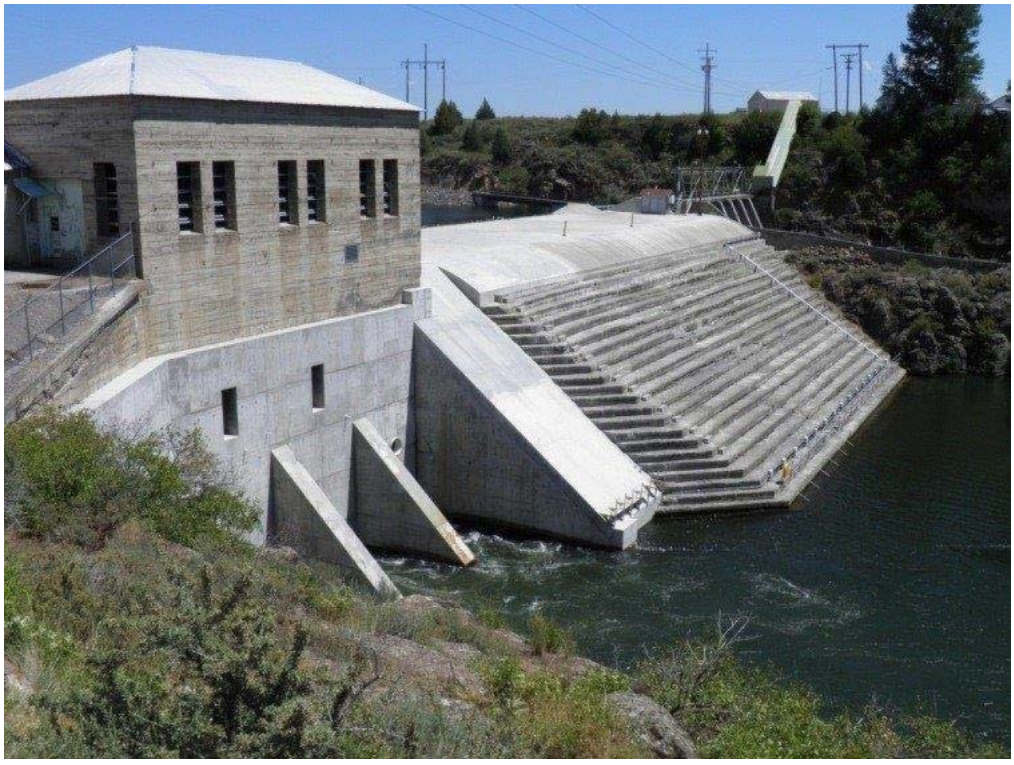
Application for Low Impact Hydropower Institute Recertification

Ashton Hydroelectric Project
(FERC No. P-2381; LIHI Certificate No. 61)
Freemont County, Idaho



Prepared by:

PacifiCorp
825 NE Multnomah, Suite 1800
Portland, OR 97232

December 2019

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ACRONYMS AND ABBREVIATIONS

BLM—Bureau of Land Management
BM—Boise Meridian
BMP—best management practice
CFR—Code of Federal Regulations
cfs—cubic feet per second
Commission—Federal Energy Regulatory Commission
DO—dissolved oxygen
EA—environmental assessment
EPA—Environmental Protection Agency
FERC—Federal Energy Regulatory Commission
FPA—Federal Power Act
FPC—Federal Power Commission
FWS—United States Fish and Wildlife Service
fps—feet per second
ft.—feet
hp—horse-power
HPMP—Historic Properties Management Plan
HUC—Hydrologic Unit Code
IDEQ—Idaho Department of Environmental Quality
IDFG—Idaho Department of Fish and Game
kVA—kilovolt amps
kW—kilowatts
kWh—kilowatt hours
L—liters
LIHI—Low Impact Hydropower Institute
m.—meters
m^3—cubic meters
mi.—miles
MW—megawatts
MWh—megawatt hours
NEPA—National Environmental Policy Act
PLC—programmable logic controller
PM&E—protection, mitigation, and enhancement
RM—river mile
SCADA—Supervisory Control and Data Acquisition
SHPO—State Historic Preservation Office
TMDL—Total Maximum Daily Load
UPL—Utah Power and Light Company
USDA—United States Department of Agriculture
USDI—United States Department of Interior
USGS—United States Geological Survey
WQC—water quality certification
WSE—water surface elevation

1.0 PROJECT DESCRIPTION

PacifiCorp owns and operates the Ashton Hydroelectric Project (Project), Federal Energy Regulatory Commission (FERC) Project No. P-2381, located in Freemont County, Idaho, on the Henry's Fork of the Snake River (Figure 1). The Project consists of a single hydroelectric development that includes a reservoir, dam and powerhouse with a generation capacity of 6.7 MW. The Project boundary encompasses the Ashton Reservoir and a nearby wetland complex.

The Project is certified by the Low Impact Hydropower Institute (LIHI) Certificate Number 61. The current LIHI certification, issued on December 31, 2014, expires on December 31, 2019. This recertification application includes information on the Project facilities, history, setting, operations, compliance during the certification term, zones of effect, and the standards that are met for achievement of the LIHI criteria.

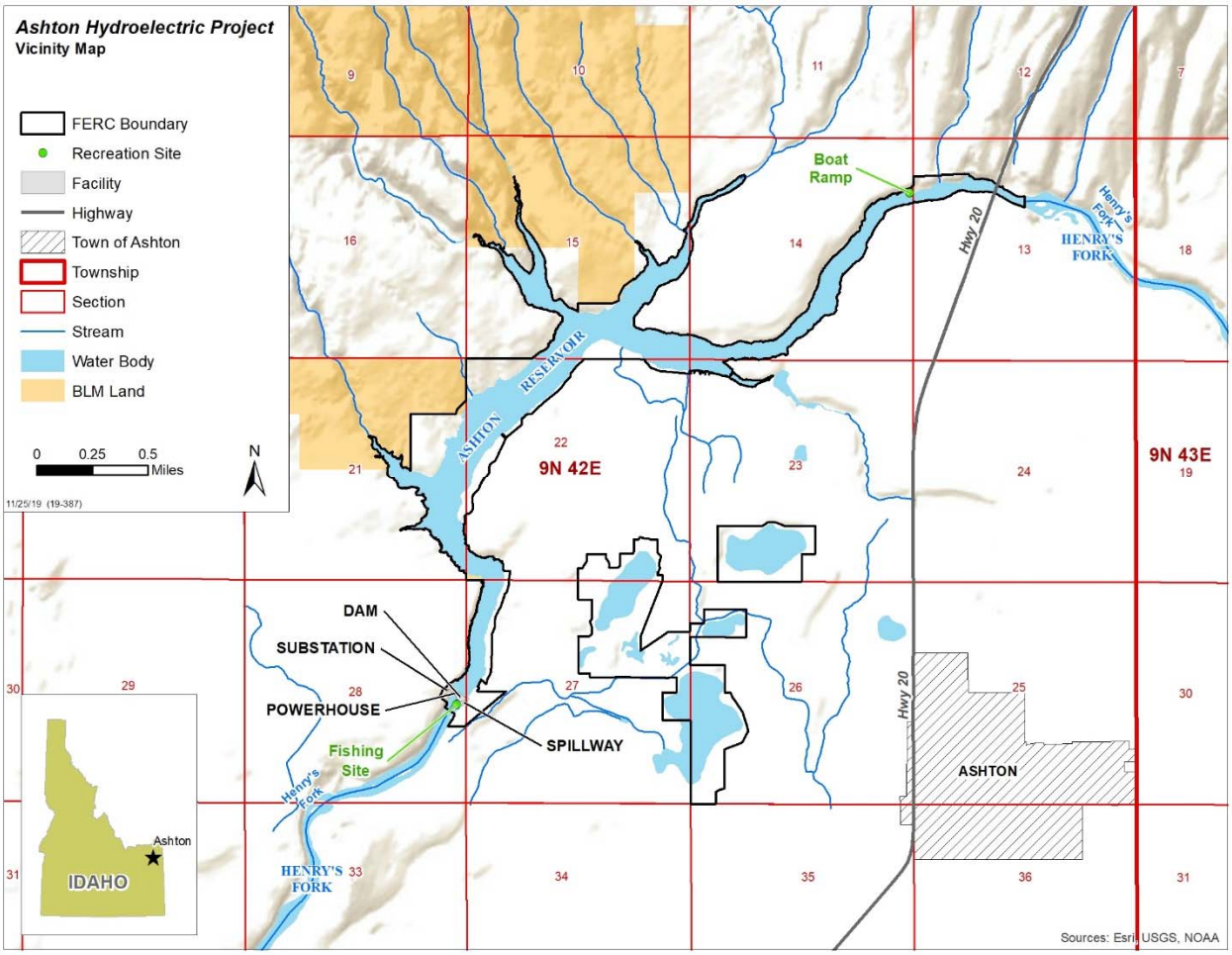


Figure 1. Project facilities and vicinity map.

1.1 PROJECT FACILTIES

A summary of Project facilities is provided below in Table 1 in the format of LIHI's Table B-1.1. Additional narrative descriptions of the facilities are provided in the following sub-sections. Project Facilities are depicted spatially in Figures 1, 4, and 5. Photos of the Project facilities are provided in Appendix B.

1.1.1 Ashton Reservoir

The Ashton Reservoir is approximately 4.2 miles long and has a surface area of 392.9 acres, with a gross storage capacity of 6,080 acre-feet at maximum full pool surface elevation of 5,155.9 feet (PacifiCorp datum). The retention time of impounded water is 1.6 to 4.5 days.

1.1.2 Ashton Dam

The Ashton Dam is comprised of a 56-foot-high, 226-foot-long, earth and rock-filled dam that has a downstream slope covered with roller compacted concrete and an upstream slope stabilized by additional rock fill. The crest elevation of the dam is 5,156.6 feet (PacifiCorp datum). There is an 82-foot-long reinforced concrete spillway surmounted by six 10-foot-high radial gates. A low-level outlet tunnel was installed to provide river diversion during construction. The outlet tunnel was constructed through the right abutment bedrock and includes a vertical shaft housing slide gates for flow control.

1.1.3 Spillway

An 82-foot-wide gated spillway is located on the left abutment and separated from the dam-crest-overflow spillway by a reinforced concrete training wall. There are six 10-foot high by 12-foot-wide radial spillway gates set on a sill at elevation 5,146 feet and their top is at elevation 5,155.9 feet. The dam-crest-overflow spillway has an elevation of 5,156.6 feet. All elevations are given in PacifiCorp datum. To convert to NAVD 88 datum, add 2.972 feet.

The hydraulic capacity of the gated spillway is 6,070 cfs. Above a reservoir surface elevation of 5,156.6 feet (top of the dam), the Project transitions from normal operation to full spill (shut down the powerhouse and open the tunnel). Maximum outflow capacity at that elevation is 11,326 cfs (spillway + tunnel capacity). For comparison, a 100-year flood inflow is 7,400 cfs.

1.1.4 Powerhouse

The powerhouse is a reinforced-concrete structure that is integral to the dam and is located at the right bank. Three powerhouse intakes on the upstream face of the dam are controlled by vertical slide gates. There are three trash rack assemblies with bars spaced at 1 3/8". The powerhouse contains three generating units, two with a nameplate rating of 2,000 kW, and one unit rated at 2,700 kW. The facility has a 46/2.3-kV step-up transformer and electricity is conveyed to the substation via a 133-foot-long, 46-kV transmission line.

Table 1. Project Facilities (LIHI Table B 1.1).

Item	***Information Requested***	***Response (include references to further details)***
Name of the Facility	Facility name (use FERC project name or other legal name)	Ashton Hydroelectric Project (FERC No. P-2381)
Location	River name (USGS proper name)	Henry's Fork of the Snake River (Henry's Fork)
	Watershed name (select region, click on the area of interest until the 8-digit HUC number appears. Then identify watershed name and HUC-8 number from the map at: https://water.usgs.gov/wsc/map_index.html)	Upstream of Ashton Dam: HUC-8: 17040202 Upper Henry's Watershed Downstream of Ashton Dam: HUC-8: 17040203 Lower Henry's Watershed
	Nearest town(s), county(ies), and state(s) to dam	Ashton, Freemont County, Idaho
	River mile of dam	RM 45
	Geographic latitude of dam	44.07843° N
	Geographic longitude of dam	111.49688° W
Facility Owner	Application contact names (see the Contact Form in Section 4.0):	Mark Stenberg, Ashton License Program Manager Todd Olson, Director of Compliance
	Facility owner company and authorized owner representative name. **For recertifications: If ownership has changed since last certification, provide the date of the change.**	PacifiCorp Mark Sturtevant, Vice President, Renewable Resources No changes in ownership since the last certification
	FERC licensee company name (if different from owner)	PacifiCorp (Referenced as Utah Power & Light Company on the 1987 license which was issued prior to merger with PacifiCorp)
Regulatory Status	FERC Project Number (e.g., P-xxxxx), issuance and expiration dates, or date of exemption	FERC No. P-2381 Issued: 8/3/1987 Expires: 12/31/2027
	FERC license type (major, minor, exemption) or special classification (e.g., "qualified conduit", "non-jurisdictional")	Major
	Water Quality Certificate identifier, issuance date, and issuing agency name. Include information on amendments.	The §401 water quality certification was issued On May 10, 1985 by the Idaho Department of Health and Welfare.
	Hyperlinks to key electronic records on FERC e-library website or other publicly accessible data repositories	Current License: see Appendix A 1-1 for legible version Amendment to License: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13349172 Revised Exhibit A: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=14256858 (See Section 5.0 References for additional hyperlinks)

Item	*Information Requested*	*Response (include references to further details)*
Powerhouse	Date of initial operation (past or future for pre-operational applications)	1918
	Total installed capacity (MW) **For recertifications: Indicate if installed capacity has changed since last certification**	Authorized installed capacity: 6.7 MW per 2016 revised Exhibit A. The installed capacity has not changed since the last LIHI certification.
	Average annual generation (MWh) and period of record used **For recertifications: Indicate if average annual generation has changed since last certification**	Based on the past 30 years (1989-2018), the average annual generation of the project is 33.268 GWh (33,268 MWh). Annual generation has not changed appreciably since the last certification.
	Mode of operation (run-of-river, peaking, pulsing, seasonal storage, diversion, etc.) **For recertifications: Indicate if mode of operation has changed since last certification**	The project is operated in an instantaneous run-of-river mode. The mode of operation has not changed since the last certification.
	Number, type, and size of turbines, including maximum and minimum hydraulic capacity of each unit	Three vertical Francis turbine-generator units. Integral to the powerhouse are three intakes and tailraces for all three generating units. Unit 1: Type: Vertical Reaction Manufacturer: American Hydro Rated H.P.: 4,000 Gross head: 48’ CFS capacity: 875 cfs (as-built) Unit 2: Type: Vertical Reaction Manufacturer: S. Morgan Smith Rated H.P.: 3,000 Gross head: 48’ CFS capacity: 850 cfs Unit 3: Type: Vertical Reaction Manufacturer: S. Morgan Smith Rated H.P.: 3,000 Gross head: 48’ CFS capacity: 850 cfs
	Trashrack clear spacing (inches), for each trashrack	There are three trashrack assemblies, each with 1 3/8” spacing on bars.
	Dates and types of major equipment upgrades	1918 Unit 1 (Ashton 1st generator) 1925 Units 2 & 3 initially installed. 1992 Unit 1 generator rewind and installation of 42-inch bypass valve to voluntarily support minimum stream flow of 300 cfs in case of a plant trip.
	Dates, purpose, and type of any recent operational changes	There have not been any recent operational changes.

Item	*Information Requested*	*Response (include references to further details)*
	Plans, authorization, and regulatory activities for any facility upgrades or license or exemption amendments	There are no plans for facility upgrades in the next five years. Future upgrade proposals are possible.
Dam or Diversion	Date of original construction and description and dates of subsequent dam or diversion structure modifications	1918 – The dam and powerhouse were constructed by the Ashton and St. Anthony Power Company (see section 1.2 for details).
	Dam or diversion structure height including separately, the height of any flashboards, inflatable dams, etc.	The dam has a maximum height of 56 feet. The dam crest elevation is 5,156.6 feet. (All elevations are given in PacifiCorp datum. To change to NAVD 88 add 2.972 feet.)
	Spillway elevation and hydraulic capacity	There are six 10-foot-high by 12-foot-wide radial spillway gates set on a sill at elevation 5,146 feet. Hydraulic capacity of the gated spillway is 6,070 cfs. The dam-crest-overflow spillway has an elevation of 5,156.6 feet. See section 1.1.3 for additional details. (All elevations are given in PacifiCorp datum. To change to NAVD 88 add 2.972 feet.)
	Tailwater elevation (provide normal range if available)	Normal Tailwater elevation: [5,108.6 feet (PacifiCorp datum).
	Length and type of all penstocks and water conveyance structures between the impoundment and powerhouse	Not applicable - the powerhouse is integral to the dam.
	Dates and types of major infrastructure changes	Dam rehabilitation completed: 1/23/2013.
	Designated facility purposes (e.g., power, navigation, flood control, water supply, etc.)	Power
	Source water	Ashton Reservoir on the Henry's Fork Snake River
	Receiving water and location of discharge	Henry's Fork Snake River
Conduit	Date of conduit construction and primary purpose of conduit	Not Applicable.

Item	*Information Requested*	*Response (include references to further details)*
Impoundment and Watershed	Authorized maximum and minimum water surface elevations **For recertifications: Indicate if these values have changed since last certification**	There are no requirements to maintain specific elevations (the project is operated in an instantaneous run of river mode). The following elevations were used to calculate storage capacity: Minimum water surface elevations: 5,141.97 feet (lowest intake) Maximum water surface elevations: 5,155.9 feet (full pool) and top of closed spillway gates. (All elevations are in PacifiCorp datum). There were no changes in this requirement since last certification.
	Normal operating elevations and normal fluctuation range **For recertifications: Indicate if these values have changed since last certification**	During the past few years the reservoir elevation was normally held at approximately 5,155.55 feet in the summer and 5,155.05 feet in the winter months. Different target elevations were used during the reservoir rehabilitation that occurred during the prior LIHI certification period.
	Gross storage volume and surface area at full pool **For recertifications: Indicate if these values have changed since last certification**	Gross storage capacity : 6,080 acre-feet at maximum full pool surface elevation of 5,155.9 feet (PacifiCorp datum). Normal maximum water surface area: 392.9 acres at maximum full pool. The gross storage capacity has not physically changed since the last certification. The numbers differ slightly because they were calculated using different elevations for full pool (now based on the 5,155.9 feet elevation of the top of the closed spillway gate).
	Usable storage volume and surface area **For recertifications: Indicate if these values have changed since last certification**	Usable storage capacity: 4,000 acre-feet (based on a full pool elevation of 5,155.9 feet and the lowest intake elevation of 5,141.97 feet, PacifiCorp datum). The usable storage capacity has not physically changed since the previous 2014 LIHI certification but the number was calculated using slightly different elevations.
	Describe requirements related to impoundment inflow, outflow, up/down ramping and refill rate restrictions.	During normal operations, the Project is operated in an instantaneous run of river mode and there are no ramping or minimum flow requirements.

Item	*Information Requested*	*Response (include references to further details)*
	Upstream dams by name, ownership and river mile. If FERC licensed or exempt, please provide FERC Project number of these dams. Indicate which upstream dams have downstream fish passage.	Island Park Reservoir Dam, Bureau of Reclamation (dam)/ Fall River Rural Electric Cooperative (licensee) FERC No. P-2973. RM 91 (44.41889 -111.39645). No fish passage.
	Downstream dams by name, ownership, river mile and FERC number if FERC licensed or exempt. Indicate which downstream dams have upstream fish passage	Chester Diversion Dam (Cross Cut Diversion Dam), Freemont Madison Irrigation District (dam owner)/Fall River Rural Electric Cooperative (licensee), FERC No. P-11879, RM 38.5, (-111.58364, 44.01831). The dam has upstream fish passage. Fun Farm Dam (Farmers Friend/Twin Groves/St Anthony Union canal diversion near St Anthony) at RM 35 (-111.627, 43.983). No fish passage. Del Rio Dam at RM 33.7 (-111.650, 43.974). No fish passage. St. Anthony Diversion Dam (Egin Dam), St. Anthony Hydro LLC. (owner), FERC No. P-14552, RM 31.5 (-111.67963, 43.96501). The Egin dam has upstream fish passage.
	Operating agreements with upstream or downstream facilities that affect water availability and facility operation	None.
	Area of land (acres) and area of water (acres) inside FERC project boundary or under facility control.	The FERC Project boundary contains a total of 813.07 acres which includes 511.68 acres surrounding the reservoir and 301.39 acres of wetland complex that is near but not connected to the reservoir (Figure 1). Excluding the wetland complex portion of the project boundary, the area of land adjacent to Ashton Reservoir and downstream of the dam is 116.7 acres. The area of water is 395 acres.
Hydrologic Setting	Average annual flow at the dam, and period of record used	Average annual flow measured at USGS gage No. 13046000 (Henry's Fork at Ashton at RM 44.2) is 1,520 cfs for the period 1927 to 2018.

Item	*Information Requested*	*Response (include references to further details)*
	Average monthly flows and period of record used	Average monthly flows measured at USGS gage No. 13046000 for period of record 1890-04 to 2018-11: Jan 1, 030 Feb 1, 050 Mar 1, 100 Apr 1, 620 May 2, 580 Jun 2, 080 Jul 1, 950 Aug 1, 870 Sep 1, 500 Oct 1, 200 Nov 1, 090 Dec 1, 050
	Location and name of closest stream gauging stations above and below the facility	Upstream Gage: 13042500 Henry's Fork near Island Park (above) Downstream Gage: 13046000 Henry's Fork near Ashton (below)
	Watershed area at the dam (in square miles). Identify if this value is prorated and provide the basis for proration.	The Upper Henry's Fork subbasin: 1,095 square miles. The dam marks the downstream end of the Upper Henry's Fork subbasin.
Designated Zones of Effect	Number of zones of effect	2
	Upstream and downstream locations by river miles	ZOE 1: (Impoundment reach) - RM 45 to 49.4 ZOE 2: (Tailwater riverine reach) - RM 44.9 to 45
	Type of waterbody (river, impoundment, bypassed reach, etc.)	ZOE 1: Impoundment ZOE 2: Riverine
	Delimiting structures or features	ZOE 1: Ashton Reservoir to dam (intake) ZOE 2: Ashton dam to downstream end of FERC Project boundary.
	Designated uses by state water quality agency	Designated uses: In the Upper and Lower Henrys Fork subbasins, the Henrys Fork itself is designated for cold water aquatic life, salmonid spawning, primary contact recreation, and domestic water supply. Source: Idaho administrative rules: IDAPA 58.01.02 (in tables on pages 117 and 120: https://adminrules.idaho.gov/rules/current/58/580102.pdf)

1.1.5 Tailwater

The tailwater from the powerhouse is discharged directly to the Henry's Fork into a deep pool at the base of the dam. Downstream of the dam, the river continues through a narrow canyon.

1.2 PROJECT HISTORY

1.2.1 Construction History

In 1918, the Ashton and St. Anthony Power Company completed the dam and powerhouse that comprise the Ashton Project. The powerhouse was built to house three generating units but was only outfitted with one in 1918. Six years later in 1924, Utah Power & Light Company acquired the project and in the following year, installed two more generating units in the powerhouse among other improvements.

Following the merger of Utah Power and Light with Pacific Power, the project was transferred to PacifiCorp in 1988. In 1991, a major project to accommodate the maximum probable flood, removed the top five feet of the dam to allow the dam crest to function as an overflow spillway. As part of this project, the dam crest and downstream dam face were covered in roller-compacted concrete, additional ballast rock was added to the upstream dam face for seismic loading, wood spillway skins were replaced with steel, a bypass valve was installed in the No. 1 turbine pit, and the original 1917 turbine No. 1 was replaced and its generator was rewound.

PacifiCorp rehabilitated Ashton Dam in 2010-2011 to mitigate seepage and piping (i.e., internal erosion) risks posed by a deteriorating upstream silt core within the dam. The rehabilitation involved excavating and reconstructing a portion of the upstream embankment. Other features of the dam remediation project included replacing the headrace retaining wall, replacing the concrete crest structure, and adding a concrete overlay to an unprotected portion of rockfill between the spillway and the powerhouse (Appendix B photos 1 and 2). A new low-level outlet tunnel was installed to provide river diversion during construction. The outlet tunnel was constructed through the right abutment bedrock and includes a vertical shaft housing slide gates for flow control.

The abandoned low level outlet conduits from the original project were grouted in 1991 and the upper portion of the control shaft was removed during the dam remediation project in 2012.

1.2.2 Project Developments

The Ashton Hydroelectric Project was originally licensed to Utah Power and Light Company with an effective date of 1938. Although licensed together, the St. Anthony Development and the Ashton Development shared no facilities, lands, or any portion of project boundaries.

On August 3, 1987 the Federal Energy Regulatory Commission (FERC or Commission) issued a new 40-year license to Utah Power and Light Company (UPL) to continue operating the Ashton-St Anthony Project (Project), FERC Project No. P-2381. Following the merger of Pacific Power and Utah Power & Light, the Project was transferred to PacifiCorp on November 23, 1988.

In 2013, PacifiCorp and the St. Anthony Hydro, LLC jointly proposed mutual terms of sale and transfer of the entirety of the St. Anthony Development from PacifiCorp to St. Anthony Hydro. LLC. FERC accepted the proposal and sale and on September 13, 2013, the Commission separated the two developments, creating the St. Anthony Project No. 14552, while leaving the Ashton development with the existing project number and renaming it as the Ashton Project

(FERC 2013). A description of the current Ashton Project can be found in the most recent Exhibit A of the Project license (PacifiCorp 2016a).

The Low Impact Hydropower Certification only pertained to the Ashton development.

1.2.3 Compliance History

PacifiCorp has not incurred any license violation during the current LIHI certification term (five years). No compliance variances were recorded during the current certification term.

The current LIHI certification does not include any conditions. The initial LIHI certification (2009-2014) included 2 conditions pertaining to water quality monitoring during the dam remediation project work in 2013-2014 (see section 2.1).

1.3 PROJECT OPERATIONS

PacifiCorp operates the Ashton Project in an instantaneous run-of-river mode for the protection of fish and wildlife resources in the Henry's Fork as required by Article 401 of the FERC Project license for the Ashton development (FERC 1987; see Appendix A-1-1, p14). Run-of-river operation may be temporarily modified if required by operating emergencies beyond the control of the licensee, and for short periods upon mutual agreement between the licensee and the Idaho Department of Fish and Game (IDFG).

