and Bannocks took place in 1864 (Shoshone-Bannock Tribes 2021). The two groups entered into peace treaties with the U.S. government in 1863 and 1868 that led to the establishment of the Fort Hall Reservation in 1869. Other Shoshone groups were relocated to the Fort Hall Reservation as well, including the Northwestern Band of the Shoshone Nation, a group comprised of Bannocks and the former Lemhi and Sheepeater Shoshones who were forced off their original reservation in both 1905 and 1907 (American Indian Relief Council 2022; Murphy and Murphy 1986). The Northwestern Band of the Shoshone Nation received federal recognition in 1980 (American Indian Relief Council 2022).

In 1805, Lewis and Clark's famous expedition met with the Lemhi Shoshones (Jackson Hole Historical Society 2022). In 1805, Sacajawea, a Shoshone woman, accompanied Lewis and Clark on their expedition through the Northwest (Eastern Shoshone 2022).

6.7.6.2 UTE TRIBES

Traditionally, the Utes were a nomadic mountain people, organized into local groups known as bands, whose territory extended from what is now southwest Wyoming, across most of Utah and Colorado, west into eastern Nevada, east across the southwest half of Kansas, and south into northern Arizona, New Mexico, Texas, and the Oklahoma panhandle. They were foragers who followed a seasonal round within their traditional lands and lived in brush wickiups or tipis in the Plains Indian style (Duncan 2003:169; Goff 2023). They typically moved to villages in the deserts and valleys during the winter, moved into the foothills and mountains during the spring and summer, and gathered for communal hunts in the fall, including for buffalo (Duncan 2003:169–170).

The earliest written reference to the Ute people was documented by the Spanish, in published reports of the 1626 Onate expedition through the colony of New Spain. At the time, there were at least 10 bands of Utes living in the area that is now Utah and Colorado (Duncan 2003:175–176). As with many indigenous groups, the acquisition of domesticated horses brought to North

American by the Spanish in the 1600s significantly changed their lives. Although not all Ute bands kept horses, and the more northern bands did not acquire horses until the late seventeenth or eighteenth century, those who did learned to hunt more efficiently and could travel further, taking part in buffalo hunts on the eastern and southern plains. This put them into contact with many other Plains Tribes, such as the Apache and Comanche, and also made them a greater threat to Spanish settlements to the south (Duncan 2003:180–182).

The first documented occurrence of Europeans to visit northern Utah happened in 1776, when an expedition led by Spanish friars Francisco Atanasio Domínguez and Silvestre Vélez de Escalante visited northeastern Utah (May 1987:24). They encountered indigenous people, likely Uintah Utes, who foraged for wild plants and game and also grew squash and corn and made ceramics (Daughters of the Utah Pioneers of Uintah County [DUPUC] 1947; Native Ministries International 2022a). The expedition learned that at the time both the Ute and Shoshone Tribes occupied the Uinta Basin and that hostility existed between the two Tribes (Barton 1998:19).

The earliest sustained Euro-American presence in the Uintah Basin region is attributed to fur trappers and traders. Numerous trading posts and rendezvous locales were soon established across the entire Great Basin where pelts could be traded or sold for money or goods. General William Ashley traveled into the Uintah Valley in 1825, with Andrew Henry, founder of the Rocky Mountain Fur Company, and Jim Bridger, a well-known trapper (DUPUC 1947). Ashley noted that the Uinta-at Utes (later called Tavaputs) living in the valley that would be later named for him had Spanish horses and British guns and wore pearl and shell ornaments, demonstrating the extent of their trade networks (Burton 1996:5, 58; Duncan 2003:191). The first trading post in Uintah County was established at Whiterocks in 1828, and it was purchased in 1832 by French-American trader Antoine Robidoux (Burton 1996:6).

Members of the LDS church, led by Brigham Young, first arrived in the Salt Lake Valley in 1847. The Utes were not concerned about the newcomers at first, because Salt Lake Valley was outside of the Ute's active territory (Duncan 2003:187). Within the first decade after their arrival, however, the Latter-day Saints had established 16 cities and towns within Tribal territories; within 6 years they outnumbered the local Ute population (Cuch 2003:21; Duncan 2003:188).

In response to the invasion of their lands and resources, the Utes began taking Latter-day Saint livestock, such as at Fort Utah in 1850 (Duncan 2003:187). The settlers responded by raising militias and attacking the Utes, killing their men and capturing their women and children (O'Neil and Mackay 1979:5). These conflicts escalated into the Walker War, led by Ute leader Wakara from 1853 to 1854, with most clashes taking place in central Utah territory (Burton 1996:23; Duncan 2003:188; O'Neil and MacKay 1979:5). In May of 1854, Brigham Young and Wakara met and arranged a peace treaty; Wakara died less than 1 year later, and his brother Arapeen succeeded him as a leader (Burton 1996:23).

In 1861, Young sent an expeditionary group to the Uintah Basin to assess the region's potential for settlement (Burton 1996:82–83). The 1861 expedition served to confirm the idea that the Uintah Basin was a suitable place to relocate the Ute Indians, and at Young's suggestion President Abraham Lincoln created the Uintah Valley Indian Reservation that same year (Barton 1998:49; Spangler 1995:700).

In 1863, violence erupted again as some Utes, led by Black Hawk, initiated raids on southern Utah settlements. The number of participants in the Black Hawk War increased after smallpox and starvation took many Ute people's lives in the winter of 1864 to 1865, and several Latter-day Saint settlements were temporarily abandoned as people moved to centralized forts for protection (Burton 1996:24; Duncan 2003:190). In June 1865, Young helped negotiate the Spanish Fork Treaty with a council of Ute leaders, where the Utes eventually agreed to move to the reservation in Uintah Basin in exchange for payment for their traditional lands (Larson 1974:364). However, Congress later refused to ratify the treaty, and instead simply ordered the Utes to move to the reservation without compensation. This increased the number of Utes fighting alongside Black Hawk, and clashes between the Utes and Latter-day Saints continued until 1868, resulting in the deaths of 50 Latter-day Saints and more than 300 Utes. Eventually starvation, lack of supplies, and the overwhelming numbers of the settler's militia forces ended the war. Tabby-ko-Kwanah led the remaining Utes in Utah as they relocated to the reservation in 1869 (Burton 1996:24–25; DUPUC 1947:186; O'Neil and MacKay 1979:7–8). These included the Uinta-ats (later called Tavaputs), Pahvants, Tumpanawaches, San Pitches, and some Cumumbas and Sheberetchs of Utah, who became known collectively as the Uintah Utes (Burton 1996:18–19).

During this period, the Ute Bands whose territory was in Colorado were also moved onto a reservation. Under the Treaty of 1868, the Yamparka and Parianuc Ute Bands in Colorado were moved to the White River Reservation in White River, Colorado, and the Taviwach Ute Band was moved to the Uncompahgre Reservation in Los Pinos, Colorado (Burton 1996:27; Lewis 1994; O’Neil and MacKay 1979:11). Both groups were then known by the name of their respective agency. The White River Indian Agent, Nathan Meeker, was not sympathetic to the White River Utes and his deliberate antagonism and subsequent request for federal troops led to an ambush and Meeker’s death in 1879, which is generally known as the Meeker Incident (Burton 1996:27; O’Neil 1971). The Meeker Incident was sufficient reason to remove the White River Utes from Colorado altogether and open their reservations lands to mining; they were sent to the Uintah Reservation (without the permission of the Uintah Utes) in 1881. The Uncompahgre Utes were also relocated to the Uintah Basin at this time, despite the fact that they had not rebelled; they were moved to the separate Ouray Reservation, just south of the Uintah Reservation, covering the White, Green, and Duchesne River valleys (Duncan 2003:195–196).

By 1905, much of the Uintah Reservation was declared open to white settlement as stated under the Indian General Allotment Act, also known as the Dawes Severalty Act, spurring further settlement of the area (May 1987:106–109; Poll et al. 1989:367–368). The remaining reservation lands were checkerboarded, and the two reservations were combined and renamed the Uintah and Ouray Reservation. All of the Ute Band members who lived there were then called the Uintah-Ouray Ute Tribe (Duncan 2003:205).

In 1937, the Tribe drew up a constitution, established a Tribal Council and the Uintah and Ouray Ute Business Committee under the Indian Reorganization Act, and all bands were enrolled in the Ute Tribe of the Uintah and Ouray Reservation (Duncan 2003:209). In 1948, legislation was passed that extended the boundaries of the reservation, returning lands that had previously been designated as the Uncompahgre Grazing Reserve. An additional 3 million acres were returned to the Tribe in 1986 (Duncan 2003:211; Goff 2023; Lewis 1994). In 2020, the Tribe had more than 3,000 enrolled members, over half of whom lived on what is the second-largest reservation in the United States at 4.5 million acres. The Tribe also owns multiple businesses, including cattle ranching and oil and natural gas extraction (Ute Indian Tribe Political Action Committee 2020;

Utah Division of Indian Affairs 2023a). The Ute Indian Tribe of the Uintah and Ouray Reservation is a federally recognized Tribe.

6.7.6.3 GOSHUTE TRIBES

The Goshutes are a band associated with the Western Shoshones whose traditional lands encompass Utah's West Desert south of the Great Salt Lake, extending from the Oquirrh Mountains on the east to the Steptoe Mountains in eastern Nevada. Within Utah, Skull Valley and Tooele Valley were two areas of the greatest population (AAA Native Arts 2023). The Goshute people were well adapted to the desert environment and occupied some of the most arid land in North America (Utah American Indian Digital Archive [UAIDA] 2008a). They were highly efficient foragers, living in mobile family groups that utilized and maintained the resources at their disposal, including more than 100 species of wild plants, large game such as pronghorn, bear, deer, bighorn sheep, and elk, as well as small mammals, birds, reptiles, and insects such as crickets and grasshoppers (AAA Native Arts 2023). Winter camps brought larger groups together, as did periodic communal hunts (AAA Native Arts 2023; UAIDA 2008a).

During Spanish colonization of the Southwest, slave trade was a profitable business, and Goshutes were frequently captured and sold, by both the Spanish and members of other local Tribes. Although the Goshutes encountered occasional Euro-American trappers and emigrants prior to the 1850s, their contacts were few until the Latter-day Saints settled in the Salt Lake Valley and began to expand their territory. By 1854 Latter-day Saint settlements around Utah Lake were forcing the Goshute from their lands, and the Goshute responded by raiding livestock from the new settlements. The LDS church established a government farm at Deep Creek, near Ibapah, Utah, to act as a reservation for members of the Tribe, but the farm quickly failed (UAIDA 2008a). The Pony Express was established along a route that ran through Goshute territory, and the federal government established a treaty with the Goshutes in 1863 that allowed for peaceful travel through their lands without ceding their rights to it; they also agreed to allow military posts, stage lines, telegraph lines, and railways to be built, and for mining, milling, ranching, and logging to take place on their lands in return for annual payments (AAA Native Arts 2023; UAIDA 2008a). This treaty, which was negotiated with Goshute leaders Tints-pa-gin and Harry-nap, did specify that they would eventually move to reservations, but did not name when, or where the reservations would be located (AAA Native Arts 2023; Crum 1987).

Despite attempts from the 1860s onward to have the Goshutes join another reservation rather than being given their own, the Goshutes, and in particular the Skull Valley Band, refused to move. The government tried to convince them to move to the Ute reservation in the Uintah Basin; the Shoshone Reservation at Fort Hall, Idaho; and later the Paiutes' Kaibab Reservation in northwestern Arizona but was unsuccessful. In 1883, Latter-day Saints helped Tints-pa-gin and another Skull Valley Goshute man named Shiprus file homestead patents along Hickman Creek, at the south end of Tooele Valley, totaling 320 acres; however, a Goshute reservation in Skull Valley was not established until the early twentieth century (Crum 1987).

The Skull Creek Reservation was established in 1912 to house the Skull Valley Band of Goshutes; it was expanded in 1917 and consists of 17,920 acres in Tooele County at Skull Valley, Utah (Utah Division of Indian Affairs 2023b). The Bureau of Indian Affairs ceased support to that reservation in 1921, but the Skull Valley Goshutes did not move, and it was reinstituted in 1935 with funding from the Indian Reorganization Act. Further attempts to move the Skull Valley Goshute to the larger Deep Creek reservation also failed (Crum 1987).

In 1914, the Deep Creek Reservation was formed south of Ibapah, Utah, and southwest of the Skull Creek Reservation. Members of the Goshute, Paiute, and Bannock Tribes, organized as the Confederated Tribes of the Goshute Reservation, share the 113,000-acre Deep Creek Reservation, which straddles the Nevada-Utah state border (AAA Native Arts 2023; Native Ministries International 2022b). The original reservation boundaries were expanded in 1939 with the purchase of three local livestock ranches (AAA Native Arts 2023).

The federal government promoted agriculture as a means for the Goshute Bands to be self-sustaining, as it did with all indigenous people in the twentieth century, but the environment in which their reservations are located could not support farming (Utah Division of Indian Affairs 2023b). Today, the Confederated Tribes of the Goshute Reservation has approximately 400 members and makes a profit from permits to hunt an elk herd that it manages (Utah Division of Indian Affairs 2019). The Skull Valley Band has approximately 130 members and owns a rocket motor testing facility that they lease to Hercules, Inc. (Utah Division of Indian Affairs 2023b). Both the Skull Valley Band of Goshute Indians of Utah and the Confederated Tribes of the Goshute Reservation are federally recognized Tribes.

6.7.6.4 PAIUTE TRIBES

The Southern Paiutes' traditional lands extend from southern California across southern Nevada, south-central Utah, and northern Arizona (UAIDA 2008b). They were divided into regional bands, including the Cedar, Indian Peaks, Kanosh, Koosharem, and Shivwits Bands, although independent groups of three to five families typically traveled together (Utah Division of Indian Affairs 2023c). They were mobile foragers whose population centers were located along the Virgin and Muddy Rivers, although some bands adapted to the arid portions of their territory by accessing natural springs. They also raised crops such as corn, squash, melons, and sunflowers along the Virgin, Santa Clara, and Muddy Rivers, which provided basic irrigation (Holt 1994). Fall gatherings were an opportunity for individual groups to reconnect, perform dances, and participate in communal activities such as the pine nut harvest or fish spawning at Fish Lake (Holt 1994; UAIDA 2008b).

The Paiutes did not adopt domesticated horses once they became available in North America, and as a result were frequently targeted by raids that supplied the slave trade established during the Spanish colonization of the American Southwest. The Spanish Trail, a trade route that connected New Mexico to the Pacific Ocean, was closely tied to the slave trade (UAIDA 2008b).

Although the Paiute Bands in Utah came into contact with explorers, trappers, and traders during the early nineteenth century, it was not until the Latter-day Saints began to expand their settlements south from the Salt Lake Valley in 1851 that the Paiutes began to be displaced (UAIDA 2008b). The Paiutes allied themselves with the Latter-day Saints early on, as protection against slave raids by Utes, Navajos, and Mexicans, but the settlers passed infectious diseases to the Paiutes and their livestock consumed both native plants and crops on which the Paiutes relied (Holt 1994; UAIDA 2008b). By 1859, 11 Latter-day Saint communities claimed rights to Paiute land (UAIDA 2008b).

In 1857, the Paiutes were named as participants in the Mountain Meadows Massacre near Cedar City, Utah, where more than 100 emigrants traveling by wagon train to California were ambushed by a small group of people dressed as Paiutes. The emigrants fought under siege for 5 days before they were approached by the Latter-day Saint militia under a flag of truce, then led away and massacred (UAIDA 2008b). The massacre occurred during a period of extreme

political tension between the Latter-day Saints and the U.S. government and military (King 2012). Although accounts of the extent of Paiute participation and possible incitement by militia members have varied, Paiute oral tradition strongly maintains that the Paiute people were not involved in any way (UAIDA 2008b).

The Utah Paiute Bands were co-signers to the 1865 Spanish Fork Treaty that established the Uintah Valley Reservation, but that treaty was not ratified by Congress, and the Paiutes were not moved onto the reservation with the Utah Ute Bands in 1868 (Burton 1996; Holt 1994; Shivwits Band of Paiutes 2023). Separate reservations were established for the Shivwits Band in 1891, the Indian Peaks Band in 1915, the Koosharem Band in 1928, and the Kanosh Band in 1929; the Cedar City Band was not granted a reservation at that time (see additional details below regarding a later, small land grant for the band) and lived on lands owned by the LDS church (Holt 1994; Shivwits Band of Paiutes 2023).

In 1954, the federal government terminated each of the Paiute Bands at the recommendation of the Senate representative from Utah (Holt 1994). They were the only federally recognized Utah Tribe that was terminated under the Termination Act (UAIDA 2008b). As a result, the Paiute Bands lost federal tax protection, health and education benefits, agricultural assistance, and 15,000 acres of former reservation lands. Between 1954 and 1980, almost half of all Tribal members died, in part as an indirect result of these policies (Holt 1994; UAIDA 2008b; Utah Division of Indian Affairs 2023c).

In 1980, the five previous Utah Paiute Bands were restored to their former status as separately federally recognized Tribes. In 1981, the five restored bands adopted a joint-governance constitution, delegating some authority to the Paiute Indian Tribe of Utah and a joint Tribal Council with one representative from each band, while maintaining individual band councils (Shivwits Band of Paiutes 2023). In 1984, 4,470 acres of Bureau of Land Management–administered lands were granted to the bands, far less than their original reservations lands; this acreage is divided into 10 separate land parcels that are divided into individual reservations for the Cedar and Indian Peaks Bands in Iron County, the Kanosh Band in Millard County, the Koosharem Band in Sevier County, and the Shivwits Band in Washington County, as well as one

small parcel in Iron County designated for the Paiute Indian Tribe as a whole. Tribal membership across the five bands is currently over 900 individuals (Paiute Indian Tribe of Utah 2021).

6.7.7 POTENTIAL RESOURCES

Given these Tribes' history in northern Utah, it is possible that the Ute Indian Tribe of the Uintah and Ouray Reservation, Skull Valley Band of Goshute Indians of Utah, Confederated Tribes of the Goshute Reservation, Cedar Band of Paiutes, Kanosh Band of Paiutes, Koosharem Band of Paiutes, Indian Peaks Band of Paiutes, Shivwits Band of Paiutes, Shoshone-Bannock Tribes of the Fort Hall Reservation, and the Northwestern Band of the Shoshone Nation may attach cultural or religious significance to land and/or resources in the Project Area.

In addition, as only a portion of the Project Area has been previously surveyed, there may be additional unrecorded cultural resources present within the Project Area.

6.7.8 ENVIRONMENTAL EFFECTS

There are 67 known historic properties within the Project Area (two archaeological sites, 56 individually recorded historic buildings, and six historic buildings that are considered contributing to the Pioneer Hydroelectric Power Plant Historic District); however, there would be little to no effect associated with the conduit exemption and corresponding license surrender process; therefore, no environmental effects on cultural and historic resources are expected under the Proposed Action within the Project Area or the Project Vicinity.