The run-of-river requirement is implemented by minimizing the fluctuation of the reservoir surface elevation by maintaining a discharge from the development so that river flow in the Henry's Fork downstream from the powerhouse tailrace approximates the sum of inflow to the Project reservoir. During normal river flow conditions, the reservoir level is adjusted automatically by a Load Control System that adjusts the generator output using all available water while maintaining the constant reservoir level. A programmable logic controller (PLC), located in the plant, adjusts the aperture of the wicket gates at the powerhouse that control the flow to the generators. The PLC responds to input from water level sensors on the upstream face of the dam and reacts to changes in reservoir elevations that exceed +/- 0.15 feet of a target elevation that is set in the PLC program. During the last few years, the target reservoir elevation level was set to approximately 5,155.55 feet (PacifiCorp datum) for the summer months and slightly lower, around 5,155.05 feet (PacifiCorp datum), for the winter months.

The generators can be operated manually by an on-site operator through an operator interface terminal, when needed. Plant functions also can be monitored remotely over the supervisory control and data acquisition (SCADA) network by control operators at PacifiCorp's Hydro Control Center. If the plant trips (an emergency situation that automatically halts generation and closes the wicket gates to stop flow through the generators), an emergency bypass valve automatically opens to provide 300 cfs of flow to the river downstream of the dam. This emergency bypass valve was installed as a voluntarily measure to insure that flow is always maintained to the river below the dam.

Under normal flow conditions, the adjustments to the wicket gates maintain a relatively constant reservoir level. When natural inflows exceed the Project's generation capacity, spill gates are opened automatically to pass the excess inflow and maintain the reservoir level and run-of-river operation.

1.4 PROJECT WATERSHED

The Henry's Fork watershed in eastern Idaho and western Wyoming encompasses 1.7 million acres and over 3,000 miles of rivers, streams and canals. The river originates from the outlet of Henry's Lake, located in the Continental Divide Mountains. The Upper Henry's Fork subbasin, located in eastern Idaho, encompasses 1,095 square miles, including 30 square miles in Wyoming and 60 square miles in Yellowstone National Park (Figure 2). The northern extent of the subbasin is bounded by the continental divide, which also delineates the boundary between Idaho and Montana. The subbasin is located within the Greater Yellowstone Ecosystem and possesses many of the unique geological, scenic, recreational, and wildlife attributes for which Yellowstone National Park is valued. The majority of the subbasin is managed by the U.S. Forest Service (See Figure 2 – Project Location and Watersheds).

The Ashton Hydroelectric Project is located at river mile 45 of the Henry's Fork of the Snake River (Henry's Fork) in Fremont County, Idaho. The Ashton Project is approximately 46 river miles downstream of the Island Park Reservoir and 6.5 river miles upstream of the Chester Dam.

The Ashton Dam, forms the southern boundary of the Upper Henry's Fork subbasin. After exiting the subbasin, the Henry's Fork continues in a southwesterly direction for 79 miles through the Lower Henry's Fork subbasin before reaching its confluence with the South Fork of the Snake River. The Ashton Dam and associated powerhouse are situated in a sparsely populated, semi-arid area in which the dominant land uses are irrigated agriculture and outdoor recreation, particularly trout angling and hunting. The area's topography is flat to gently rolling, and its climate is characterized by warm, dry summers and cold, snowy winters.

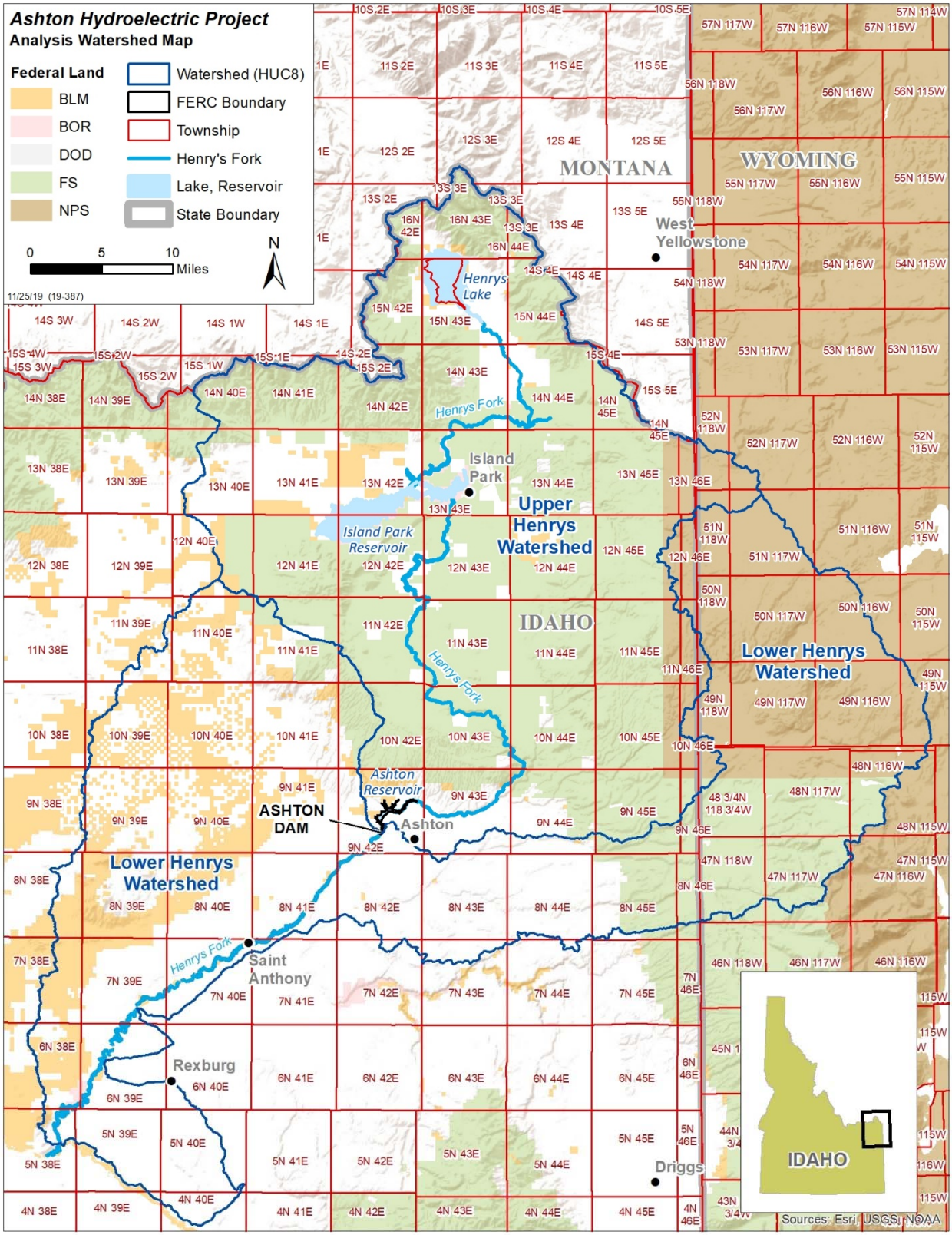


Figure 2. Project location and watersheds.

1.5 ZONES OF EFFECT

The Ashton Project has two zones of effect (ZOE) for the purposes of LIHI certification standards analysis. These zones are, in order from upstream to downstream:

(1) ZOE 1: Impoundment - is the Ashton Reservoir that extends from the dam intake (approx. RM 45), upstream to the northeast end of the reservoir where it transitions to an unregulated riverine reach (approx. RM 49.6) which is also the eastern extent of the FERC Project boundary on the North-South ¼ section line of Section 13, T.9N R.42E, BM.

(2) ZOE 2: Tailwater-Riverine Reach - is the river reach beginning at the dam and powerhouse and extending downstream approximately 0.15 miles to the west end of the Project boundary (approx. RM 44.9).

A diagram depicting the two ZOE is provided in Figure 3 and in aerial views of the zones in Figures 4 and 5.

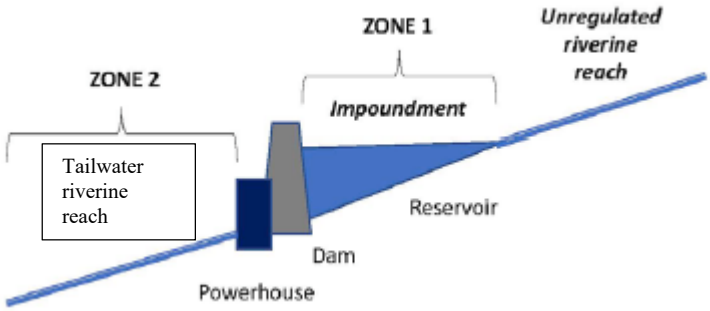


Figure 3. Zones of Effect conceptual diagram for the Ashton Project.

1.6 CHANGES SINCE LAST CERTIFICATION

There have been no material changes to the Project facilities, operations, or regulatory requirements since the last LIHI certification.

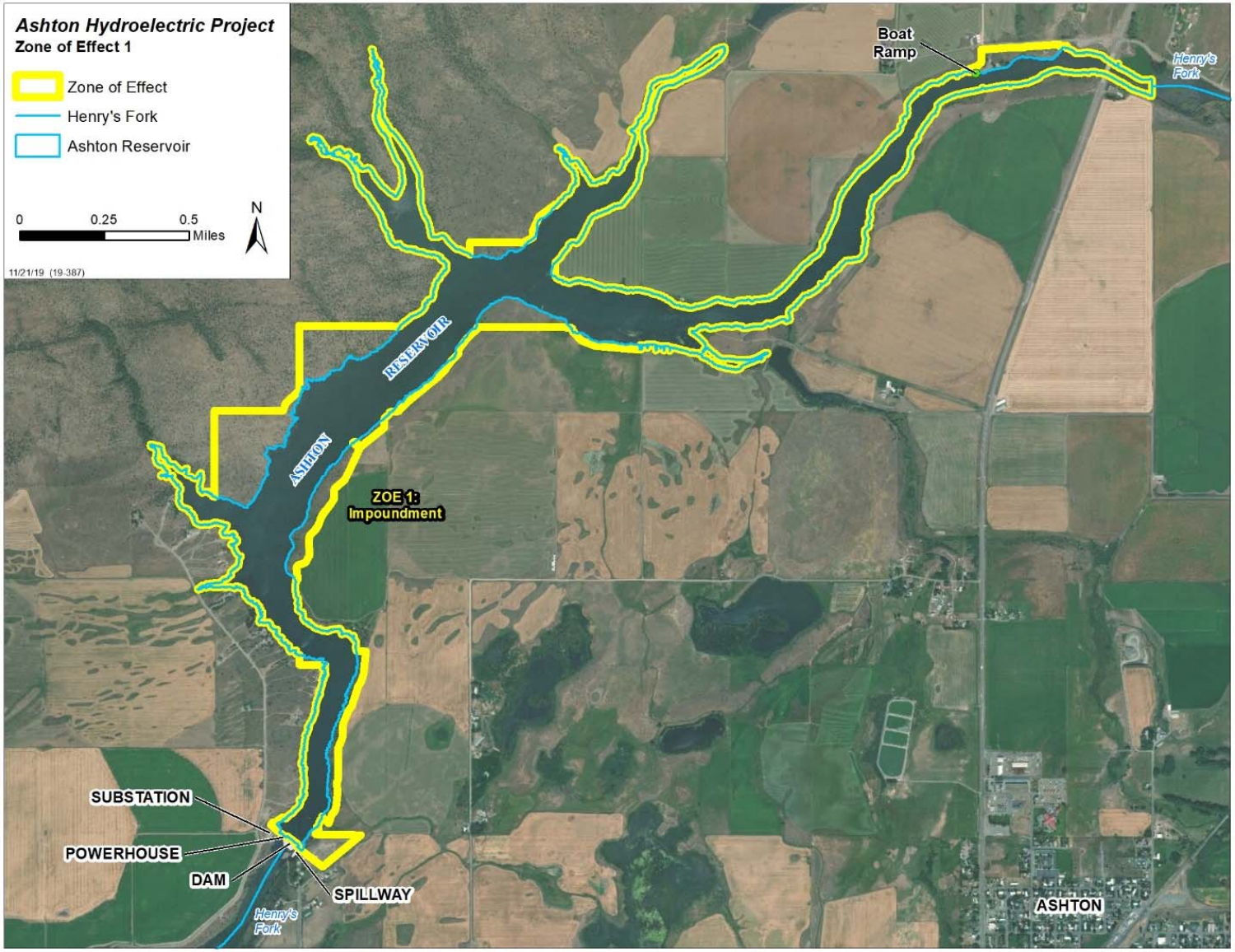


Figure 4. Aerial view of ZOE 1: Impoundment.

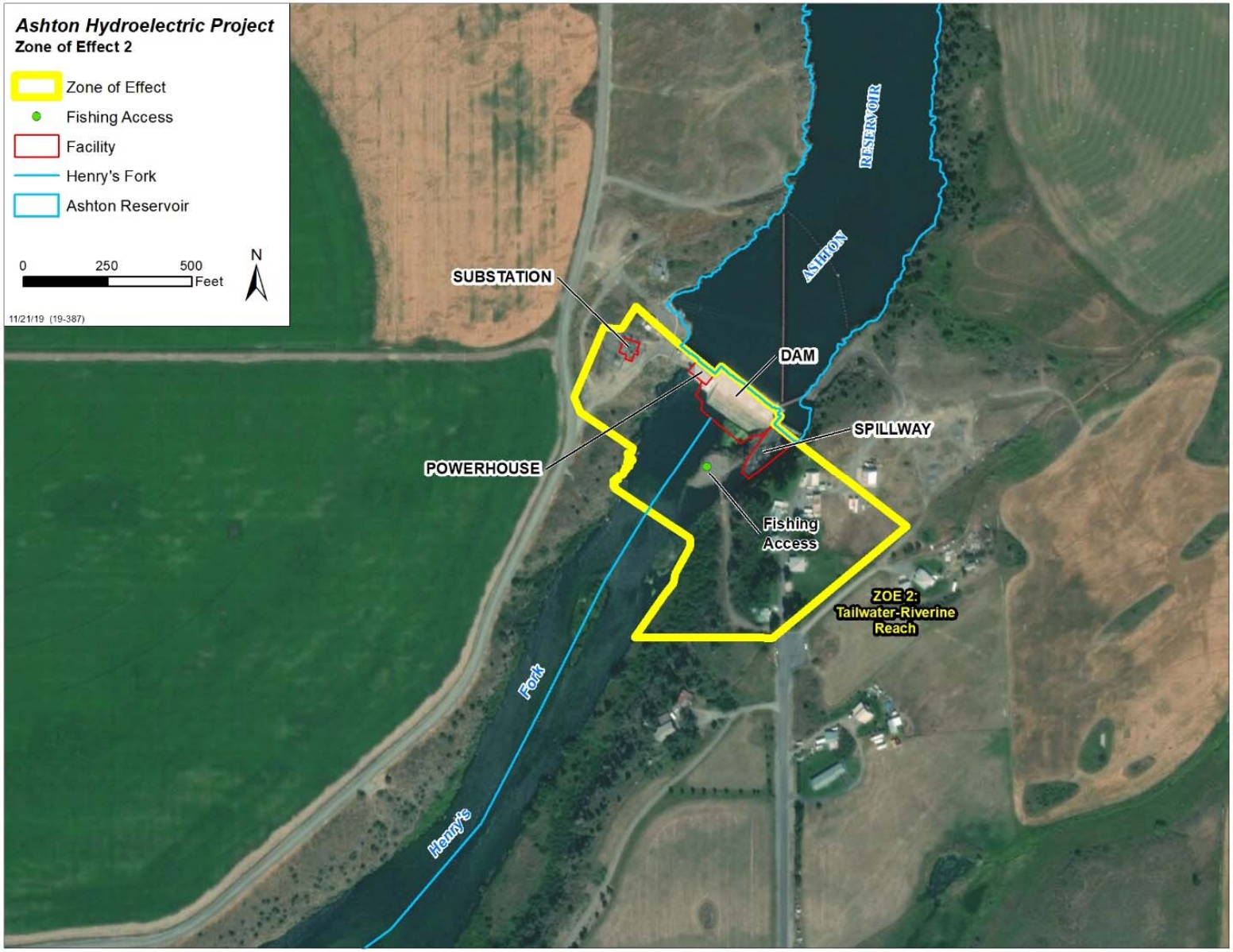


Figure 5. Aerial view of ZOE 2: Tailwater-Riverine Reach.

2.0 CERTIFICATION STANDARDS

PacifiCorp reviewed the certification criteria and alternative standards outlined in LIHI's *Low Impact Hydropower Certification Handbook, 2nd Edition* (Revision 2.03: December 20, 2018) for each of the Zones of Effect (ZOE) identified in Section 1.5. Alternative standards matrices (Handbook Table B-1.2) were completed for each ZOE, as presented below, and the selected alternative standards for each ZOE are grouped by criterion and presented in the applicable sub-sections.

The standards applicable to each criterion for Zones 1 and 2 are indicated in Tables 2 and 3 respectively.

Table 2. Alternative standards matrix for ZOE 1: Impoundment.

		Alternative Standards				
	Criterion	***1***	***2***	***3***	***4***	***Plus***
A	**Ecological Flow Regimes**	X				
B	**Water Quality**			X		
C	**Upstream Fish Passage**	X				
D	**Downstream Fish Passage**				X	
E	**Shoreline and Watershed Protection**		X			
F	**Threatened and Endangered Species Protection**	X				
G	**Cultural and Historic Resources Protection**	X				
H	**Recreational Resources**		X			

Table 3. Alternative standards matrix for ZOE 2: Tailwater-Riverine Reach.

		Alternative Standards				
	Criterion	***1***	***2***	***3***	***4***	***Plus***
A	**Ecological Flow Regimes**	X				
B	**Water Quality**	X				
C	**Upstream Fish Passage**				X	
D	**Downstream Fish Passage**	X				
E	**Shoreline and Watershed Protection**	X				
F	**Threatened and Endangered Species Protection**	X				
G	**Cultural and Historic Resources Protection**		X			
H	**Recreational Resources**			X		

2.1 CRITERION A - ECOLOGICAL FLOW REGIMES

Goal: The flow regimes in riverine reaches that are affected by the facility support habitat and other conditions suitable for healthy fish and wildlife resources.

Table 2.1. Ecological flow regime alternative standards matrix.

	Criterion A Alternative Standards				
Zone of Effect	***1***	***2***	***3***	***4***	***Plus***
ZOE 1: Impoundment	**X**	**-**			
ZOE 2: Tailwater Reach	***X***	**-**			

2.1.1 Ecological Flow Regime Standards for ZOE 1: Impoundment

STANDARD A-1. Not Applicable/De Minimis Effect: The facility operates in a true run-of-river operational mode and there are no bypassed reaches or water diversions associated with the facility; or the facility is located within an existing water conduit that does not discharge into natural waterways;

Criterion	***Standard***	***Instructions***
A	1	Not Applicable / De Minimis Effect: • Confirm the location of the powerhouse relative to dam/diversion structures and demonstrate that there are no bypassed reaches at the facility. • For run-of-river facilities, provide details on operations and demonstrate that flows, water levels, and operation are monitored to ensure such an operational mode is maintained. If deviations from required flows have occurred, discuss them and the measures taken to minimize reoccurrence. • In a conduit facility, identify the source waters, location of discharge points, and receiving waters for the conduit system within which the hydropower facility is located. This standard cannot be used for conduits that discharge to a natural waterbody. • For impoundment zones only, explain water management (e.g., fluctuations, ramping, refill rates) and how fish and wildlife habitat within the zone is evaluated and managed. ***NOTE:*** this is required information, but it will not be used to determine whether the Ecological Flows criterion has been satisfied. All impoundment zones can apply Criterion A-1 to pass this criterion.

The Ashton Project is operated in a true run-of-river mode so Standard A-1 was selected to meet this Criterion.

The Ashton Project is a single dam and reservoir facility with no bypassed reaches or conduit facilities (Figure 1) as described in Exhibit A of the Project license (PacifiCorp 2016a). The Ashton powerhouse is integral to the dam (Appendix B, photos 1 & 2).

The Project flow requirements are defined in Article 401 of the FERC Project license for the Ashton development (FERC 1987; see Appendix A-1-1, p14). The license requires PacifiCorp to operate the Ashton development in an "instantaneous run-of-river mode" for the protection of fish and wildlife resources in the Henry's Fork. Run-of-river operation may be temporarily

modified if required by operating emergencies beyond the control of the licensee, and for short periods upon mutual agreement between the licensee and the IDFG.

PacifiCorp minimizes the fluctuation of the reservoir surface elevation by maintaining a discharge from the development so that river flow in the Henry's Fork downstream from the powerhouse tailrace approximates the sum of inflow to the Project reservoir. The water surface elevation is monitored by a reservoir elevation sensor located on the dam and during normal operations the level is automatically maintained within a specified reservoir elevation band of approximately +/- 0.15 ft by controlling the generation load. During the last few years, the target reservoir elevation level was set to approximately 5,155.55 feet (PacifiCorp datum) for the summer months and around 5,155.05 feet (PacifiCorp datum) for the winter months. If the Ashton plant trips offline due to unplanned events that are beyond the control of the facility (e.g., transmission-line over-voltage, lightning, etc.) an emergency bypass valve opens automatically. The emergency bypass valve was installed as a voluntary minimum streamflow measure to provide instantaneous flows of 300 cfs until a spillgate can be manually opened or the generation flow is resumed.

Reservoir surface elevation monitoring shows that the reservoir elevation has been relatively consistent except for instances when the plant tripped offline. A series of plots of reservoir elevations and downstream gage data for the past 5 water years is provided in Appendix A-2.1-1. The Project is in compliance with the run-of-river license requirements and there have been no violations issued in the last five years.

The habitat in the impoundment zone is managed under the Ashton Wildlife Enhancement Plan (WEP) as described in more detail in section 2.5.1 (PacifiCorp 2016c). Shoreline vegetation is managed by controlling livestock access with fencing, conservation easements, leases, fee-title property acquisition, and permits as described in the WEP. Monitoring and noxious weed control are performed annually.

2.1.2 Ecological Flow Regime Standards for ZOE 2: Tailwater-Riverine Reach

ZOE 2 includes the dam, powerhouse and tailwater and there is no bypass reach or conduit associated with the Ashton facility. As described in section 2.1.1 above, operating the Project in a true run-of-river mode qualifies ZOE 2 under Standard A-1.

2.2 CRITERION B – WATER QUALITY

Goal: Water quality is protected in waterbodies directly affected by the facility, including downstream reaches, bypassed reaches, and impoundments above dams and diversions.

Table 2.2. Water quality alternative standards matrix.

Zone of Effect	*Criterion B Alternative Standards*				
	1	***2***	***3***	***4***	***Plus***
ZOE 1: Impoundment			***X***		
ZOE 2: Tailwater Reach	***X***				

There are no Clean Water Act Section 303(d) listings of impaired water bodies in either of the Project reaches (ZOE 1 or 2). The final Idaho Department of Environmental Quality (IDEQ) 2016 Integrated Report was approved by the Environmental Protection Agency (EPA) on June 25, 2019. The 2016 Integrated Report (IDEQ 2018a) and associated interactive map data (Figure 6) do not show or list waters in the Project-affected areas in the Upper Henry's or Lower Henry's subbasins as *Category 5 (§303(d) list): waters of the state for which a TMDL is needed* (Appendix A-2.2-1 contains copies of pages 49 and 50 from the IDEQ's integrated report's *Appendix L-Category 5 list for the Upper Henrys and Lower Henrys subbasins*). However, while the integrated report provides an assessment of the beneficial uses downstream of Ashton Dam (ZOE 2), it does not specifically provide an assessment of the reservoir (ZOE 1 - see section 2.2.1) which is part of a larger unassessed reach.

The Ashton / St. Anthony Hydroelectric Project initially received a §401 water quality certification in May, 1985 from the Idaho Department of Health and Welfare (IDHW). IDHW classified the reach of the Henry's Fork in the project area as a special resource water. Current designated uses for the river reaches occupied by the Project include cold water aquatic life, salmonid spawning, primary contact recreation, and domestic water supply (IDAPA 58.01.02; Henrys Fork-Warm River to Ashton Reservoir Dam, page 117 and Henrys Fork - Ashton Reservoir Dam to Falls River, page 120; Accessed 12/4/2019; https://adminrules.idaho.gov/rules/current/58/580102.pdf).

A site-specific water quality monitoring study, conducted in 2013 to satisfy the original LIHI certification's non-standard condition #2, provided recent documentation that the Project has little or no negative impacts on state water quality standards (see section 2.2.1 below).

2.2.1 Water Quality Standards for ZOE 1: Impoundment

STANDARD B-3. Site-Specific Studies: In the absence of an applicable agency recommendation specific to the facility, the facility owner demonstrates that it is in compliance with the quantitative water quality standards established by the state or other regulatory authority to support designated uses pursuant to the federal Clean Water Act or other applicable statute in the facility area and in the downstream reach.

Criterion	*Standard*	*Instructions*
B	3	Site-Specific Monitoring Studies: • If facility is located on a Water Quality Limited river reach, provide a link to the state's most recent impaired waters list and indicate the page(s) therein that apply to facility waters. If possible, provide an agency letter stating that the facility is not a cause of such limitation. • Document consultation with appropriate water quality agency to determine what water quality parameters and sampling methods are required. • Present recent water quality data from the facility or from other sources in the vicinity of the facility (e.g., data collected from the state, watershed associations, or others who collected data under generally accepted sampling protocols and quality assurance procedures) and explain and demonstrate how it satisfies current applicable water quality standards including designated uses, or provide a letter from the appropriate state or other regulatory agency accepting the data.

Although the Ashton reservoir (ZOE 1) is not located on a water quality limited reach listed in the 2016 Integrated Report (IDEQ 2018a) or shown on the associated interactive map (Figure 6) nor is it listed among the lakes known to have impaired water quality, the reservoir is part of a stream segment that remains classified as *Category 3: Waters of the state with insufficient data and information to determine if beneficial uses are being attained* (Assessment Unit ID17040202SK001_06L in Appendix G of the IDEQ 2016 Integrated Report; IDEQ 2018a). PacifiCorp, however, has site-specific results that demonstrated that water quality standards were met, therefore we summarize the finding under Standard B-3 for the qualifying criterion.

PacifiCorp site-specific study

The initial (2009) LIHI certification included non-standard condition #2 that required a study to provide evidence that water quality standards were not negatively impacted by the Project. The condition was required because of the age of the Project's 401 certification, and the scheduled dam rehabilitation work that was proposed at that time.

A water quality monitoring study was designed to demonstrate compliance with state standards and was approved by IDEQ. Upon the completion of the Ashton Dam Remediation project, post-construction water quality monitoring was conducted in 2013 and the report (PacifiCorp 2014) was reviewed by the IDEQ in early 2014. A letter from IDEQ, dated March 3, 2014, states that the Ashton Project has little or no negative impacts on state water quality standards (Appendix A-2.2-2). The letter from IDEQ and monitoring report were provided to LIHI on June 27, 2014. The study report, agency consultation record, and agency support letter were used by LIHI in recertification of the Ashton Project for the current term.

There have been no substantial changes in the way the Project operates in the past five years that could affect water quality. Therefore, the water quality study results and conclusion by IDEQ that the Project has little or no negative impacts on state water quality standards, remain applicable.

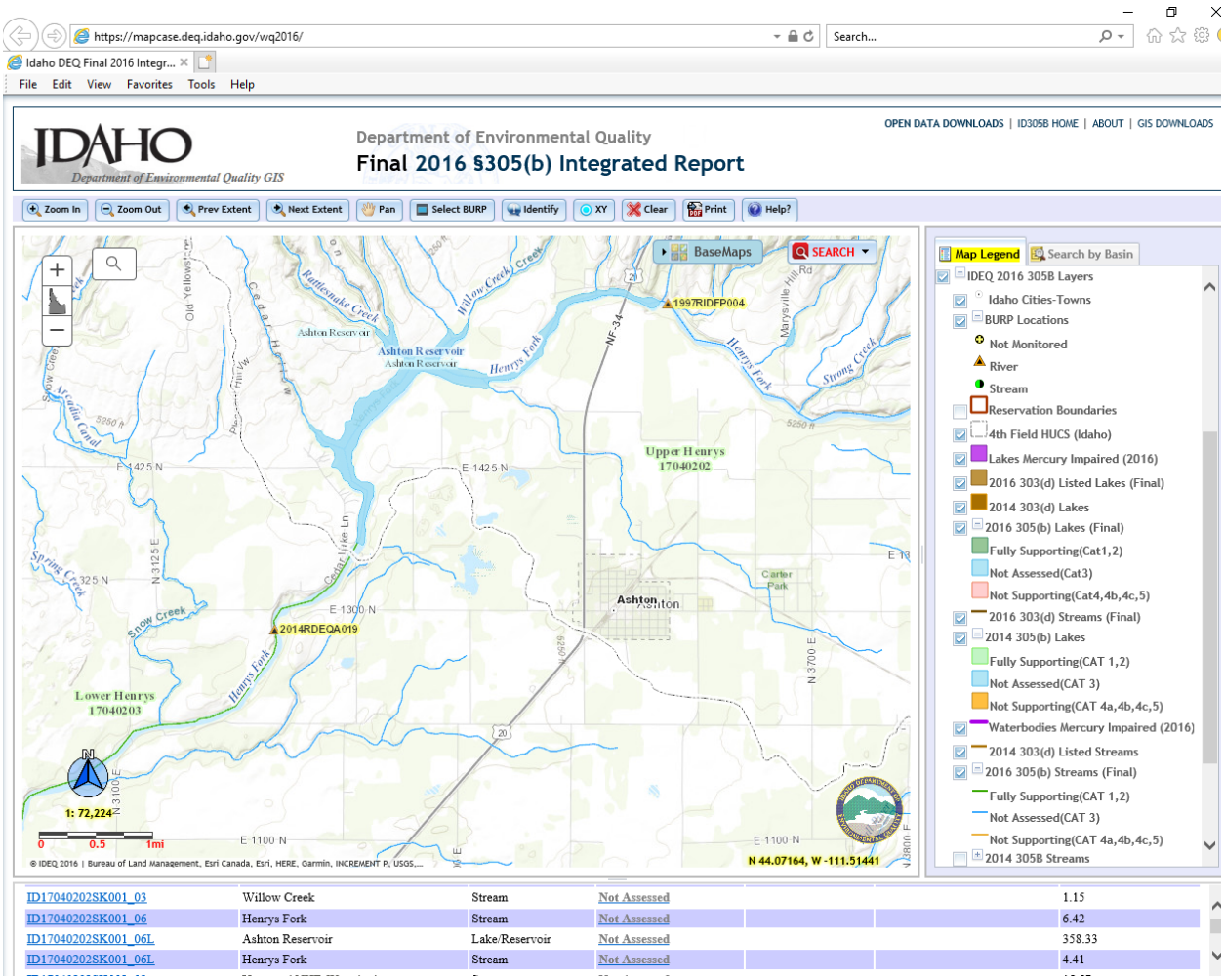


Figure 6. IDEQ Final 2016 §305(b) Integrated Report interactive map for the Ashton facility area showing the assessment status for the Henrys Fork downstream of the dam as *Fully Supporting-Category 2* (green line) and the reservoir and upstream reach as *Not Assessed* (blue line). Source - interactive map query for Upper Henrys. Accessed 12/6/19. https://mapcase.deq.idaho.gov/wq2016/

2.2.2 Water Quality Standards for ZOE 2: – Tailwater-Riverine Reach

STANDARD B-1. Not Applicable/De Minimis Effect: The facility does not alter the physical, chemical, or biotic water characteristics necessary to support fish and wildlife resources or human water uses (e.g., water supply or recreation).

Criterion	Standard	Instructions
B	1	Not Applicable / De Minimis Effect: • If facility is located on a Water Quality Limited river reach, provide a link to the state's most recent impaired waters list and indicate the page(s) therein that apply to facility waters. If possible, provide an agency letter stating that the facility is not a cause of such limitation. • Explain the rationale for why the facility does not alter water quality characteristics below, around, and above the facility.

As noted above, the Ashton Project is not located on a water quality limited reach and monitoring indicates that the Project has little or no negative impacts on state water quality standards. Therefore Standard B-1 was selected for ZOE 2.

The Tailwater-Riverine Reach is designated as Category 2 (*fully supporting beneficial uses for: Cold Water Aquatic Life and Salmonid Spawning*) in the IDEQ Draft 2016 integrated report page for Henry's Fork –Ashton Reservoir Dam to Falls River (IDEQ 2018c; Figure 7).

As described in section 2.2.1, post-construction water quality monitoring was conducted in 2013, and letter from IDEQ, dated March 3, 2014, states that the Ashton Project has little or no negative impacts on state water quality standards (Appendix A-2.2-2). PacifiCorp continues to operate the facility in the same way since then.

The Henry's Fork River, including the reaches upstream and downstream of Ashton Dam, continues to support a premier trout fishery (see section 2.3.2). This is a strong indicator that water quality is not negatively altered by the facility.

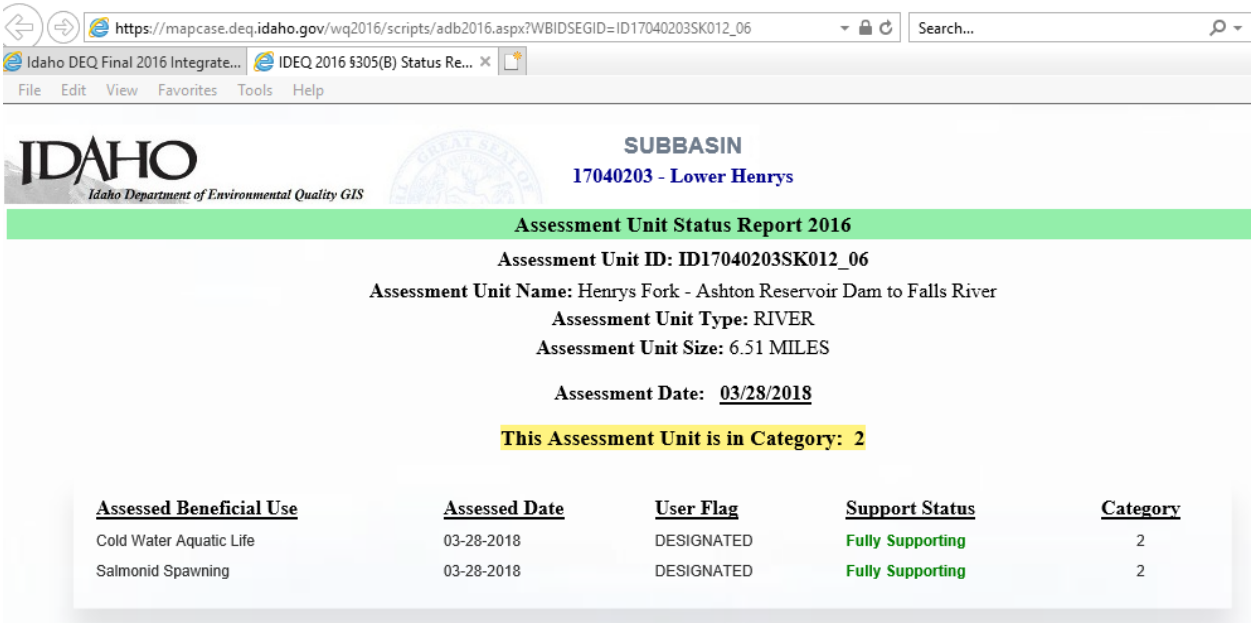


Figure 7. Assessment unit status page for *Henry's Fork –Ashton Reservoir Dam to Falls River* indicating that this reach fully supports beneficial uses for cold water aquatic life and salmonid spawning. Source – IDEQ interactive map query for *Lower Henrys* from the IDEQ Final 2016 §305(b) Integrated Report interactive map. Accessed 12/6/19.
https://mapcase.deq.idaho.gov/wq2016/scripts/adb2016.aspx?WBIDSEGID=ID17040203SK012_06

2.3 CRITERION C – UPSTREAM FISH PASSAGE

Goal: The facility allows for the safe, timely, and effective upstream passage of migratory fish. This criterion is intended to ensure that migratory species can successfully complete their life cycles and maintain healthy, sustainable fish and wildlife resources in areas affected by the facility.

Table 2.3. Upstream fish passage alternative standards matrix

Zone of Effect	*Criterion C Alternative Standards*				
	1	***2***	***3***	***4***	***Plus***
ZOE 1: Impoundment	***X***				
ZOE 2: Tailwater Reach				***X***	

There are no anadromous fish in the facility area. Resident trout species in the stream reaches upstream and downstream of the Ashton facility may move locally in the river system but are not known to exhibit a migratory life history pattern.

Trout are the primary fisheries resource considered in the following analysis. There are self-sustaining populations of trout upstream and downstream of the Project. In the Fisheries Management Plan 2019-2024 (IDFG 2019, page 314), IDFG indicates that the section of river from St. Anthony to Mesa Falls, which encompasses the Ashton facility area, *is currently producing good numbers of wild rainbow trout, with increasing numbers of brown trout*.

2.3.1 Upstream Fish Passage Standards for ZOE 1: Impoundment

STANDARD C-1. Not Applicable/De Minimis Effect: The facility does not create a barrier to upstream passage, or there are no migratory fish in the vicinity of the facility and the facility is not the cause of extirpation of species that were present historically;

Criterion	*Standard*	*Instructions*
C	1	Not Applicable / De Minimis Effect: • Explain why the facility does not impose a barrier to upstream fish passage in the designated zone. Typically, impoundment zones will qualify for this standard since once above a dam and in an impoundment, there is no facility barrier to further upstream movement. • Document available fish distribution data and the lack of migratory fish species in the vicinity. • If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this.

This Criterion is met for the Impoundment Zone by Standard C-1 since there are no facility barriers to upstream fish passage in the reservoir.

The main fishery resource of the Henry's Fork is comprised of coldwater species, including naturalized and sterile hatchery rainbow trout (Oncorhynchus mikiss formerly Salmo gairdneri), cutthroat trout ([O. clarkii lewisi] Salmo clarkii), brown trout (S. trutta), brook trout (Salvelinus fontinalis), kokanee salmon (O. nerka), and mountain whitefish (Prosopium williamsoni) (FERC 1987). Other fish species in the Henry's Fork within the Project vicinity include speckled dace

(Rhynichthys osculus), mottled sculpin (Cottus bairdi), Paiute sculpin (C. beldingi), redside shiner (Richardsonius balteatus), Utah chub (Gila atraria), Utah sucker (Catostomus ardens), and mountain sucker (C. clatyrhynchus) (PacifiCorp 2014) and fathead minnows (Pimephales promelas) (Maiolie 1987).

Of the salmonid species found in the Project vicinity, cutthroat trout and mountain whitefish are native to the area. Brown trout, brook trout, rainbow trout, and kokanee salmon are naturalized non-native species. Sterile hatchery rainbow trout are also present.

The fish species in the facility area are not known to exhibit migratory life history patterns (beyond local movements) in the vicinity of the facility. There are no known historic records of anadromous, catadromous, or potadromous fish movement through the facility area. Historically, anadromous fish were impeded from migrating to the area by the 65-meter high Shoshone Falls on the Snake River which is located in south-central Idaho downstream of the confluence of the Henry's Fork with the Snake River (IDFG 2007). Figure 8 shows the current and historic salmon and steelhead distribution in Idaho (IDFG 2019) and illustrates the lack of anadromous fish in southeast Idaho.

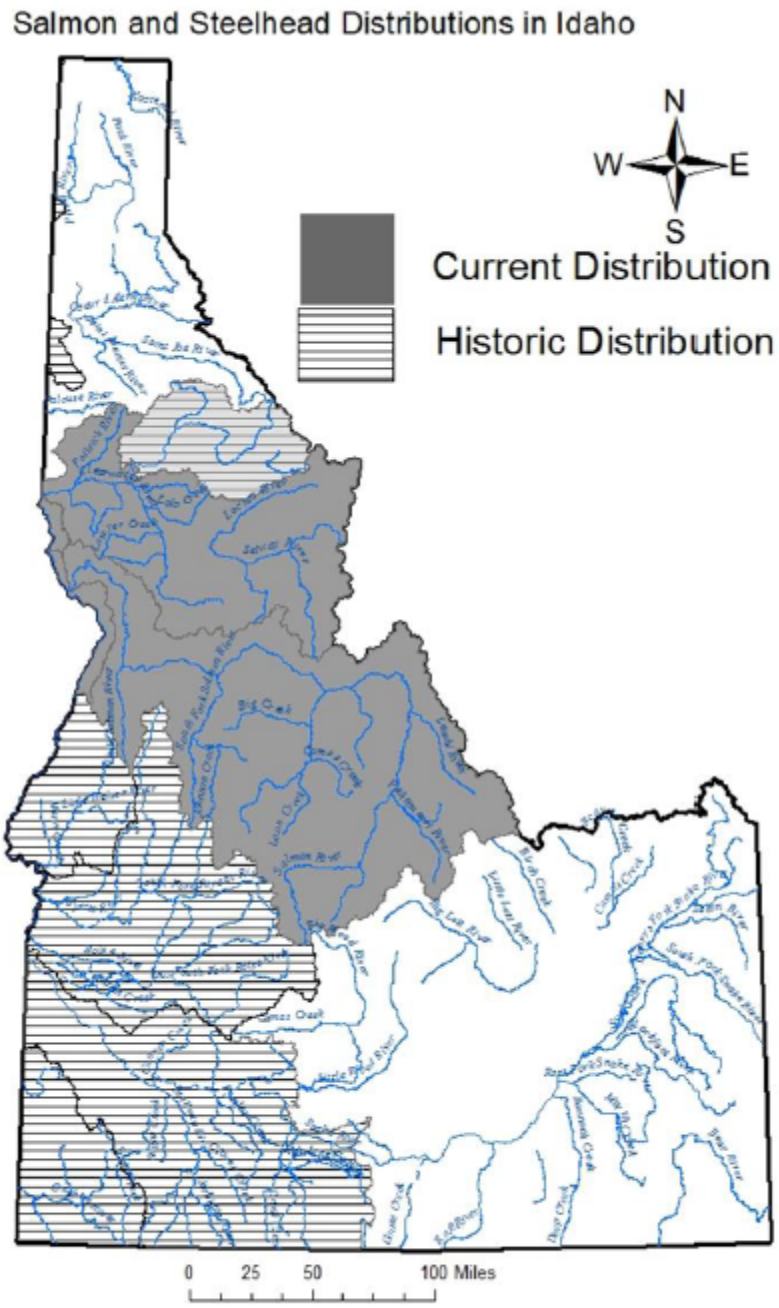


Figure 8. Map of anadromous fish distribution in Idaho. Source: Idaho Department of Fish and Game *Fisheries Management Plan 2019-2024*, p. 45. Accessed 11/15/2019.
https://idfg.idaho.gov/sites/default/files/2019-2024-idaho-fisheries-management-plan-original.pdf

2.3.2 Upstream Fish Passage Standards for ZOE 2: Tailwater-Riverine Reach

STANDARD C-4. Acceptable Mitigation: In the absence of science-based fish passage recommendations from a resource agency and in lieu of upstream passage provisions at the facility, the facility employs approved, alternative fish passage mitigation measures that support the migratory fish species affected by the facility. These measures could be in-kind or out-of-kind mitigation. In all cases, resource agencies must approve the mitigation measures and must have determined that the total benefits provided by such mitigation measures equal or exceed the benefits of providing upstream passage provisions at the facility, measured in terms of reproductive success (for example, numbers of fish produced) or area of suitable fish habitat provided (compared to that lost upstream of the facility barrier).

Criterion	*Standard*	*Instructions*
C	4	Acceptable Mitigation: • Describe the alternative mitigation measures being deployed in lieu of upstream fishways and provide documentation of agency approval of them. • Explain how the total benefits of the mitigation provided equals or exceeds the benefits that might accrue from providing upstream passage in terms of reproductive success (e.g., numbers of fish produced, or area of suitable habitat provided). • Explain how the alternative mitigation measures sustain the abundance and diversity of fish stocks in the river system.

The Ashton Dam at the upstream end of the Tailwater Riverine Reach does not contain an upstream fish passage facility. There were no fish passage requirements specific to the Ashton development in the Project license and no agency recommendations to FERC to provide fish passage per the Commission's reserved authority under Article 203 of the license. In lieu of fish passage, agency-approved alternative mitigation measures for fisheries resources were provided in the Project license. Standard C-4 was selected for describing how the Project is meeting this upstream passage criterion.

Fish species occurring downstream of the dam include the species listed in Section 2.3.1 above. There are not any migratory (anadromous, catadromous) fish species or any known local fish populations with potadromous life histories that occur at the facility. Trout and other riverine species may move locally if given the opportunity, but the life cycle needs of these species are being met in the reaches above and downstream of the Project as evident by the self-sustaining populations in those reaches.

The accepted mitigation included implementation of a fisheries enhancement plan per license Article 402 (FERC 1987) consisting of a reservoir limnology study, trout stocking study, and an angler catch rate evaluation, that were used to inform long-term fisheries enhancement decisions and the trout stocking program. A Fish Stocking Plan was developed to set the annual stocking rates. A brief discussion of the history and mitigation measures are provided in the sections below.

Ashton Fisheries Mitigation Studies and Recommendations:
During the relicensing process, discussions pertaining to the Ashton Development centered on resident fish populations, mainly trout species, and the loss of local production of fish in the river reach that was inundated by Ashton Reservoir. Mitigation measures sought to first assess the

current productivity of the fisheries in the reservoir and then to supplement the reservoir through a fish stocking program.

A reservoir fisheries enhancement study was conducted by IDFG in 1985-1987 (Maiolie 1987). The study found that water quality was good and water temperature and dissolved oxygen levels throughout the year are suitable for trout growth and survival. Fingerling and catchable-size hatchery trout, however, had a low overwinter survival rate in the reservoir. Maiolie (1987) attributed this to low zooplankton densities which were believed to be a result of the short 1.6- to 4.5-day retention time for water moving through the reservoir. IDFG proposed various stocking rates based on trial stocking and creel survey results for different strains of trout planted during the study. The final stocking rate was based on what was estimated to be necessary to increase the angling catch rate for rainbow trout to approximately 1.0 fish per hour. This catch rate enhancement goal for the reservoir approximates the total game fish catch rates reported in the 1985 license application (UPL 1984, Section 3, Report on Fish, Wildlife, and Botanical Resources, page E-15) which were (1.33/hr) for riverine areas downstream of the dam and (0.95/hour) for riverine areas upstream of the reservoir. At that time, catch rates reported for the Ashton Reservoir were lower at 0.41 game fish/hour.

The Project license Article 402 (FERC 1987) approves a fishery mitigative plan for the Ashton Reservoir:

> *Article 402. The following part of the Report on Fish, Wildlife and Botanical Resources, filed on December 31, 1984, as Section 3 of Exhibit E (the Environmental Report), is approved: pages E-26 to E-37 pertaining to the fishery mitigative plan for the Ashton Reservoir.*

The fisheries resource section of the environmental analysis that was attached to the license order (FERC 1987) summarizes the mitigation recommendations and acceptance by IDFG:

> *IDFG indicates that fish population, fish harvest, and recreational fishery use of Ashton Reservoir are substantially less than the comparable values for adjacent upstream and downstream reaches of the Henry's Fork. IDFG believes that the production of fish in the river reach that was inundated by Ashton Reservoir was similar to that of surrounding free-flowing river reaches before constructing the Ashton Dam. To mitigate for this loss in production, IDFG recommends and the applicant concurs that the applicant must conduct a study to discover those measures that would increase the reservoir's fish populations, fish harvest, and recreational fishery use. Based on recent catch rates and sizes of fish caught, IDFG and the applicant agree on reservoir enhancement catch rate goals of 1 fish per angler hour and a mean size of 10 to 12 inches for creeled fish. Failure to achieve these goals would require the applicant to enhance the fishery at an offsite area.*
>
> *The applicant's detailed fishery mitigative plan for the Ashton Reservoir, which includes a study to assess the productivity of the fishery and a fish stocking program, has been accepted by IDFG. The applicant's proposed fishery mitigative plan, included in the Report on Fish, Wildlife, and Botantical Resources, filed December 31, 1984, as Section 3 of the Exhibit E (Environmental Report), pages E-26 through E-37 (following), should*

provide for adequate mitigation of major project impacts to the fishery resource of the Henry's Fork in Ashton Reservoir.

There were no riverine fish passage prescriptions issued for the Ashton development during the relicensing proceedings for the Ashton-St.Anthony Project (FERC 1987). Article 403 of the former Ashton-St. Anthony Project license did address passage for the St. Anthony development, which is a different type of facility that is many miles downstream and is not part of the LIHI certification for Ashton. Although there is quality trout habitat in the Henry's Fork immediately upstream and downstream of the Ashton Reservoir, the reservoir does not provide the same type of trout habitat as the riverine reaches. Rather than providing fish passage to connect the downstream reach to the reservoir, the accepted mitigation compensated for the relative loss of trout production in the reservoir reach by implementing a trout stocking program.

Approved Acceptable Measures - Fish Stocking Plan

Based on the results of the previously conducted reservoir fisheries studies, and through consultation with IDFG, PacifiCorp developed a Fish Stocking Plan. This plan consists largely of a schedule to provide funding to IDFG to raise a specified number of Hayspur strain of rainbow trout for annual stocking of the Ashton Reservoir. FERC approved the Fish Stocking Plan in 1999 (FERC 1999). PacifiCorp initially provided $110,000 to IDFG to upgrade the Ashton Hatchery to raise the required number of rainbow trout and although that hatchery is no longer in use, PacifiCorp will continue to fund the annual stocking program in accordance with the stocking schedule in the FERC-approved plan. The current fish stocking schedule provides for at least 37,400 catchable size rainbow trout (280 mm mean length) and requires funding through 2028 (the end of 40-yr term of the Ashton Project license). The Order approving the Fish Stocking Plan (FERC 1999) documents that the plan was reviewed by the IDFG and PacifiCorp incorporated all of IDFG's recommendations and that implementation of the plan would provide adequate mitigation for the fishery-related impacts of the Ashton Development on the fish resources.

The fish stocking plan is an accepted component of IDFG fishery management. The Ashton Reservoir is one of the three major still-water fisheries in the drainage, all of which consist of trout fisheries that rely on supplemental stocking programs. For the Ashton Reservoir, IDFG's Fisheries Management Plan 2019-2024 (IDFG, 2019, page 315) states: *This reach will continue be designated as high catch rate fishery appropriate for beginner anglers and managed for a yield fishery under general regulations*. The IDFG management direction for Ashton Reservoir is to stock catchable size rainbow trout to maintain catch rates of at least 1.0 fish/hour (IDFG 2018, pages 328-336).

Mitigation Benefits

These accepted mitigation measures provide benefits to the upstream ZOE 1 (enhanced trout catch rate in the reservoir) that are equal to the benefits (in terms of trout numbers and catch rates equivalent to the 4.2 miles lost riverine habitat) that may have been attained from constructing a fishway. While these benefits are specific to enhancement of trout numbers in the reservoir, the Project does not appear to be negatively impacting the fish populations upstream or downstream of the Project.

Abundance and diversity of fish stocks in the river system

The environmental assessment for the Ashton license application (FERC 1987, Fisheries Resources section of the EA) stated that *The Henry's Fork provides habitat for a major resident trout fishery that is an extremely popular recreational resource in the vicinity of Ashton Dam and the St. Anthony Development. IDFG listed the Henry's Fork as Value Class I, the highest class possible for fishery resources*. Currently, the IDFG states that the Henry's Fork drainage provides one of the most important rainbow trout fisheries in Idaho and attracts anglers from throughout the nation (IDFG 2019, page 314).

Life cycle needs for resident trout continue to be met by the habitat in the Henry's Fork both upstream and downstream of the dam as evident by the self-sustaining trout fishery. The IDFG Fisheries Management Plan 2019-2024 (IDFG 2019, page 314) indicates that for the riverine reaches: *Management of the Henry's Fork from its mouth to Island Park Dam will continue to be managed with emphasis on wild, natural populations of trout, primarily without hatchery supplementation*. IDFG indicates that the section of river from St. Anthony to Mesa Falls, which encompasses the Ashton facility area, *is currently producing good numbers of wild rainbow trout, with increasing numbers of brown trout* (IDFG 2019, page 314).

2.4 CRITERION D - DOWNSTREAM FISH PASSAGE

Goal: The facility allows for the safe, timely, and effective downstream passage of migratory fish. For riverine (resident) fish, the facility minimizes loss of fish from reservoirs and upstream river reaches affected by facility operations. All migratory species can successfully complete their life cycles and to maintain healthy, sustainable fish and wildlife resources in the areas affected by the facility.

Table 2.4. Downstream fish passage standards matrix.