6.8 RECREATIONAL RESOURCES

This section provides a summary of the recreational resources within the Project Area. For regional context, recreational opportunities on Pineview Reservoir, just outside of the Project Area on Uinta-Wasatch-Cache National Forest lands, are also briefly described. The current Pioneer FERC Project Boundary is mostly on lands owned or administered by the Licensee (fee title and easements), and on a small portion of Reclamation-administered land near the Project intake (FERC 2000a).

6.8.1 PROJECT RECREATION FACILITIES

There are no public (nor private) recreation resources or sites at the Pioneer Project, due in large part to the narrow nature of the Project Boundary and lack of access to water or other recreation resources since the 1937 development of Reclamation's Ogden River Project; that is, all Pioneer Project lands are encumbered by Project infrastructure that would not be conducive to safe public recreation or access. As part of its 1998 Final License Application to the FERC, PacifiCorp submitted a recreational resources technical report that evaluated additional recreational uses and opportunities at the Pioneer Project, including an opportunities and constraints analysis. The study analyzed the following Project features: the flowline, penstock, powerhouse, tailrace, and bypass reach of the Ogden River. Of the 15 regional needs that were assessed, most (11) were found to have no feasibility at these locations (PacifiCorp 1997). The remaining four needs (day use, Americans with Disabilities Act [ADA] access, fishing, and swimming) were deemed to have low feasibility at the Pioneer Powerhouse and bypass reach of Ogden River. Results of the suitability analysis found that none of the regional needs were suitable for the Pioneer Project (PacifiCorp 1997). Day use and ADA access were unsuitable at the powerhouse due to public and operator safety and security concerns; fishing and swimming access in the bypass reach were also found infeasible due to the lack of access and predominance of other (not PacifiCorp) private properties along the river.

The study concluded that a wide variety of recreational opportunities exist in the Wasatch-Cache National Forest, notably at Pineview Reservoir, and also along the Ogden River Parkway in the City of Ogden (PacifiCorp 1998). Ogden Canyon itself has limited opportunities because of the narrowness of the canyon, heavy vehicular traffic, steep canyon walls with potential for rock falls, potential for flooding, and the lack of access related to the predominance of private

ownership along the canyon floor (PacifiCorp 1997). Therefore, no recreational measures or facilities were considered feasible, and none were either recommended or required under the current license for the Pioneer Project (FERC 2009).

6.8.2 RECREATION OPPORTUNITIES IN THE PROJECT AREA

The Pioneer Project begins at a flowline valve downstream of Pineview Dam, where water enters the Project's flowline (also known as the Ogden Canyon Conduit) and extends westward along the north wall of Ogden Canyon parallel to the Ogden River. The majority of this flowline is on lands owned by or under easement to PacifiCorp. Much of the Ogden Canyon Conduit portion of the Project is surrounded by the Ogden Ranger District of the Uinta-Wasatch-Cache National Forest, which is responsible for management of many recreation facilities surrounding Pineview Reservoir (just upstream and outside of the Project Area) and some portions of the Ogden Canyon uphill of the flowline; much of the remainder of the Ogden Canyon Conduit is surrounded by private land parcels adjacent to the Ogden River and downstream of Pineview Dam. The west end of the Project Boundary, including the surge tank, penstock, powerhouse, and tailrace, are partly within the city limits of Ogden. The following sections will focus on recreation opportunities in three distinct areas of the Project Area: Pineview Reservoir, Ogden Canyon, and the city of Ogden. Figure 6-9 below depicts recreational opportunities in the Project Area.

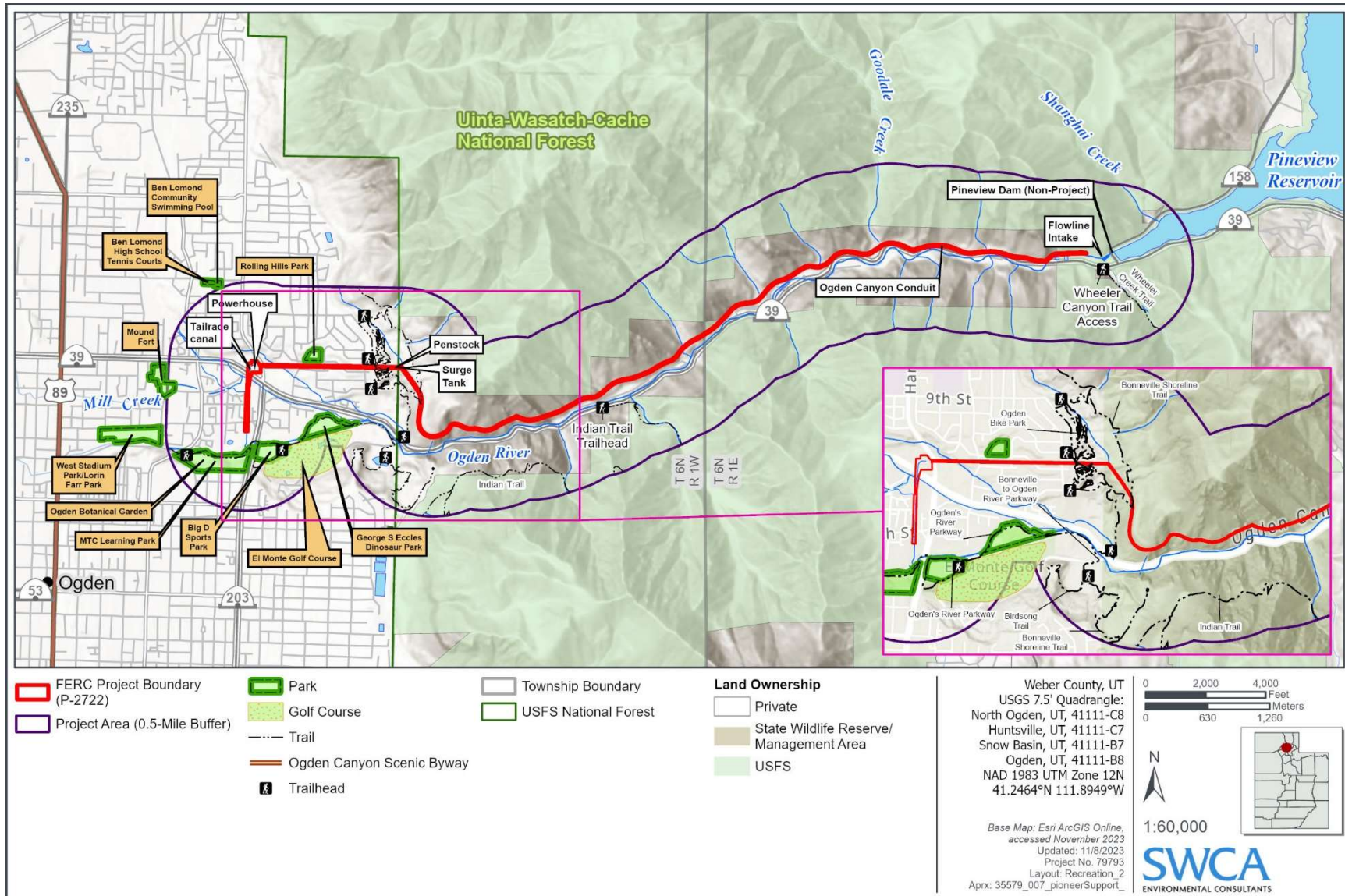


FIGURE 6-9 RECREATIONAL OPPORTUNITIES IN THE PROJECT AREA

6.8.2.1 PINEVIEW RESERVOIR

Pineview Reservoir, which is the busiest Utah reservoir of its size, falls partially within the Project Area, including the small portion of the reservoir directly upstream of Pineview Dam that contains no developed recreational opportunities (USFS 2023). Outside of the Project Area, Pineview Reservoir offers many recreational opportunities, including motorized and non-motorized boating, windsurfing, waterskiing, swimming, and fishing. Boat launches and sand beaches are available along the shore. The reservoir offers marinas, day use areas and picnic areas, and camping is allowed at the Anderson Cove Campground (USFS 2023).

6.8.2.2 OGDEN CANYON

The Pioneer Project flowline runs 5.5 miles along the Ogden Canyon from Pineview Dam to the Project penstock. Ogden Canyon is narrow with steep canyon walls predominantly owned by the USFS and managed by the Ogden Ranger District of the Uinta-Wasatch-Cache National Forest. Multiple USFS-managed trails begin at the Ogden Canyon floor, limited due to private-land ownership to either the canyon mouth or at the upper end of the canyon, immediately downstream of Pineview Dam, and climb into the canyon hills and USFS-managed lands. These trails include Indian Trail and Coldwater Canyon Trail (trailheads near the mouth of the canyon), and the Southern Skyline Trail and Wheeler Creek Trail Complex (trailheads near Pineview Dam) (AllTrails 2023a). Along the Ogden Canyon floor, much of the land is either privately owned or utilized as a highway corridor for the Ogden River Scenic Byway, which starts at the mouth of the Ogden Canyon and extends east beyond Pineview Reservoir (Recreation 2023). Therefore, recreational access to the Ogden River is limited to dispersed access from the highway or at the UDWR's Ogden River Angler Access Wildlife Management Area.

6.8.2.3 CITY OF OGDEN

The City of Ogden has 55 park locations, five of which fall within the Project Area: George S. Eccles Dinosaur Park, Canyon Park, Big D Sports Park, Rolling Hills Park, and West Stadium Park. Additionally, Ben Lomond Community Pool, Ben Lomond High School Tennis Courts, Ogden Botanical Garden, and El Monte Golf Course all fall within the Project Area (Ogden City 2019).

The City of Ogden manages many trails that traverse at least partially through the Project Area. The Ogden River Parkway is a 17-mile, east-west trail that parallels the Ogden River through the center of the city (Visit Ogden 2023). The City of Ogden aims to have the future, completed trail form a 28.2-mile intercity loop (Ogden City 2019). The short, unpaved Bluff Trail also parallels the Ogden River, ending near the Ogden Cemetery (Trailforks 2023a), as does the Stairway to Harrison Trail (Ogden Trails Network 2023). The popular Bonneville Shoreline Trail passes near the surge tank on the western edge of the Ogden foothills (Ogden City 2019), along with the Rainbow Trail (Ogden Trails Network 2023) and several mountain biking trails that are part of the Ogden Bike Park, including the Canal Road trail (Trailforks 2023b). The Birdsong Trail is an easy 2.4-mile loop (AllTrails 2023b) to the southeast of and partially within the Project Area.

The City of Ogden provides many public recreational opportunities within the city itself: the Marshall White Center that includes a gym, a fitness and weight room, sports courts, and a boxing ring; the Lorin Farr Park, Lorin Farr Community Pool, and Lorin Farr Skate Park; and the Golden Hours Senior Activity Center, which includes a gym and offers a variety of recreational opportunities for seniors (Ogden City 2019). The City of Ogden is also home to the Pioneer Stadium, which hosts the annual Professional Rodeo Cowboys Association Ogden Pioneer Days rodeo (Ogden Pioneer Days 2023). The City of Ogden also has numerous private recreation facilities that require fees and memberships.

6.8.3 RECREATIONAL USE IN THE PROJECT AREA

The Utah Statewide Comprehensive Outdoor Recreation Plan (SCORP) reviews statewide recreational resources and identifies future needs surrounding recreational opportunities to improve recreation in the state. The SCORP is prepared by UDNR and UDPR. The SCORP that addresses the years 2019 to 2023 surveyed Utah state citizens to determine common recreation activities and general participation data. Citizens responded that the most common outdoor recreation activity was hiking, followed by camping, fishing, mountain biking, and hunting (UDNR and UDPR 2019). The most popular water activities were swimming (both outdoors or in a pool or splashpad) and fishing (UDNR and UDPR 2019).

6.8.4 NATIONALLY OR REGIONALLY RECOGNIZED DESIGNATIONS

6.8.4.1 NATIONAL WILD AND SCENIC RIVER SYSTEM

There are no designated National Wild and Scenic rivers in northern Utah and no river segments have been determined eligible for such a designation within the Project Area. Additionally, no rivers or river segments in the Project Area are listed in the Nationwide Rivers Inventory. Rivers or river segments are added to the Nationwide Rivers Inventory if they possess one or more outstandingly remarkable values (Interagency Wild and Scenic Rivers Coordinating Council 2023).

6.8.4.2 NATIONAL TRAILS SYSTEM

The National Trails System Act of 1968, as amended, governs the activities of the National Trails System and establishes four classes of trails in both urban and rural settings: National Scenic Trails, National Historic Trails, National Recreation Trails, and side and connecting trails. A segment of one National History Trail (the California National Historic Trail) extends in a north-south direction through the City of Ogden just west of the Project. Although the segment is not a fully developed hiking trail, it represents the Congressionally designated network of routes associated with the historic westward migration of emigrants to California, most notably tens of thousands of “Forty-niners” rushing toward gold fields after the January 1848 discovery of gold in the area (National Park Service 2023).

6.8.4.3 SCENIC BYWAYS

The National Scenic Byways Program is part of the U.S. Department of Transportation Federal Highway Administration. The program is a grassroots collaborative effort established to help recognize, preserve, and enhance selected roads throughout the United States. The U.S. Secretary of Transportation recognizes certain roads as All-American Roads or National Scenic Byways based on one or more archeological, cultural, historic, natural, recreational, and scenic qualities. There are no All-American Roads or National Scenic Byways within the Project Area or Project Vicinity (Federal Highway Administration 2023).

The Utah Scenic Byway Program serves as a support system to local scenic byway communities in their planning endeavors, grant acquisitions, and efforts to preserve and promote the unique roads throughout Utah that link travelers with tourism destinations, outstanding recreational

opportunities, and public lands (Utah Office of Tourism 2023). Within the Utah Scenic Byway Program, one scenic byway traverses through the Project Area: the Ogden River Scenic Byway (mostly along Utah State Road 39). The Ogden River Scenic Byway is an approximately 30-mile canyon and alpine drive that stretches east from Ogden to the eastern boundary of the Uintah-Wasatch-Cache National Forest. The initial stretch of the byway travels along the Ogden River through Ogden Canyon near the Project Boundary before circling Pineview Reservoir and continuing east to Monte Cristo Peak and through mountain meadows and forests (Visit Utah 2023).

6.8.5 ENVIRONMENTAL EFFECTS

No recreational resource development is required by the Project license, nor is there any feasible location for recreational development within the Project Boundary considering concerns for both public and operational safety, as well as Project security. Because there would be no changes to Project operations or facilities under the Proposed Action, no environmental effects on recreation are expected under the Proposed Action.

6.9 LAND USE AND COVER

This section provides a summary of land use and cover within the Project Boundary and Project Area. Land ownership is discussed in Section 4.1.

6.9.1 LAND USE

Within the Project Boundary, land use is tightly restricted to Project operations, because the current Project Boundary encompasses only the flowline (25-foot buffer on each side of centerline), surge tank, penstock (25-foot buffer on each side of centerline), powerhouse, and tailrace. The flowline passes predominantly through undeveloped lands (a small 1-acre portion of which are Reclamation-managed lands) that are adjacent to, yet uphill from developed communities along the Ogden River. Large portions of the penstock are buried beneath heavily developed suburban residential properties downhill of the surge tank where it enters the city of Ogden prior to reaching the powerhouse and tailrace, which are owned by PacifiCorp and surrounded by suburban residential properties (Weber County 2023b).

The Project Area was analyzed based on available Weber County tax parcel data to determine zoning classifications. There are concentrated areas of development in the Project Area, focusing mainly within the City of Ogden to the west of the Pioneer Project and along the Ogden River parallel to the flowline. Within the City of Ogden, the Project Area encompasses the Hillcrest/Bonneville Community, which is primarily zoned as residential, although there are also some government and commercial zones (Ogden City 2002a). The Pioneer Powerhouse is on land now zoned as R-1-6, or single-family residential, which has been developed in the century-plus since the Project first began operations in the late 1800s and is the predominant zoning classification in the City of Ogden within the Project Area (Ogden City 2023a). The R-1-6 zoning classification is intended to provide single-family residential use at a low-density level, although public utility substations or water storage reservoirs developed by public agencies are also conditional uses in R-1-6 (Ogden City 2022). The surge tank is just outside of the city boundary on land owned by PacifiCorp; surrounding land is managed by the federal government and classified as open space and single-family residential (Ogden 2023a). There are trail systems near the surge tank in the open space zone within the Project Area (see Section 6.8.2.3).

As depicted on Figure 6-10 and summarized in Table 6-14, predominant zoning within the Project Area is classified as F-40 (46.73%), FR-1 (26.95%), R-1 (6.6%), and O-1 (4.98%), which is unsurprising because the majority of lands within 0.5 mile of the Project Boundary in Ogden Canyon are in or near the Uinta-Wasatch-Cache National Forest, and the remainder are within the City of Ogden (Weber County 2023b).

TABLE 6-14 WEBER COUNTY ZONING CLASSIFICATIONS IN THE PROJECT AREA

ZONING CLASSIFICATIONS	DESCRIPTION OF CLASSIFICATIONS	ACREAGE	PERCENTAGE OF PROJECT AREA
C-1/CP-1	Commercial 1	2.1	0.04
C-2/CP-2	Commercial 2/3	15.3	0.33
CRC-1	Commercial 1	54.6	1.16
CVR-1	Forest Residential	4.5	0.10
F-40	Forest 1	2192.5	46.73
FR-1	Forest Resident	1264.8	26.95
NC-1	Commercial 1	1.0	0.02
O-1	Open Space	233.9	4.98
PI	Commercial 1	13.9	0.30
R-1-10	Residential 1	74.1	1.58
R-1-5	Residential 1	46.2	0.98
R-1-6	Residential 1	307.3	6.55
R-1-8	Residential 1	146.1	3.11
R-2	Residential 2/3	122.7	2.62
R-3	Residential 2/3	131.8	2.81
R-4	Residential 2/3	31.8	0.68
R-4/CO	Residential 4	2.1	0.05
S-1	Shoreline	47.7	1.02

Source: Weber County (2023b).