Zone of Effect	*Criterion D Alternative Standards*				
	1	***2***	***3***	***4***	***Plus***
ZOE 1: Impoundment				***X***	
ZOE 2: Tailwater Reach	***X***				

There are no anadromous fish in the facility area. Resident trout species in the stream reaches upstream and downstream of the Ashton facility may move locally in the river system but are not known to exhibit a migratory life history pattern. There are self-sustaining populations of trout in the Henry's Fork upstream and downstream of the Project.

2.4.1 Downstream Fish Passage Standards for ZOE 1: Impoundment

STANDARD D-4. Acceptable Mitigation: In the absence of science-based resource agency recommendation for downstream fish passage and in lieu of downstream fish passage and protection provisions at the facility, the applicant employs approved alternative fish passage mitigation measures that support migratory and native non-migratory fish species affected by the facility. These measures might include in-kind or out-of-kind mitigation. In all cases, resource agencies must approve the alternative mitigation measures and must have determined that the total benefits provided by such mitigation measures are likely to equal or exceed the benefits of installing and operating downstream passage and protection provisions, measured in terms of reproductive success (for example

numbers of fish produced) or areas of suitable fish habitat provided. In addition, such mitigation measures must include a monitoring component.

Criterion	*Standard*	*Instructions*
D	4	Acceptable Mitigation: • Describe the alternative mitigation measures being deployed in lieu of downstream fishways and provide documentation of agency approval of them. • Explain how the total benefits of the mitigation provided equals or exceeds the benefits that might accrue from providing downstream passage in terms of reproductive success (e.g., numbers of fish produced, or area of suitable habitat provided). • Explain how the alternative mitigation measures sustain the abundance and diversity of fish stocks in the river system.

The reservoir does not contain any facility barriers to downstream fish movements but there are no specific downstream fish passage provisions at the dam. Therefore, we discuss the accepted mitigation that was provided in lieu of fish passage in this ZOE.

Fish may pass downstream from the reservoir through the spill gates during periods of high flows. There are no fish screens on the intakes at the dam so fish may also inadvertently pass downstream through the turbines.

A discussion of the history and mitigation measures for the fishery resources at the Ashton Project is provided in section 2.3.2 above and in the following sections.

Ashton Fisheries Studies and Recommendations

There were not any requirements regarding downstream fish passage or entrainment protection specific to the Ashton development. The Project license required implementation of a fisheries enhancement plan (Article 402) and further investigation of turbine-induced fish injury and mortality (Article 404).

For the Ashton development, investigation of turbine-induced fish injury and mortality per license Article 404, consisted only of a comparative literature review of salmonid mortality for the type of turbines in the dam, the results of which were used to estimate mortality of fish passing through the turbines. The report was filed with FERC on September 27, 1990 (Appendix A-2.4-1). Based on this literature review, turbine-induced mortality at the Ashton development is believed to be relatively low with an estimated range of <12% mortality for Units 2 and 3 and <16% mortality for the Unit 1 replacement turbine (Ecosystems Research Institute 1990, p. 8).

From fish sampling conducted by IDFG prior to license issuance, it was known that salmonids made up a low percentage of the fish composition in Ashton Reservoir. Utah chubs and Utah suckers represented 98% of fish collected by IDFG in 1985 and 94% of the sample during 1986 (Maiolie 1987) with salmonid species comprising only 1.9 to 5.5% of the samples. UPL concluded that, because of the small proportion of salmonids in the reservoir fishery and the low estimated entrainment predicted by the literature review, turbine-induced mortality to trout would be low and that the proposed fishery enhancement plan, required by Article 402, would more than compensate for the fishery at risk due to turbine–induced mortality. The IDFG

commented that although the turbine mortality study provided a very limited review of the literature they agreed with the concept that the required fisheries enhancement plan would compensate for turbine-induced mortality but noted that the details were yet forthcoming (letter from IDFG, September 27; see Appendix A-2.4.1).

As noted in section 2.3.2, IDFG used the results from the fisheries studies to recommend the most suitable strain of trout and the stocking rate necessary to provide a catch rate of 1.0 fish/hour. Those recommendations provided the basis for the Fish Stocking Plan.

Approved Acceptable Mitigation Measures

The accepted fishery mitigation measure involved implementation of an approved Fish Stocking Plan (section 2.3.2). Trout stocking was initiated to increase catch rates in the reservoir to rates comparable to the Henry's Fork upstream and downstream of the dam. The Fish Stocking Plan specifies the minimum number of trout to be stocked annually over the term of the Project license. In accordance with the schedule in the plan, the number of trout stocked increased over the first several five-year periods, until 2006, when the current 37,400 annual stocking number was reached. PacifiCorp documents the number of trout planted annually through invoices received from IDFG but no further monitoring is required of PacifiCorp. IDFG may, at their discretion, conduct angler surveys to inform fisheries management decisions and their fisheries management plan.

Mitigation Benefits

The Fish Stocking Plan provides benefits in terms of trout numbers and catch rates that are equivalent to 4.2 miles of riverine habitat that was inundated by the reservoir. This program provides an alternative type of high-yield recreational fishery in the reservoir that would not be otherwise available.

Abundance and diversity of fish stocks in the river system

There are self-sustaining populations of resident fish upstream and downstream of the reservoir as described in Section 2.3.2. The lack of downstream passage at the dam does not appear to be preventing these fish from fulfilling their life cycle needs in the respective reaches.

2.4.2 Downstream Fish Passage Standards for ZOE 2: Tailwater-Riverine Reach

STANDARD D-1. **Not Applicable/De Minimis Effect:** The facility does not create a barrier to downstream passage, or there are no migratory fish in the vicinity of the facility; if migratory fish were present historically, the facility did not contribute to the extirpation of such species; the facility does not contribute adversely to the sustainability of riverine fish populations or to their access to habitat necessary for the completion of their life cycles, or

Criterion	*Standard*	*Instructions*
D	1	Not Applicable / De Minimis Effect: • Explain why the facility does not impose a barrier to downstream fish passage in the designated zone, considering both physical obstruction and increased mortality relative to natural downstream movement (e.g., entrainment into hydropower turbines). Typically, tailwater/downstream zones will qualify for this standard since below a dam and powerhouse there is no facility barrier to further downstream movement. Bypassed reach zones must demonstrate that flows in the reach are adequate to support safe, effective and timely downstream migration. • For riverine fish populations that are known to move downstream, explain why the facility does not contribute adversely to the sustainability of these populations or to their access to habitat necessary for successful completion of their life cycles. • Document available fish distribution data and the lack of migratory fish species in the vicinity. • If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this.

The Tailwater Riverine Reach Zone, excluding the dam which is evaluated above as part of ZOE 1, does not contain any barriers to downstream fish passage so Standard D-1 was selected to meet this Criterion.

Riverine fish in this zone include the same species listed in section 2.3.1. As discussed in section 2.3.1, there are not any migratory (anadromous, catadromous) fish species or any known local fish populations with potadromous life histories that occur at the facility.

Self-sustaining riverine fish populations continue to exist both upstream and downstream of the dam. Downstream of the dam, the coldwater fisheries and salmonid spawning beneficial uses are being met (section 2.2.2) and the Henry's Fork sustains a renowned recreational trout fishery. The IDFG Fisheries Management Plan 2019-2024 (IDFG, 2019. page 314) indicates that the section of river from St. Anthony to Mesa Falls, which includes the Ashton facility area, *is currently producing good numbers of wild rainbow trout, with increasing numbers of brown trout*.

2.5 CRITERION E - SHORELINE AND WATERSHED PROTECTION

Goal: The facility has demonstrated that sufficient action has been taken to protect, mitigate or enhance the condition of soils, vegetation and ecosystem functions on shoreline and watershed lands associated with the facility.

Table 2.5. Shoreline and Watershed Protection standards matrix.

	Criterion E Alternative Standards				
Zone of Effect	***1***	***2***	***3***	***4***	***Plus***
ZOE 1: Impoundment		***X***			
ZOE 2: Tailwater Reach	***X***				

2.5.1 Shoreline and Watershed Protection Standards for ZOE 1: Impoundment

STANDARD E-2. Agency Recommendations: The facility is in compliance with all government agency recommendations in a license or certificate, such as an approved SMP or equivalent for protection, mitigation or enhancement of shoreline surrounding the project

Criterion	*Standard*	*Instructions*
E	2	Agency Recommendation: • Provide copies or links to any agency recommendations or management plans that are in effect related to protection, mitigation, or enhancement of shoreline surrounding the facility (e.g., Shoreline Management Plans). • Provide documentation that indicates the facility is in full compliance with any agency recommendations or management plans that are in effect.

There were no agency recommendations for developing a shoreline management plan under the Project license. However, in consultation with the United Stated Fish and Wildlife Service (FWS and the IDFG pursuant to Article 405 of the FERC Project license, PacifiCorp developed a Wildlife Enhancement Plan (WEP) that serves to protect and enhance riparian habitat and shorelines.

The WEP was originally developed and approved in 1990. PacifiCorp revised the Wildlife Enhancement Plan in 1995 and again in 2016 (PacifiCorp 2016c).

In the Order approving the revised WEP (FERC 2017), FERC recognizes that most of the plan's elements were in the original wildlife enhancement plan and that both the IDFG and FWS approved the updates to the plan. Under the updated plan, certain specific enhancements measures were changed: mileage and locations of exclusionary grazing fencing; number of bald eagle and osprey nest platforms; wetland and riparian conservation measures; addition of waterfowl nesting and noxious weed control measures; discontinuation of tree and shrub plantings; and discontinuation of goose forage/nesting measures (these measures are replaced with wetland conservation easements). PacifiCorp will continue to annually monitor and maintain the enhancement measures in the WEP and will submit a five-year summary report by December 31, 2020.

The habitat in the impoundment zone is managed under the WEP by controlling livestock access with fencing, conservation easements, leases, and fee-title property acquisition as described in the WEP. Monitoring and noxious weed control are performed annually.

Major components of the WEP that are presently implemented include:

Fencing - 2.2 miles of cattle exclusion fencing at Ashton Reservoir:

1.1 miles of cattle exclusion fencing at Ashton Reservoir at PacifiCorp fee-owned north shore parcels.

0.3 mile of cattle exclusion fencing at Ashton Reservoir at PacifiCorp fee-owned south shore parcel.

0.2 mile of cattle exclusion fencing at Ashton Reservoir on BLM lands on the north shore.

0.6 mile of PacifiCorp shoreline buffer fencing on south shore at the Jenkins conservation easement.

Fencing - 2.6 miles of cattle exclusion fencing at the wetland complex:
0.8 mile of cattle exclusion fencing at the wetland complex at the Marshal grazing exclusion lease.
0.9 mile of cattle exclusion fencing at the wetland complex at the Cordingly grazing exclusion easement.
0.9 mile of cattle exclusion fence at the wetland complex around PacifiCorp fee-owned property at PacifiCorp Pond property.

Raptor Perches and Nests:
Fifteen perches
Eleven osprey nest platforms
One bald eagle nest monitored

Conservation and Preservation Easements:
Cordingly preservation easement of 112.7 acres with 7.3 acres of grazing rights around Cordingly Pond.
Marshal preservation easement of 78.1 acres at Cordingly Pond.
Baum conservation easement of 62 acres.
Jenkins conservation easement with grazing exclusion on 4.05 acres on the south shore of the reservoir.

Conservation Leases:
Lease grazing rights from Marshal through the term of the license on 10.8 at the north end of Cordingly Pond.
Temporary conservation easement from Nedrow/Baker for 23 acres on the south reservoir shoreline.

PacifiCorp Fee Ownership Conservation Lands:
45 acres at PacifiCorp Pond.
9.9 acres for conservation on south shore.
64.7 acres for conservation on north shore.

Waterfowl Nesting:
Install 35 cavity nesting boxes on conservation lands.
Install two floating swan nesting platforms at wetland complex.

The last WEP five-year summary report (2011-2015) was submitted to FERC on 3/26/2016 (PacifiCorp 2016d). The latest FERC environmental inspection conducted on 8/22/2018, documented some of the WEP measures (FERC 2018a).

2.5.2 Shoreline and Watershed Protection Standards for ZOE 2: Tailwater Riverine Reach

STANDARD E-1. Not Applicable/De Minimis Effect: There are no lands associated with the facility where the facility owner has direct or indirect ownership or control over lands surrounding the facility and its riverine zones

that have significant ecological value for protecting water quality, aesthetics, or low-impact recreation, and the facility is not subject to any Shoreline Management Plan (SMP) or similar protection plan

Criterion	*Standard*	*Instructions*
E	1	Not Applicable / De Minimis Effect: • If there are no lands with significant ecological value associated with the facility, document and justify this (e.g., describe the land use and land cover within the FERC project or facility boundary). • Document that there have been no Shoreline Management Plans or similar protection requirements for the facility.

This zone of effect is a short tailwater section of the Henry's Fork that is confined in a steep canyon with a gravel bar and small patches of riparian vegetation on the banks (see photo 5 in Appendix B). This area coincides with the downstream extent of the FERC Project boundary. PacifiCorp ownership within the Project boundary downstream of the dam is limited to approximately 750 feet of the southeast shoreline. The river bed is owned by the State of Idaho and the Project boundary follows the downstream extent of an easement granted by Idaho State for the dam and tailwater. Downstream of the Project boundary, the banks are private lands not controlled by PacifiCorp.

Within the Project boundary on the southeast bank of the river, PacifiCorp provides pedestrian access to a gravel bar for fishing and recreational purposes (see section 2.8.2). The steep canyon immediately below the dam limits access and protects this short shoreline reach from potential impacts from outside sources.

There was no Shoreline Management Plan required for the Tailwater River Reach of the facility (FERC 1987). PacifiCorp continues to maintain the fisherman access facilities.

2.6 CRITERION F - THREATENED AND ENDANGERED SPECIES PROTECTION

Goal: The facility does not negatively impact federal or state listed species.

Table 2.6. Threatened and endangered species standards matrix.

Zone of Effect	*Criterion F Alternative Standards*				
	1	***2***	***3***	***4***	***Plus***
ZOE 1: Impoundment	***X***				
ZOE 2: Tailwater Reach	***X***				

2.6.1 Threatened and Endangered Species Standards for ZOE 1: Impoundment

STANDARD F-1. Not Applicable/De Minimis Effect: There are no listed species present in the facility area or downstream reach, and the facility was not responsible for the extirpation of listed species that historically were present;

Criterion	*Standard*	*Instructions*
F	1	Not Applicable / De Minimis Effect: • Document that there are no listed species in the facility area or affected riverine zones downstream of the facility. • If listed species are known to have existed in the facility area in the past but are not currently present, explain why the facility was not the cause of the extirpation of such species. • If the facility is making significant efforts to reintroduce an extirpated species, describe the actions that are being taken.

There are no known federally listed species at the Ashton facility. The Environmental Assessment for the project found that bald eagle (Haliaeetus leucocephalus) and peregrine falcons (Falco peregrines) migrate through the area. However, both bald eagle and peregrine falcon have been removed from the federal threatened and endangered species list.

Within the surrounding Freemont County area, four species that are federally-listed as threatened have been recorded (Table 2.6-1). These include grizzly bear (Ursus arctos), Ute ladies' tresses (Spiranthes diluvialis), Canada lynx (Lynx canadensis), and yellow-billed cuckoo (Coccyzus americanus).

As of 2019, the Greater Yellowstone Ecosystem population of the grizzly bear is classified under the endangered species act as threatened. The listing status has changed several times in the past few years. This distinct population segment was defined and removed from the threatened species list in 2007 due to recovery but in 2009 the delisting was overturned. In 2017 it was again delisted and in 2018 the threatened status was once again reinstated by court order. The Greater Yellowstone Ecosystem population boundary extends from Yellowstone National Park into Idaho as far as the foothills that are north and east of the Ashton Project. A summary of the history of listing and delisting and a map of the Greater Yellowstone Ecosystem population can be found at the following National Park Service link: https://www.nps.gov/yell/learn/nature/bearesa.htm. The grizzly bear is not known to occur near the Ashton facility.

Ute ladies' tresses have not been specifically searched for at the facility but are known to occur in a wetland that is close to (but not connected to) the Henrys Fork near Ora Bridge, approximately 0.7 miles downstream of the Ashton Dam. Sources: IDFG database and bibliographic records:
https://idfg.idaho.gov/species/observations/list?species_id=40218&county_id=227
https://idfg.idaho.gov/species/bibliography/1497811
https://idfg.idaho.gov/species/bibliography/1497814

Canada lynx occur throughout northern and eastern Idaho in high-elevation coniferous forest regions and have been observed in the vicinity of the facility (https://idfg.idaho.gov/species/taxa/16860). Observations recorded in the IDFG database are in the higher-elevation forested areas that are north and northeast of the facility, mostly near Island Park Reservoir and Henry's Lake (https://idfg.idaho.gov/species/observations/list?species_id=16860&county_id=227). There is one observation recorded northeast of Ashton Reservoir in 1987 (record #576864;

https://idfg.idaho.gov/species/observation/576864). The FWS species profile provides life history information (https://ecos.fws.gov/ecp0/profile/speciesProfile?spcode=A073). Typical Canada lynx habitat includes boreal or sub-alpine forest with high snowshoe hare densities. Lynx have large home ranges and are known to make long-distance exploratory movements. The facility and surrounding area, however, consists largely of open sage or farmland cover types (see Figure 9) that is not typical lynx habitat and is unlikely to support lynx.

The yellow-billed cuckoo occurs in riparian habitat in scattered locations in Idaho (IDFG database map: https://idfg.idaho.gov/species/taxa/19476). The mapped summer range for the yellow-billed cuckoo may overlap the Project area but the observations recorded in the IDFG database in Freemont County are all downstream of the facility (IDFG database records: https://idfg.idaho.gov/species/observations/list?species_id=19476&county_id=227). General habitat requirements for yellow-billed cuckoo in the West are summarized in the FWS Environmental Conservation Online System: Yellow-billed cuckoos use wooded habitat with dense cover and water nearby, including woodlands with low, scrubby, vegetation, overgrown orchards, abandoned farmland, and dense thickets along streams and marshes. In the West, nests are often placed in willows along streams and rivers, with nearby cottonwoods serving as foraging sites (FWS: https://ecos.fws.gov/ecp0/profile/speciesProfile?spcode=B06R#lifeHistory). While the Project area contains a small amount of dense riparian shrub habitat in the inlets around the reservoir, the Project does not have the typical broad stands of cottonwood forest habitat that occur in the lower-elevation island and floodplain areas downstream (e.g., near St. Anthony) where yellow-billed cuckoo has been documented.

Idaho does not have a state Endangered Species Act but maintains a list of sensitive species for classification purposes. The IDFG web page for the Idaho Classification of Wildlife (IDAPA) provides a list of species that are classified as endangered, threatened and protected nongame species (along with lists of game and furbearing species) at this link: https://idfg.idaho.gov/species/taxa/list/idapa.

The IDFG Idaho Fish and Wildlife Information System, Species Diversity Database provides sensitive species observation records by county. A complete list of species that have been observed in Freemont County and their conservation status is provided in Appendix A-2.6-1 with a key in A-2.6-2). Those species that are federally-listed or were delisted are summarized in Table 2.6-1 below.

Table 2.6.1. Federally listed (endangered, threatened, candidate) or proposed and delisted species that occur in Freemont County, Idaho.

Scientific Name	Common Name	USESA	IDAPA	Category
Coccyzus americanus	Yellow-billed Cuckoo	Threatened	Protected Nongame	Bird
Lynx canadensis	Canada Lynx	Threatened	Threatened	Mammal
Ursus arctos	Grizzly Bear or Brown Bear	Threatened	Big Game (as of 11/15/19)	Mammal
Spiranthes diluvialis	Ute Ladies' Tresses	Threatened		Plant
Pinus albicaulis	Whitebark Pine	Candidate		Plant
Gulo gulo	Wolverine	Proposed	Protected Nongame	Mammal

Falco peregrinus	Peregrine Falcon	Delisted	Protected Nongame	Bird
Haliaeetus leucocephalus	Bald Eagle	Delisted	Protected Nongame	Bird
Canis lupus	Gray Wolf	Delisted	Big Game (as of 11/15/19)	Mammal

USESA – US Fish and Wildlife Service listed species classification, per Endangered Species Act.
IDAPA – Idaho State Protection Status per Idaho Administrative Procedures Act: Designation 13 Title 01 Chapter 06 (IDAPA 13.01.06) – Rules Governing Classification and Protection of Wildlife.
Sources: query of species observations in Freemont Co. from IDFG, Idaho Fish and Wildlife Information System, Species Diversity Database, Idaho Natural Heritage Data. Accessed 12/2/2019: https://idfg.idaho.gov/species/taxa/list/county/fremont?order=field_srank&sort=asc
and state classifications from IDFG Idaho Classification of Wildlife (IDAPA) list. Accessed 12/2/19: https://idfg.idaho.gov/species/taxa/list/idapa).

Attempts to list the Yellowstone cutthroat under the Endangered Species Act in recent years have not been successful. Yellowstone cutthroat trout are considered a species of concern by the State of Idaho and other entities, and their status in Idaho is closely monitored by the IDFG (Meyer K.A. et al. 2013).

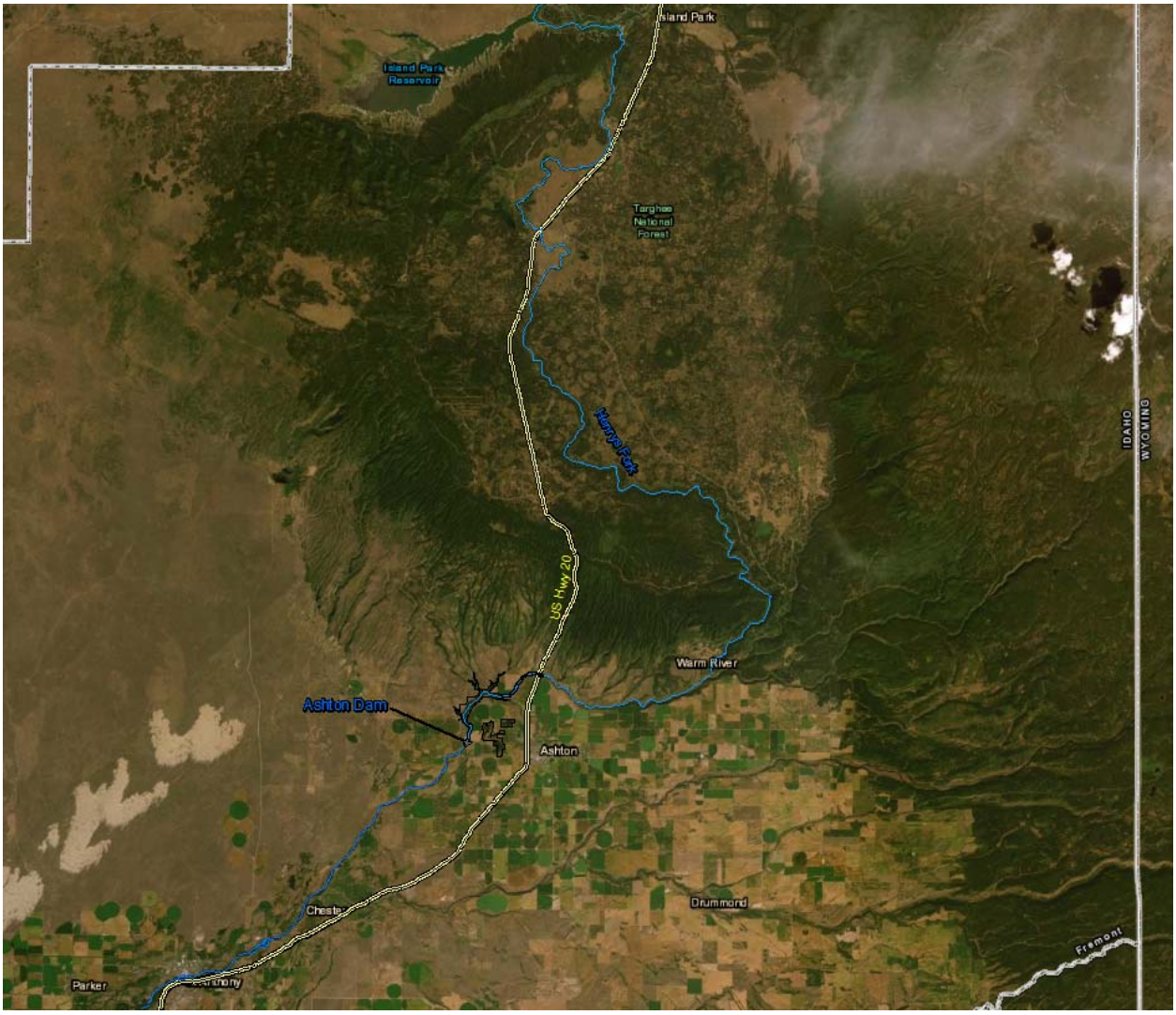


Figure 9. Aerial view of the facility area (black outline on the Ashton Reservoir) at the base of the foothills to the north and the surrounding farmland around the reservoir and downstream.

2.6.2 Threatened and Endangered Species Standards for ZOE 2: Tailwater Riverine Reach

Criterion	*Standard*	*Instructions*
F	1	Not Applicable / De Minimis Effect: • Document that there are no listed species in the facility area or affected riverine zones downstream of the facility. • If listed species are known to have existed in the facility area in the past but are not currently present, explain why the facility was not the cause of the extirpation of such species. • If the facility is making significant efforts to reintroduce an extirpated species, describe the actions that are being taken.

As noted in section 2.6.1 above, there are no records of threatened and endangered species occurring in the Tailwater Riverine Reach. The Ute lady's tresses occurs in wetlands near (but not connected to) the Henry's Fork just downstream of the Tailwater Riverine Reach. The IDFG

records indicate that the plants are found in a very specific microhabitat within these wetlands.

2.7 CRITERION G - CULTURAL AND HISTORIC RESOURCES PROTECTION

Goal: The facility does not unnecessarily impact cultural or historic resources that are associated with the facility's lands and waters, including resources important to local indigenous populations, such as Native Americans.

Table 2.7. Cultural and historic resources standards matrix.

Zone of Effect	*Criterion G Alternative Standards*				
	1	***2***	***3***	***4***	***Plus***
ZOE 1: Impoundment	***X***				
ZOE 2: Tailwater Reach		***X***			

2.7.1 Cultural and Historic Resources Standards for ZOE 1: Impoundment

STANDARD G-1. Not Applicable/De Minimis Effect: There are no cultural or historic resources present on facility lands that can be potentially threatened by construction or operations of the facility, or facility operations have not adversely affected those that are or were historically present;

Criterion	*Standard*	*Instructions*
G	1	Not Applicable / De Minimis Effect: • Document that there are no cultural or historic resources located on facility lands that can be affected by construction or operations of the facility. • Document that the facility construction and operation have not in the past, nor currently adversely affect any cultural or historic resources that are present on facility lands.

Standard G-1 was selected for this Criterion because cultural or historic resources located on facility lands in ZOE 1 have not been adversely affected by construction or operations of the facility.

The Environmental Assessment (FERC 1987) only mentions that cultural and historic resources occur at the powerhouse, which is discussed in ZOE 2 (see section 2.7.2 for details on the historic turbine, the cultural resources plan and the recent non-eligibility findings for the Ashton Hydroelectric Project District).

Cultural resources in ZOE 1 have been documented in the reservoir drawdown zone. PacifiCorp conducted a pedestrian survey of the reservoir drawdown zone in 2012 during the dam remediation project and found prehistoric material in one portion of the reservoir. The State Historic Preservation Office and Historic Sites Archeological Survey of Idaho (SHPO) reviewed the survey report and recommended archeological testing and material sourcing of four prehistoric sites in the drawdown zone (letter from SHPO dated June 20, 2012; Appendix A-2.7-1). These four sites were subsequently tested and the final report concluded that the sites were eligible for the National Register of Historic Places (NRHP). The SHPO accepted the report and supported the eligibility determinations in a letter dated May 15, 2013 (see Appendix A-2.7-2).

During normal operations, the four sites remain submerged and are thus protected. There have been no adverse impact to the sites from construction or operation of the facility and no evidence of looting (SHPO letter dated June 20, 2012; see Appendix A-2.7-1). Because of their locations in the drawdown zone, PacifiCorp does not believe that ground disturbing activities would be planned at these sites. In the future, if a drawdown is planned, further coordination with SHPO and additional protective measures could be conducted if warranted.

2.7.2 Cultural and Historic Resources Protection Standards for ZOE 2: Tailwater Riverine Reach

STANDARD G-2. Approved Plan: The facility is in compliance with approved state, federal, and recognized tribal plans for protection, enhancement, or mitigation of impacts to cultural or historic resources affected by the facility.

Criterion	*Standard*	*Instructions*
G	2	Approved Plan: • Provide documentation of all approved state, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility. • Document that the facility is in compliance with all such plans.

The Project is in compliance with an approved plan so standard G-2 was selected to meet this criterion.

Article 408 of the Project license (FERC 1987) stipulates that a cultural resources plan should be implemented to mitigate any impacts to a historic turbine (Unit No. 1) that was proposed for removal in the license application. Article 408 also requires submittal of a report regarding the turbine's historic significance and plans for its removal. However, in an Order dated February 2, 1990, FERC amended the license in response to PacifiCorp's plans to upgrade, rather than remove, the historic turbine. On December 30, 1991, PacifiCorp submitted appropriate documentation of the turbine in accordance with Article 408. In a letter dated February 28, 1992, FERC stated that this submittal fulfilled the requirements of Article 408 (FERC 1992; see Appendix A-2.7-3).

In 2019, PacifiCorp conducted an intensive level architectural survey in preparation to remove three abandoned company homes and a shed. This survey evaluated the significance and eligibility of all project structures along with their individual contribution to the Ashton Hydroelectric Project District. Through this evaluation the Ashton Hydroelectric Project District was determined to be ineligible for the National Register of Historic Places. SHPO concurred with this finding (Appendix A-2.7-4) which includes all structures at the Ashton Hydroelectric Project.

2.8 CRITERION H - RECREATIONAL RESOURCES

Goal: The facility accommodates recreation activities on lands and waters controlled by the facility and provides recreational access to its associated lands and waters without fee or charge.

Table 2.8. Recreational resources standards matrix.

Zone of Effect	*Criterion H Alternative Standards*				
	1	***2***	***3***	***4***	***Plus***
ZOE 1: Impoundment		***X***			
ZOE 2: Tailwater Reach			***X***		

2.8.1 Recreational Resources Standards for ZOE 1: Impoundment

STANDARD H-2. Agency Recommendations: The facility demonstrates compliance with resource agency recommendations for recreational access or accommodation (including recreational flow releases), or any enforceable recreation plan in place for the facility;

Criterion	*Standard*	*Instructions*
H	2	Agency Recommendation: • Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations. • Document that the facility is in compliance with all such recommendations and plans.

Standard H-2 was selected to meet this Criterion since the Project is in compliance with all recreation requirements in the FERC license and there are no fees charged for access.

At the time of the Federal Energy Regulatory Commission (FERC) relicensing, the project recreation facilities were limited to one concrete boat ramp at the upstream end of the Ashton Reservoir. Article 406 of the FERC project license (FERC 1987, page 20) required the development and upgrade of recreation facilities in that area. This included adding a new picnic area and parking lot, repairing boating facilities, and installing an accessible ramp at the fishing-observation pier. Recreational enhancements have been implemented in accordance with the license. The recreation facilities in the boat launch area are shown on drawing R-1 of the updated As-built Site Plans that were submitted to FERC on 9/6/2018 (PacifiCorp 2018a) that were approved in the Order Amending the Recreation Area Improvement Plan issued on October 31, 2018 (FERC 2018c).

The latest FERC environmental inspection report (8/22/2018 inspection date) found that the recreation sites were well maintained although a few follow-up items such as providing larger print on the Part 8 signs were requested (FERC 2018a). All follow-up items were completed (PacifiCorp 2018b). In a letter dated 11/29/2018, FERC acknowledged that PacifiCorp had completed all follow-up actions from the environmental inspection (FERC 2018b).

The license also required easements or titles to be obtained for privately-owned lands that were proposed for use at the recreation site in the license application. PacifiCorp had acquired ownership of land at the boat ramp for these purposes but discovered in 2014 that the acquisition was incorrectly described in property documents. In 2016, PacifiCorp resolved this issue and has acquired all necessary land rights to this area as documented on the Exhibit G of the Project license (PacifiCorp 2016b).

2.8.2 Recreational Resource Standards for ZOE 2: Tailwater-Riverine Reach

STANDARD H-3. Assured Accessibility and Use: If agency recommendations or an enforceable recreation plan is not in effect, the applicant demonstrates that they have been and formally commits as a condition of its LIHI Certification to continue to be responsive to reasonable requests from recreational interests for public access to lands and waters associated with the facility, and to appropriate recreational water flows and levels, without fees or charges.

Criterion	*Standard*	*Instructions*
H	3	Assured Accessibility: • In lieu of existing recommendations and plans for recreational uses, document the facility's current and future commitment to accommodate reasonable requests from recreation interests for adequate public access for recreational use of lands and waters of the facility, including appropriate recreational water flows and levels, without fees or charges.

In the Project license, there were no requirements for a recreation site in the riverine reach downstream of the dam. The stream reach immediately downstream from the dam is in a narrow canyon that had limited access. An informal picnic area and fishing access located on a gravel bar approximately 90 feet downstream from the base of the dam (PacifiCorp 2018a, As-built Recreation Site Plan drawing R-2) was originally constructed as partial mitigation for a minimum flow issues in the 1990s. This fishing access site has been approved by FERC and made part of the recreation area improvement plan that is required to be implemented under Article 406 of the license (FERC 2018c). The recently-modified FERC Project boundary as shown on Exhibit G (PacifiCorp 2016b) now also incorporates this area and as such, demonstrates PacifiCorp's commitment to continue to maintain this area and provide public access without charge. The FERC environmental inspection conducted on August 22, 2018 indicated that the site was well maintained and included a photo looking upstream from across the bridge that leads to the fishing access site (FERC 2018a). An older photo overlooking the spillway, fishing access site gravel bar (before picnic table installation), and the canyon downstream of the dam is included in Appendix B (see photo 5).

3.0 SWORN STATEMENT AND WAIVER FORM

As an Authorized Representative of PacifiCorp, the Undersigned attests that the material presented in the application is true and complete.

The Undersigned acknowledges that the primary goal of the Low Impact Hydropower Institute's certification program is public benefit, and that the LIHI Governing Board and its agents are not responsible for financial or other private consequences of its certification decisions.

The Undersigned further acknowledges that if LIHI Certification of the applying facility is granted, the LIHI Certification Mark License Agreement must be executed prior to marketing the electricity product as LIHI Certified®.

The Undersigned further agrees to hold the Low Impact Hydropower Institute, the Governing Board and its agents harmless for any decision rendered on this or other applications, from any consequences of disclosing or publishing any submitted certification application materials to the public, or on any other action pursuant to the Low Impact Hydropower Institute's certification program.

Company Name: PacifiCorp

Authorized Representative:

Name: Todd Olson

Title: Compliance Director, Renewable Resources

Authorized Signature: Todd Olson

Date: 12/23/2019

4.0 FACILITY AND STAKEHOLDER CONTACT FORM

4.1 Applicant-related contacts

Facility Owner:	
Name and Title	Mark Sturtevant, Vice President, Renewable Resources
Company	PacifiCorp
Phone	503-813-6680
Email Address	mark.sturtevant@pacificorp.com
Mailing Address	825 NE Multnomah St., Suite 1800, Portland, OR 97232
Facility Operator (if different from Owner):	
Name and Title	
Company	
Phone	
Email Address	
Mailing Address	
Consulting Firm / Agent for LIHI Program (if different from above):	
Name and Title	
Company	
Phone	
Email Address	
Mailing Address	
Compliance Contact (responsible for LIHI Program requirements):	
Name and Title	Mark Stenberg, Ashton License Program Manager
Company	PacifiCorp-Renewable Resources
Phone	208-852-5507
Email Address	Mark.Stenberg@pacificorp.com
Mailing Address	822 Grace Power Plant Rd., Grace, ID 83241
Party responsible for accounts payable:	
Name and Title	Jessica Zahnow, Renewable Resource & Environmental Policy Specialist
Company	PacifiCorp
Phone	503-813-6052
Email Address	jessica.zahnow@pacificorp.com
Mailing Address	825 NE Multnomah St., Suite 2000, Portland, OR 97232

4.2 Current and relevant state, federal, and tribal resource agency contacts with knowledge of the facility.

Agency Contact (Check areas of responsibility: Flows__, Water Quality __, Fish/Wildlife Resources _x_, Watersheds __, T/E Spp. __, Cultural/Historic Resources __, Recreation __):	
Agency Name	Idaho Fish and Game
Name and Title	Jim White – Regional Manager
Phone	208 525-7290
Email address	
Mailing Address	4279 Commerce Circle, Idaho Falls, ID 83401

Agency Contact (Check areas of responsibility: Flows__, Water Quality __, Fish/Wildlife Resources _x_, Watersheds __, T/E Spp. __, Cultural/Historic Resources __, Recreation __):	
Agency Name	Idaho Fish and Game
Name and Title	Brett High – Fisheries Manager, Upper Snake Region
Phone	208-525-7290
Email address	
Mailing Address	4279 Commerce Circle, Idaho Falls, ID 83401
Agency Contact (Check areas of responsibility: Flows__, Water Quality __, Fish/Wildlife Resources __, Watersheds __, T/E Spp. _x_, Cultural/Historic Resources __, Recreation __):	
Agency Name	US Fish & Wildlife Service
Name and Title	Sandi Fischer – Assistant State Supervisor
Phone	208-237-6975 X102
Email address	
Mailing Address	4425 Burley Dr. #A, Chubbuck, ID 83202
Agency Contact (Check areas of responsibility: Flows__, Water Quality __, Fish/Wildlife Resources __, Watersheds __, T/E Spp. __, Cultural/Historic Resources __, Recreation _x_):	
Agency Name	Bureau of Land Management
Name and Title	Rebecca Lazdaukas - Realty Specialist, Idaho Falls District Office
Phone	208-524-7521
Email address	rlazdauskas@blm.gov
Mailing Address	1405 Hollipark Dr., Idaho Falls, ID 83401
Agency Contact (Check areas of responsibility: Flows__, Water Quality __, Fish/Wildlife Resources __, Watersheds __, T/E Spp. __, Cultural/Historic Resources __, Recreation __):	
Agency Name	
Name and Title	
Phone	
Email address	
Mailing Address	

A. Current stakeholder contacts that are actively engaged with the facility (copy and repeat the following table as needed).

Stakeholder Contact (Check areas of interest: Flows__, Water Quality __, Fish/Wildlife Resources _x_, Watersheds __, T/E Spp. __, Cultural/Historic Resources __, Recreation __):	
Stakeholder Organization	Henry's Fork Foundation
Name and Title	Brandon Hoffner, Executive Director
Phone	208 652-3567
Email address	bhoffner@henrysfork.org
Mailing Address	810 Main St., Ashton ID 83420
Stakeholder Contact (Check areas of interest: Flows__, Water Quality __, Fish/Wildlife Resources __, Watersheds __, T/E Spp. __, Cultural/Historic Resources __, Recreation __):	
Stakeholder Organization	
Name and Title	
Phone	
Email address	
Mailing Address	
Stakeholder Contact (Check areas of interest: Flows__, Water Quality __, Fish/Wildlife Resources __, Watersheds __, T/E Spp. __, Cultural/Historic Resources __, Recreation __):	
Stakeholder Organization	
Name and Title	
Phone	
Email address	
Mailing Address	
Stakeholder Contact (Check areas of interest: Flows__, Water Quality __, Fish/Wildlife Resources __, Watersheds __, T/E Spp. __, Cultural/Historic Resources __, Recreation __):	
Stakeholder Organization	
Name and Title	
Phone	
Email address	
Mailing Address	

5.0 REFERENCES

Ecosystems Research Institute (ERI). 1990. *Utah Power & Light Company's Ashton/St. Anthony Project, FERC No. 2381, License Article 404, Turbine-Induced Mortality Study Report*. Ecosystems Research Institute. Logan, Utah. p. 5-8 and 35.

Federal Register. 2010. *Federal Register Reinstatement of Protections for the Grizzly Bear in the Greater Yellowstone Ecosystem in Compliance with Court Order*. Rule by the United States Fish and Wildlife Service on 03/26/2010. Retrieved on 11/15/19 from Federal Register: https://www.federalregister.gov/documents/2010/03/26/2010-6802/endangered-and-threatened-wildlife-and-plants-reinstatement-of-protections-for-the-grizzly-bear-in

FERC (Federal Energy Regulatory Commission). 1987. *Order Issuing New License: PacifiCorp Ashton-St. Anthony Hydroelectric License FERC Project No. 2381-001*. Federal Energy Regulatory Commission, Office of Hydropower Licensing. Washington, D.C. Retrieved from FERC Online eLibrary: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13314814 (See Appendix A-1-1 for PacifiCorp's version that incorporates license amendments up to 2012 but not the 2013 amendment separating the Ashton and St. Anthony developments).

FERC (Federal Energy Regulatory Commission). 1992. *Project No. P-2381-022—Idaho Ashton-St Anthony Project PacifiCorp,* Letter from FERC dated 2/28/1992 stating Article 408 requirements were fulfilled. Retrieved from FERC Online eLibrary: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=14957457

FERC (Federal Energy Regulatory Commission). 1999. *Order approving fish stocking plan. Issued January 26, 1999.* Federal Energy Regulatory Commission, Office of Hydropower Licensing. Washington, D.C. Retrieved from FERC Online eLibrary: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10824524

FERC (Federal Energy Regulatory Commission). 2013. *Order amending license, designating new docket number, approving transfer of license, and revising annual charges. Issued 9/13/2013.* Federal Energy Regulatory Commission, Division of Hydropower Administration and Compliance. Washington, D.C. Retrieved from FERC Online eLibrary: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13349172).

FERC (Federal Energy Regulatory Commission). 2016, *Order approving revised Exhibits A and G and revising annual charges*, Order Issued 7/19/2016. Federal Energy Regulatory Commission. Division of Hydropower Administration and Compliance. Retrieved from FERC Online eLibrary: https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=14311728

FERC (Federal Energy Regulatory Commission). 2017. *Order approving updated wildlife enhancement plan under Article 405.* Issued February 23, 2017. Federal Energy Regulatory Commission. Division of Hydropower Administration and Compliance.

Retrieved from FERC Online eLibrary: https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=14499078

FERC (Federal Energy Regulatory Commission). 2018a. *Environmental inspection report (electronically submitted).* Ashton Project, 8/22/2018 inspection date. Federal Energy Regulatory Commission. Division of Hydropower Administration and Compliance. Retrieved from FERC Online eLibrary: https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=15050995

FERC (Federal Energy Regulatory Commission). 2018b. *August 22 2018 Environmental Inspection follow-up Matters*, Letter from FERC dated 11/29/2018. Retrieved from FERC Online eLibrary: https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=15105945

FERC (Federal Energy Regulatory Commission). 2018c. *Order Amending Recreation Area Improvement Plan Pursuant to Article 406*. Issued October 31, 2018. Federal Energy Regulatory Commission. Division of Hydropower Administration. Washington DC. Retrieved from FERC Online eLibrary: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=15087194

FWS (United States Fish and Wildlife Service). 2019. *Canada Lynx life history information query*. Retrieved 11/15/19 from FWS species profile website: (https://ecos.fws.gov/ecp0/profile/speciesProfile?spcode=A073).

FWS (United States Fish and Wildlife Service). 2019. *Yellow-billed cuckoo species profile query*. Retrieved 11/15/19 from FWS website: https://ecos.fws.gov/ecp0/profile/speciesProfile?spcode=B06R#lifeHistory)

IDEQ (Idaho Department of Environmental Quality). 2018a. *Idaho's 2016 Integrated Report Final*. November 2018. State of Idaho Department of Environmental Quality. Boise, Idaho. Retrieved 12/3/19 from IDEQ: http://www.deq.idaho.gov/media/60182296/idaho-integrated-report-2016.pdf

IDEQ (Idaho Department of Environmental Quality). 2018b. *Interactive map page used to query for 305(b) waters in Upper Henrys-17040202 and Lower Henrys-17040203 subbasins*. Retrieved 11/15/19 from Idaho Department of Environmental Quality Draft 2016 integrated report interactive map: https://mapcase.deq.idaho.gov/wq2016/

IDEQ (Idaho Department of Environmental Quality). 2018c. *Assessment Unit Status Report query for Lower Henrys subbasin*. Retrieved 11/15/2019 from Idaho Department of Environmental Quality Draft 2016 integrated report interactive map database page for Assessment Unit ID ID17040203SK012_06, Henry's Fork-Ashton Reservoir Dam to Falls River: https://mapcase.deq.idaho.gov/wq2016/scripts/adb2016.aspx?WBIDSEGID=ID17040203SK012_06

IDFG (Idaho Department of Fish and Game). 2007. *Management Plan for Conservation of Yellowstone Cutthroat Trout in Idaho.* Retrieved 11/15/19 from IDFG: https://idfg.idaho.gov/old-web/docs/fish/planYellowCutthroat.pdf

IDFG (Idaho Department of Fish and Game). 2019. *Fisheries Management Plan 2019 – 2024.* Idaho Department of Fish and Game, Boise, USA. Retrieved 11/15/19 from IDFG: https://idfg.idaho.gov/sites/default/files/2019-2024-idaho-fisheries-management-plan-original.pdf

IDFG (Idaho Department of Fish and Game). 2019. *Ute ladies' tresses observations query*. Retrieved 11/15/19 from IDFG database: https://idfg.idaho.gov/species/observations/list?species_id=40218&county_id=227).

IDFG (Idaho Department of Fish and Game). 2019. *Canada lynx range map query*. Retrieved 11/15/19 from IDFG database: https://idfg.idaho.gov/species/taxa/16860).

IDFG (Idaho Department of Fish and Game). 2019. *Canada lynx observation recorded northeast of Ashton Reservoir in 1987 (record #576864).* Retrieved 11/15/19 from IDFG database: https://idfg.idaho.gov/species/observation/576864

IDFG (Idaho Department of Fish and Game). 2019. *Yellow-billed cuckoo range map query*. Retrieved 11/15/19 from IDFG database: https://idfg.idaho.gov/species/taxa/19476

IDFG (Idaho Department of Fish and Game). 2019. *Species observations in Freemont County query of IDFG database*. Retrieved 11/15/19 from IDFG database: https://idfg.idaho.gov/species/observations/list?species_id=19476&county_id=227).

IDFG (Idaho Department of Fish and Game). 2019. *Species classification query*, Idaho Classification of Wildlife (IDAPA) web page. Retrieved 11/15/2019 from IDFG: https://idfg.idaho.gov/species/taxa/list/county/fremont?order=field_srank&sort=asc)

Maiolie, M.A. 1987. *Ashton Reservoir Fishery Enhancement Study; Job Completion Report, August 1987.* Fishery Research, Idaho Department of Fish and Game. 55 pp. Retrieved 11/15/19 from IDFG: https://collaboration.idfg.idaho.gov/FisheriesTechnicalReports/Res-Maiolie1987%20Ashton%20Reservoir%20Fishery%20Enhancement%20Evaluation.pdf

Meyer K.A. et al. 2013. *Status updates for Yellowstone cutthroat trout, redband trout, and bull trout in Idaho*. IDFG Fisheries Research Report Number 13-18. October 2013. Retrieved from IDFG: https://collaboration.idfg.idaho.gov/FisheriesTechnicalReports/Res13-18Meyer2014%20salmonid%20status%20report.pdf

National Park Service. *Grizzly Bears & the Endangered Species Act.* Article summarizing history of federal listing status for grizzly bear retrieved 11/15/19 from National Park Service website: https://www.nps.gov/yell/learn/nature/bearesa.htm

PacifiCorp. 1995. Letter from PacifiCorp to FERC submitting the final Ashton Reservoir fish stocking plan. November 3, 2015. Retrieved from FERC Online eLibrary: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=8304238

PacifiCorp. 2014. *Ashton Hydroelectric Project FERC No. P-2381 Water Quality Monitoring Report for Low Impact Hydroelectric Institute Certification,* January 2014, unpublished report, Ecosystems Research Institute, Logan UT.

PacifiCorp. 2016a. *Ashton Hydroelectric Project, FERC Project No. P-2381, Submittal of Revised Exhibit A*. PacifiCorp. Portland, OR. Retrieved from FERC Online eLibrary: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=14256858

PacifiCorp. 2016b. *Ashton Hydroelectric Project, FERC Project No. P-2381, Application for Non-Capacity Related License Amendment for Major Licensed Project-Revised Exhibit G drawings.* PacifiCorp. Portland, OR. https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=14297002

PacifiCorp. 2016c. *Ashton Hydroelectric Project (FERC Project No. P-2381) Submittal of updated Wildlife Enhancement Plan, Ashton Hydroelectric Project, 2016 Update. License Article 405*. PacifiCorp. Portland, OR. Retrieved from FERC Online eLibrary: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=14360050

PacifiCorp. 2016d. *Ashton Hydroelectric Project, FERC Project No. P-2381 Article 405-Wildlife Enhancement Plan Five-Year Summary Report.* PacifiCorp. Portland, OR. Retrieved from FERC Online eLibrary: https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=14212679

PacifiCorp. 2018a. *Ashton Hydroelectric Project, FERC Project (FERC No. P-2381), submittal of revised recreation as-built drawings, Docket 2381-069*, Letter to FERC dated 10/26/2018. PacifiCorp. Portland, OR. Retrieved from FERC Online eLibrary: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=15019940

PacifiCorp. 2018b. *Ashton Hydroelectric Project (FERC No. P-2381) Response to September 20, 2018 Results of Environmental Inspection for the Ashton Project No. P-2381*, Letter to FERC dated 11/19/2018. PacifiCorp. Portland, OR. Retrieved from FERC Online eLibrary: https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=15099183

Utah Power and Light Company (UPL). 1984. *Application for license, Ashton-St.Anthony Hydro Project, FERC Project No. 2381-IDAHO*, Utah Power and Light Company. Salt Lake City, Utah, filed December 21, 1984.

Appendix A
Supporting Documents

APPENDIX A: SUPPORTING DOCUMENTS

LICENSE-RELATED DOCUMENTS
A-1-1. Project License text edited to include amendments up to 2012
A-1-2. Amendment to License in 2013 – pages pertaining to Ashton Development

ECOLOGICAL FLOW REGIME
A-2.1-1. Plot of reservoir elevation and downstream gage data for the past 5 water years

WATER QUALITY
A-2.2-1. Upper and Lower Henry's Fork 303(d) list (excerpt pages 49-50 from Appendix L of the IDEQ's Draft 2016 integrated report)
A-2.2-2. Letter from IDEQ, dated March 3, 2014

DOWNSTREAM FISH PASSAGE
A-2.4-1. Letter from UPL dated September 27, 1990 submitting turbine mortality report to FERC
A-2.4-2. Letter from IDFG dated September 27, 1990 with comments on turbine mortality report

THREATENED AND ENDANGERED SPECIES
A-2.6-1. Sensitive species and species observed in Freemont Co. from Idaho Species Diversity Database
A-2.6-2. Key to rare and sensitive species table codes

CULTURAL RESOUCES
A-2.7-1. Letter from State Historic Preservation Office dated June 20, 2012, regarding the cultural resource inventory report
A-2.7-2. Letter from State Historic Preservation Office dated May 15, 2013, regarding reevaluation of four prehistoric sites within the Ashton Reservoir drawdown zone
A-2.7-3. Letter from FERC dated February 28, 1992, regarding fulfillment of Article 408
A-2.7-4. Letter from State Historic Preservation Office dated July 25, 2019, regarding consultation concerning removal of housing

PacifiCorp Ashton-St. Anthony Hydroelectric License
FERC Project No. 2381

Current License, with Subsequent Amendments Incorporated
(also see September 13, 2013 amendment that removes St. Anthony)
Links
Director_orders

Please Note: This document does not reflect Amendments to License Exhibits.
It treats only Amendments to the text of the license articles, citing the FERC Orders issuing them.
Amendments appear in *italics*. Deleted text has actually been deleted. "[]" denote Editor's Notes.

~~~~ ~~~~ ~~~~ ~~~~ ~~~~ ~~~~

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Martha 0. Hesse, Chairman; Anthony G. Sousa, Charles G. Stalon, Charles A. Trabandt and C. M. Naeve.

Utah Power & Light Company Project No. 2381-001

ORDER ISSUING NEW LICENSE
(Major Project - Existing Dam)
(Issued August 3, 1987)

Utah Power & Light Company (UP&L) has filed an application for new license under Section 15 of the Federal Power Act (FPA), 16 U.S.C. § 807, to continue to operate and maintain the Ashton—St. Anthony Project No. 2381, located in Fremont County, Idaho, on the Henry's Fork of the Snake River. The project, which occupies 0.39 acres of federal land administered by the Bureau of Land Management, consists of two developments: the Ashton Development and the St. Anthony Development. The Ashton Development is located on the Henry's Fork of the Snake River. The St. Anthony Development is located on the Henry's Fork and on the Egin Irrigation Canal (EIC), a diversion of the Henry's Fork. The license for the project, which was issued on December 19, 1977, with an effective date of January 1, 1938, expires on December 31, 1987.[1] UP&L proposes to replace a turbine-generator unit within the Ashton Development powerhouse and to install a fish passage facility at the St. Anthony Development diversion dam.

Notice of the application has been published. The motions to intervene that have been granted and the comments filed by agencies and individuals have been fully considered in determining whether to issue this license, as discussed below.

The Idaho Department of Water Resources (IDWR) filed a timely motion to intervene on July 12, 1985, which was automatically granted pursuant to Commission regulations. IDWR requested that

[1] See 1 FERC ¶ 61,263 (1977).
~~~~

any new license issued to UP&L for the Ashton-St. Anthony Project include provisions making the license consistent with the Idaho State Water Plan. In addition, IDWR requested that UP&L be required to have filed an application for a water rights permit prior to issuance of the license. The issues raised by IDWR are addressed in the Comprehensive Plans portion of this order.