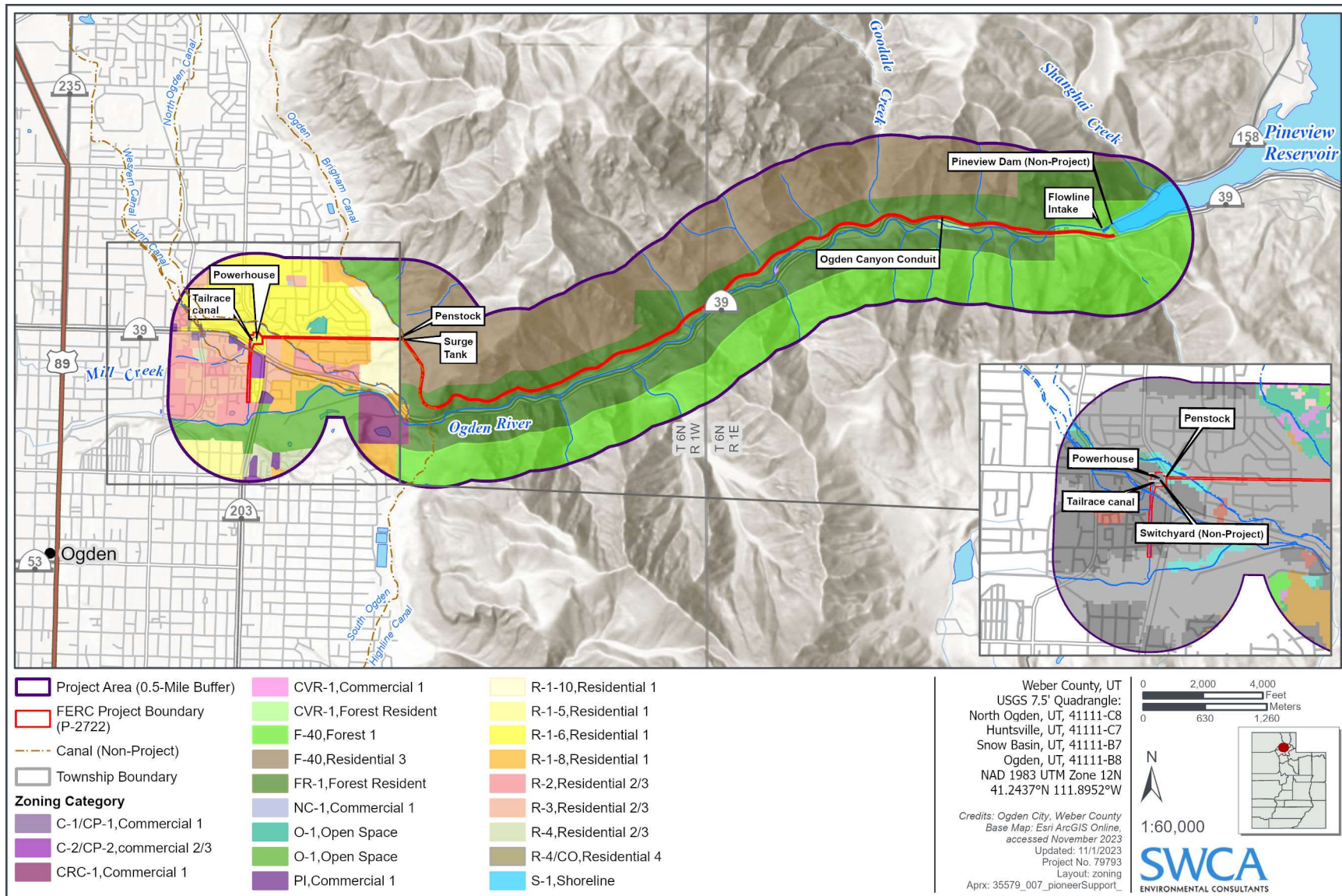


FIGURE 6-10 WEBER COUNTY ZONING CLASSIFICATIONS WITHIN THE PROJECT AREA

6.9.2 LAND COVER

Land cover within the Project Area was estimated by analyzing the Multi-Resolution Land Characteristics (MRLC) Consortium's National Land Use Cover Database, which provides land use information by generalizing land cover within an area (MRLC Consortium 2021). As depicted on Figure 6-11 and summarized in Table 6-15, predominant land cover within the Project Area is overwhelmingly classified as Shrub/Scrub (37.3%), Evergreen Forest (22.9%), and Deciduous Forest (10.6%), which is unsurprising because the majority of lands within 0.5 mile of the Project Boundary within Ogden Canyon are on either undeveloped PacifiCorp or other private lands, or on the Uinta-Wasatch-Cache National Forest. The next most prominent land cover classifications are Developed, Low Intensity (9.7%), Developed, Open Space (7.1%), and Developed, Medium Intensity (6.6%) due to the west end of the Pioneer Project (surge tank, penstock, powerhouse, and tailrace) being within the City of Ogden as it exits Ogden Canyon.

6.9.1 ENVIRONMENTAL EFFECTS

Regardless of the potential changes to the FERC Project Boundary, no maintenance, operational, or land use or ownership changes are anticipated under the Proposed Action. No environmental effects on land use are expected under the Proposed Action.

TABLE 6-15 NATIONAL LAND COVER DATABASE LAND COVER IN THE PROJECT AREA

LAND COVER	DESCRIPTION OF CLASSIFICATION	ACREAGE	PERCENTAGE OF PROJECT AREA
Shrub/Scrub	Areas dominated by shrubs; less than 5 meters tall with shrub canopy typically greater than 20% of total vegetation. This class includes true shrubs, young trees in an early successional stage, or trees stunted from environmental conditions.	1,749.0	37.3
Evergreen Forest	Areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. More than 75% of the tree species maintain their leaves all year. Canopy is never without green foliage.	1,074.0	22.9
Deciduous Forest	Areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. More than 75% of the tree species shed foliage simultaneously in response to seasonal change.	496.0	10.6
Developed, Low Intensity	Includes areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 20 to 49% of total cover. These areas most commonly include single-family housing units.	452.8	9.7
Developed, Open Space	Includes areas with a mixture of some constructed materials, but mostly vegetation in the form of lawn grasses. Impervious surfaces account for less than 20% of total cover. These areas most commonly include large lot single-family housing units.	334.0	7.1
Developed, Medium Intensity	Includes areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 50 to 79% of the total cover. These areas most commonly include single-family housing units.	311.5	6.6
Cultivated Crops	Areas used for the production of annual crops, such as corn, soybeans, vegetables, tobacco, and cotton, and also perennial woody crops such as orchards and vineyards. Crop vegetation accounts for greater than 20% of total vegetation. This class also includes all land being actively tilled.	123.6	2.6
Woody Wetlands	Areas where forest or shrubland vegetation accounts for greater than 20% of vegetative cover and the soil or substrate is periodically saturated with or covered with water.	37.9	0.8
Developed, High Intensity	Includes highly developed areas where people reside or work in high numbers. Examples include apartment complexes, row houses and commercial/industrial uses. Impervious surfaces account for 80 to 100% of the total cover.	36.6	0.8

LAND COVER	DESCRIPTION OF CLASSIFICATION	ACREAGE	PERCENTAGE OF PROJECT AREA
Open Water	All areas of open water, generally with less than 25% cover of vegetation or soil.	34.0	0.7
Hay/Pasture	Areas of grasses, legumes, or grass-legume mixtures planted for livestock grazing or the production of seed or hay crops, typically on a perennial cycle. Pasture/hay vegetation accounts for greater than 20% of total vegetation.	22.2	0.5
Grassland/Herbaceous	Areas dominated by graminoid or herbaceous vegetation, generally greater than 80% of total vegetation. These areas are not subject to intensive management such as tilling but can be utilized for grazing.	16.3	0.4
Mixed Forest	Areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. Neither deciduous nor evergreen species are greater than 75% of total tree cover.	3.8	0.1

Source: MRLC Consortium (2021).

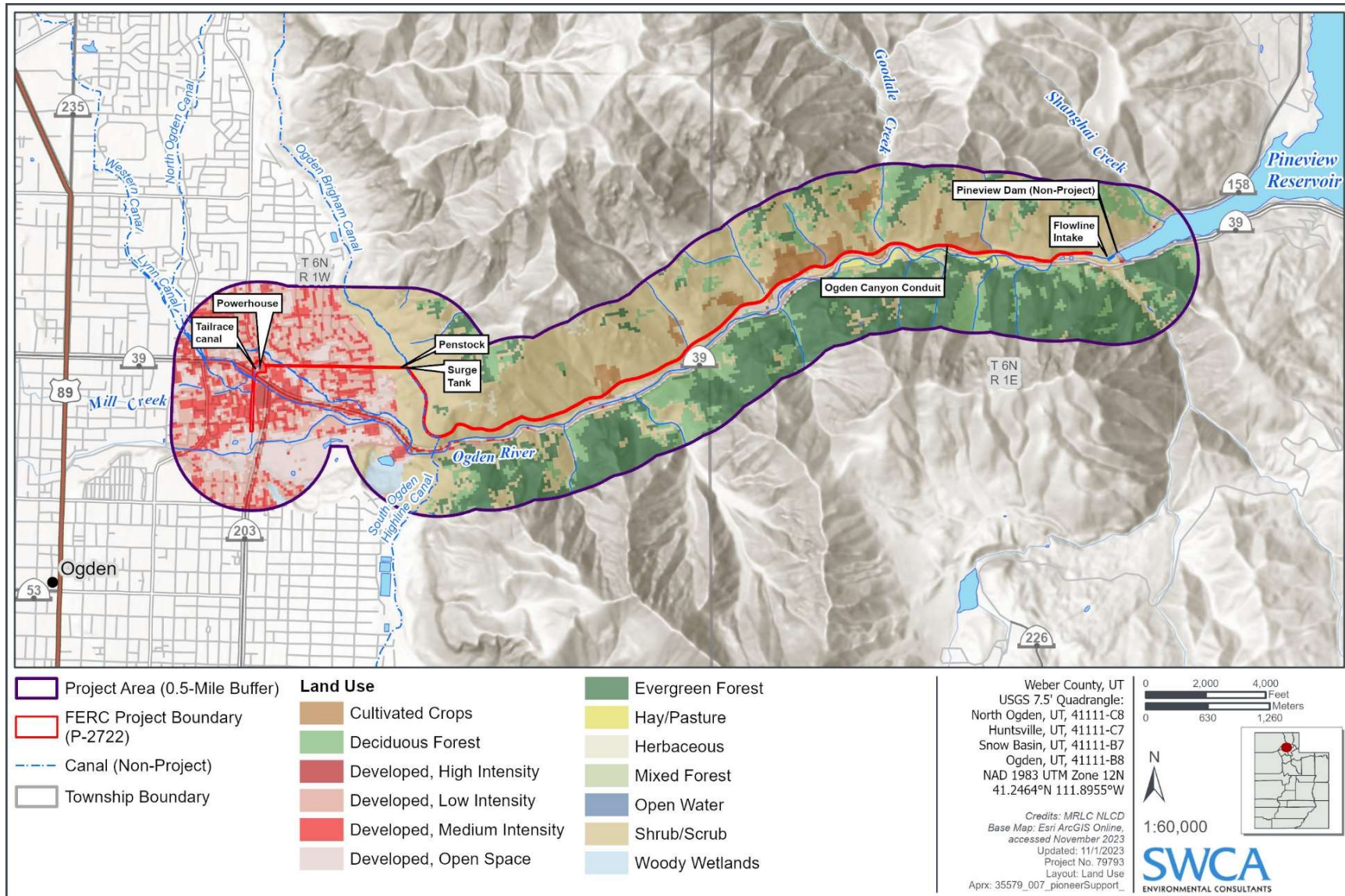


FIGURE 6-11 LAND COVER IN THE PROJECT AREA (PER NATIONAL LAND COVER DATABASE)

6.10 AESTHETIC AND VISUAL RESOURCES

This section provides a summary of the aesthetic and visual resources known to occur within the Project Vicinity (for the purposes of this chapter, this is defined as a 1-mile buffer around the Project Boundary) based on a review of available literature and documents (Figure 6-12). The 1-mile buffer distance for Project Vicinity was determined based on the limited extent of modification proposed by the Pioneer Project, degree of surrounding development around the Project in the City of Ogden, and the steep and enclosed topography surrounding the Pioneer Project in Ogden Canyon. Due to the limited footprint of the Project Boundary, visual resources for the Pioneer Project were primarily analyzed within the Project Vicinity.

6.10.1 VISUAL CHARACTER OF PROJECT LANDS

The Pioneer Project now (since the construction of Pineview Dam and Reservoir) begins at the valve where water enters the Ogden Canyon Conduit. The floor of the canyon is heavily developed with numerous homes, a road, and a transmission line, although an almost complete tree canopy cover has been developed and maintained which obscures the visual impact of the residential development. The steepness of the canyon walls limit development to the base of these slopes. The surge tank, located on a sparsely vegetated slope at the mouth of Ogden Canyon, is visible from several vantage points in East Ogden. The penstock extends underground from the surge tank to the Pioneer Powerhouse. The Pioneer Powerhouse and associated buildings are in the City of Ogden at the intersection of what has become 12th Street (Canyon Road) and Harrison Boulevard. The Pioneer facilities and associated transmission and distribution lines are visible from some bordering streets, although the tree canopy surrounding the shop, office, and other parts of the powerhouse-associated structures also obscures many views of the powerhouse area. The surrounding area is developed with residential and commercial structures. The tailrace runs through residential neighborhoods, although a portion is also covered, revegetated, and fenced (PacifiCorp 1998).

6.10.2 VISUAL CHARACTER OF PROJECT VICINITY

Aesthetic or visual resources are the visible, physical features of a landscape that have an aesthetic value (i.e., scenic beauty) to viewers at typical viewing locations (residences, recreational areas, and vehicular travel routes). Physical features that make up the visible

landscape include landforms and topography, water, vegetation, and human-made features (i.e., roadways, structures, and buildings). All these features contribute to the landscape and the visual character of an area. Within the Project Vicinity, the characteristic landscapes are split between two distinct ecoregions between the eastern and western portions of the Project Vicinity. The visual character within these two landscape types can be defined through the EPA Level IV ecoregions and their components. The ecoregions within the Project Vicinity include the Moist Wasatch Front Foothslopes (Basin and Range physiographic province on the west side of the Project Vicinity) and the Semiarid Foothills (Middle Rocky Mountains physiographic province on the east side of the Project Vicinity) (EPA 2022e).

The Moist Wasatch Front Foothslopes ecoregion includes foothill landforms leading to more prominent peaks, alluvial fans, and deltas associated with mountain-fed perennial streams that provide water to the flat valley below the canyon. Natural vegetation in this ecoregion includes a mix of conifer and deciduous trees, shrubs and tall grasses as well as residential planting of ornamental trees in the developed areas of the valley and the canyon floor. Human development in this ecoregion ranges from urban development, including industrial and commercial, to suburban residential areas (concentrated within and around the City of Ogden) with dispersed rural agriculture and livestock (EPA 2022e).

The Semiarid Foothills ecoregion includes lower mountain slopes, foothills, ridgetops, and alluvial fans in the semiarid mountainous region. The deep V-shape of the canyon that cuts through this region provides a continual and strong enclosed directional corridor for observers. The Ogden River winds back and forth under Ogden Canyon Road (Ogden River Scenic Byway) and, upon exiting the canyon, flows parallel to the road. The river is fed by Pineview Reservoir and Dam at the very eastern border of the Project Boundary. Within the mountain slopes and canyon, perennial streams and waterfalls can be found that originate higher in the mountains. The still and flowing clear waters of the Ogden River and tributary streams add to the canyon's visual appeal. The higher elevations in these mountains are subject to yearly snow cover, which is a major water source for the surrounding areas. Vegetation in this area consists of conifer and deciduous trees, shrubs, and sparse grasses (EPA 2022e). Seasonal variation of vegetation in this area is common moving from spring (bright greens) to fall (yellows, oranges, and reds) and adds to the visual interest and picturesque scenery of the area. Textures throughout the canyon,

including vegetation and soils, are mostly fine with vegetation appearing mostly in patches with sections of flowing corridors over the mountains. Human development in this area is more limited than in the adjacent valley and consists of roadways and small clusters of residences and commercial businesses (e.g., restaurants, inns, spas).

Within the Project Vicinity, there are numerous residential areas. There is an increased concentration of residences and commercial areas in the western portion of the Project Vicinity in the Ogden Valley. The residential areas in the western portion of the Project Vicinity include housing types from single family residences to multi-family residences and a variety of commercial and industrial areas (Ogden City 2023b). In the eastern portion of the Project Vicinity, residential areas become more dispersed and occur in smaller clusters along the Ogden River and the canyon bottom with enclosed terrain and increased vegetation surrounding residences. These small development areas in Ogden Canyon include Fairmont and Hermitage.

Within the Project Vicinity there are numerous recreational areas that would be visited both by locals and tourists, such as the UDWR's Ogden River Angler Access Wildlife Management Area, the Uinta-Wasatch-Cache National Forest, Pineview Reservoir, and various hiking trails and local parks. Viewers in these areas would be sensitive to changes in the visual environment because they would likely be visiting these scenic areas for recreation.

In the eastern portion of the Project Vicinity, there is one main roadway (Ogden Canyon Road) with some smaller roads to feed the scattered residential areas. As noted above, the Ogden River Scenic Byway is an approximately 30-mile canyon and alpine drive traveling east from Ogden to the eastern boundary of the Uintah-Wasatch-Cache National Forest. The initial stretch of the byway traverses along Ogden River through Ogden Canyon near the Project Boundary before circling Pineview Reservoir and continuing east to Monte Cristo Peak and through mountain meadows and forests (Visit Utah 2023). In the western portion of the Project Vicinity there are numerous roadways with varying levels of traffic intensity ranging from larger, five-to-six lane roadways like Utah State Route 39 and Harrison Boulevard to smaller, two-lane residential roadways.

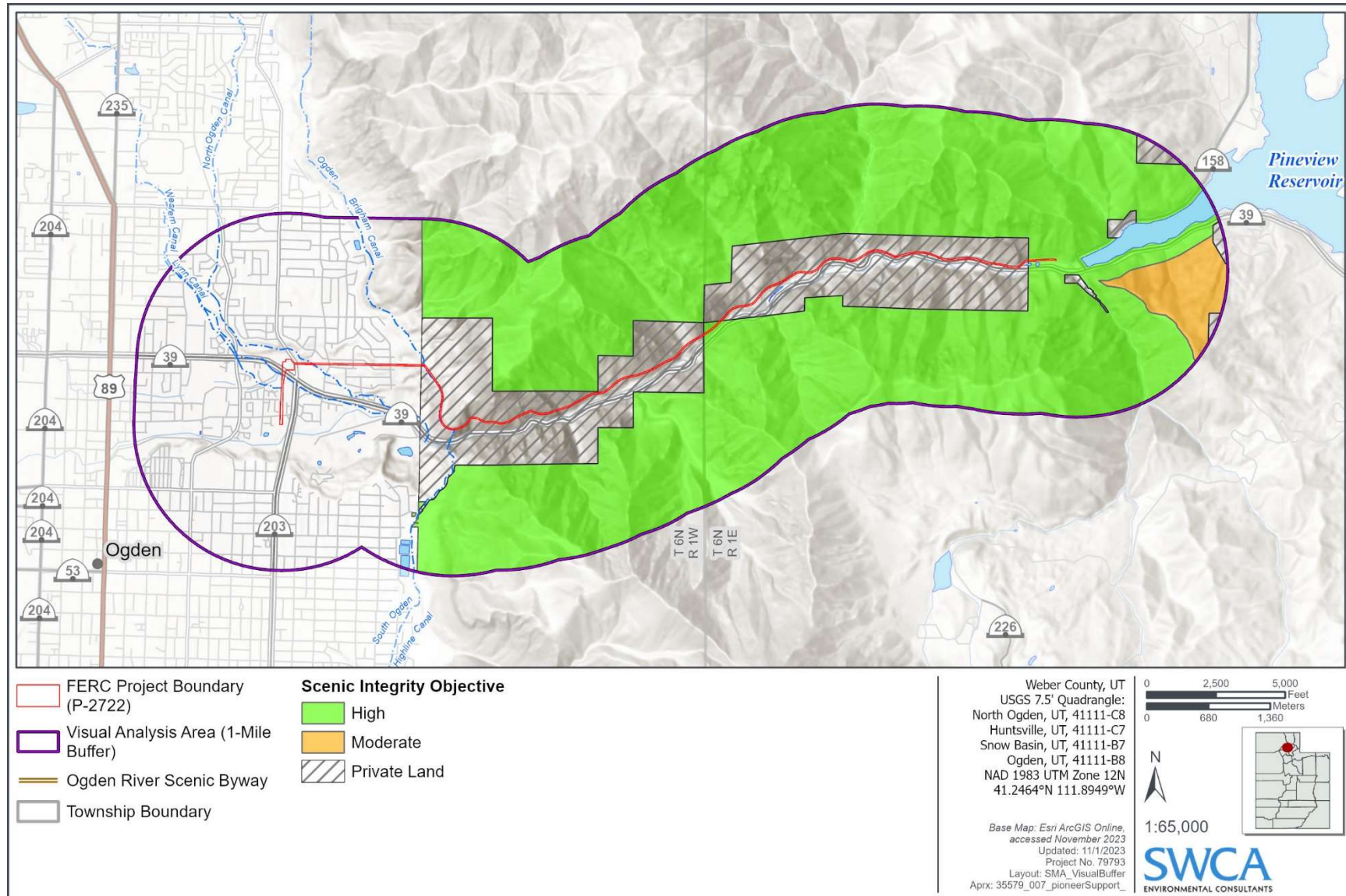


FIGURE 6-12 VISUAL RESOURCES IN THE PROJECT VICINITY

6.10.3 FEDERAL AND LOCAL VISUAL RESOURCE PLANNING OBJECTIVES

6.10.3.1 U.S. FOREST SERVICE SCENERY MANAGEMENT SYSTEM

USFS-managed lands in the Project Vicinity are contained within the Uinta-Wasatch-Cache National Forest and are managed under the Forest Plan. The USFS has inventoried lands in the Project Vicinity as part of the SMS associated with the development of the Forest Plan. The SMS is used to systematically determine the relative value of scenery on USFS-managed lands (USFS 1995). The process involves identifying scenic components as they relate to people, mapping the components, and assigning a value for aesthetics. These components are described as one of five Landscape Character Themes with landscape character descriptions and Scenic Integrity Objectives (SIOs) (USFS 2003).