The Idaho Department of Fish and Game (IDFG) filed an untimely motion to intervene on July 22, 1985, and was granted late intervention on November 6, 1985. IDFG is concerned with the potential adverse impacts on the fish and wildlife resources related to entrainment and impingement, flow fluctuations during and after construction, and upstream migration of resident fish past the project diversion structure. The issues raised by IDFG are addressed in the Recommendations of Federal and State Fish and Wildlife Agencies portion of this order and in the Environmental Assessment (EA) attached to this order.

Although the original license for the project included as a project work the headworks structure from the power canal to the EIC at the St. Anthony Development, UP&L's application for new license excluded this structure. However, the irrigation canal headworks structure is being included in this license as a project facility, because operation of the structure could affect flows to the St. Anthony powerhouse. Pursuant to Standard Article 5 of the license, UP&L will be required to obtain all rights in the headgate structure necessary to operate and maintain the project. Article 304 requires that the irrigation canal headworks structure be included in the as-built exhibits.

Section 10 of the Federal Power Act

Section 3 of the Electric Consumers Protection Act of 1986 (ECPA), Pub. L. No. 99-495 (Oct. 16, 1986), amended Section 10 of the FPA, 16 U.S.C. § 803, with regard to various aspects of the Commission's hydroelectric program. Section 15(a)(2) of the FPA, as added by Section 4 of ECPA, provides that the requirements of Section 10 of the FPA are applicable to Commission consideration of applications for new license under Section 15 of the FPA. Following is a discussion of the relevant provisions of Section 10.

1. Recommendations of Federal and State Fish and Wildlife Agencies (Section 10(j))

Section 10(j) of the FPA requires the Commission to include license conditions based on recommendations of federal and state fish and wildlife agencies for the protection, mitigation, and enhancement of fish and wildlife. The EA for the Ashton-St. Anthony Project, which was prepared prior to the enactment of ECPA and which is attached to and made part of this license, addresses the concerns of the federal and state fish and wildlife agencies. For example, agencies requested that UP&L implement a wildlife enhancement plan, which UP&L agreed to do. Article 405 requires UP&L, in consultation with IDFG and the U.S. Fish and Wildlife Service (FWS), to file with the Commission for approval a wildlife report showing the final locations and design specifications of 15 goose nesting structures, 10 raptor perch structures, 10 osprey nesting platforms, a bald eagle nesting platform, and other facilities proposed in the wildlife enhancement plan. In addition, the article requires UP&L to monitor the effectiveness of the plan and to submit monitoring reports to the Commission, IDFG, and FWS. However, as discussed next, the EA did not recommend adoption of one of the recommendations contained in IDFG's motion to intervene.

For the protection of fish resources in the Henry's Fork River, IDFG recommended various measures that would minimize project effects on these resources. The EA generally concurred in IDFG's assessment of the project impacts, except for its recommended mitigation regarding fish entrainment. IDFG recommended screening at the St. Anthony Development to prevent mortality of wild trout and also as mitigation for the loss of predominantly hatchery trout at the upstream Ashton Development. However, review of the St. Anthony Development intake design and position relative to that of the EIC intake suggests that, if entrainment is occurring, the majority of fish would be entrained

to the EIC rather than to the St. Anthony Development intake. Because of this, the EA concluded that entrainment and turbine-related mortality of trout would be insignificant; however, to ensure that fish entrainment mortality would not be significant, the EA recommended a post-operational monitoring study at the St. Anthony Development.

Consistent with Section l0(j)(2) of the FPA, Commission staff negotiated with IDFG to resolve the intake screening issue. By letter dated April 2, 1987, the Director of the Division of Environmental Analysis (Director) advised IDFG of the difference between the EA's and IDFG's recommended mitigation for entrainment at the St. Anthony Development. By letter filed with the Commission on May 11, 1987, IDFG notified the Director that, while it continues to believe that screening at the St. Anthony Development is appropriate as a license condition, it would accept the EA's recommendation for requiring a post-operational monitoring study if entrainment and turbine-related losses of trout are quantified for both the St. Anthony Development and the Ashton Development and if the loss of wild trout is prevented or an equivalent off-site enhancement of wild trout populations is provided.

On May 26, 1987, UP&L filed with the Commission additional information regarding mitigation and enhancement of the fish resources at the St. Anthony Development. In light of IDFG's recommendation for screening at the St. Anthony Development, UP&L proposed therein to create additional off-site fish habitat as mitigation for any fish losses by providing a 35-cubic-feet-per-second minimum flow to the EIC during the 7-month non-irrigation season. At times when the canal is dewatered for maintenance, UP&L proposes to conduct fish salvage operations if deemed necessary by IDFG. Further, UP&L proposes to evaluate other non-screening alternatives, such as behavioral barriers, to minimize the potential for fish entrainment to the St. Anthony Development intake.

IDFG has reviewed UP&L's proposed alternative mitigation measures and has stated that it would consider these alternative measures to screening the St. Anthony Development intake pending results of the post-operational monitoring study and further evaluation of non-screening alternatives.[2] IDFG also states that its consideration of these alternatives does not preclude the potential for requiring screening if the results of the post-operational monitoring studies show screening is necessary.

Continued operation of the Ashton-St. Anthony Project could result in some entrainment and turbine-related mortality of fish. However, based on available information, we conclude that project operation would not result in significant entrainment and subsequent turbine-related mortality and that screening of the St. Anthony intake is not necessary at this time. To ensure that entrainment mortality is low, UP&L should conduct monitoring studies to fully assess fish entrainment mortality at the St. Anthony Development. Further, because this license does not require immediate screening at the St. Anthony Development, which IDFG says would mitigate for the turbine-related loss of trout at the Ashton Development as well, UP&L should quantify the losses of trout at both developments through post-operational monitoring studies. Accordingly, Article 404 of the license requires UP&L to conduct such studies in consultation with IDFG and FWS and to submit the study results to the Commission after receiving the comments of IDFG and FWS. In the event that the monitoring studies show that turbine-related fish mortality is significant, UP&L must submit to the Commission its recommendations for mitigation measures, together with comments from the above agencies on its recommendations; and the Commission, through the authority reserved in Article 404, will require UP&L to implement appropriate mitigative measures such as screening the intake, providing an equivalent off-site enhancement of a wild trout population, providing supplemental stocking of upstream reservoirs, and providing other non-screening alternatives such as behavioral barriers, to minimize and compensate for any fish losses. Further, IDFG could petition the Commission under Standard Article 15 for further mitigation measures if evidence of mortality warrants additional mitigation.

[2] Personal communication, Al Van Voren, Staff Biologist, Idaho Department of Fish and Game, Boise, Idaho, June 1, 1987.

2. Comprehensive Plans (Section l0(a)(2)(A))

Section l0(a)(2)(A) of the FPA, as amended by ECPA, requires the Commission to consider the extent to which a project is consistent with comprehensive plans (where they exist) for improving, developing, or conserving a waterway or waterways affected by the project that are prepared by an agency established pursuant to federal law that has the authority to prepare such a plan or by the state in which the facility is or will be located. The Commission considers plans to be within the scope of Section 10(a)(2)(A) only if such plans reflect the preparers' own balancing of competing uses of a waterway, based on their data and applicable policy considerations (i.e., consider and balance all relevant public use considerations). With regard to plans prepared at the state level, such plans are within the scope of Section 10(a)(2)(A) only if they are prepared and adopted pursuant to a specific act of the state legislature and developed, implemented, and managed by an appropriate state agency. [3]

The Commission has identified the Northwest Power Planning Council's (Council) Northwest Conservation and Electric Power Plan (Plan) and Columbia River Basin Fish and Wildlife Program (Program) as falling within the scope of Section l0(a)(2)(A). UP&L's application is consistent with the goals and policies of the Program, since, as required therein, fish and wildlife agencies, Indian tribes and the Council have been consulted with regard to the project, and the license is being conditioned to mitigate fish and wildlife impacts. Furthermore, Article 203 of the license reserves to the Commission the authority to order alterations of project structures and operations to take into account to the fullest extent practicable the Program. With regard to the Council's Plan, the project is in a part of UP&L's service area that lies within the Council's geographic area of planning responsibility. However, since UP&L's load within the Council's geographic planning area is served by generation of UP&L from outside that area, it does not represent load for which the Council must plan resources. Therefore, we considered the power development plans and feasibility of the capacity addition based upon UP&L's data. However, if the project were evaluated as a project within the Council's resource planning responsibilities, the proposed capacity at the project would be feasible based upon the Council's economic yardstick, since it is less expensive than coal-fueled steam generation. Based on the above, the project is not inconsistent with the Council's Plan.

In its intervention request filed July 12, 1985, IDWR stated that the Idaho State Water Plan provides a comprehensive plan for the development of the water resources of the State of Idaho and requested that the new license for Project No. 2381 include provisions making the license consistent with the Idaho State Water Plan. The Idaho State Water Plan is a self-described statement of objectives and policies that will be followed by the state in allocating water rights. The allocations are made on a case-by-case basis upon application by the user based on consideration of the flows required to satisfy existing and potential users of the water. However, the Idaho State Water Plan does not provide information on the uses, or combination of uses, that could be developed to utilize the flows in any particular river section to the extent that it reflects an explicit balancing of the competing uses of a waterway in the public interest. We do not need to decide whether the Idaho State Water Plan is a comprehensive plan under Section l0(a)(2)(A), as we believe the license as conditioned herein is consistent with the Idaho State Water Plan, since the use of water by the additional generating capacity to be licensed herein is not in conflict with the water uses prescribed in the Idaho State Water Plan for the reach of the river where the project would be located. Therefore, no further conditions are necessary to achieve such consistency. [4]

---

[3] Fieldcrest Mills, Inc., 37 FERC 1 61,264 (1986).

[4] IDWR also requested that UP&L apply for an additional state water rights permit prior to the issuance of the new license for Project No. 2381. UP&L subsequently applied for such a permit, which was approved by IDWR on January 20, 1986. Thus, IDWR's request has been met. However, the permit contains a condition purporting to subordinate UP&L's water rights for hydroelectric use to other water rights and uses. As we explained in Boise Cascade Corporation, 36 FERC ¶ 61,135 (1986), we do not believe that general subordination clauses unsupported by factual record evidence are in the public interest. Since we have not been provided with factual justification for the subordination clause included in

Three resources plans[5] that touch on various aspects of waterway management were brought to our attention and have been reviewed in relation to the proposed project as part of our broad public interest examination under Section l0(a)(l) of the FPA. No conflicts were found.

3. Recommendations of Other Agencies (Section l0(a)(2)(B))

Section l0(a)(2)(B) of the FPA requires the Commission to consider the recommendations of relevant federal and state agencies exercising administration over flood control, navigation, irrigation, recreation, cultural and other relevant resources, and the recommendations of Indian tribes affected by the project.

Other than the recommendations submitted by IDWR discussed previously, no specific state and federal agency comments or recommendations were made addressing flood control, navigation, or irrigation requirements in the basin. The Idaho State Historic Preservation Officer indicated that procedures should be implemented to preserve the historic turbine that will be removed from the Ashton Development. Article 408 of the license requires UP&L to implement a cultural resources management plan to mitigate any impacts to the historic turbine. The Idaho Department of Parks and Recreation and the National Park Service recommended a variety of measures to improve recreational facilities at the Ashton Reservoir, which UP&L incorporated into its Recreation Area Improvement Plan. Article 406 of the license requires UP&L. to implement the plan within one year from the effective date of this license.

4. Consumption Efficiency Improvement Program (Section 10(a)(2) (C))

Section l0(a)(2)(C) of the FPA, added by ECPA, requires the Commission to consider the consumption efficiency improvement programs of, inter alia, utility applicants. Under covering letter dated February 27, 1987, UP&L submitted to the Commission a supplemental filing which included a comprehensive document entitled "Conservation Report". The report addresses UP&L's efforts to cooperate with the regulatory agencies in three states (Utah, Idaho and Wyoming) on issues regarding conservation and demand control. For the most part, the regulatory agencies have solicited voluntary cooperation in pilot programs designed to assess the effectiveness and associated costs of programs which may, at a later date, be mandated by state regulatory agency rulemaking. The orders issued by the three states' regulatory agencies cited in Section IV of UP&L's report deal principally with regulations which UP&L must comply with in order to recover its costs for implementing voluntary pilot programs through adjustments in approved rate schedules. The matters addressed in the report include improvement of the energy efficiency of UP&L's power system, residential weatherization, education of customers on energy conservation, conservation practices which can be implemented by crop irrigation customers, thermal insulation of domestic electric water heaters, solar water heaters, time-of-day (TOD) reduced rates for irrigation, air conditioning, electric heating of inhabited space, and direct load control combined with TOD.

Based upon our review of the foregoing, we conclude that UP&L has made, and is continuing to make, a successful good-faith effort to promote cost-effective energy conservation and to

---

UP&L's water rights permit, we cannot determine if the clause is appropriate. Accordingly, our issuance of this license should not be interpreted as an affirmation of the appropriateness of the clause. Furthermore, operation of the subordination clause will not excuse UP&L from fulfilling its obligation during the term of the license to acquire and retain all rights, including water rights, necessary for project purposes.

[5] US Department of Agriculture~ Forest Service, Targhee National Forest, Land Management Plan, 1985; Idaho Department of Fish and Game, Fisheries Management Plan, 1986 — 1990, January 1986; and Idaho Department of Parks and Recreation, Idaho Outdoor Recreation Plan, 1983.

educate end-use customers as to the financial rewards accruing from conservation. Commission staff's contact with pertinent regulatory authorities substantiated UP&L's assertion that the ongoing energy consumption efficiency improvement programs are in compliance with the relevant state agency recommendations in these matters. Section 15(a) of the Federal Power Act Section 4 of ECPA amended Section 15 of the FPA to specify a number of factors the Commission is required to consider in acting on applications for new license following the expiration of existing licenses.

1. The plans and abilities of the applicant to comply with the articles, terms, and conditions of any license issued to it and other applicable provisions of Part I of the FPA (Section 15(a)(2)(A))

UP&L states that, since obtaining the existing license, it has been committed to meeting the requirements of all the articles, terms, and conditions of the existing license. UP&L maintains that its past performances in conjunction with its future operation and maintenance plans, and its record of compliance with the requirements of the jurisdictional agencies, demonstrate that it is committed to meeting the future requirements for the continued operation of the project.

Our review of the compliance record of UP&L substantiates that UP&L has complied in a good faith manner with all articles, terms, and conditions of its existing license. Also, it appears that UP&L has the financial and personnel resources necessary to fulfill its obligations under the license and Part I of the FPA. Based on the above, and in consideration of the requirements of the new license, we conclude that UP&L will be able to comply with the terms and conditions of the new license and other provisions of Part I of the FPA.

2. The plans of the applicant to manage, operate and maintain the project safely (Section 15(a)(2)(B))

UP&L states that it is operating the generating facilities with a foremost concern for the safety of its employees and the public. Records indicate that there has never been an employee fatality, and the only lost-time employee injury occurred in 1956. Also, there has been no injury or death to any member of the public within the project boundary. UP&L has adopted an official safety code based on its operating experience, and this code is continually updated. The project is, and will continue to be, operated run—of— river, which causes no extreme fluctuations, thus posing no project-caused hazard for fishermen and boaters. UP&L has prepared an emergency action plan with a notification procedure to the public in case of a potential threat to life or property downstream.

Based upon our review of the specific information provided by UP&L on various aspects of the project that affect public safety, inspection reports by the Commission's Regional Director, and independent consultant reports filed under Part 12 of our regulations, 18 C.F.R. Part 12 (1987), we conclude that UP&L's plans to manage, operate, and maintain the project safely are adequate. However, as discussed in detail in the Dam Safety section of the Safety and Adequacy Assessment attached to this order, unresolved dam safety concerns exist with the Ashton dam. In order to assure continued safe operation of the project during all conditions, including floods up to the probable maximum, UP&L was directed by letter dated May 14, 1987, to perform remedial measures. Completion of these remedial measures and compliance with the provisions of this license and any future dam safety requirements imposed pursuant to Part 12 will assure a safe and adequate project.

3. The plans and abilities of the applicant to operate and maintain the project in a manner most likely to provide efficient and reliable electric service (Section 15(a)(2)(C))

UP&L states that it acquired the St. Anthony plant in 1913 and immediately replaced the existing unit with the present 500—kW unit. The plant is operated in a semi—automatic mode in a manner that maximizes generating efficiency. Maintenance upkeep has included upgrading electrical systems and repairs to the project works.

UP&L acquired the Ashton plant in 1924 with an l,800-kW unit installed in a powerhouse constructed for three units. It proceeded to install two additional 2,000-kW units in the powerhouse. The plant is operated at a constant head to maximize efficiency and generating capacity. Electrical systems and the project facilities are continually maintained. Unit Nos. 2 and 3 have been semi-automated, and Unit No. 1 would be semi-automated and upgraded from 1,800 kW to 3,400 kW installed capacity under the new license. The increase in hydraulic capacity of Unit No. 1 would reduce the flows currently being spilled and utilize these flows for more efficient generation. Other efficiency and reliability measures-include preventative maintenance programs, training of hydro plant operators, and closer coordination on upstream releases from the Island Park Reservoir with the U.S. Bureau of Reclamation.

Operation of the Ashton and St. Anthony plants enables UP&L to reduce the loading of its transmission lines and the substation, which are approaching limits of their thermal capacity. The hydroelectric plants provide low-cost generation in UP&L's system, and these benefits are expected to increase in the future because of the escalation of fuel costs.

Based on the above considerations and our review of the operation inspection reports by the Regional Director and UP&L's past performance and future plans to operate the project, we believe that the project is, and under the new license will continue to be, operated and maintained in an efficient and reliable manner.

4. The need of the applicant over the short and long term for the electricity generated by the project to serve its customers (Section 15(a)(2)(D))

The proposed modifications to the project would increase its capacity from 6.3 MW to 7.9 MW and would provide an estimated average of 10,000,000 kilowatt hours (kWh) of additional electrical energy and 49,922,000 kWh of total energy per year from the project. The project is part of UP&L's existing electric generating resource base and is currently used to meet part of UP&Ls electric system load requirements. Being small in comparison to current total system power capability requirements (2600 megawatts), the project has a negligible effect on UP&L's need for power status. UP&L's projections show surplus generating capacity through 1995, and loss of the project capacity would not change these projections. However, the project is an inexpensive source of energy that does, and would continue to, provide benefits through the displacement of more expensive thermal generation.

UP&L's proposal to upgrade the project is made in accordance with a letter of agreement between UP&L, the United States, the City of Idaho Falls, and the Fremont—Madison Irrigation District relating to the operation of the U.S. Bureau of Reclamation's Island Park reservoir. Among other things, the agreement requires that water spills past the Ashton plant be minimized to the greatest extent possible. The increased hydraulic capacity of the project would use the available head more effectively and capture capability that is currently lost. The upgrading would provide additional economic benefits through increased thermal displacement. This displacement of thermal generation also conserves fossil fuel and reduces the emissions that are a product of the combustion of fossil fuels. Finally, the project is located in the northeast corner of UP&L's Idaho service area, and its continued generation would defer the need to reinforce transmission and transformer facilities that provide a second power source for the area.

If a new license is not issued for Project No. 2381, UP&L would have to cease operating the project. In the short term, replacement power would have to be provided from existing operating capacity, installed reserve capacity, deactivated but available capacity, or from purchased power.

UP&L does not have capacity which is in a deactivated status, but could use existing operating capacity and installed reserves for replacement power in the short term. However, each was found to be less desirable on an economic and environmental basis than continued project generation. Also,

because of the current surplus of generating capacity on UP&L's power system, purchased power was not viewed as an appropriate alternative for replacement power in the short term.

Long term, UP&L's resource acquisition strategy is to purchase power under contract as long as surplus market conditions exist, installing its own generating capacity only when necessary. UP&L viewed cogeneration and small power producer generation as potential replacement power in both the short and long term, but, because of the questionable availability and reliability experienced in past relationships with cogeneration and some small power producers, such resources were deemed inadequate replacements for project generation. Similarly, since load management measures were already treated in the development of load projections and involve considerable uncertainty, additional conservation and other load management techniques were considered inappropriate to replace the project generation on a firm, long-term basis. The purchase of firm power and the construction of additional coal-fired generating capacity were deemed the most likely long-term alternatives, and both were found to be less desirable than continued project generation. Continued operation of the project would save UP&L's customers approximately $1,862,000 per year over the estimated most likely replacement energy cost. This would equate to $3.67 per year per customer.

With the exception of load management measures, none of the above alternatives would affect the load characteristics of UP&L's system, and only purchased power would affect the system operation or customers of the supplier of the purchased power. Any effect of purchased power on the supplier of that power and its customers would have to be viewed as positive by the supplier of the power, or it would not be made available to UP&L on a long-term firm basis.

The overall effect of the cessation of the operation of the project on the customers of, and communities served by, UP&L or the supplier of purchased power would be minimal because of the small size of the project, but continued project generation would be more beneficial than the alternative means of replacing project power. Accordingly, despite the existence of capacity surpluses on UP&L's system, Project No. 2381 as proposed to be modified by UP&L would provide system benefits that would be lost if a new license were not issued for the project and that justify a new license for the project from a need-for-power perspective.

5. The applicant's existing and planned transmission services (Section 15(a)(2)(E))

Review of the license application and UP&L's supplemental filing of December 30, 1986, indicates that UP&L's existing project transmission service would not change if a new license were granted. If a non-power license were issued, a requirement for additional system transmission capacity to the area would occur sooner than it would with the project in operation. Specifically, the project provides power to the Rigby-St. Anthony 69-kV transmission network on the northeast corner of the UP&L's Idaho service area. Additional power is supplied to the 69-kV network via the 161-kV to 69-kV step-down transformer at the Rigby substation and the 161-kV transmission line to the Rigby substation. Project generation defers the cost of reinforcing the 161-kV transmission network and the Rigby step-down transformer by reducing the power requirement at the Rigby substation.

UP&L has commenced plans to rebuild the 65-year-old Rigby-St. Anthony 69-kV line and has long range plans to rebuild the 60-year-old Ashton-St. Anthony 46-kV line. Rebuilding the Rigby-St. Anthony and the Ashton-St. Anthony lines should improve the reliability of the existing project transmission service by reducing the number of transmission line outages.

From the above, we conclude that, although loss of the project would have minimal affect on UP&L's system reliability, issuance of a non-power license for the project would reduce reliability in the Rigby area and would impose additional costs on UP&L's customers sooner than with the project in operation.

6. Whether the plans of the applicant will be achieved, to the greatest extent possible, in a cost effective manner (Section 15(a)(2)(F))

With regard to the Ashton Development, UP&L plans to semi-automate the plant, upgrade and modernize the equipment, and reduce the overall operating expenses. Semi-automation will result in a 35 percent reduction in work force. Unit No. 1, being the oldest, is the least efficient and would be replaced by the upgraded unit proposed in the application for new license. Since the present unit is experiencing increased down-time, the flow utilization is not being optimized. UP&L has implemented its advanced project management planning program to achieve the above objectives for the selection of the most cost-effective alternative.

As to the total project, UP&L plans to improve recreational facilities and their operation and maintenance to enhance day-use recreation in the project area. UP&L plans to acquire additional lands, upgrade a boating ramp and fishing-observation pier, add new picnic facilities, improve vehicular and pedestrian traffic, assume greater responsibility for recreational facility operation and maintenance, and reevaluate the need for additional recreational facilities in the near future.

We have reviewed UP&L's plans and have determined that the measures proposed would be cost-effective. The upgrading of Unit No. 1 would result in the hydraulic capacity of the Ashton plant being increased and would optimize the utilization of flows at the project. Upgrading of the unit would involve minimal amount of incidental work and additional costs. Improvement of the recreational facilities would enhance day-use recreation at reasonable costs.

7. Such other factors as the Commission deems relevant (Section 15(a)(2)(G))

As discussed elsewhere in this order and in the attached EA, the issuance of a new license for the project would not result in any major, long-term adverse environmental impacts. Moreover, the issuance of a new license will permit the implementation of UP&L's proposed fish and wildlife mitigation and recreational improvements, which would benefit the environmental resources of the project area.

8. The applicant's record of compliance with the terms and conditions of the existing license (Section 15(a)(3)(A))

Based on a review of Regional Director and other Commission records, we conclude that UP&L has complied with the terms and conditions of its existing license. Specifically, UP&L, as required by the existing license, satisfactorily installed signs and public safety devices at the Ashton dam, and filed an amended Exhibit R and provided the facilities described therein. Also, pursuant to Part 12 of our regulations, UP&L has filed an emergency action plan and periodic updates, all of which were found acceptable. Also, in accordance with Part 12, UP&L has submitted an initial independent consultants report that was found satisfactory. The second report submitted by UP&L has been reviewed and, as a result, UP&L has been directed to undertake remedial measures. UP&L has adequately complied with Commission requirements regarding this second report. Thus, UP&L's compliance record indicates that it can be expected to fully comply with the terms and conditions of any new license issued for Project No. 2381.

9. The actions of the applicant related to the project which affect the public (Section 15(a)(3)(B))

The record indicates that UP&L has an excellent record of providing recreation facilities at the project. Also, UP&L's regard for public safety is demonstrated by the installation of a boating safety barrier, transformer yard fencing, warning signs and lifesaving devices at Ashton dam. Thus, the actions affecting the public taken by UP&L in relation to Project No. 2381 support the issuance of a new license.

Summary of Findings

Background information, analysis of impacts, support for related license articles, and the basis for a finding of no significant impact on the environment are contained in the EA[6] attached to this order. Issuance of this license is not a major federal action significantly affecting the quality of the human environment.

Pursuant to Section 15(a)(2) of the FPA, as amended by ECPA, the Commission considers UP&L's plans and abilities to be adequate in regard to compliance with the articles, terms, and conditions of the license and in managing, operating, and maintaining the project safely and in a manner that would provide efficient and reliable electric service.

UP&L has demonstrated its need for project power, taking into consideration system reliability and reasonable costs and availability of alternative sources of power and their effect on the provider of the alternative power sources, its customers, and UP&L's operating and load characteristics.

The project will be safe if operated and maintained in accordance with the requirements of this license and Part 12 of the Commission's regulations. Analysis of dam safety issues is provided in the Safety and Design Assessment attached to this order.

Pursuant to Section 15(a)(3) of the FPA, we conclude that UP&L has also demonstrated an adequate record of compliance with the terms and conditions of the existing license, and has taken appropriate actions related to the project which affect the public. Maintenance of the project has been adequate. No significant environmental problems are apparent. The primary dam safety concern is the ability of the spillway to pass the probable maximum flood, which is being addressed pursuant to Part 12 of our regulations.

Conclusion

As amended by ECPA, Section 15(a)(2) of the FPA requires the Commission to issue new licenses "to the applicant having the final proposal which the Commission determines is best adapted to serve the public interest." As explained previously, the provisions of Section 10 of the FPA are applicable to applications for new license under Section 15. Consequently, Section 10(a)(1) of the FPA, as amended by ECPA, governs Commission consideration of applications for new license, and the Commission may issue a new license only if the proposal "will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce, for the improvement and utilization of water power development, for the adequate protection, mitigation, and enhancement of fish and wildlife (including related spawning grounds and habitat), and for other beneficial public uses, including irrigation, flood control, water supply, and recreational and other purposes referred to in [Section 4(e) of the FPA]." [7]

[6] Section II of the EA, entitled Resource Development", is superseded by the portion of the attached Safety and Design Assessment entitled "Economic Feasibility" and by the analysis of Section 15(a)(2)(D) of the FPA contained in this order.

[7] Section 4(e) of the FPA authorizes the Commission to issue licenses for project works "necessary or convenient for the development and improvement of navigation and for the development, transmission, and utilization of power... ." Also, Section 4(e) provides, in a provision added by Section 3(a) of ECPA, that:

> "In deciding whether to issue any license under this Part for any project, the Commission, in addition to the power and development purposes for which licenses are issued, shall give equal consideration to the purposes of energy conservation, the protection mitigation of damage to, and enhancement of, fish and wildlife (including related spawning grounds and habitat), the protection of recreational opportunities and the preservation of other aspects of environmental quality."

Based upon our review of the agency and public comments filed in this proceeding, and our independent analysis of the requirements of Sections 4(e), 10, and 15 of the FPA as discussed herein, we conclude that the Ashton-St. Anthony Project would not conflict with any planned or authorized development and is best adapted to a comprehensive plan for the Henry's Fork of the Snake River, taking into consideration the equal consideration requirements of Section 4(e) of the FPA and the beneficial public uses described in Section l0(a)(l) of the FPA.

Section 15(e) of the Federal Power Act

Section 5 of ECPA added a new subsection (e) to Section 15 of the FPA specifying that any license issued under Section 15 shall be for a term which the Commission determines to be in the public interest, but not less than 30 years, nor more than 50 years. This new provision is consistent with pre-ECPA Commission policy, which was to establish 30-year terms for those projects which proposed no or less than moderate new construction or capacity, 40-year terms for those projects that proposed a moderate amount of new development, and 50-year terms for those projects that proposed a substantial amount of new development.[8]

UP&L proposes to replace an existing l,800-kW generator unit at the Ashton Development with a new 3,400-kW unit and to install a fish passage facility at the St. Anthony diversion dam. This work constitutes a moderate amount of new development that warrants a 40- year license. Accordingly, the new license for the project will be for a term of 40 years.

The Commission orders:

(A) This license is issued to Utah Power & Light Company (licensee) for a period of 40 years, effective January 1, 1988, to operate and maintain the Ashton-St. Anthony Project. This license is subject to the terms and conditions of the Federal Power Act (Act), which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the Act.

(B) The project consists of:

(1) All lands, to the extent of the licensee's interests in those lands, enclosed by the project boundary shown by Exhibit G:

Exhibit	FERC Drawing	Development	Title
G-1	2381-33	Ashton	General Location Map
G-2	2381-34	Ashton	Project Boundary Map
G-3	2381-35	Ashton	Project Boundary Map
G-4	2381-36	Ashton	Project Boundary Map
G-5	2381-37	Ashton	Project Boundary Map
G-6	2381-38	Ashton	Plant Facilities Map
G-1	2381-46	St. Anthony	Location and Boundary Map

(2) Project works consisting of two developments. The Ashton Development is comprised of: [Order Amending License, Approving As-Built Exhibits, and Revising Annual Charges, Ashton-St. Anthony Project FERC No. 2381 (11/16/1993)]: (a) a 56-.6-foot-high, 226-foot-long, earth and

[8] See Montana Power Company, 56 F.P.C. 2008 (1976).

rock-filled dam having its downstream slope covered with roller compacted concrete, upstream slope stabilized by additional rock fill, and crest elevation at 5156.6 MSL; (b) two-foot-high flashboards on the dam crest to prevent spillage from reservoir wave-section; (c) an 82-foot-long reinforced concrete spillway surmounted by six 10-foot-high radial gates; (d) a reservoir having a surface area of 404 acres, a gross storage capacity of 9,800 acre-feet and a usable storage capacity of 3,988 acre-feet at normal water surface elevation 5156.6 feel MSL; (e) a reinforced-concrete powerhouse located at the right bank, having integral intakes controlled by vertical slide gates and containing two generating units, each rated at 2,000 kW, and one generating unit rated at 2,850 kW; (f) a tailrace; (g) a 46/2.3-kV step-up transformer; (g)[sic] a 133-foot-long, 46-kV transmission line; (h) a 2,160-foot-long access road; and (i) appurtenant facilities. [Order Amending License, Approving As-Built Exhibits, and Revising Annual Charges, Ashton-St. Anthony Project FERC No. 2381 (11/16/1993)]

The St. Anthony Development is comprised of: (a) a 9.5-foot-high, 863-foot-long concrete diversion dam having a 206-foot-long spillway with crest elevation 4,949.0 feet MSL surmounted by 2.5-foot-high flashboards, an 81.5-foot-long wasteway with crest elevation 4,947.0 feet MSL surmounted by 4.5-foot-high flashboards and a fishway; (b)a 41-foot-wide reinforced-concrete canal intake structure; (c) a 35-foot-wide, 1,350-foot-long power and irrigation canal; (d) an irrigation canal headworks structure; (e) a 16-foot-wide, 145-foot-long screened and rubber-lined wooden-box flume having an overflow spillway and an ice chute; (f) a reinforced concrete powerhouse containing a generating unit rated at 500-kW; (g) a tailrace; (h) the 2.3-kV generator leads; and (i) appurtenant facilities.

The project works generally described above are more specifically shown and described by those portions of Exhibits A and F recommended for approval in the attached Safety and Design Assessment.

(3) All of the structures, fixtures, equipment or facilities used to operate or maintain the project and located within the project boundary, all portable property that may be employed in connection with the project and located within or outside the project boundary, and all riparian or other rights that are necessary or appropriate in the operation or maintenance of the project.

(C) The portions of the Exhibit G described above and those sections of Exhibits A and F recommended for approval in the attached Safety and Design Assessment are approved and made part of the license.

(D) This license is subject to the articles set forth in Form L-1 (October 1975), entitled "Terms and Conditions of License for Constructed Major Project Affecting Lands of the United States". The license is also subject to the following additional articles:

Article 201. The licensee shall pay the United States the following annual charge, effective January 1, 1988:

a. For the purpose of reimbursing the United States for the cost of administration of Part I of the Act, a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time. The authorized installed capacity for that purpose is *9,600* horsepower. [Order Amending License & Revision Annual Charges, Ashton-St. Anthony Project FERC No. 2381, 50 FERC¶62,070. (02/02/1990)]; Order Amending License & Revision Annual Charges, Ashton-St. Anthony Project FERC No. 2381 (01/17/1992). [**NOTE**: Order Approving Revised Project Description and Exhibits F and G; Ashton-St. Anthony Hydroelectric Project, FERC No. 2381; 66FERC¶62,198: March 31, 1994 officially changed installed capacity from 7,200-kW to 7,350-kW.]

b. For the purpose of recompensing the United States for the use, occupancy and enjoyment of 0.39 acres of its lands, a reasonable annual charge as determined by the Commission in accordance with its regulations, in effect from time to time.

Article 202. Pursuant to Section 10(d) of the Act, a specified reasonable rate of return upon the net investment in the project shall be used for determining surplus earnings of the project for the establishment and maintenance of amortization reserves. One-half of the project surplus earnings, if any, accumulated under the license, in excess of the specified rate of return per annum on the net investment, shall be set aside in a project amortization reserve account at the end of each fiscal year. To the extent that there is a deficiency of project earnings below the specified rate of return per annum for any fiscal year under the license, the amount of that deficiency shall be deducted from the amount of any surplus earnings subsequently accumulated, until absorbed. One-half of the remaining surplus earnings, if any, cumulatively computed, shall be set aside in the project amortization reserve account. The amounts established in the project amortization reserved account shall be maintained until in the project amortization reserved account shall be maintained until further order of the Commission.

The annual specified reasonable rate of return shall be the sum of the annual weighted costs of long-term debt, preferred stock, and common equity, as defined below. The annual weighted cost for each component of the reasonable rate of return is the product of its capital ratio and cost rate. The annual capital ratio for each component of the rate of return shall be calculated based on an average of 13 monthly balances of amounts properly includable in the licensee's long-term debt and proprietary capital accounts as listed in the Commission's Uniform System of Accounts. The cost rates for long-term debt and preferred stock shall be their respective weighted average costs for the year, and the cost of common equity shall be the interest rate on 10-year government bonds (reported as the Treasury Department's 10-year constant maturity series) computed on the monthly average for the year in question plus four percentage points (400 basis points).

Article 203. The Commission reserves the authority to order upon its own motion or upon the recommendation of federal or state fish and wildlife agencies or affected Indian Tribes, alterations of project structures and operations to take into account to the fullest extent practicable the regional fish and wildlife program developed pursuant to the Pacific Northwest Electric Power Planning and Conservation Act.

Article 301. The licensee shall commence construction of the modifications to the project within two years from the effective date of the license and shall complete construction of the project within four years from the effective date of the license.

Article 302. The licensee shall, at least 60 days prior to start of construction, submit one copy to the Commission's Regional Director and two copies to the Director, Division of Inspections, of the final contract drawings and specifications for pertinent features of the modifications to the project, such as water retention structures, powerhouse, and water conveyance structures. The Director, Division of Inspections, may require changes in the plans and specifications to assure a safe and adequate project.

Article 303. The licensee shall review and approve the design of contractor-designed cofferdams and deep excavations prior to the start of construction of the modifications to the project and shall ensure that construction of cofferdams and deep excavations is consistent with the approved design. At least 30 days prior to start of construction of the cofferdam, the licensee shall submit to the Commission's Regional Director and Director, Division of Inspections, one copy each of the approved cofferdam construction drawings and specifications and the letter(s) of approval.

Article 304. The licensee shall within 90 days of completion of construction of the modifications to the project file, for approval by the Commission, revised Exhibits A, F, and G to describe and show

the project as built and to include the irrigation canal headworks structure at the St. Anthony Development.

Article 305. The Licensee shall, within 5 years, from the effective date of this amendment of license, prepare and submit to the Director, Office of Hydropower Licensing, a detailed economic feasibility study for the installation of additional generating capacity at the Ashton-St. Anthony Project. If the study shows that the installation of additional capacity is economically feasible, the Licensee shall, simultaneously, file an amendment of license application to install that additional capacity. [Order Amending License & Revision Annual Charges, Ashton-St. Anthony Project FERC No. 2381, 50 FERC¶62,070. (02/02/1990)].

Article 401. The licensee shall operate the Ashton Development in an instantaneous run-of-river mode for the protection of fish and wildlife resources in the Henry's Fork. The licensee, in operating the development in an instantaneous run-of-river mode, shall at all times act to minimize the fluctuation of the reservoir surface elevation, i.e., maintain a discharge from the development so that flow in the Henry's Fork, as measured immediately downstream from the powerhouse tailrace, approximates the instantaneous sum of inflow to the project reservoir. Instantaneous run-of-river operation may be temporarily modified if required by operating emergencies beyond the control of the licensee, and for short periods upon mutual agreement between the licensee and the Idaho Department of Fish and Game.

Article 402. The following part of the Report on Fish, Wildlife and Botanical Resources, filed on December 31, 1984, as Section 3 of Exhibit E (the Environmental Report), is approved: pages E-26 to E-37 pertaining to the fishery mitigative plan for the Ashton Reservoir.

Article 403. The licensee shall consult with the Idaho Department of Fish and Game and the U.S. Fish and Wildlife Service and, within six months from the effective date of this license, file with the Commission, for approval, functional design drawings of fish passage facilities for the Egin Irrigation Canal diversion dam at the St. Anthony Development, and a plan to monitor the operation of the fish passage facilities. The filing shall include documentation of agency consultation and any agency comments on the drawings and monitoring plan. The Commission reserves the right to require changes in the design of the fish passage facilities and in the monitoring plan. The licensee shall file as-built drawings with the Commission within three months after completion of the construction of the fish passage facilities.

Article 404. The licensee, after consultation with the Idaho Department of Fish and Game and the U.S. Fish and Wildlife Service, shall develop a monitoring plan to evaluate turbine—induced injury and mortality to fish resources at the St. Anthony Development and at the Ashton Development. Within six months from the effective date of this license, the licensee shall file a copy of the monitoring plan, along with any comments from the above agencies on the plan, and a schedule for filing the results of the monitoring program. The Commission reserves the right to require modifications to the plan and the schedule.

The results of the monitoring shall be submitted to the Commission according to the approved schedule, along with any comments from the consulted agencies. If the results of the monitoring indicate that measures are necessary to minimize adverse effects to fish resources, the licensee also shall provide, for Commission approval, its recommendations for mitigation measures and a schedule for implementing the measures, along with comments from the above agencies on the recommended measures. Measures to be considered by the licensee shall include, but need not be limited to, screening the intakes, providing an equivalent off-site enhancement of a wild trout population, providing supplemental stocking, and providing other non-screening alternatives, such as behavior barriers, to minimize and compensate for any fish losses. At the same time, copies of the schedule shall be served upon the agencies consulted. The Commission reserves the right to require the licensee to

undertake measures different than those recommended by the licensee and to make changes in the implementation schedule.

Article 405. The licensee shall, after consultation with the U.S. Fish and Wildlife Service (FWS) and the Idaho Department of Fish and Game (IDFG), within 18 months from the effective date of the license, file, for Commission approval, a wildlife report that includes a series of maps and drawings indicating the final locations and design specifications of the 15 goose nesting structures, 10 raptor perch structures, 10 osprey nesting platforms, the bald eagle nesting platform, the cattle exclusion fence, the wetlands protected by preservation easements, and the restored grassland habitat. The report also shall include a plan for monitoring the effectiveness of the various enhancement measures and maintaining the aforementioned facilities, a schedule for filing annual monitoring reports with the Commission, FWS, and IDFG, and an implementation schedule. Agency comments on the adequacy of the wildlife report shall be included with the wildlife report. The Commission reserves the right to order changes in the final designs and in the monitoring program.

Article 406. The licensee, within one year from the effective date of this license, shall implement the plan described in the Report on Recreational Resources, filed December 31, 1984, as Section 5 of the Exhibit E (Environmental Report), pages E-49 through E-59, which provides for improved recreational facilities and operation and maintenance of a boat ramp and dock area at the Ashton Development.

Article 407. The licensee, after consultation with the City of St. Anthony, and within one year from the effective date of this license, shall repair or replace those portions of the diversion structure and retaining wall at the St. Anthony Development necessary to prevent flooding conditions at Keefer Park. Further, the licensee shall continue to maintain the above facilities during the license period.

Article 408. The licensee shall implement its cultural resources management plan to mitigate any impacts to the historic Unit No. 1 turbine, as described in the licensee's filing with the Commission dated July 22, 1985. Within 4 years of the effective date of this license, the licensee shall file with the Commission a report that includes: (a) documentation of the turbine's historical significance in terms of eligibility criteria for inclusion in the National Register of Historic Places; (b) a detailed plan for documenting or preserving the turbine to mitigate its removal, if it is determined that the turbine is eligible; (c) copies of letters from the Idaho State Historic Preservation Officer (SHPO) and the Historic American Engineering Record (HAER) of the National Park Service commenting on (a) and (b), or, if comments are not provided, copies of letters to the SHPO and the HAER indicating that these agencies have been afforded at least 60 days to comment. The Commission reserves the right to require changes in the report. Within six years of the effective date of this license, the license shall file with the Commission documentation that the turbine has been recorded or preserved in a manner consistent with the plan in the report, if required. This documentation shall include a copy of a letter from the SHPO indicating that the turbine has been protected as agreed upon or a copy of a letter indicating that the SHPO has been afforded at least 60 days to provide such a letter. The licensee shall make available funds in a reasonable amount for any required work.

If the licensee discovers any previously unidentified archeological or historic sites during the course of constructing or developing project works or other facilities at the project, the licensee shall stop all construction and development activities in the vicinity of the sites and shall consult a qualified cultural resources specialist and the SHPO concerning the eligibility of the sites for listing in the National Register of Historic Places and any measures .needed to avoid the sites or to mitigate effects on the sites. If the licensee and the SHPO cannot agree on the amount of money to be spent for project-specific archeological and historical purposes, the Commission reserves the right to require the licensee to conduct the necessary work at the licensee's own expense.

Article 409. The licensee, within one year from the effective date of this license, and after consultation with the U.S. Fish and Wildlife Service, the Idaho Department of Fish and Game, and the

Idaho Board of Water Resources, shall prepare and file with the Commission a detailed, site-specific plan to minimize the quantity of sediment or other potential water pollutants resulting from construction of fish passage facilities at the Egin Irrigation Canal diversion dam. The plan shall address, among other things, measures to contain sediment, to filter sediment-laden discharges, and to store and dispose of excess sediment and other spoil materials. The plan shall also include functional design drawings and map locations of control measures, an implementation schedule, monitoring and maintenance programs for construction of these facilities, provisions for periodic review of the plan and for making any necessary revisions to the plan.

Documentation of consultation with agencies during preparation of the plan, and a summary of agency comments and recommendations, must be included in the filing. In the event that the licensee does not concur with any agency recommendations, the licensee shall provide a discussion of the reasons for not concurring, based on actual site geological, soil, and groundwater conditions. The Commission reserves the right to require changes to the plan. Unless the Director, Office of Hydropower Licensing, within 90 days from the filing date instructs otherwise, the licensee may commence instream construction or spoil-producing activities associated with installation of fish passage facilities at the Egin Irrigation Canal diversion dam at the end of that period.

Article 410. (a) In accordance with the provisions of this article, the licensee shall have the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain other types of use and occupancy, without prior Commission approval. The licensee may exercise the authority only if the proposed use and occupancy is consistent with the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the licensee shall also have continuing responsibility to supervise and control the uses and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed, under this article. If a permitted use and occupancy violates any condition of this article or any other condition imposed by the licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the licensee shall take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, canceling the permission to use and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

(b) The types of use and occupancy of project lands and waters for which the licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) noncommercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 water craft at a time and where said facility is intended to serve single- family type dwellings; and (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline. To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the uses and occupancies for which it grants permission are maintained in good repair and comply with applicable state and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the licensee shall: (1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the reservoir shoreline. To implement this paragraph (b), the licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the licensee's costs of administering the permit program. The Commission reserves the right to require the licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

(c) The licensee may convey easements or rights-of-way across, or leases of, project lands for: (1) replacement, expansion, realignment, or maintenance of bridges and roads for which all necessary state and federal approvals have been obtained; (2) storm drains and water mains; (3) sewers that do not discharge into project waters; (4) minor access roads; (5) telephone, gas, and electric utility distribution lines; (6) non-project overhead electric transmission lines that do not require erection of support structures within the project boundary; (7) submarine, overhead, or underground major telephone distribution cables or major electric utility distribution lines (69-kV or less); and (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project reservoir. No later than January 31 of each year, the licensee shall file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed.

(d) The licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality certificates or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 watercraft at a time and are located at least one-half mile from any other private or public marina; (6) recreational development consistent with an approved Exhibit R or approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from the edge of the project reservoir at normal maximum surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year. At least 45 days before conveying any interest in project lands under this paragraph (d), the licensee must submit a letter to the Director, Office of Hydropower Licensing, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked Exhibit G or K map may be used), the nature of the proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use. Unless the Director, within 45 days from the filing date, requires the licensee to file an application for prior approval, the licensee may convey the intended interest at the end of that period.

(e) The following additional conditions apply to any intended conveyance under paragraph (c) or (d) of this article:

(1) Before conveying the interest, the licensee shall consult with federal and state fish and wildlife or recreation agencies, as appropriate, and the State Historic Preservation Officer.

(2) Before conveying the interest, the licensee shall determine that the proposed use of the lands to be conveyed is not inconsistent with any approved Exhibit R or approved report on recreational resources of an Exhibit E; or, if the project does not have an approved Exhibit R or approved report on recreational resources, that the lands to be conveyed do not have recreational value.

(3) The instrument of conveyance must include covenants running with the land adequate to ensure that: (i) the use of the lands conveyed shall not endanger health, create a nuisance, ,or otherwise be incompatible with overall project recreational use; and (ii) the grantee shall take all reasonable precautions to ensure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project.

(4) The Commission reserves the right to require the licensee to take reasonable remedial action to correct any violation of the terms and conditions of this article, for the protection and enhancement of the project's scenic, recreational, and other environmental values.

(f) The conveyance of an interest in project lands under this article does not in itself change the project boundaries. The project boundaries may be changed to exclude land conveyed under this article only upon approval of revised Exhibit G or K drawings (project boundary maps) reflecting exclusion of that land. Lands conveyed under this article will be. excluded from the project only upon a determination that the lands are not necessary for project purposes, such as operation and maintenance, flowage, recreation, public access, protection of environmental resources, and shoreline control, including shoreline aesthetic values. Absent extraordinary circumstances, proposals to exclude lands conveyed under this article from the project shall be consolidated for consideration when revised Exhibit G or K drawings would be filed for approval for other purposes.

(g) The authority granted to the licensee under this article shall not apply to any part of the public lands and reservations of the United States included within the project boundary.

(E) This order is final unless an application for rehearing is filed within 30 days from the date of its issuance, as provided in Section 313(a) of the Act. The filing of an application for rehearing does not operate as a stay of the effective date of this order or of any other date specified in this order, except as specifically ordered by the Commission. The licensee's failure to file an application for rehearing shall constitute acceptance of this order.

By the Commission.

(SEAL)

Kenneth F. Plumb,
Secretary.

SAFETY AND DESIGN ASSESSMENT
ASHTON-ST. ANTHONY PROJECT
FERC NO. 2381-001--IDAHO

DAM SAFETY

The Ashton dam is an earth and rock-filled dam 65 feet high and 252 feet long. The gross storage capacity of the reservoir is 9,800 acre-feet. The dam is composed of an upstream earthen shell and a downstream rock-filled zone. The earthen shell has finer material on the upstream side and coarser material placed against the rock-filled zone. There is a concrete cut-off on the upstream side penetrating into the compact foundation gravels. The dam was constructed about 70 years ago with major rehabilitation work performed in 1958.

The Commission's San Francisco Regional Director's inspection report dated August 27, 1986, maintained the classification of the existing Ashton dam as high hazard and the existing St. Anthony dam as low hazard. The Ashton dam is classified high hazard because the Town of St. Anthony with a population of 3,000 is located about 10 miles downstream of the Ashton dam. The Regional Director reported that the project facilities appear to be structurally sound with no significant problems visible.

The project facilities are also inspected periodically by the applicant's in-house staff and the Idaho State dam safety engineers. In addition, the project is inspected in-depth every five years by an independent consultant in accordance with Part 12 of the Commission's regulations, 18 C.F.R. Part 12 (1987).

The latest five-year inspection was made on August 13, 1984, and the report was submitted in January 1985. The report shows that the probable maximum flood at the project site is estimated at 36,900 cfs. The spillway discharge capacity is 14,200 cfs. The dam would be overtopped by six feet during the probable maximum flood and, if the Ashton dam were to fail, there would be potential loss of life and substantial property damage.

The powerhouse which is integral with the dam impounds water and is also classified as high hazard. It is founded on bedrock and compact gravels. The actual uplift was measured and found to be considerably less than the assumed full uplift. Based on the actual uplift and the assumed foundation properties, the report states that the powerhouse would be stable. However, no supporting documentation was provided to justify the stability analysis. The stability would have to meet the Commission's standards for factors-of-safety for all credible loading conditions.

No stability analysis was performed for the spillway section of the dam. It is likely that the spillway section would be modified to increase its capacity to pass the floods up to the probable maximum. However, the alternative to modify the spillway is not finalized. The existing or the modified spillway section would have to meet the required factors-of-safety for all credible loading conditions.

The review of the report indicated a need for supplemental information from the applicant which was subsequently received and evaluated by the Commission staff. By letter dated May 14, 1987, the Regional Director directed the applicant to submit by August 1, l987, a plan and schedule for the design and construction of the necessary remedial measures to safely pass floods up to the probable maximum. The applicant was also directed to submit by August 1, 1987, a reanalysis of the stability of the project structures with modifications, if necessary, to meet the required stability criteria, along with the supporting documentation.

In contrast to the Ashton dam, the St. Anthony dam is a concrete structure only a few feet high used for diverting flows. Because of the negligible storage, any failure of the dam would not pose a threat to downstream life or property.

PROJECT DESIGN

The basic design of the operating project would remain unchanged. The only change would be the installation of additional capacity at the Ashton Development. This would be accomplished by replacing the 1,800 kW generating Unit No. 1 installed in 1917 by a newer 3,400 kW unit in the three-unit powerhouse. Most of the work related to replacing the unit would be confined to the existing powerhouse.

At the St. Anthony Development, the applicant would repair or replace portions of the diversion structure and the retaining wall to prevent flooding of the adjoining park.