The landscape character themes for the USFS portion of the Project Vicinity are Natural Appearing (5,662.8 acres; 96.2%) for most USFS lands in Ogden Canyon and Water Recreation Rural Appearing (224.8 acres; 3.8%) for USFS lands surrounding Pineview Reservoir (USFS 2003). The Natural Appearing theme has been influenced by both direct and indirect human activities but appears natural to most viewers. Natural elements such as native trees, shrubs, grasses, forbs, rock outcrops and streams or lakes dominate the views. While there is evidence of human influence from historic use, campgrounds, small organization camps, rustic structures and management activity, it is part of the valued built environment in the landscape to the majority of viewers (USFS 2003). The Water Recreation Rural Appearing theme is characteristic of Pineview Reservoir recreation complex. The scenic qualities of Ogden Valley attract visitors, and maintaining rural character is important to many landowners in this area. In these areas recreation amenities are the main attraction for people and why they come to an area. The cultural setting of farms, fields, pastures, influences development on the private lands. Housing, businesses, roads, and other developments dominate some views (USFS 2003).

The SIO classifications for the USFS portion of the Project Vicinity are identified as High (5,687.8 acres; 96.6%) for most USFS lands in Ogden Canyon and Moderate (199.8 acres; 3.4%) for a tract of land south of Pineview Dam and Reservoir (USFS 2003). A High SIO is defined as: the characteristic landscape appears intact; deviations may be present, but should repeat form, line, color, texture, and pattern common to the landscape character so completely and at such a scale that they are not evident (USFS 2003). A Moderate SIO is defined as: noticeable deviations

in the viewed landscape must remain visually subordinate to the landscape character being viewed. For example, clearings created by timber harvest are evident, but the natural character of the landscape is still the primary influence of the view (USFS 2003).

The scenic byway is noted in the Forest Plan as Highway 39–Mouth of Ogden Canyon–Monte Cristo Segment. USFS scenic byways are classified as a special management area under the Forest Plan, and the Ogden River Scenic Byway is also designated as a High SIO (USFS 2003). Scenic byways are managed to protect and maintain their outstanding scenic quality.

Two SMS guidelines were identified in the Forest Plan to assess conformance with scenery management (USFS 2003):

- G59: Manage forest landscapes according to Landscape Character Themes and SIOs as mapped (USFS 2003:4–48).
- G60: Resource management activities should not be permitted to reduce scenic integrity below objectives stated for management prescription categories (USFS 2003:4–48).

6.10.3.2 COUNTY AND LOCAL PLANS

PacifiCorp has reviewed the following county and local plans: the General Plan 2016 (Weber County 2019), the *Ogden City General Plan* (Ogden City 2002a), and Canyon Road Community Plan (Ogden City 2002b). The Pioneer Project is in conformance with the goals or objectives of these plans.

6.10.4 ENVIRONMENTAL EFFECTS

A very small portion of the current Project Boundary, specifically those lands (approximately 1 acre) surrounding the Project intake, are on Reclamation-managed lands within the Uinta-Wasatch-Cache National Forest. Under the Proposed Action, these Project features and lands would be excluded from the Project Boundary, resulting in no Reclamation-managed lands associated with the Project. However, there would be no changes to facilities or operations under the Proposed Action; therefore, no new visual contrasts or impacts to current scenic designations or lands are anticipated. This includes no modification to the area's landscape (scenic) character or changes in views from residences, recreation areas, or travel routes, including the Ogden River Scenic Byway (Utah State Route 39).

6.11 SOCIOECONOMIC RESOURCES

This section provides the socioeconomic context of the Project Vicinity, which for the purposes of this socioeconomic analysis, consists of Weber County and the City of Ogden. References to statewide socioeconomic conditions are included for context. Ogden is the largest city near the Pioneer Project and is within Weber County, between the Great Salt Lake and Pineview Reservoir, and approximately 40 miles north of Salt Lake City.

6.11.1 POPULATION PATTERNS AND DIVERSITY

The U.S. Census Bureau (U.S. Census) estimated the population of Ogden to be 87,321 people. The population of Weber County was estimated to be 262,223 people (U.S. Census 2023a, 2023b).

Per 2022 census estimates, the U.S. Census estimates that the ethnic composition of the City of Ogden is primarily residents who identify as “white alone” (79.1%); “white alone, not Hispanic or Latino” (61.9%); or “Hispanic and Latino of any race” (30.3%). Table 6-16 provides percentages of the ethnic groups represented in U.S. Census data for Utah, Weber County, and Ogden (U.S. Census 2023c).

TABLE 6-16 RACE AND ETHNICITY IN UTAH, WEBER COUNTY, AND OGDEN

RACE AND ETHNICITY	UTAH (%)	WEBER COUNTY (%)	OGDEN (%)
American Indian and Alaska Native alone	1.5%	1.4%	13%
Asian alone	2.8%	1.7%	1.4%
Black or African American alone	1.6%	1.8%	1.9%
Hispanic or Latino	15.1%	19.2%	30.3%
Native Hawaiian and Pacific Islander alone	1.2%	0.4%	0.3%
White alone, not Hispanic or Latino	76.7%	74.9%	61.9%
Two or More Races	2.9%	2.9%	7.7%
White alone	90.0%	91.8%	79.1%

Sources: U.S. Census (2023c, 2023d, 2023e).

As of 2021, approximately 10.7% of Ogden residents (approximately 9,260 people) and approximately 6.3% of Weber County residents (approximately 16,300 people) were born outside the United States (DataUSA 2023a, 2023b). English is the most dominant language spoken at home (77.5% Ogden; 85.8% Weber County), followed by Spanish (19.8%; 11.7%), other Indo-European languages (1.4%; 1.3%), Asian and Pacific Islander languages (1.1%; 1.1%), and other languages (0.2%; 0.2%) (U.S. Census 2023a, 2023b).

People in Ogden and Weber County aged 19 or younger make up 28.2% and 30.7% of the population, respectively (U.S. Census 2023f). Table 6-17 includes information about this and other age groups in the Project Vicinity.

TABLE 6-17 AGE GROUPS IN UTAH, WEBER COUNTY, AND OGDEN

AGE	UTAH (%)	WEBER COUNTY (%)	OGDEN (%)
Under 5 years	7.9%	7.8%	7.3%
Under 19 years	32.4%	30.7%	28.2%
65 years and over	11.0%	11.7%	11.1%

Sources: U.S. Census (2023f).

6.11.2 HOUSEHOLD DISTRIBUTION, INCOME, AND EMPLOYMENT

In the early 1900s, Ogden was the transfer point between the Union Pacific and Central Pacific railroads, resulting in more millionaires per capita in Ogden than any other city in the United States at that time. The eventual replacement of rails with interstates and passenger jets led to Ogden's economic depression between 1950 and the late 1990s. The 2002 Winter Olympics revived the city, however, and Ogden is now known for outdoor recreation, aerospace, advanced manufacturing, and the information technology/software sector (Ogden City 2023b).

There are a total of 34,269 occupied households in Ogden and 95,099 occupied households in Weber County; of those households, 13,378 (41.0%) and 53,585 (57.7%) are occupied by married-couple families, respectively. The median household income (in 2020 dollars) for Ogden (\$67,102) is lower than the median household income for Weber County and Utah (\$83,949 and \$89,168, respectively) (U.S. Census 2023a, 2023b, 2023g). The poverty rate for Ogden (12.4%) is slightly lower than the nationwide percentage (12.6%) and higher than the statewide percentage (8.2%) and Weber County percentage (7.8%) (U.S. Census 2023a, 2023b, 2023c).

Homeownership in Ogden (60.3%) is below the statewide and nationwide averages (71.2% and 65.2%, respectively), but homeownership in Weber County (73.6%) is above the statewide and nationwide averages (U.S. Census 2023a, 2023b, 2023c). Most homes in Ogden are valued between \$300,000 and \$499,999 (52.0%), followed by those valued between \$200,000 and \$299,999 (19.4%) (U.S. Census 2023a). Most homes in Weber County are valued between \$300,000 and \$499,999 (45.5%), followed by those valued between \$200,000 and \$299,999 (115%) (U.S. Census 2023b).

Most employees in industries in Ogden and Weber County work for a private company (65.3% and 65.1%, respectively) (U.S. Census 2023a, 2023b). The employment rates for Ogden, Weber County, and Utah (65.1%, 67.3%, and 67.8%, respectively) exceed the national employment rate (60.3%) (U.S. Census 2023a, 2023b). Table 6-18 provides industry information for the civilian employed population 16 years and over and Table 6-19 describes worker occupation for the Project Vicinity.

TABLE 6-18 MAJOR INDUSTRIES IN THE PROJECT VICINITY

INDUSTRY	WEBER COUNTY (%)	OGDEN (%)
Agriculture, forestry, fishing and hunting, and mining	0.7%	0.5%
Construction	9.5%	9.2%
Manufacturing	12.5%	11.2%
Wholesale trade	2.3%	3.2%
Retail trade	0.5%	11.3%
Transportation and warehousing	5.4%	5.9%
Information	1.1%	1.6%
Finance and insurance, and real estate and rental and leasing	6.7%	5.3%
Professional, scientific, and management, and administrative and waste management services	9.9%	7.4%
Educational services, and health care and social assistance	20.3%	20.8%
Arts, entertainment, and recreation, and accommodation and food services	7.6%	8.8%
Other services, except public administration	3.7%	3.7%
Public administration	10.8%	10.8%

Sources: U.S. Census (2023a, 2023b).

Workers in Ogden and Weber County spend an average of 21 minutes commuting to work, and the majority (70.5% and 69.0%, respectively) drive to work alone (U.S. Census 2023a, 2023b). Other means of transportation to work include carpool (8.3% Ogden; 10.9% Weber County), public transportation (1.9% Ogden; 1.3% Weber County), walking (1.9% Ogden; 1.2% Weber County) or using other means (0.8% Ogden; 1.3% Weber County) (U.S. Census 2023a, 2023b). Some workers (16.6% Ogden; 16.2% Weber County) do not commute, and instead work from home (U.S. Census 2023a, 2023b). The mean workweek for employees in Ogden and Weber County is 38.7 and 37.9 hours per week, respectively (U.S. Census 2023a, 2023b).

TABLE 6-19 MAJOR OCCUPATIONS IN THE PROJECT VICINITY

OCCUPATION	WEBER COUNTY		CITY OF OGDEN	
	NUMBER OF WORKERS	PERCENTAGE OF TOTAL	NUMBER OF WORKERS	PERCENTAGE OF TOTAL
Management, business, science, and arts occupations	55,868	44%	12,307	28%
Service occupations	21,826	17%	6,564	15%
Sales and office occupations	27,334	21%	9,295	21%
Natural resources, construction, and maintenance occupations	13,055	10%	4,886	11%
Production, transportation, and material moving occupations	21,819	17%	9,607	22%

Sources: U.S. Census (2023a, 2023b).

6.11.3 EDUCATION

The percentage of people in Ogden over the age of 25 who have obtained a high school degree or higher (88.4%) is not as high as in Weber County or Utah (92.5% and 93.0%, respectively) (U.S. Census 2023a, 2023b, 2023c). Table 6-20 provides the percentages of residents in the Project Vicinity by level of education attained.

TABLE 6-20 EDUCATIONAL ATTAINMENT IN THE PROJECT VICINITY

EDUCATIONAL ATTAINMENT	WEBER COUNTY (%)	OGDEN (%)
High school or equivalent degree	28.5%	32.5%
Some college, no degree	24.7%	22.0%
Associate's degree	10.5%	8.3%
Bachelor's degree	19.0%	18.0%
Graduate or professional degree	9.8%	7.6%

Sources: U.S. Census (2023a, 2023b).

In 2021, universities in Ogden awarded 7,454 degrees; universities that awarded the most degrees were Weber State University (6,445 and 86.5%), Ogden-Weber Technical College (945 and 12.7%), and Paul Mitchell the School–Ogden (64 and 0.9%) (DataUSA 2023a). The most popular majors were general studies (1,560 and 20.9%), registered nursing (734 and 9.9%), and computer science (291 and 3.9%) (DataUSA 2023a).

The student population of Ogden, Weber County, and Utah (55.1%, 55.1%, and 57.6%, respectively) consists of more women than men (DataUSA 2023a, 2023b, 2023c). The annual median cost of tuition for the public 4-year colleges in Ogden is \$5,329 for in-state students and \$15,475 for out-of-state students (DataUSA 2023a). Most students graduating from Ogden universities are white (5,652 and 76.8%), followed by Hispanic or Latino (873 and 11.9%), unknown (328 and 4.5%), and two or more races (216 and 2.9%) (DataUSA 2023a).

6.11.4 PROJECT EMPLOYMENT SOURCES

PacifiCorp, owner and operator of the Project, employs approximately 6,000 people throughout Washington, Oregon, California, Idaho, Utah, and Montana. The Project is operated by two full-time employees (who share operations another nearby PacifiCorp hydroelectric plant, the Weber Project, FERC Project No. 1744) with occasional support from seasonal summer positions. Another five full-time maintenance employees switch duties between this Project and the 15 other PacifiCorp hydropower facilities across Idaho and Utah (PacifiCorp 2023). There are also eight PacifiCorp renewable resources staff and additional management and contractors that support the PacifiCorp hydroelectric projects in Idaho and Utah.

6.11.5 ENVIRONMENTAL EFFECTS

Under the Proposed Action, no adverse impacts to socioeconomics are expected, as no changes to the operation or maintenance of any parts of the Project are proposed to change. No environmental effects on socioeconomics are expected under the Proposed Action.

6.12 ENVIRONMENTAL JUSTICE

6.12.1 INTRODUCTION

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, applies to federal agencies that conduct activities that may substantially affect human health or the environment. In addition, Executive Order 13985, Advancing Racial Equity and Support for Underserved Communities Through the Federal Government, sets expectations for a whole-of-government approach to advancing equity for all. Therefore, consistent with these executive orders and the Council for Environmental Quality's environmental justice guidance under the National Environmental Policy Act, PacifiCorp has reviewed the EPA's environmental justice tool (EJScreen) for the Project Vicinity (defined as a 1-mile radius around the Project Boundary for the purposes of this chapter).

6.12.2 RESULTS

According to EPA's EJScreen report, the EJScreen radius covers an area of 15.84 square miles and an approximate population of 17,813 people (EPA 2023a). Table 6-21 below provides the Environmental Justice Index (EJ Index) values for the EJScreen radius and presents the state and national percentile. Table 6-22 provides the socioeconomic indicators (SI) index value, as well as presenting the state and national percentiles.

The national and state percentiles represent the percentage of the United States or state population that has an equal or lower value, or less potential for exposure, risk, or proximity to certain facilities, or a lower percent minority. EJ Indexes combine demographic factors with a single environmental factor, although the index does not combine various environmental factors into a cumulative score. Each environmental indicator has its own EJ Index. The supplemental index (i.e., SI) uses the same methodology as the EJ Index but incorporates a five-factor supplemental demographic index to display areas with the highest intersection between socioeconomic factors and the environmental indicator (EPA 2023b). EJScreen also records

socioeconomic indicators as they relate to the state and national percentiles. Percentiles greater than 50 indicate that occurrences of the indicator are greater than the state or national average (see Table 6-22).

The population in this area is above the 50th percentile in the state for particulate matter (65th percentile), ozone (72nd percentile), diesel particulate matter (60th percentile), air toxics cancer risk (80th percentile), air toxic respiratory hazards (76th percentile), traffic proximity (60th percentile), lead paint (86th percentile), superfund proximity (80th percentile), risk management plan facility proximity (70th percentile), and underground storage tanks (84th percentile) (see Table 6-21). This means that residents in this Project Vicinity are more likely to be exposed to risks from the listed hazards and are, on average, greater distances from risk management facilities than most residents of the state (EPA 2023a).

This population is also above the 50th percentile nationally for ozone (97th percentile), diesel particulate matter (60–70th percentile), traffic proximity (66th percentile), lead paint (71st percentile), superfund proximity (86th percentile), risk management plan facility (66th percentile), underground storage tanks (76th percentile), and wastewater discharge (79th percentile) (see Table 6-21). This means that residents in the Project Vicinity are more likely to be exposed to risks from the listed hazards and are, on average, greater distances from risk management facilities than most residents of the nation (EPA 2023a).

The same population had lower state percentile scores in hazardous waste proximity and wastewater discharge (46th percentile and 39th percentile, respectively) meaning that the majority of residents in this block group are less likely to be exposed to risks from hazardous waste or wastewater discharges than the average resident of the state (EPA 2023a) (see Table 6-21).

Additionally, despite scoring higher for statewide exposure to particulate matter and air toxics pertaining to hazards and cancer risk, the same population had national percentile scores less than 50 (see Table 6-21). This means that residents in the Project Vicinity are less likely to be exposed to the above indices than most residents of the nation (EPA 2023a) (see Table 6-22).

TABLE 6-21 EJSscreen ENVIRONMENTAL JUSTICE INDEXES FOR THE PROJECT VICINITY

EJ INDEX	STATE PERCENTILE ^A	U.S. PERCENTILE ^A
Particulate matter 2.5 (µg/m ³)	65	39
Ozone (ppb)	72	97
Diesel particulate matter (µg/m ³) ^b	63	60–70
Air toxics cancer risk (lifetime risk per million) ^b	80	< 50
Air toxics respiratory hazard index ^b	76	< 50
Traffic proximity (daily traffic count/distance to road)	60	66
Lead paint (% pre-1960 housing)	86	71
Superfund proximity (site count/km distance)	80	86
Risk management plan facility proximity (facility count/km distance)	70	66
Hazardous waste proximity (facility count/km distance to facility)	46	41
Underground storage tanks (count/km ²)	84	76
Wastewater discharge (toxicity-weighted concentration/meter distance to discharge)	39	79

Source: EPA (2023a).

Notes: µg/m³ = micrograms per cubic meter; km = kilometer; ppb = parts per billion.

^a Percentiles are a way to see how local residents compare to others. Instead of just showing numbers out of context, EJSscreen lets you compare a community to the rest of the state, EPA region, and nation by using percentiles. The percentile shows what percent of the population has an equal or lower value, meaning less potential for exposure/risk/proximity to certain facilities or a lower percent minority.

^b Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update (EPA 2023c), which is the EPA's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at <https://www.epa.gov/haps/air-toxics-data-update>.

TABLE 6-22 EJSscreen SOCIOECONOMIC INDICATORS IN THE PROJECT VICINITY

SOCIOECONOMIC INDICATOR	STATE PERCENTILE ^A	U.S. PERCENTILE ^A
Demographic index	75	56
People of color	76	52
Low income	72	62
Unemployment rate	68	53
Limited English-speaking households	70	60
Less than high school education	79	62
Under age 5	68	80
Over age 64	55	34

Source: EPA (2023a).

^a Percentiles are a way to see how local residents compare to others. Instead of just showing numbers out of context, EJSscreen lets you compare a community to the rest of the state, EPA region, and nation by using percentiles. The percentile shows what percent of the population has an equal or lower value, meaning less potential for exposure/risk/proximity to certain facilities or a lower percent minority.

6.12.3 ENVIRONMENTAL EFFECTS

The Proposed Action is not anticipated to contribute to long-term or short-term changes to the EJ Index values or SI in the Project Vicinity, as no changes to Project operation or maintenance are anticipated as a result of the Proposed Action. No unavoidable adverse impacts to environmental justice are anticipated; therefore, no environmental effects on environmental justice resources are expected under the Proposed Action.

7.0 PROPOSED STUDIES AND PROTECTION, MITIGATION, AND ENHANCEMENT MEASURES

Per 18 CFR 4.38(b)(2)(vii), detailed descriptions of any proposed studies and the PME measures to be employed are required of an ICD. PacifiCorp's proposed studies and PME measures are outlined in Table 7-1. As discussed throughout this document, there would be no construction of new facilities, physical changes to current facilities, or changes to Project operations or maintenance activities under the Proposed Action. The Project Boundary would be altered to more appropriately describe the actual Project operation features and remove now unrelated Project lands surrounding the current intake, Ogden Canyon Conduit, and surge tank. The Proposed Action would not impact ownership, operation, or maintenance of the flowline and surge tank; ownership of the flowline and surge tank would continue to be shared between Reclamation and PacifiCorp, with PacifiCorp continuing to pay a percentage of the maintenance. All operational and maintenance activities would continue to be undertaken by the Ogden River Water Users' Association. All current contracts and agreements with both Reclamation and the Ogden River Water Users' Association dictating ownership, operation, or maintenance of the flowline and surge tank would remain in place to manage those facilities into the future. PacifiCorp currently has no control over the Project intake, nor any of the operations and maintenance activities that take place, other than to pay for a set portion of the costs. PacifiCorp and Ogden Canyon Conduit managers will continue to comply with the dam and conduit public safety requirements of the Utah Division of Dam Safety.

As a result, and due to the largely administrative nature of the Proposed Action, PacifiCorp does not anticipate any data gaps or impacts that would result in the need for additional studies or mitigation measures. However, as noted above, PacifiCorp will retain its responsibility to cooperate financially (as all Ogden Canyon Conduit users do) on flowline and surge tank inspection and maintenance activities in coordination with Reclamation. Although inspection of safety and security of that portion of the flowline would become the responsibility of the Utah Division of Dam Safety, PacifiCorp will continue to implement its Owner's Dam Safety Program measures. Further, PacifiCorp will develop a Historic Property Management Plan to formally guide continued cultural resource protection and management on the remaining Project lands. Unless otherwise noted, PacifiCorp will conduct any necessary studies or develop proposed

resource management plans in 2024 following additional scoping and potential study planning, if necessary, according to the three-stage consultation process.

TABLE 7-1 PROPOSED STUDIES AND PROTECTION, MITIGATION, AND ENHANCEMENT MEASURES

RESOURCE AREA	PME MEASURES ^a
Cultural Resources	Develop a Historic Property Management Plan to guide continued cultural resource protection and management.
Public Safety	Continue Owner's Dam Safety Program measures.

^a Denotes a PME measure as opposed to a study.

8.0 STATEMENT OF PUBLIC UTILITY REGULATORY POLICIES ACT BENEFITS

PacifiCorp is a domestic corporation and is not claiming preference under Section 7(a) of the Federal Power Act nor seeking benefits under Section 210 of the Public Utility Regulatory Policies Act of 1978.

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APPENDIX A
EARLY CONSULTATION RECORD

January 17, 2024 Meeting Correspondence

Identified Agencies

From: [Matthew Harper](#)
To: [chrispenne@utah.gov](#); [charles.rosier@usda.gov](#); [Gomben, Pete - FS, UT](#); [Christine Osborne](#); [george_weekley@fws.gov](#); [dannette_weiss@fws.gov](#); [pcrookston@usbr.gov](#); [Kent Wilkerson](#) ([kent@weberriver.org](#)); [tanner.cox@tu.org](#); [White, Brittany L](#); [Jeff Humphrey](#); [Darren Hess](#)
Cc: [Davies, Eve \(PacifiCorp\)](#); [Trevor Herritt](#); [Nuria Holmes](#)
Subject: RE: Pioneer Hydroelectric Project: Conduit Exemption Application & Preliminary Meeting for Key Stakeholders
Date: Wednesday, January 24, 2024 3:12:00 PM
Attachments: [image001.png](#)
[20240117_PioneerHydro_ConduitExemptionMeeting_Notes.pdf](#)
[20240117_PioneerHydro_ConduitExemptionMeeting_Presentation.pdf](#)

Good afternoon,

On behalf of Eve, Trevor, and myself, thank you again to those that were able to join us last week to informally discuss PacifiCorp's proposal to apply with FERC for the conversion of the Pioneer Project to the more appropriate, conduit exemption classification and correspondingly surrender the current FERC license once a conduit exemption has been granted. As discussed on the call, the formal consultation process will begin with the public distribution of an Initial Consultation Document (ICD) – currently planned for the end of January/early February – that describes the current Project and the proposed action, followed by a formal review/comment period and joint agency meeting and site visit. You will be cc'd on the FERC filing when it is made, and we would be happy to further address any specific comments or question you may have regarding that filing and subsequent comment deadlines.

We would like to invite you and your agency/interested party to provide a vote of support for PacifiCorp's proposal to be included as an appendix to our ICD. If you are willing, this would be as simple as a brief response to this email stating as such. We would also love to hear any feedback, questions, or other comments that you may have regarding the proposal, whether they support the proposed action or not.

Again, we greatly appreciate your time and feedback regarding this proposal so far and look forward to initiating the formal process and discussing further with you and your agency. Please reach out with any questions or concerns.

Eve Davies, Principal Scientist
Renewable Resources, PacifiCorp
1407 West North Temple, Ste. 210
Salt Lake City, Utah 84116
801.220.2245
801.232.1704 (cell)

Matthew Harper | *he, him, his*
SWCA Environmental Consultants
FERC Hydropower Consultant
971.325.5056

Trevor Herritt | *he, him, his*
SWCA Environmental Consultants
Assistant Project Manager, FERC Hydropower
409.504.4161



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From: Matthew Harper

Sent: Monday, January 8, 2024 2:53 PM

To: chrispenne@utah.gov; charles.rosier@usda.gov; Gomben, Pete - FS, UT <Peter.Gomben@usda.gov>; Christine Osborne <cosborne@utah.gov>; george_weekley@fws.gov; dannette_weiss@fws.gov; pcrookston@usbr.gov; Kent Wilkerson (kent@weberriver.org) <kent@weberriver.org>; tanner.cox@tu.org; White, Brittany L <blwhite@usbr.gov>; Jeff Humphrey <jhumphrey@pineviewwater.com>; Darren Hess <dhess@weberbasin.com>

Cc: Davies, Eve (PacifiCorp) <Eve.Davies@PacifiCorp.com>; Trevor Herritt <Trevor.Herritt@swca.com>; Nuria Holmes <nuria.holmes@swca.com>

Subject: RE: Pioneer Hydroelectric Project: Conduit Exemption Application & Preliminary Meeting for Key Stakeholders

Good afternoon,

Thank you all for your responses on availability for a preliminary call to introduce this proposal. The best time for the most folks was for January 17th from 10am to noon MT. Shortly after this email, you'll see a meeting invite for that time slot.

For those that were unable to fill out the doodle poll, please feel free to still accept and join the meeting invite. For those unable to make this time slot, we would be happy to discuss the proposal with you individually, so please reach out. Otherwise, the formal process will begin with the filing of an Initial Consultation Document in early February, followed by a meeting and site visit that will likely be scheduled in March 2024.

Again, thank you all for the quick responses. We look forward to discussing further.

Matthew Harper | *he, him, his*
FERC Hydropower Consultant
971.325.5056



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From: Matthew Harper

Sent: Friday, December 29, 2023 12:14 PM

To: chrispenne@utah.gov; charles.rosier@usda.gov; Gomben, Pete - FS, UT <Peter.Gomben@usda.gov>; jgardberg@utah.gov; george_weekley@fws.gov; dannette_weiss@fws.gov; pcrookston@usbr.gov; Kent Wilkerson (kent@weberriver.org) <kent@weberriver.org>; tanner.cox@tu.org

Cc: Davies, Eve (PacifiCorp) <Eve.Davies@PacifiCorp.com>; Trevor Herritt

<Trevor.Herriott@swca.com>; Nuria Holmes <nuria.holmes@swca.com>

Subject: Pioneer Hydroelectric Project: Conduit Exemption Application & Preliminary Meeting for Key Stakeholders

Good afternoon,

PacifiCorp is the owner, operator, and licensee of the 5.0-megawatt Pioneer Hydroelectric Project (Pioneer Project or Project), Federal Energy Regulatory Commission (FERC) Project No. 2722. The current Project license was issued by FERC on May 26, 2000, with an effective date of September 1, 2000, and expires on August 31, 2030. This ultimately means that PacifiCorp would be required to file a Notice of Intent to initiate relicensing of the Project no later than September 1, 2025.

Alternatively, PacificCorp believes that the Pioneer Project is more appropriately classified as a FERC conduit exemption, which would also exempt it from the upcoming FERC relicensing process. Therefore, PacifiCorp is proposing to apply with FERC for the conversion of the Project to the more appropriate, conduit exemption form of a license, and correspondingly surrender the current FERC license once a conduit exemption has been granted. As we will discuss in more detail, the proposed action would be largely administrative as there would be no construction of new facilities or changes to existing facilities, ownership, or operations and maintenance activities.

Pursuant to Title 18 Code of Federal Regulations Section 4.38, the formal consultation process would begin with the public distribution of an Initial Consultation Document (ICD) that describes the current Project and the proposed action, followed by a formal review/comment period and joint agency meeting and site visit. It is important to note that, since this is largely an administrative action, PacifiCorp is proposing no studies at this time.

Prior to initiation of this formal process, PacifiCorp has identified your organization as a key stakeholder for PacifiCorp's Pioneer Project and would like to invite you to a preliminary meeting in January 2024 to informally discuss the proposal. Please fill out the following doodle poll with all time slots for which you could attend.

[DOODLE POLL](#) (Please note that the initially proposed dates are in early to mid-January 2024)

Should there be a more appropriate or additional contact from your organization to participate in this meeting, please provide us their contact information and we will ensure they are included in this poll and future communication.

On behalf of PacifiCorp, we look forward to discussing this proposal with you. Please reach out to Eve Davies (Eve.Davies@PacifiCorp.com) or myself if you have any questions.

Sincerely,

Matthew Harper | *he, him, his*
FERC Hydropower Consultant
971.325.5056



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January 17, 2024 Meeting Correspondence

Ute Indian Tribe of the Uintah and Ouray Reservation, Utah

From: [Matthew Harper](#)
To: juliusm@utetribes.com
Cc: [Davies, Eve \(PacifiCorp\)](#); [Trevor Herritt](#); [Nuria Holmes](#)
Subject: RE: Pioneer Hydroelectric Project: Conduit Exemption Application & Preliminary Meeting for Key Stakeholders
Date: Wednesday, January 24, 2024 5:47:00 PM
Attachments: [20240117_PioneerHydro_ConduitExemptionMeeting_Notes.pdf](#)
[20240117_PioneerHydro_ConduitExemptionMeeting_Presentation.pdf](#)
[image001.png](#)

Apologies. We intended to also provide the attached meeting notes and PowerPoint presentation.

Thanks again,

Matthew Harper | *he, him, his*
FERC Hydropower Consultant
971.325.5056



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From: Matthew Harper
Sent: Wednesday, January 24, 2024 3:52 PM
To: juliusm@utetribes.com
Cc: [Davies, Eve \(PacifiCorp\) <Eve.Davies@PacifiCorp.com>](mailto:Eve.Davies@PacifiCorp.com); [Trevor Herritt <Trevor.Herritt@swca.com>](mailto:Trevor.Herritt@swca.com); [Nuria Holmes <nuria.holmes@swca.com>](mailto:nuria.holmes@swca.com)
Subject: RE: Pioneer Hydroelectric Project: Conduit Exemption Application & Preliminary Meeting for Key Stakeholders

Good afternoon,

On behalf of Eve, Trevor, and myself, we wanted to catch you up on the meeting referenced below. Last week, we held an informal discussion regarding PacifiCorp's proposal to apply with FERC for the conversion of the Pioneer Project to the more appropriate, conduit exemption classification and correspondingly surrender the current FERC license once a conduit exemption has been granted. As we discussed on the call, the formal consultation process will begin with the public distribution of an Initial Consultation Document (ICD) – currently planned for the end of January/early February – that describes the current Project and the proposed action, followed by a formal review/comment period and joint agency meeting and site visit. You will be cc'd on the FERC filing when it is made, and we would be happy to further address any specific comments or questions you may have regarding that filing and subsequent comment deadlines.

We would like to invite you to provide a vote of support for PacifiCorp's proposal to be included as an appendix to our ICD. If you are willing, this would be as simple as a brief response to this email stating as such. We would also love to hear any feedback, questions, or other comments that you may have regarding the proposal, whether they support the proposed action or not.

We greatly appreciate your time and feedback regarding this proposal, and look forward to initiating

the formal process and discussing with you further. Please reach out with any questions or concerns.

Eve Davies, Principal Scientist

Renewable Resources, PacifiCorp
1407 West North Temple, Ste. 210
Salt Lake City, Utah 84116
801.220.2245
801.232.1704 (cell)

Matthew Harper | *he, him, his*

SWCA Environmental Consultants
FERC Hydropower Consultant
971.325.5056

Trevor Herritt | *he, him, his*

SWCA Environmental Consultants
Assistant Project Manager, FERC Hydropower
409.504.4161



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From: Matthew Harper

Sent: Monday, January 8, 2024 3:01 PM

To: juliusm@utetribes.com

Cc: Davies, Eve (PacifiCorp) <Eve.Davies@PacifiCorp.com>; Trevor Herritt <Trevor.Herritt@swca.com>; Nuria Holmes <nuria.holmes@swca.com>

Subject: RE: Pioneer Hydroelectric Project: Conduit Exemption Application & Preliminary Meeting for Key Stakeholders

Good afternoon,

Based on the feedback received, the best time for the most folks to join a call is on January 17th from 10am to noon MT. Shortly after this email, you'll see a meeting invite for that time slot.

Please join us if you are able, or we would be happy to discuss the proposal with you individually. Otherwise, the formal process will begin with the filing of an Initial Consultation Document in early February, followed by a meeting and site visit that will likely be scheduled in March 2024.

Thank you,

Matthew Harper | *he, him, his*

FERC Hydropower Consultant
971.325.5056



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From: Matthew Harper

Sent: Friday, December 29, 2023 12:16 PM

To: juliusm@utetribes.com

Cc: Davies, Eve (PacifiCorp) <Eve.Davies@PacifiCorp.com>; Trevor Herritt <Trevor.Herritt@swca.com>; Nuria Holmes <nuria.holmes@swca.com>

Subject: Pioneer Hydroelectric Project: Conduit Exemption Application & Preliminary Meeting for Key Stakeholders

Good afternoon,

PacifiCorp is the owner, operator, and licensee of the 5.0-megawatt Pioneer Hydroelectric Project (Pioneer Project or Project), Federal Energy Regulatory Commission (FERC) Project No. 2722. The current Project license was issued by FERC on May 26, 2000, with an effective date of September 1, 2000, and expires on August 31, 2030. This ultimately means that PacifiCorp would be required to file a Notice of Intent to initiate relicensing of the Project no later than September 1, 2025.

Alternatively, PacificCorp believes that the Pioneer Project is more appropriately classified as a FERC conduit exemption, which would also exempt it from the upcoming FERC relicensing process. Therefore, PacifiCorp is proposing to apply with FERC for the conversion of the Project to the more appropriate, conduit exemption form of a license, and correspondingly surrender the current FERC license once a conduit exemption has been granted. As we will discuss in more detail, the proposed action would be largely administrative as there would be no construction of new facilities or changes to existing facilities, ownership, or operations and maintenance activities.

Pursuant to Title 18 Code of Federal Regulations Section 4.38, the formal consultation process would begin with the public distribution of an Initial Consultation Document (ICD) that describes the current Project and the proposed action, followed by a formal review/comment period and joint agency meeting and site visit. It is important to note that, since this is largely an administrative action, PacifiCorp is proposing no studies at this time.

Prior to initiation of this formal process, PacifiCorp has identified your Tribe as a key stakeholder for PacifiCorp's Pioneer Project and would like to invite you to a preliminary meeting in January 2024 to informally discuss the proposal. Please fill out the following doodle poll with all time slots for which you could attend.

[DOODLE POLL](#) (Please note that the initially proposed dates are in early to mid-January 2024)

Should there be a more appropriate or additional contact to participate in this meeting, please provide us their contact information and we will ensure they are included in this poll and future communication.

On behalf of PacifiCorp, we look forward to discussing this proposal with you. Please reach out to Eve Davies (Eve.Davies@PacifiCorp.com) or myself if you have any questions.

Sincerely,

Matthew Harper | *he, him, his*
FERC Hydropower Consultant
971.325.5056



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January 17, 2024 Meeting Correspondence
Skull Valley Band of Goshute Indians of Utah

From: [Matthew Harper](#)
To: Danielm@svgoshutes.com
Cc: [Davies, Eve \(PacifiCorp\)](#); [Trevor Herritt](#); [Nuria Holmes](#)
Subject: RE: Pioneer Hydroelectric Project: Conduit Exemption Application & Preliminary Meeting for Key Stakeholders
Date: Wednesday, January 24, 2024 3:51:00 PM
Attachments: [image001.png](#)
[20240117_PioneerHydro_ConduitExemptionMeeting_Notes.pdf](#)
[20240117_PioneerHydro_ConduitExemptionMeeting_Presentation.pdf](#)

Good afternoon,

On behalf of Eve, Trevor, and myself, we wanted to catch you up on the meeting referenced below. Last week, we held an informal discussion regarding PacifiCorp's proposal to apply with FERC for the conversion of the Pioneer Project to the more appropriate, conduit exemption classification and correspondingly surrender the current FERC license once a conduit exemption has been granted. As we discussed on the call, the formal consultation process will begin with the public distribution of an Initial Consultation Document (ICD) – currently planned for the end of January/early February – that describes the current Project and the proposed action, followed by a formal review/comment period and joint agency meeting and site visit. You will be cc'd on the FERC filing when it is made, and we would be happy to further address any specific comments or questions you may have regarding that filing and subsequent comment deadlines.

We would like to invite you to provide a vote of support for PacifiCorp's proposal to be included as an appendix to our ICD. If you are willing, this would be as simple as a brief response to this email stating as such. We would also love to hear any feedback, questions, or other comments that you may have regarding the proposal, whether they support the proposed action or not.

We greatly appreciate your time and feedback regarding this proposal, and look forward to initiating the formal process and discussing with you further. Please reach out with any questions or concerns.

Eve Davies, Principal Scientist

Renewable Resources, PacifiCorp
1407 West North Temple, Ste. 210
Salt Lake City, Utah 84116
801.220.2245
801.232.1704 (cell)

Matthew Harper | *he, him, his*

SWCA Environmental Consultants
FERC Hydropower Consultant
971.325.5056

Trevor Herritt | *he, him, his*

SWCA Environmental Consultants
Assistant Project Manager, FERC Hydropower
409.504.4161



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From: Matthew Harper
Sent: Monday, January 8, 2024 3:02 PM
To: Danielm@svgoshutes.com
Cc: Davies, Eve (PacifiCorp) <Eve.Davies@PacifiCorp.com>; Trevor Herritt <Trevor.Herritt@swca.com>; Nuria Holmes <nuria.holmes@swca.com>
Subject: RE: Pioneer Hydroelectric Project: Conduit Exemption Application & Preliminary Meeting for Key Stakeholders

Good afternoon,

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Please join us if you are able, or we would be happy to discuss the proposal with you individually. Otherwise, the formal process will begin with the filing of an Initial Consultation Document in early February, followed by a meeting and site visit that will likely be scheduled in March 2024.

Thank you,

Matthew Harper | *he, him, his*
FERC Hydropower Consultant
971.325.5056



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From: Matthew Harper
Sent: Friday, December 29, 2023 12:19 PM
To: Danielm@svgoshutes.com
Cc: Davies, Eve (PacifiCorp) <Eve.Davies@PacifiCorp.com>; Trevor Herritt <Trevor.Herritt@swca.com>; Nuria Holmes <nuria.holmes@swca.com>
Subject: FW: Pioneer Hydroelectric Project: Conduit Exemption Application & Preliminary Meeting for Key Stakeholders

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Alternatively, PacificCorp believes that the Pioneer Project is more appropriately classified as a FERC

conduit exemption, which would also exempt it from the upcoming FERC relicensing process. Therefore, PacifiCorp is proposing to apply with FERC for the conversion of the Project to the more appropriate, conduit exemption form of a license, and correspondingly surrender the current FERC license once a conduit exemption has been granted. As we will discuss in more detail, the proposed action would be largely administrative as there would be no construction of new facilities or changes to existing facilities, ownership, or operations and maintenance activities.

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Prior to initiation of this formal process, PacifiCorp has identified your tribe as a key stakeholder for PacifiCorp's Pioneer Project and would like to invite you to a preliminary meeting in January 2024 to informally discuss the proposal. Please fill out the following doodle poll with all time slots for which you could attend.

[DOODLE POLL](#) (Please note that the initially proposed dates are in early to mid-January 2024)

Should there be a more appropriate or additional contact to participate in this meeting, please provide us their contact information and we will ensure they are included in this poll and future communication.

On behalf of PacifiCorp, we look forward to discussing this proposal with you. Please reach out to Eve Davies (Eve.Davies@PacifiCorp.com) or myself if you have any questions.

Sincerely,

Matthew Harper | *he, him, his*
FERC Hydropower Consultant
971.325.5056



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January 17, 2024 Meeting Correspondence
Confederated Tribes of the Goshute Reservation, Nevada and Utah

From: [Matthew Harper](#)
To: amos.murphy@ctgr.us
Cc: [Davies, Eve \(PacifiCorp\)](#); [Trevor Herritt](#); [Nuria Holmes](#)
Subject: RE: Pioneer Hydroelectric Project: Conduit Exemption Application & Preliminary Meeting for Key Stakeholders
Date: Wednesday, January 24, 2024 5:48:00 PM
Attachments: [20240117_PioneerHydro_ConduitExemptionMeeting_Notes.pdf](#)
[20240117_PioneerHydro_ConduitExemptionMeeting_Presentation.pdf](#)
[image001.png](#)

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Thanks again,

Matthew Harper | *he, him, his*
FERC Hydropower Consultant
971.325.5056



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Eve Davies, Principal Scientist

Renewable Resources, PacifiCorp
1407 West North Temple, Ste. 210
Salt Lake City, Utah 84116
801.220.2245
801.232.1704 (cell)

Matthew Harper | *he, him, his*

SWCA Environmental Consultants
FERC Hydropower Consultant
971.325.5056

Trevor Herritt | *he, him, his*

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Assistant Project Manager, FERC Hydropower
409.504.4161



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Sent: Monday, January 8, 2024 3:02 PM

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Cc: Davies, Eve (PacifiCorp) <Eve.Davies@PacifiCorp.com>; Trevor Herritt <Trevor.Herritt@swca.com>; Nuria Holmes <nuria.holmes@swca.com>

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Cc: Davies, Eve (PacifiCorp) <Eve.Davies@PacifiCorp.com>; Trevor Herritt <Trevor.Herritt@swca.com>; Nuria Holmes <nuria.holmes@swca.com>

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January 17, 2024 Meeting Correspondence

Paiute Indian Tribe of Utah (Cedar Band of Paiutes, Kanosh Band of Paiutes, Koosharem Band of Paiutes, Indian Peaks Band of Paiutes, and Shivwits Band of Paiutes)

From: [Matthew Harper](#)
To: cbow@utahpaiutes.org
Cc: [Davies, Eve \(PacifiCorp\)](#); [Trevor Herritt](#); [Nuria Holmes](#)
Subject: RE: Pioneer Hydroelectric Project: Conduit Exemption Application & Preliminary Meeting for Key Stakeholders
Date: Wednesday, January 24, 2024 5:47:00 PM
Attachments: [20240117_PioneerHydro_ConduitExemptionMeeting_Presentation.pdf](#)
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Eve Davies, Principal Scientist

Renewable Resources, PacifiCorp
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Salt Lake City, Utah 84116
801.220.2245
801.232.1704 (cell)

Matthew Harper | *he, him, his*

SWCA Environmental Consultants
FERC Hydropower Consultant
971.325.5056

Trevor Herritt | *he, him, his*

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Assistant Project Manager, FERC Hydropower
409.504.4161



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January 17, 2024 Meeting Correspondence
Shoshone-Bannock Tribes of the Fort Hall Reservation

From: [Matthew Harper](#)
To: nsmall@sbtribes.com
Cc: [Davies, Eve \(PacifiCorp\)](#); [Trevor Herritt](#); [Nuria Holmes](#)
Subject: RE: Pioneer Hydroelectric Project: Conduit Exemption Application & Preliminary Meeting for Key Stakeholders
Date: Wednesday, January 24, 2024 5:48:00 PM
Attachments: [20240117_PioneerHydro_ConduitExemptionMeeting_Notes.pdf](#)
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January 17, 2024 Meeting Correspondence
Northwestern Band of the Shoshone Nation

From: [Matthew Harper](#)
To: dalex@nwbsoshone.com
Cc: [Davies, Eve \(PacifiCorp\)](#); [Trevor Herritt](#); [Nuria Holmes](#)
Subject: RE: Pioneer Hydroelectric Project: Conduit Exemption Application & Preliminary Meeting for Key Stakeholders
Date: Wednesday, January 24, 2024 5:47:00 PM
Attachments: [20240117_PioneerHydro_ConduitExemptionMeeting_Notes.pdf](#)
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January 17, 2024 Meeting PowerPoint Presentation

Preliminary Meeting for Conduit Exemption and (Eventual) License Surrender

Pioneer Hydroelectric Project
(FERC Project No. 2722)



Welcome

Pioneer Project Team:

Eve Davies – Principal Environmental Scientist (PacifiCorp)

Nuria Holmes – FERC Technical Advisor (SWCA)

Matthew Harper – Project Manager (SWCA)

Trevor Herritt – Assistant Project Manager (SWCA)



Agenda

- Pioneer Project and Licensing Overview
- Ogden River Project (BOR)
- Conduit Exemption Summary
- PacifiCorp's Proposed Action
- Three-Stage Consultation Process
- Tentative Schedule
- Questions and Discussion



Pioneer Project and Licensing Overview

- 5 MW hydroelectric project with Project infrastructure partially located both within Ogden Canyon – upslope from the Ogden River – and the city of Ogden in Weber County, Utah.
- Current FERC license was issued September 1, 2000, and will expire on August 31, 2030. Relicensing *must* start no later than August 2025.
- Major Project Features/Non-Project Consumption Points (original vs subsequent Pineview construction):
 1. **Ogden Canyon Conduit:** *Intake for Pioneer Project located below non-Project Pineview Dam (BOR) and Pineview Powerhouse (City of Bountiful/Weber-Box Elder Conservation District)*
 2. **Tunnel 7:** *Flow diverted to non-Project South Ogden Highline Canal, overflow spillway, or back into conduit*
 3. **Surge Tank:** *Flow diverted to non-Project Ogden-Brigham Canal or into Project's penstock*
 4. **Penstock**
 5. **Powerhouse**
 6. **Tailrace Canal:** *Flow consumed by multiple downstream irrigators*







Pioneer Project & Ogden River Project

1895-1897: Original construction of the Pioneer Project, including Pioneer Dam, flowline, penstock, and powerhouse.

1937: Construction of BOR's Ogden River Project, including, in part, Pineview Dam and Reservoir (inundating original Pioneer facilities), new wood stave flowline (Ogden River Conduit and Pioneer's flowline), South Ogden Highline Canal, surge tank, and Ogden-Brigham Canal. Purpose of flowline no longer for generation but for flood control and irrigation supply to approximately 24,801 acres of farmland between the Wasatch Front and Great Salt Lake.

Coordination with the Ogden River Project:

- PacifiCorp has no control over the Project intake, the availability of water for power generation, or the operation of water releases that would be made available to the Project.
- State-appointed Ogden River commissioner determines how much water is allocated for the various Ogden River Project water users, and water releases from Pineview Dam are the responsibility of the Ogden River Water Users' Association (ORWUA).
- The Ogden Canyon Conduit and surge tank are shared ownership between PacifiCorp (45%) and BOR (55%) and shared O&M responsibilities between PacifiCorp and ORWUA.
- The penstock isolation valve, located approximately 66 feet west of the surge tank, marks the point at which PacifiCorp manages flows in the conveyance system.



FERC Conduit Exemption

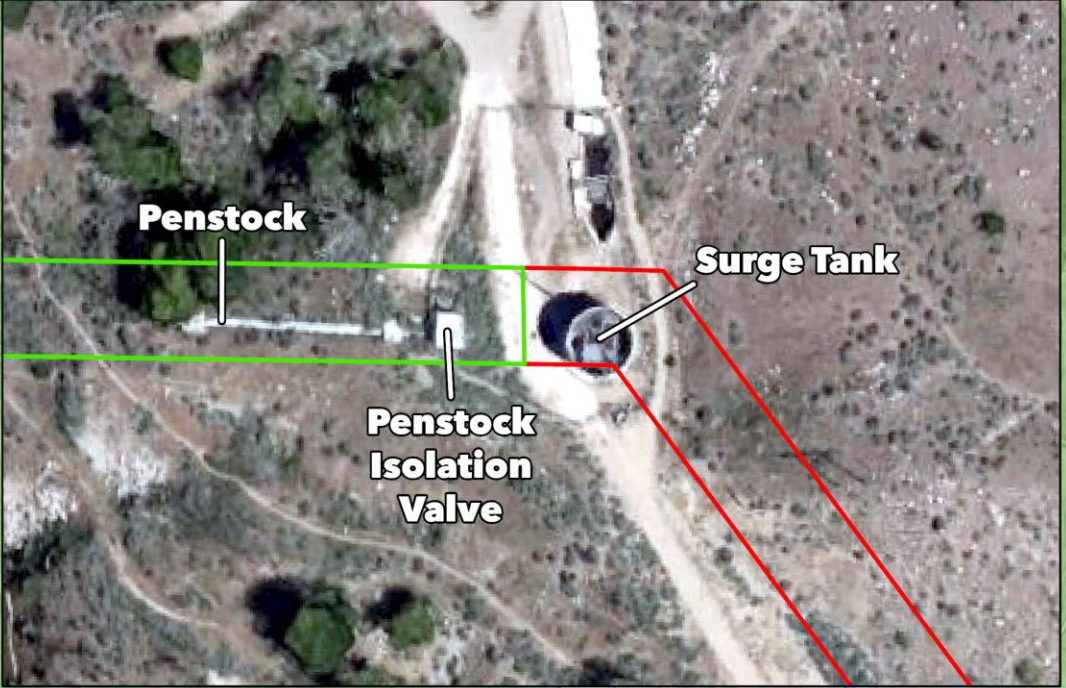
- **Currently the Project has a 30-year Major Project License, but it has actually fit the definition of a conduit exemption since 1937**
- **18 CFR 4.90:** “small conduit hydroelectric facility” may be exempt from licensing requirements
- **18 CFR 4.30(b)(30):** Defines requirements to be classified as a “small conduit hydroelectric facility”:
 - ✓ Utilized for electric power generation,
 - ✓ Installed capacity ≤ 40 MW,
 - ✓ Not be an integral part of a dam,
 - ✓ Not rely upon construction of a dam (unless constructed for agricultural, municipal, or industrial consumptive purposes), and
 - ✓ Must discharge the water it uses for power generation ... 2) directly to a point of agricultural, municipal, or industrial consumption...



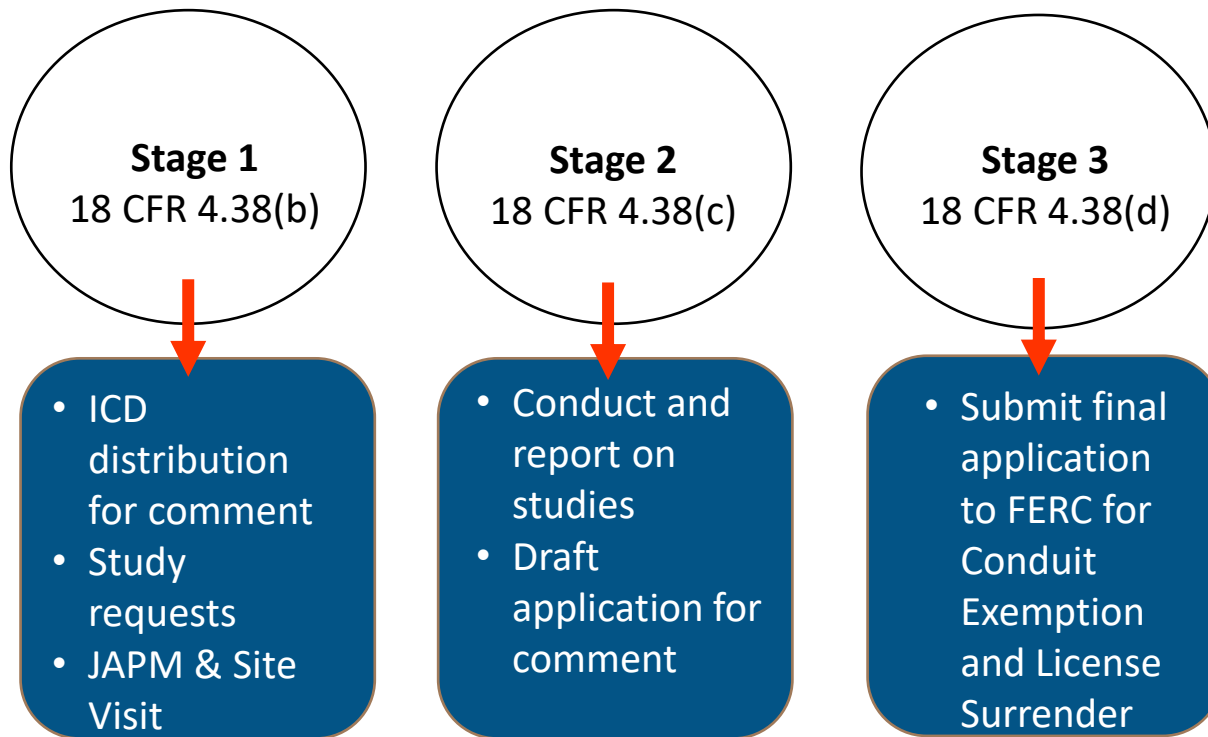
Proposed Action

- Convert Project to the more appropriate conduit exemption. Once granted (corresponding actions), surrender the current FERC Project license.
- Surrender the following, un-related Project features:
 - **Intake**
 - **Flowline (Ogden Canyon Conduit)**
 - **Surge Tank**
- Retain the following Project features:
 - **PIV and associated concrete vault**
 - **Penstock**
 - **Powerhouse**
 - **Tailrace canal**
 - **Appurtenant facilities**
- Ongoing ownership, operation, and maintenance:
 - No construction of new facilities, physical changes to current facilities, or changes to Project operations or maintenance activities.
 - Dam safety oversight for the flowline would change from FERC to Utah Division of Dam Safety.
 - Ownership of the flowline would continue to be shared between Reclamation and PacifiCorp, with PacifiCorp continuing to pay a percentage of the flowline maintenance.
 - All operational and maintenance activities would continue to be undertaken by the Ogden River Water Users' Association.





Three Stage Consultation Process (18 CFR § 4.38)



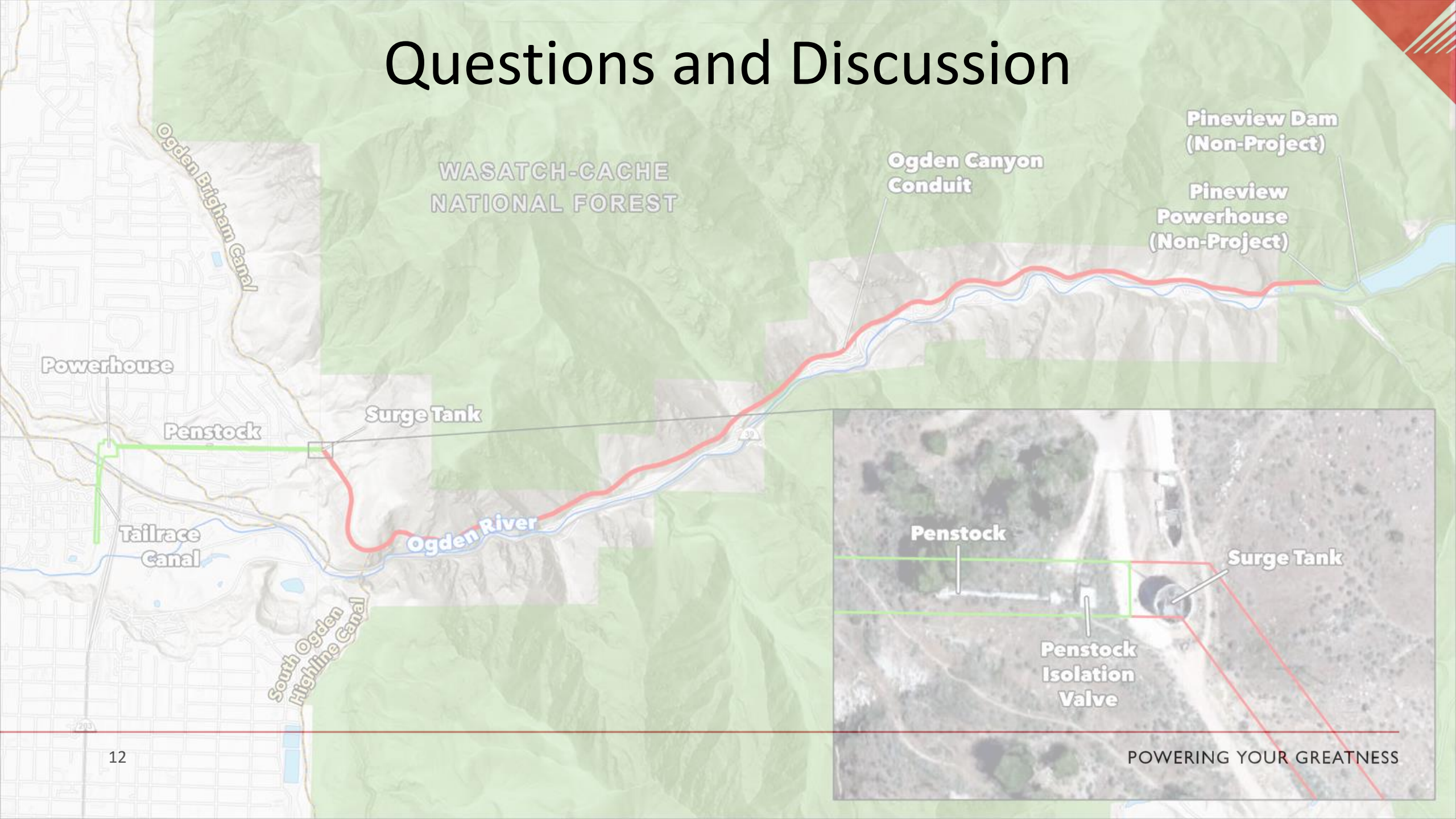
- Three-stage consultation involves reaching out to relevant agencies, Tribes, and other interested stakeholders; holding a public meeting; conducting study planning and implementation (if needed); reporting on study results (if any); and providing a draft ICD and application for review and comment to stakeholders.
- The Proposed Action would be largely administrative as there would be no construction of new facilities or changes to existing facilities, ownership, or operations and maintenance activities; therefore, PacifiCorp is neither proposing nor anticipating requests for studies at this time.

Proposed Schedule

Responsible Entity	Milestone	Estimated Milestone Date
Stage 1 Consultation § 4.38(b)		
PacifiCorp	File and distribute Initial Consultation Document (ICD) and proposed studies for comment and requesting additional study requests, if applicable Request designation as FERC's non-federal representative for informal consultation (Section 106 of the NHPA and Section 7 of the ESA)	1/31/2024
FERC	FERC issues notice of approval of non-federal representative designation for informal consultation	2/14/2024
PacifiCorp	Provide notification of joint agency and public meeting (JAPM) meeting location and timing	15 days in advance of JAPM
PacifiCorp/ Stakeholders	JAPM and site visit	March 2024
FERC/ Stakeholders	Comments Due: ICD Deadline: Proposed Study Requests	4/30/2024

Responsible Entity	Milestone	Estimated Milestone Date
Stage 2 Consultation § 4.38(c)		
PacifiCorp	Distribute draft application for conduit exemption and corresponding license surrender to stakeholders for comment <i>Note: The Proposed Action would be largely administrative as there would be no construction of new facilities or changes to existing facilities, ownership, or operations and maintenance activities; therefore, PacifiCorp is neither proposing nor anticipating the request for studies at this time.</i>	5/15/2024
FERC/Stakeholders	Comments Due: draft Application for conduit exemption and corresponding license surrender	8/13/2024
Stage 3 Consultation § 4.38(d)		
PacifiCorp	Submit final application to FERC for Conduit Exemption and License Surrender	8/27/2024

Questions and Discussion





Thank you! Please stay tuned for the meeting summary notes with our request for support in the Exemption process, and the publishing of the Pioneer ICD on January 31st and future correspondence on our upcoming JAPM!

To access on-going process materials, please go to: <https://www.pacificorp.com/energy/hydro/pioneer.html>
You can email questions or comments to PacifiCorp: Eve.Davies@pacificorp.com or call 801-232-1704

January 17, 2024 Meeting Notes

**PRELIMINARY MEETING (VIRTUAL) FOR CONDUIT EXEMPTION APPLICATION
PIONEER HYDROELECTRIC PROJECT
(FERC PROJECT NO. 2722)
MEETING NOTES: JANUARY 17, 2024**

MEETING PARTICIPANTS

NAME	TITLE	ORGANIZATION
Eve Davies	Principal Scientist/License Manager	PacifiCorp
Pete Gomben	Interregional Hydropower Program Manager	U.S. Forest Service
Chris Penne	Fisheries Biologist	Utah Division of Wildlife Resources
Kent Wilkerson	Weber and Ogden River Commissioner	Utah Division of Water Rights
Brittany White	Fish and Wildlife Biologist	U.S. Bureau of Reclamation
Christine Osborne	Environmental Scientist	Utah Division of Environmental Quality
Jeff Humphrey	General Manager	Pineview Water Systems
Matt McFee	Foreman of Operations	Pineview Water Systems
Tanner Cox	Weber River Project Manager	Trout Unlimited
Riley Olsen	Water Supply & Power Manager	Weber Basin Water
Charlie Vincent	Regional Coordinator	American Whitewater
Matthew Harper	FERC Project Manager	SWCA
Trevor Herritt	Assistant Project Environmental Planner	SWCA
Miriam Hugentobler	Project Coordinator	

MEETING PRESENTATION

Pioneer Project and Licensing Overview

- Described key Project features and approaching deadline to begin relicensing the Project.
- Described how the Project has been incorrectly relicensed in the past but is more appropriately classified as a conduit exemption.
- The group clarified that the federal lands that the Project currently crosses below Pineview Dam are now managed by BOR, not the USFS.

Pioneer Project and Ogden River Project

- Overview of the history of BOR's Ogden River Project in relation to the history of the Pioneer Project.
- Described the interconnection between the two project's facilities and how the penstock isolation valve marks the point at which PacifiCorp has control of the system.

Definition of Conduit Exemption

- Described generally how the Project meets the requirements under 18 CFR 4.30(b)(30).

Proposed Action

- Described PacifiCorp's proposal to apply for a conduit exemption and license surrender, how that would not change current ownership, operation, or maintenance of existing facilities.
- Discussed how a conduit exemption may benefit all users and stakeholders at the meeting by removing the lengthy and time-consuming requirements to relicense a project and removing an unneeded layer of federal oversight for the Project.

Three Stage Consultation & Proposed Schedule

- Described the regulatory requirements for consultation prior to submission of an application to FERC and a tentative schedule based on distribution of an ICD to stakeholders on January 31, 2024.

QUESTIONS AND DISCUSSION

Tailrace Canal

- Kent (River Commissioner) noted that from an operations standpoint, the exemption and license surrender shouldn't make a difference. He also asked why the FERC Project boundary doesn't extend all the way to the Ogden River.
- Eve (PacifiCorp) noted that Pioneer's Project boundary terminates at the energy dissipation structure at the end of the concrete lined tailrace canal. The Project boundary likely does not extend further since the water in the canal is usually fully consumed by tailrace canal intakes. The tailrace canal itself often dries up before reaching the Ogden River due to this consumption.
- Kent (River Commissioner) asked whether improvements to the tailrace canal and associated intakes, such as potential piping of the canal and automation of headgates, would impact the Pioneer Project.
- Eve (PacifiCorp) noted that that shouldn't give them grief and would be open to discussing what that would look like.

O&M Agreements

- Jeff (Pineview Water Systems) asked whether the current contracts or agreements in place for operation and maintenance of the Project would need to be updated as a result of the Proposed Action.
- Eve (PacifiCorp) answered that PacifiCorp does not anticipate any changes to existing water rights, contracts, or agreements that dictate ownership, operation, or maintenance of current Project facilities. Those agreements and commitments would remain in place, regardless of whether the flowline and surge tank are removed as Project features. Eve also noted that the intention is for nothing to change from an operations standpoint but that hopefully the administrative reclassification would make everyone's lives easier in the future, especially considering that the facilities already have federal protection under the BOR's Ogden River Project.

Protection, Mitigation, and Enhancement Measures

- Eve (PacifiCorp) noted that the Project is unique in that it has such a small footprint and no related Project recreation facilities, so there are few associated resource issues. Primary remaining resource issues would relate to public safety for the remaining features and management of the cultural and historic resources within the Pioneer Historic District. PacifiCorp is proposing to formalize management of those cultural and historic resources with the formalization of a Historic Properties Management Plan.

General Support

- Chris (UDWR) noted that the proposal seems straight forward and that he doesn't anticipate UDWR objections.
- Christine (UDWQ) also offered support for the proposal.

CONCLUSION AND ACTION ITEMS

- PacifiCorp shared the Project website, where all future documents will be posted, and noted that they would follow up with the group to provide meeting notes, a copy of the PowerPoint presentation, and a request for formal support for the proposal to be used in our consultation record for the three-stage consultation process and amendment request. **(ACTION)**
- Following the formal meeting, Chris (UDWR) and Brittany (BOR) stuck around to answer a couple questions from the team:
 - What is the current composition of brown and rainbow trout in the Project Area?
 - Chris (UDWR) noted that brown trout are still the dominant fish in the area, though UDWR does regularly stock rainbow trout. Chris will check with his colleagues and follow up with any additional information and/or citations. **(ACTION)**
 - Regarding a reference from previous licensing documentation, does BOR still attempt to maintain or is BOR required to maintain a minimum flow of 10 cfs below Pineview Dam into the Ogden River?
 - Brittany (BOR) confirmed that BOR does still generally release a minimum of 10cfs except in emergencies or during inspections. So far, the 1989 report that was referenced for this statement has not been located, but BOR's Standard Operating Procedures for Pineview Dam does include this requirement as a USFWS recommendation. Brittany will provide relevant documentation, if necessary, but also agreed to be cited in these general statements for use in our ICD. **(ACTION)**

Agency/Interested Party Support Email

Utah Division of Water Quality

From: Jodi Gardberg <jgardberg@utah.gov>
Sent: Monday, January 29, 2024 7:02 AM
To: Christine Osborne; Matthew Harper
Subject: Re: Pioneer Hydroelectric Project: Conduit Exemption Application & Preliminary Meeting for Key Stakeholders

Follow Up Flag: Flag for follow up
Flag Status: Flagged

Hello Matthew, The Division of Water Quality supports PacifiCorp's proposal to apply with FERC for the conversion of the Pioneer Project to the conduit exemption classification and correspondingly surrender the current FERC license once a conduit exemption has been granted. Please include me in further email correspondence. Thank you



Jodi Gardberg

Manager | Watershed Protection Section

P: (385) 242-6039

A: 195 North 1950 West SLC, UT 84116

waterquality.utah.gov



Emails to and from this email address may be considered public records and thus subject to Utah GRAMA requirements.

----- Forwarded message -----

From: Matthew Harper <Matthew.Harper@swca.com>

Date: Wed, Jan 24, 2024 at 3:12 PM

Subject: RE: Pioneer Hydroelectric Project: Conduit Exemption Application & Preliminary Meeting for Key Stakeholders

To: Chris Penne <chrispenne@utah.gov>, charles.rosier@usda.gov <charles.rosier@usda.gov>, Gomben, Pete - FS, UT <Peter.Gomben@usda.gov>, Christine Osborne <cosborne@utah.gov>, Weekley, George M <george_weekley@fws.gov>, dannette_weiss@fws.gov <dannette_weiss@fws.gov>, pcrookston@usbr.gov <pcrookston@usbr.gov>, Kent Wilkerson (kent@weberriver.org) <kent@weberriver.org>, tanner.cox@tu.org <tanner.cox@tu.org>, White, Brittany L <blwhite@usbr.gov>, Jeff Humphrey <jhumphrey@pineviewwater.com>, Darren Hess <dhess@weberbasin.com>

Cc: Davies, Eve (PacifiCorp) <Eve.Davies@pacificorp.com>, Trevor Herritt <Trevor.Herritt@swca.com>, Nuria Holmes <nuria.holmes@swca.com>

Good afternoon,

On behalf of Eve, Trevor, and myself, thank you again to those that were able to join us last week to informally discuss PacifiCorp's proposal to apply with FERC for the conversion of the Pioneer Project to the more appropriate, conduit exemption classification and correspondingly surrender the current FERC license once a conduit exemption has been granted. As discussed on the call, the formal consultation process will begin with the public distribution of an Initial Consultation Document (ICD) – currently planned for the end of January/early February – that describes the current Project and the proposed action, followed by a formal review/comment period and joint agency meeting and site visit. You will be cc'd on the FERC filing when it is made, and we would be happy to further address any specific comments or question you may have regarding that filing and subsequent comment deadlines.

We would like to invite you and your agency/interested party to provide a vote of support for PacifiCorp's proposal to be included as an appendix to our ICD. If you are willing, this would be as simple as a brief response to this email stating as such. We would also love to hear any feedback, questions, or other comments that you may have regarding the proposal, whether they support the proposed action or not.

Again, we greatly appreciate your time and feedback regarding this proposal so far and look forward to initiating the formal process and discussing further with you and your agency. Please reach out with any questions or concerns.

Eve Davies, Principal Scientist

Renewable Resources, PacifiCorp

1407 West North Temple, Ste. 210

Salt Lake City, Utah 84116

801.220.2245

801.232.1704 (cell)

Matthew Harper | *he, him, his*

SWCA Environmental Consultants

FERC Hydropower Consultant

971.325.5056

Trevor Herritt | *he, him, his*

SWCA Environmental Consultants

Assistant Project Manager, FERC Hydropower

409.504.4161

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From: Matthew Harper

Sent: Monday, January 8, 2024 2:53 PM

To: chrispenne@utah.gov; charles.rosier@usda.gov; Gomben, Pete - FS, UT <Peter.Gomben@usda.gov>; Christine Osborne <cosborne@utah.gov>; george_weekley@fws.gov; dannette_weiss@fws.gov; pcrookston@usbr.gov; Kent Wilkerson (kent@weberriver.org) <kent@weberriver.org>; tanner.cox@tu.org; White, Brittany L <blwhite@usbr.gov>; Jeff Humphrey <jhumphrey@pineviewwater.com>; Darren Hess <dhess@weberbasin.com>

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Again, thank you all for the quick responses. We look forward to discussing further.

Matthew Harper | *he, him, his*

FERC Hydropower Consultant

971.325.5056

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From: Matthew Harper

Sent: Friday, December 29, 2023 12:14 PM

To: chrispenne@utah.gov; charles.rosier@usda.gov; Gomben, Pete - FS, UT <Peter.Gomben@usda.gov>; jgardberg@utah.gov; george_weekley@fws.gov; dannette_weiss@fws.gov; pcrookston@usbr.gov; Kent Wilkerson (kent@weberriver.org) <kent@weberriver.org>; tanner.cox@tu.org

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Subject: Pioneer Hydroelectric Project: Conduit Exemption Application & Preliminary Meeting for Key Stakeholders

Good afternoon,

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Alternatively, PacificCorp believes that the Pioneer Project is more appropriately classified as a FERC conduit exemption, which would also exempt it from the upcoming FERC relicensing process. Therefore, PacifiCorp is proposing to apply with FERC for the conversion of the Project to the more appropriate, conduit exemption form of a license, and correspondingly surrender the current FERC license once a conduit exemption has been granted. As we will discuss in more detail, the proposed action would be largely administrative as there would be no construction of new facilities or changes to existing facilities, ownership, or operations and maintenance activities.

Pursuant to Title 18 Code of Federal Regulations Section 4.38, the formal consultation process would begin with the public distribution of an Initial Consultation Document (ICD) that describes the current Project and the proposed action, followed by a formal review/comment period and joint agency meeting and site visit. It is important to note that, since this is largely an administrative action, PacifiCorp is proposing no studies at this time.

Prior to initiation of this formal process, PacifiCorp has identified your organization as a key stakeholder for PacifiCorp's Pioneer Project and would like to invite you to a preliminary meeting in January 2024 to informally discuss the proposal. Please fill out the following doodle poll with all time slots for which you could attend.

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Should there be a more appropriate or additional contact from your organization to participate in this meeting, please provide us their contact information and we will ensure they are included in this poll and future communication.

On behalf of PacifiCorp, we look forward to discussing this proposal with you. Please reach out to Eve Davies (Eve.Davies@PacifiCorp.com) or myself if you have any questions.

Sincerely,

Matthew Harper | *he, him, his*

FERC Hydropower Consultant

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--



Christine Osborne

Weber, Uinta, and Lower San Juan Basin Coordinator
Environmental Scientist
Watershed Protection Section

P: (801) 898-5930

waterquality.utah.gov



I acknowledge, with respect, that the land on which I work and reside is the traditional and ancestral homeland of the Ute, Goshute, Paiute, and Shoshone Peoples.

Emails to and from this email address may be considered public records and thus subject to Utah GRAMA requirements.

Agency/Interested Party Support Email

Utah Division of Wildlife Resources

From: [Chris Penne](#)
To: [Matthew Harper](#)
Subject: Re: Pioneer Hydroelectric Project: Conduit Exemption Application & Preliminary Meeting for Key Stakeholders
Date: Thursday, January 25, 2024 10:12:21 AM
Attachments: [image001.png](#)

Thanks Mathew. Based on the meeting with Eve and other partners, and on behalf of the Utah Division of Wildlife Resources, we are supportive of the conversion of Pioneer Project to a conduit exemption classification. Let me know if there is any other support or letters you may need.

Chris

On Wed, Jan 24, 2024 at 3:12 PM Matthew Harper <Matthew.Harper@swca.com> wrote:

Good afternoon,

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FERC Hydropower Consultant

971.325.5056



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Sincerely,

Matthew Harper | *he, him, his*

FERC Hydropower Consultant

971.325.5056



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--



Chris Penne

Northern Region Aquatics Program Manager

M: (801) 656-8694

E: chrispenne@utah.gov

Utah Department of Natural Resources

Division of Wildlife Resources

wildlife.utah.gov



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APPENDIX B

LIST OF WILDLIFE WITH POTENTIAL TO BE FOUND IN PROJECT AREA

COMMON NAME	SCIENTIFIC	PREFERRED HABITAT
Mammals		
Badger	<i>Taxidea taxus</i>	Grassland
Beaver	<i>Castor canadensis</i>	Rivers, canals, and reservoir
Big brown bat	<i>Eptesicus fuscus</i>	Wetland, grassland, developed, shrubland, riparian, forested
Black rat	<i>Rattus</i>	Agriculture, developed
Black-tailed jackrabbit	<i>Lepus californicus</i>	Shrubland, agriculture, forested
Bobcat	<i>Felis rufus</i>	Forested, riparian
Brush mouse	<i>Peromyscus boylii</i>	Agriculture, developed, shrubland
California myotis	<i>Myotis californicus</i>	Wetland, grassland, developed, shrubland, riparian, forested
Cliff chipmunk	<i>Tamias dorsalis</i>	Grassland, agriculture, developed, shrubland
Coyote	<i>Canis latrans</i>	Grassland, agriculture
Deer mouse	<i>Peromyscus maniculatus</i>	Agriculture, developed, shrubland
Dusky shrew	<i>Sorex monticolus</i>	Grassland, agriculture, shrubland, riparian
Fringed myotis	<i>Myotis thysanodes</i>	Wetland, grassland, developed, shrubland, riparian, forested
Fisher	<i>Martes pennanti</i>	Coniferous forests and meadows
Gray wolf ^a	<i>Canis lupus</i>	Forested, riparian
Hoary bat	<i>Lasiurus cinereus</i>	Wetland, grassland, developed, shrubland, riparian, forested
House mouse	<i>Mus musculus</i>	Agriculture, developed
Least chipmunk	<i>Tamias minimus</i>	Grassland, agriculture, developed, shrubland
Little brown bat ^a	<i>Myotis lucifugus</i>	Wetland, grassland, agriculture, developed, shrubland, riparian
Long-eared myotis	<i>Myotis evotis</i>	Wetland, riparian
Long-legged myotis	<i>Myotis volans</i>	Wetland, grassland, agriculture, developed, shrubland, riparian
Long-tailed vole	<i>Microtus longicaudus</i>	Riparian
Long-tailed weasel	<i>Mustela frenata</i>	Riparian
Masked shrew	<i>Sorex cinereus</i>	Grassland, agriculture, shrubland, riparian
Meadow vole	<i>Microtus pennsylvanicus</i>	Agriculture, developed, shrubland
Merriam shrew	<i>Sorex merriami</i>	Grassland, agriculture, shrubland, riparian
Mink	<i>Mustela vison</i>	Riparian
Montane vole ^a	<i>Microtus montanus</i>	Grassland, agriculture, shrubland
Moose	<i>Alces americanus</i>	Forested, riparian, wetland
Mountain cottontail	<i>Sylvilagus nuttall</i>	Agriculture
Mule deer	<i>Odocoileus hemionus</i>	Grassland, agriculture, developed, shrubland, riparian
Muskrat	<i>Ondatra zibethicus</i>	Aquatic, wetland
Northern pocket gopher	<i>Thomomys talpoides</i>	Grassland, agriculture, developed, shrubland

COMMON NAME	SCIENTIFIC	PREFERRED HABITAT
Mammals		
Northern water shrew	<i>Sorex palustris</i>	Riparian
Norway Rat	<i>Rattus norvegicus</i>	Wetland, grassland, developed, shrubland, riparian, forested
Porcupine	<i>Erethizon dorsatum</i>	Forested, riparian, wetland
Red fox	<i>Vulpes</i>	Grassland, agriculture
Rock squirrel	<i>Otospermophilus variegatus</i>	Grassland, agriculture, developed, shrubland
Western Spotted skunk	<i>Spilogale gracilis</i>	Agriculture, developed, shrubland
Striped skunk	<i>Mephitis</i>	Agriculture, developed, shrubland
Townsend ground squirrel	<i>Spermophilus townsendii</i>	Grassland, agriculture, developed, shrubland
Townsend's big-eared bat ^a	<i>Corynorhinus townsendii</i>	Wetland, riparian
Spotted bat	<i>Euderma maculatum</i>	Crevices in cliff walls or caves
Uintai ground squirrel	<i>Spermophilus armatus</i>	Grassland, agriculture, developed, shrubland
Vagrant shrew	<i>Sorex vagrans</i>	Grassland, agriculture, shrubland, riparian
Western harvest mouse	<i>Reithrodontomys megalotis</i>	Agriculture, developed, shrubland
Western jumping mouse	<i>Zapus princeps</i>	Wetland
Western pipistrelle	<i>Pipistrellus hesperus</i>	Wetland, grassland, developed, shrubland, riparian, forested
White-tailed jackrabbit	<i>Lepus townsendii</i>	Shrubland, agriculture, forested
Yuma myotis	<i>Myotis vumanensis</i>	Wetland, grassland, developed, shrubland, riparian, forested

Source: PacifiCorp 1991

^aUtah Species of Greatest Conservation Need (UDWR 2015a)

COMMON NAME	SCIENTIFIC NAME
Birds	
American Avocet ^b	<i>Recurvirostra americana</i>
American Bittern	<i>Botaurus lentiginosus</i>
American Coot	<i>Fulica americana</i>
American Crow	<i>Corvus brachyrhynchos</i>
American Goldfinch	<i>Spinus tristis</i>
American Kestrel	<i>Falco sparverius</i>
American Pipit	<i>Anthus rubescens</i>
American Robin	<i>Turdus migratorius</i>
American three-toed woodpecker	<i>Picoides dorsalis</i>

COMMON NAME	SCIENTIFIC NAME
<i>Birds</i>	
American Tree Sparrow	<i>Spizella arborea</i>
American White Pelican ^{a,b}	<i>Pelecanus erythrorhynchos</i>
American Wigeon	<i>Mareca americana</i>
Bald Eagle ^a	<i>Haliaeetus leucocephalus</i>
Bank Swallow	<i>Riparia riparia</i>
Barn Owl	<i>Tyto alba</i>
Barn Swallow	<i>Hirundo rustica</i>
Barrow's Goldeneye	<i>Bucephala islandica</i>
Belted Kingfisher	<i>Megaceryle alcyon</i>
Black-billed Magpie	<i>Pica hudsonia</i>
Black-capped Chickadee	<i>Poecile atricapillus</i>
Black-chinned Hummingbird	<i>Archilochus alexandri</i>
Black-crowned Night-Heron	<i>Nycticorax</i>
Black-headed Grosbeak	<i>Pheucticus melanocephalus</i>
Black Tern	<i>Chlidonias niger</i>
Blue-gray Gnatcatcher	<i>Poliophtila caerulea</i>
Black-necked Stilt	<i>Himantopus mexicanus</i>
Blue-winged Teal	<i>Anas discors</i>
Bobolink ^b	<i>Dolichonyx oryzivorus</i>
Bonaparte's Gull	<i>Chroicocephalus philadelphia</i>
Boreal owl	<i>Aegolius funereus</i>
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>
Brewer's Sparrow ^b	<i>Spizella breweri</i>
Broad-tailed Hummingbird ^b	<i>Selasphorus platycercus</i>
Brown-headed Cowbird	<i>Molothrus ater</i>
Bufflehead	<i>Bucephala albeola</i>
Bullock's Oriole	<i>Icterus bullockii</i>
Burrowing Owl	<i>Athene cunicularia</i>
Cackling Goose	<i>Branta hutchinsii</i>
California Gull	<i>Larus californicus</i>
California Quail	<i>Callipepla californica</i>
Canada Goose	<i>Branta canadensis</i>
Canvasback	<i>Aythya valisineria</i>
Canyon Wren	<i>Catherpes mexicanus</i>
Caspian Tern ^a	<i>Hydroprogne caspia</i>
Cattle Egret	<i>Bubulcus ibis</i>
Cedar Waxwing	<i>Bombycilla cedrorum</i>
Chipping Sparrow	<i>Spizella passerina</i>

COMMON NAME	SCIENTIFIC NAME
<i>Birds</i>	
Chukar	<i>Alectoris chukar</i>
Cinnamon Teal	<i>Anas cyanoptera</i>
Clark's Grebe	<i>Aechmophorus clarkii</i>
Clay-colored Sparrow	<i>Spizella pallida</i>
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>
Colombian sharp-tailed grouse	<i>Tympanuchus phasianellus columbianus</i>
Common Goldeneye	<i>Bucephala clangula</i>
Common Grackle	<i>Quiscalus quiscula</i>
Common Merganser	<i>Mergus merganser</i>
Common Nighthawk	<i>Chordeiles minor</i>
Common Raven	<i>Corvus corax</i>
Common Yellowthroat	<i>Geothlypis trichas</i>
Cooper's Hawk	<i>Accipiter cooperii</i>
Dark-eyed Junco	<i>Junco hyemalis</i>
Double-crested Cormorant	<i>Phalacrocorax auritus</i>
Downy Woodpecker	<i>Picoides pubescens</i>
Dusky Flycatcher	<i>Empidonax oberholseri</i>
Eared Grebe	<i>Podiceps nigricollis</i>
Eastern Kingbird	<i>Tyrannus</i>
Eurasian Collared-Dove	<i>Streptopelia decaocto</i>
Common/European Starling	<i>Sturnus vulgaris</i>
Flammulated owl	<i>Psilosops flammeolus</i>
Ferruginous Hawk ^b	<i>Buteo regalis</i>
Forster's Tern	<i>Sterna forsteri</i>
Franklin's Gull	<i>Leucophaeus pipixcan</i>
Gadwall	<i>Anas strepera</i>
Golden Eagle	<i>Aquila chrysaetos</i>
Gray Catbird	<i>Dumetella carolinensis</i>
Graylag Goose (domestic type)	<i>Anser anser</i>
Great Blue Heron	<i>Ardea herodias</i>
Great Egret	<i>Ardea alba</i>
Great gray owl	<i>Strix nebulosa</i>
Great Horned Owl	<i>Bubo virginianus</i>
Great-tailed Grackle	<i>Quiscalus mexicanus</i>
Greater Yellowlegs	<i>Tringa melanoleuca</i>
Greater sage-grouse	<i>Centrocercus urophasianus</i>
Green-tailed Towhee	<i>Pipilo chlorurus</i>

COMMON NAME	SCIENTIFIC NAME
<i>Birds</i>	
Green-winged Teal	<i>Anas carolinensis</i>
Harris's Sparrow	<i>Zonotrichia querula</i>
Hooded Merganser	<i>Lophodytes cucullatus</i>
Horned Grebe	<i>Podiceps auritus</i>
Horned Lark	<i>Eremophila alpestris</i>
House Finch	<i>Carpodacus mexicanus</i>
House Sparrow	<i>Passer domesticus</i>
Indian Peafowl (domestic type)	<i>Pavo cristatus</i>
Killdeer	<i>Charadrius vociferus</i>
Lark Sparrow	<i>Chondestes grammacus</i>
Lazuli Bunting	<i>Passerina amoena</i>
Lesser Goldfinch	<i>Carduelis psaltria</i>
Lesser Scaup	<i>Aythya affinis</i>
Lesser Yellowlegs	<i>Tringa flavipes</i>
Lewis's woodpecker	<i>Melanerpes lewis</i>
Lincoln's Sparrow	<i>Melospiza lincolnii</i>
Loggerhead Shrike	<i>Lanius ludovicianus</i>
Long-billed Curlew ^b	<i>Numenius americanus</i>
Long-eared Owl	<i>Asio otus</i>
Mallard	<i>Anas platyrhynchos</i>
Marbled Godwit	<i>Limosa fedoa</i>
Marsh Wren	<i>Cistothorus palustris</i>
Merlin	<i>Falco columbarius</i>
Mountain Bluebird	<i>Sialia currucoides</i>
Mountain Chickadee	<i>Poecile gambeli</i>
Mourning Dove	<i>Zenaida macroura</i>
Northern Flicker	<i>Colaptes auratus</i>
Northern goshawk	<i>Accipiter gentilis</i>
Northern Harrier	<i>Circus hudsonius</i>
Northern Mockingbird	<i>Mimus polyglottos</i>
Northern Pintail	<i>Anas acuta</i>
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>
Northern Shoveler	<i>Anas clypeata</i>
Northern Shrike	<i>Lanius borealis</i>
Orange-crowned Warbler	<i>Oreothlypis celata</i>
Osprey	<i>Pandion haliaetus</i>
Pectoral Sandpiper	<i>Calidris melanotos</i>
Peregrine Falcon	<i>Falco peregrinus</i>

COMMON NAME	SCIENTIFIC NAME
<i>Birds</i>	
Pied-billed Grebe	<i>Podilymbus podiceps</i>
Pine Siskin	<i>Carduelis pinus</i>
Prairie Falcon	<i>Falco mexicanus</i>
Purple Martin	<i>Progne subis</i>
Red-breasted Merganser	<i>Mergus serrator</i>
Redhead	<i>Aythya americana</i>
Red-tailed Hawk	<i>Buteo jamaicensis</i>
Red-winged Blackbird	<i>Agelaius phoeniceus</i>
Ring-billed Gull	<i>Larus delawarensis</i>
Ring-necked Duck	<i>Aythya collaris</i>
Ring-necked Pheasant	<i>Phasianus colchicus</i>
Rock Pigeon	<i>Columba livia</i>
Rough-legged Hawk	<i>Buteo lagopus</i>
Ross's Goose	<i>Chen rossii</i>
Ruddy Duck	<i>Oxyura jamaicensis</i>
Sage Thrasher	<i>Oreoscoptes montanus</i>
Sandhill Crane	<i>Grus canadensis</i>
Savannah Sparrow	<i>Passerculus sandwichensis</i>
Sharp-shinned Hawk	<i>Accipiter striatus</i>
Sharp-tailed Grouse ^b	<i>Tympanuchus phasianellus</i>
Short-eared Owl	<i>Asio flammeus</i>
Snow Goose	<i>Chen caerulescens</i>
Snowy Egret	<i>Egretta thula</i>
Song Sparrow	<i>Melospiza melodia</i>
Sora	<i>Porzana carolina</i>
Spotted Sandpiper	<i>Actitis macularius</i>
Spotted Towhee	<i>Pipilo maculatus</i>
Swainson's Hawk	<i>Buteo swainsoni</i>
Townsend's Solitaire	<i>Myadestes townsendi</i>
Tree Swallow	<i>Tachycineta bicolor</i>
Trumpeter swan	<i>Cygnus buccinator</i>
Tundra Swan	<i>Cygnus columbianus</i>
Turkey Vulture	<i>Cathartes aura</i>
Vesper Sparrow	<i>Pooecetes gramineus</i>
Violet-green Swallow	<i>Tachycineta thalassina</i>
Virginia Rail	<i>Rallus limicola</i>
Western Kingbird	<i>Tyrannus verticalis</i>
Warbling Vireo	<i>Vireo gilvus</i>

COMMON NAME	SCIENTIFIC NAME
Birds	
Western Grebe	<i>Aechmophorus occidentalis</i>
Western Kingbird	<i>Tyrannus verticalis</i>
Western Meadowlark	<i>Sturnella neglecta</i>
Western Tanager	<i>Piranga ludoviciana</i>
Western Wood-Pewee	<i>Contopus sordidulus</i>
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>
White-faced Ibis ^a	<i>Plegadis chihi</i>
White-throated Sparrow	<i>Zonotrichia albicollis</i>
Wild Turkey	<i>Meleagris gallopavo</i>
Willet	<i>Tringa semipalmata</i>
Willow Flycatcher	<i>Empidonax traillii</i>
Wilson's Snipe	<i>Gallinago delicata</i>
Wilson's Warbler	<i>Cardellina pusilla</i>
Wood Duck	<i>Aix sponsa</i>
Woodhouse's Scrub-jay	<i>Aphelocoma woodhouseii</i>
Yellow-breasted Chat	<i>Icteria virens</i>
Yellow-headed Blackbird	<i>Xanthocephalus xanthocephalus</i>
Yellow Warbler	<i>Dendroica petechia</i>
Yellow-rumped Warbler	<i>Dendroica coronata</i>

Source: SWCA 2017; Cornell 2018

^aUtah Species of Greatest Conservation Need (UDWR 2015a)^bUtah Partners in Flight Priority Species (Parrish et al. 2002)

COMMON NAME	SCIENTIFIC NAME
Reptiles	
Desert whipsnake	<i>Masticophis taeniatus</i>
Great Basin gopher snake	<i>Pituophis catenifer deserticola</i>
Great Basin rattlesnake	<i>Crotalus viridis lutosus</i>
Great Basin skink	<i>Eumeces skiltonianus utahensis</i>
Sagebursh Lizard	<i>Sceloporus graciosus</i>
Short horned lizard	<i>Phrynosoma douglasii</i>
Side-blotched lizard	<i>Uta stansburiana</i>
Valley gartersnake	<i>Thamnophis sirtalis fitchi</i>
Wandering gartersnake	<i>Thamnophis elegans vagrans</i>
Western Whiptail	<i>Onemidophorus tigris</i>
Western yellow-bellied racer	<i>Coluber constrictor mormon</i>
Amphibians	
American bullfrog	<i>Rana catesbeiana</i>
Columbia spotted frog	<i>Rana luteiventris</i>
Great Basin Spadefoot Toad	<i>Scaphiopus intermontanus</i>

COMMON NAME	SCIENTIFIC NAME
<i>Amphibians</i>	
Northern leopard frog ^a	<i>Lithobates pipiens</i>
Tiger salamander	<i>Ambystoma tigrinum</i>
Western chorus frog	<i>Pseudacris triseriata</i>
Woodhouse's toad	<i>Anaxyrus [syn. Bufo] woodhousii</i>

Source: PacifiCorp 1991; and recent observations from PacifiCorp subject matter experts.

^aUtah Species of Greatest Conservation Need (UDWR 2015a)

COMMON NAME	SCIENTIFIC NAME
<i>Invertebrates</i>	
<i>Stagnicola montanensis</i>	Mountain marsh snail
<i>Stagnicola traski</i>	Widelip pondsnail
<i>Oreohelix haydeni</i>	Lyrate mountainsnail
<i>Oreohelix peripherica</i>	Deseret mountainsnail
<i>Fluminicola coloradoensis</i>	Green River pebblesnail
<i>Danaus plexippus</i>	Monarch butterfly

Sources: Hersheler and Frest (1996); USFS (2016a); UDWR (2022a, 2023a).