The total installed capacity at Ashton Development would increase from 5,800 kW to 7,400 kW and for the total project from 6,300 kW to 7,900 kW. [NOTE: Order Approving Revised Project Description and Exhibits F and G; Ashton-St. Anthony Hydroelectric Project, FERC No. 2381; 66FERC¶62,198: March 31, 1994 officially changed installed capacity from 7,200-kW to 7,350-kW.]

ECONOMIC AND FINANCIAL FEASIBILITY

The proposed modifications to the Ashton-St. Anthony Project are economically feasible so long as the projected levelized cost of the energy to be produced by the modifications is less than the long—term levelized alternative energy cost of any utility in the region that can be served by the modified project. In this instance, the applicant intends to utilize the additional power generated by the project in its own system. Commission staff has estimated the projected levelized alternative energy costs for the applicant to be 58.0 mills/kWh. Since the levelized cost of energy from the modifications to the project is estimated to be 52.7 mills/kWh, the modifications are economically feasible. Also, it appears that this utilization of the project power is at a price sufficient to support the modifications to the project. Thus, the project modifications are financially feasible.

WATER RESOURCES PLANNING

The project is operated run-of-river. When the hydraulic capacity of the Ashton powerplant is increased it would reduce the average annual spill period from four months to one month.

The applicant entered into a contract in 1935 with the U.S. Bureau of Reclamation, Fremont-Madison Irrigation District, and the City of Idaho Falls, Idaho, that requires the applicant not to interrupt, interfere or otherwise fluctuate irrigation releases from the Island Park Reservoir during the irrigation season.

The existing hydraulic capacity at the project would be increased by replacing one of the units at the Ashton Development. This unit has a hydraulic capacity of 567 cubic-feet-per-second (cf s) which would be increased to 1,000 cfs. The total hydraulic capacity of the Ashton plant would increase from 2,079 cfs to 2,512 cfs which corresponds to the flow equaled or exceeded 25 percent and 12 percent of the time, respectively, on the f low-duration curve for Henry's Fork near Ashton. The new unit would generate an additional 10,000,000 kWh annually which would increase the average annual generation from 36,000,000 kWh to 46,000,000 kWh at the Ashton development and to 49,922,000 kWh at the project. The proposed capacity is reasonable based on the limited operation that would be possible at higher flows.

The flow-duration curve for Henry's Fork is based on the period 1961 to 1983 from U.S.G.S. Gage No. 13046023 near Ashton, Idaho, located 0.3 mile below the Ashton plant. The gage was

subsequently relocated. The period of flow is considered representative of future flows anticipated at the site. Based on this gaged record, the applicant's estimate of 10,000,000 kWh of additional average annual energy is reasonable. There are no minimum flow requirements imposed by the resource agencies that would cause reduction in generation.

No specific state and federal agency comments or recommendations were made addressing flood control, navigation, water supply, or irrigation requirements in the basin other than those raised by the Idaho Department of Water Resources discussed in the order to which this assessment is attached.

The Upper Snake River Basin Planning Status Report includes no projects, either proposed or constructed on the Snake River that this project would impact, and the project would not conflict with any pending applications for exemption, license or preliminary permit.

Based on the above, it is concluded that the modified Ashton-St. Anthony Project will adequately utilize the available flow and head at the site and will not be in conflict with any existing or planned water resource developments in the basin.

EXHIBITS

The following portions of Exhibits A and the following Exhibits F drawings conform to the Commission's rules and regulations and should be included in the license.

Exhibit A (Ashton). Section entitled "Equipment.
[Order Amending License, Approving As-Built Exhibits, and Revising Annual Charges, Ashton-St. Anthony Project FERC No. 2381 (11/16/1993) eliminates the below-struck Exhibits F as well as Exhibit G-6, replacing them with Licensee's "Exhibit A – Revised April 1993 – Description of the Project" filed July 8, 1993, approved in this Order.]

Exhibit A (St. Anthony). Item 1 (i) entitled Generator" and Item 1 (ii) entitled "Turbine".

Exhibit F	FERC Drawing	Development	Description
F-l	2381-40	St. Anthony	Dam—Profile, Plan and Sections
F-2	2381-41	St. Anthony	Canal Intake and Wasteway-Plans, Elevation and Sections
F-3	2381-42	St. Anthony	Flume-Elevation and Section
F-4	2381-43	St. Anthony	Powerhouse-Plan
F-5	2381-44	St. Anthony	Powerhouse-Sections
F-6	2381-45	St. Anthony	Powerhouse-Elevation

ENVIRONMENTAL ASSESSMENT [9]
Division of Environmental Analysis,
Office of Hydropower Licensing Federal Energy Regulatory Commission
Ashton-St. Anthony Hydroelectric Project
FERC No. 2381-001 Idaho
June 27, 1986

I. APPLICATION

Utah Power and Light Company (applicant or UP&L) filed on December 31, 1984, and supplemented on July 24, 1985, an application to relicense with additional capacity the existing Ashton-St. Anthony Hydroelectric Project. The project, which occupies 0.39 acres of U.S. land administered by the Bureau of Land Management (BLM), consists of two developments, the Ashton Development and the St. Anthony Development.

The Ashton Development is located on Henry's Fork of the Snake River, approximately 2.5 miles northwest of Ashton, in Fremont County, Idaho (figures 1 and 2). The St. Anthony Development is located on the Egin Irrigation Canal (EIC), a diversion of the Henry's Fork, in the City of St. Anthony, Fremont County, Idaho (figures 1 and 3).

On December 19, 1977, the Commission issued a major license to the Utah Power and Light Company for the continued operation of the constructed Ashton-St. Anthony Project. The license's expiration date is December 31, 1987.

II. RESOURCE DEVELOPMENT

A. Purpose

The proposed project would provide an estimated average of 10 million kilowatt hours (kWh) of additional electrical energy and 46 million KWh of total energy per year for Utah Power and Light Company, the owner utility.

B. Need for Power

Because of the small size of the proposed increase in the project capability in relation to the total generating capability of the applicant's system, the traditional approach of linking project development with a forecasted need for a specific project is inapplicable to assessing need for the proposed project upgrading.

The project is currently being used to meet load requirements on the applicant's electric power system. The additional power and energy that is made available through the proposed project upgrading would be useful in meeting load growth projected for the UP&L system and for adjacent areas. Use of the additional hydroelectric energy to displace fossil-fueled thermal generation would conserve nonrenewable fossil fuels and reduce the emission of noxious byproducts caused by the combustion of fossil fuels.

[9] Figures and attachments referenced in the text are omitted from this document due to reproduction requirements.

C. Economic Analysis

Additional power generated by the project would be utilized by UP&L in its system. The applicant based the economic feasibility of the project on its levelized avoided cost rates. The project's levelized cost would be 53.4 mills/kWh while the levelized avoided cost rate would be 54.5 mills/kWh.

D. Comprehensive Development

The existing hydraulic capacity at the project would be increased by replacing one of the units at the Ashton Development. This unit has a hydraulic capacity of 567 cubic feet per second (cfs), which would be increased to 1,000 cfs. The total hydraulic capacity of the Ashton plant would be increased from 2,079 cfs to 2,512 cfs, which corresponds to the flow equaled or exceeded 25 percent and 12 percent, respectively, on the flow—duration curve for Henry's Fork near Ashton. The new unit would generate an additional 10,000,000 kWh annually, which would increase the average annual generation from 36,000,000 kWh to 46,000,000 kWh at the project. The proposed capacity is reasonable, based on the limited operation that would be possible at higher flows.

The project is operated in a run-of-river mode. According to a current agreement, UP&L operations are secondary to irrigation releases for downstream farms. When the hydraulic capacity of the Ashton power plant is increased, it would reduce the average annual spill period from 4 months to 1 month.

The flow-duration curve for Henry's Fork is based on the period of 1961 to 1983 from USGS Gage No. 13046023 near Ashton, Idaho, located 0.3-mile below the plant. The gage was subsequently relocated. The period of flow is considered representative of future flows anticipated at the site. Based on this gaged record, the applicant's estimate of 10,000,000 kWh of additional average annual energy is reasonable. There .are no minimum flow requirements imposed by the resource agencies that would cause reduction in generation.

The Commission's Planning Status Report for the Upper Snake River Basin discusses the existing water resource developments and reconnaissance level plans of possible future development within the basin. The project does not conflict with any existing or planned development or any pending applications for exemption, license or preliminary permit. The intake and powerhouse are considered properly located, given the existing site conditions.

In summary, the staff's analysis shows that the proposed project is properly designed to develop comprehensively the hydropower potential of the Snake River.

D. Alternatives to the Proposed Action

The applicant's proposal to upgrade the project is made in conjunction with UP&L's application for relicensing the project and in compliance with a letter of agreement between the applicant, the United States, the City of Idaho Falls, and the Fremont-Madison Irrigation District, relating to operation of the Island Park reservoir. Among other things, the agreement requires that water spills past the Ashton plant be minimized to the greatest extent possible. The proposed project modification would address this requirement while other alternative generating facilities or load reduction measures would not.

III. EXISTING FACILITIES, PROPOSED ACTION, AND ALTERNATIVES

A. Existing Facilities

The Ashton Development currently includes: (a) a 65-foot-high, 252-foot-long, earth and rock-filled dam that impounds a reservoir having a surface area of 404 acres at a normal maximum water surface elevation (figure 2); (b) a reinforced concrete powerhouse containing three turbine-generator units with

a combined rated capacity of 5,800 kW; (c) a tailrace; (d) a 133-foot-long, 46-kilovolt (kV) transmission line; and (e) a 2,160-foot-long access road.

The St. Anthony Development currently includes: (a) a 9.5-foot-high, 863-foot-long, concrete diversion dam having a 206-foot-long spillway surmounted by 2.5-foot-high flashboards, and an 81.5-foot-long wasteway surmounted by 4.5-foot-high flashboards; (b) a 35-foot-wide, 1,350-foot-long power and irrigation canal; (c) a 16-foot-wide, 110-foot-long, screened and lined wooden flume; (d) a reinforced concrete powerhouse containing one turbine-generator unit with a rated capacity of 500 kW; (e) a tailrace; and (f) a 150-foot-long, 24-kV, underground transmission line.

B. Proposed Action

The applicant proposes to relicense and continue operation of the existing hydroelectric facilities at the Ashton and St. Anthony Developments. By replacing the existing l,800-kW turbine generator unit with a new 3,400-kW unit, the applicant would increase the generating capacity of the Ashton Development from 5,800 to 7,400 kW. The applicant also proposes to implement fish and wildlife mitigative plans at the Ashton Development, to upgrade existing day-use recreational facilities at Ashton Reservoir, and to construct an upstream fish facility at the St. Anthony Development.

C. Federal Land Management Conditions

BLM did not provide conditions for the project.

D. Alternative of No Action

No action would involve denial of the relicense and abandonment of the existing facilities or the issuance of an annual license until the facilities are taken over by another entity for a non-power use.

IV. CONSULTATION AND COMPLIANCE

A. Agency Consultation

Commission regulations require prospective applicants to consult with the appropriate resource agencies before filing an application for license. This consultation constitutes an initial step in compliance with the Fish and Wildlife Coordination Act, the Endangered Species Act, the National Historic Preservation Act, and other federal statues. Pre-filing consultation must be complete and documented in accordance with the Commission's regulations.

After the Commission accepts the application, formal comments may be submitted by concerned entities during the public notice period. In addition, organizations and individuals may petition to intervene and become a party to any subsequent proceedings. The comments provided by concerned entities are made part of the record and are considered during the review of the proposed project. The following entities commented on the application subsequent to the public notice, which was issued on May 15, 1985.

Commenting Entity	Date of Letter
Forest Service, Targhee National Forest	June 12, 1985
City of St. Anthony	July 12, 1985
Department of the Interior	July 29, 1985

The Idaho Department of Water Resources (IDWR) filed a timely Motion to Intervene on July 12, 1985. The Idaho Department of Fish and Game (IDFG) filed an untimely Motion to Intervene on July 19, 1985, but was granted late intervention on November 6, 1985.

B. Water Quality Certification

On May 10, 1985, the State of Idaho Department of Health and Welfare (IDHW) granted §401 water quality certification as required by the Clean Water Act.

C. Pacific Northwest Power Planning and Conservation Act

Under Section 4(h) of the Pacific Northwest Power Planning and Conservation Act, the Northwest Power Planning Council (Council) developed the Columbia River Basin Fish and Wildlife Program (Program) to protect, mitigate, and enhance fish and wildlife resources associated with the development of hydroelectric projects. The Program contains a framework for assessing the impacts of new hydroelectric development on fish and wildlife resources and lists a number of general mitigative measures that should be implemented for any new development.

The Program requires that fish and wildlife agencies, Indian tribes, and the Council be consulted during the study, design, construction, and operation of new hydroelectric projects. The Commission's regulations currently require applicants to initiate pre-filing consultation with these entities and to give these entities the post-filing opportunity to review and comment on the license application. This consultation process has occurred.

The Program states that authorization for new hydroelectric projects should include conditions of development that would mitigate the impacts of the project on fish and wildlife resources.

The applicant proposes to satisfy the intent of the Program by providing adequate mitigative measures. Moreover, the Commission has the authority to order, where practical, alterations of project structures and operations in order to take into accour$_1$t the Council's Program. Accordingly, the staff concludes that the Proposed project does not conflict with the applicable provisions of the Council's Program.

V. ENVIRONMENTAL ANALYSIS

A. Proposed Action

The removal of the existing 1,800-kW turbine-generator unit and the installation of the proposed new unit would require the alteration of the powerhouse interior, but would not involve any excavation or new construction at the Ashton Development, nor would the proposed action involve an increase in the normal maximum surface area of the Ashton Reservoir. Consequently, the proposed action would not affect the visual quality of the project area. Moreover, manufacturing of the new turbine-generator unit and other equipment would not occur in the Ashton-St. Anthony vicinity, and the replacement of the existing turbine at the Ashton powerhouse would require relatively few onsite workers. As a result, the proposed action would not generate any discernable socioeconomic impacts in Fremont County, Idaho.

1. General Description of the Locale

Ashton Dam and powerhouse are situated in northeast Idaho, a sparsely populated, semi-arid area in which the dominant land uses are irrigated agriculture and outdoor recreation, particularly trout angling and hunting. The area's topography is flat to gently rolling, and its climate is characterized by warm, dry summers and cold, snowy winters. The area's average annual precipitation is approximately 14 inches.

As of July 1, 1984, the City of Ashton, located approximately 2.5 miles southeast of the dam, had a total population of 1,226 persons, and the City of St. Anthony had 3,155 permanent residents (personal communication, Audrey Primas, Statistical Information Assistant, Bureau of the Census, Suitland, Maryland, April 16, 1986).

The area's dominant economic activities are irrigated farming, lumbering, and wood processing. In 1982, the 547 farms in Fremont County received $64,170,000 from the sale of potatoes, cattle and calves, barley, wheat, dairy products, and other agricultural products (personal communication, Douglas Miller, Statistician, Bureau of the Census, Suitland, Maryland, April 16, 1986). Data for 1984 indicate that 189 workers were employed by sawmills and other manufacturers of wood products in Fremont County (personal communication, Gerald Foyer, Statistician, Bureau of the Census, Suitland, Maryland, April 16, 1986).

2. Geology, Soils and Sedimentation

Affected Environment: The project area, located in the Eastern Snake River Plain Section of the Columbia Intermontane Physiographic Province, is in Seismic Zone 3, which has a potential for major damage. Nevertheless, geologic maps of Idaho do not show any faults in the immediate project vicinity.

Bedrock in the project area consists of massive basalt. Alluvial deposits at the Ashton Dam include loose cobbles and boulders, and compacted, cemented gravels. Finer sediments, such as sand and silt, become more abundant in the lower gradient reach at St. Anthony.

Environmental Impacts and Recommendations: Installation of a fish passage facility at the EIC diversion dam would cause temporary increases in turbidity, suspended sediment, and downstream sedimentation. The licensee should prepare and implement a detailed site-specific plan to contain disturbed sediments and minimize the quantity of sediment that would enter Henry's Fork as a result of these construction activities, including the filtering of any sediment-laden discharges and the disposal of any excess sediments or other spoil materials.

Unavoidable Adverse Impacts: Minor, temporary increases in turbidity and suspended sediment would be unavoidable during construction of the fish passage facility at the EIC diversion.

3. Water Resources

Affected Environment: Ashton Dam, located at river mile 45 of the Henry's Fork of the Snake River, drains approximately 1,040 square miles in eastern Idaho. Mean monthly flows of the Henry's Fork, as measured at the USGS gage located 0.8-mile below the dam, have ranged from 638 cfs in December 1962, to 4,372 cfs in May 1971. The average annual flow is 1,463 cfs. Inflow to the reservoir, which is regulated by releases from Henry's Lake and Island Park Reservoir, is greatest during periods of snowmelt and runoff. Ashton Reservoir extends approximately 4 miles upstream from the dam and has a normal maximum water surface area of 404 acres.

IDHW has classified the reach of the Henry's Fork in the project area as a special resource water. Designated uses of this river segment include primary and secondary contact recreation, maintenance of cold water biota, and salmonid spawning habitat.

The water quality of Henry's Fork below Ashton Dam is generally good. Water temperature ranges from 0 degrees Centigrade (°C) in February to 16.5°C in August, pH levels of 8.4 and 8.1 were recorded in summer and fall, respectively, and dissolved oxygen (DO) levels (measured about 35 miles downstream of Ashton Dam) vary between 6.5 and 13.2 milligrams per liter (mg/l) (Idaho Department of Health and Welfare, 1984).

Water sampling conducted by the applicant in the summer of 1984 indicates that in Ashton Reservoir values for both DO and water temperature decrease with reservoir depth. Water temperature ranged from 17.6°C at the surface to 15.2°C at the bottom in June, and from 20.1°C to 17.2°C in August; while DO levels ranged from 8.3 to 7.2 mg/l in June, and from 8.7 to 7.3 mg/l in August.

The St. Anthony Development is located on a diversion of the EIC. The EIC diversion dam, where there is no reservoir and only negligible storage capacity, diverts water directly into the EIC. Water is available for generation only when irrigation needs are being satisfied.. Flows not used for irrigation and generation spill over the EIC diversion dam. Diversion of water into the St. Anthony powerhouse from the EIC averages 406 cfs during the irrigation season and 432 cfs during the non-irrigation season. The average annual flow of water through the facility is 410 cfs. Water available for generation is subject to the Egin Irrigation Company's water requirements as well as available flows in the Henry's Fork. Mean monthly flows for the Henry's Fork, as measured at a USGS gage upstream of the diversion dam, have ranged from 668 cfs in October 1966, to 6,055 cfs in May 1976. The average annual flow is 2,950 cfs.

The water quality of the Henry's Fork above the EIC diversion dam is similar to that of the river below Ashton Dam. The water quality of the Henry's Fork below St. Anthony, however, is degraded by irrigation return flows and low flows related to irrigation diversion (Rohrer, 1981).

Environmental Impacts and Recommendations: Construction of a fish passage facility at the EIC diversion dam would cause temporary increases in sedimentation and turbidity. The implementation of a sediment control plan would minimize the amount of sediment introduced to the Henry's Fork.

After installation of the new turbine, operation of the Ashton powerhouse would result in the increased diversion of 433 cfs through the power-generating facility, and a reduction of the average spill period from 4 months to 1 month. As a result, DO concentration of the river below the project could be reduced somewhat. Consequently, the Bureau of Reclamation requested that DO concentration of the powerhouse discharge be assessed periodically. The applicant replied that monitoring of tailrace flows would not be necessary because DO concentration of the reservoir at the depth of water withdrawal is suitable for salmonids, and the presence of a healthy trout fishery downstream of the Ashton Dam suggests that DO levels are not detrimental to the fishery.

Reducing the magnitude and duration of spill at the Ashton Dam would not appreciably alter the existing DO concentration of the Henry's Fork downstream of the project. Although data that describe the DO concentration immediately downstream of the dam are unavailable, the aeration effect of the existing spill regime is most likely insignificant because the water at all depths in the reservoir has a DO saturation of at least 90 percent. The DO concentration of the powerhouse discharge would reflect that of the reservoir in the vicinity of the intake. Monitoring of the powerhouse discharge is unnecessary because DO concentration of the reservoir at the depth of water withdrawal would maintain state water quality standards for the Henry's Fork. The continued operation of the St. Anthony Development would not impact the existing water quality of the Henry's Fork.

Unavoidable Adverse Impacts: Minor, short-term increases in sedimentation and turbidity would occur during construction of a fish passage facility at the EIC diversion dam.

4. Fishery Resources

Affected Environment: The fishery resource of the Henry's Fork is comprised of coldwater species, including wild and hatchery rainbow trout (Salmo gairdneri), cutthroat trout (S. clarki), brown trout (S. trutta), brook trout (Salvelinus fontinalis), kokanee salmon (Oncorhynchus nerka), and mountain

whitefish (Prosopium williamsoni). The Henry's Fork provides habitat for a major resident trout fishery that is an extremely popular recreational resource in the vicinity of Ashton Dam and the St. Anthony Development. IDFG lists the Henry's Fork as Value Class I, the highest class possible for fishery resources.

IDFG studies indicate that the fishery within Ashton Reservoir is not as productive as the free-flowing river reaches downstream of the Ashton Dam and upstream of the Ashton Reservoir. Although little quantitative information exists on the fishery resource downstream of the EIC diversion dam at St. Anthony, reduced water quality could limit fish production. No federally listed threatened or endangered aquatic species are found in either area (letters from John Wolfin, Field Supervisor, U.S. Fish and Wildlife Service, Boise, Idaho, August 10, 1984, and September 18, 1984).

Environmental Impacts and Recommendations: Increased sedimentation and turbidity levels resulting from the installation and start-up of the turbine at Ashton Dam and during the construction of a fish passage facility at the EIC diversion dam would cause a short-term, adverse impact to the fishery resource by resulting in the avoidance of these areas by resident fish. The implementation of sediment control measures would protect the area's fishery resource.

Flow fluctuations during construction at or operation of the Ashton Development could adversely affect resident fish and fishing opportunities by drawing down the reservoir and stranding fish. The applicant, however, states that Ashton Reservoir's water levels would be unaffected by the installation of the new turbine.

IDFG recommends ramping rates and fishery resource maintenance flows at the Ashton Dam. The applicant states that these mitigative measures are not necessary because the Ashton Development would continue to be operated in a run-of-river mode.

Hydroelectric projects that operate in an instantaneous run-of-river mode and discharge flows at the dam do not require the establishment of either a ramping rate or a minimum flow. As proposed, the Ashton powerhouse would continue to discharge water immediately below the existing dam. Requiring the applicant to operate the project in a strict run-of-river mode would adequately protect the fishery resource of the Henry's Fork below Ashton Dam. The licensee, therefore, should operate the project in an instantaneous run-of- river mode.

IDFG indicates that fish population, fish harvest, and recreational fishery use of Ashton Reservoir are substantially less than the comparable values for adjacent upstream and downstream reaches of the Henry's Fork. IDFG believes that the production of fish in the river reach that was inundated by Ashton Reservoir was similar to that of surrounding free-flowing river reaches before constructing the Ashton Dam. To mitigate for this loss in production, IDFG recommends and the applicant concurs that the applicant must conduct a study to discover those measures that would increase the reservoir's fish populations, fish harvest, and recreational fishery use. Based on recent catch rates and sizes of fish caught, IDFG and the applicant agree on reservoir enhancement catch rate goals of 1 fish per angler hour and a mean size of 10 to 12 inches for creeled fish. Failure to achieve these goals would require the applicant to enhance the fishery at an offsite area.

The applicant's detailed fishery mitigative plan for the Ashton Reservoir, which includes a study to assess the productivity of the fishery and a fish stocking program, has been accepted by IDFG. The applicant's proposed fishery mitigative plan, included in the Report on Fish, Wildlife, and Botantical Resources, filed December 31, 1984, as Section 3 of the Exhibit E (Environmental Report), pages E-26 through E-37 (following), should provide for adequate mitigation of major project impacts to the fishery resource of the Henry's Fork in Ashton Reservoir.

Because the EIC diversion dam currently is a barrier to the upstream migration of resident trout, IDFG recommends that the applicant install and operate a fish passage facility at the diversion dam. The

applicant agrees to construct and operate a fish passage facility at the diversion dam. A fish passage facility would allow the fishery resource downstream of the development to have access to areas with superior water quality and spawning habitat. The licensee, therefore, should install and operate a fish passage facility at the EIC diversion dam.

Continued operation of the St. Anthony Development could result in the entrainment and turbine-related mortality of fish. IDFG recommends screening either the project intake or the headgate of the irrigation canal in order to minimize turbine-related mortality of fish. The applicant does not agree to screening the intake or canal headgate because of the high cost of installing, operating, and maintaining a fish screen, and because the amounts of entrainment and turbine-related mortality are unknown. The magnitude of entrainment mortality should be assessed by post-operational monitoring studies. The applicant, therefore, should conduct such monitoring studies to fully assess fish entrainment mortality and, if necessary, mitigate for fish entrainment mortality. The studies should include a determination of appropriate mitigative measures, such as supplemental stocking of upstream reservoirs to compensate for any fish losses.

Unavoidable Adverse Impacts: Increased sedimentation resulting from the installation and start-up of a new turbine at the Ashton powerhouse and the construction of a fish passage facility at the St. Anthony Development would temporarily impact the fishery resource. The continued operation of the St. Anthony powerhouse could cause some losses to the area's fishery as a result of entrainment-related mortality.

5. Terrestrial Resources

Affected Environment: The project is located within the sagebrush- wheatgrass province of the Intermountain Sagebrush Ecoregion (Bailey, 1980). Vegetation typical to this area includes big sagebrush (Artemsia tridentata), wheatgrass (.Agropyron spp.), and Rocky Mountain juniper (Juniperus scopulorum). Riparian vegetation around the Ashton Reservoir is dominated by willows (Salix spp.), black cottonwood (Populus trichocarpa), water birch (Betula occidentials), and bigtooth maple (Acer grandidentatum). Vegetation in the vicinity of the St. Anthony Development is scattered because of past disturbance from commercial and residential development (Utah Power and Light Company, 1984).

The project vicinity supports populations of elk (Cervus canadensis), mule deer (Odocoileus hemionus), beaver (Castor canadensis), mink (Mustela vison), river otter (Lutra canadensis), and bobcat (Lynx rufus). When unfrozen during fall and winter, the reservoir receives moderate use by waterfowl. Common waterfowl include Canada geese (Branta canadensis), mallard (Anas platyrhynchos), common goldeneye (Bucephalus clangula), and common merganser (Mergus merganser). The trumpeter swan (Cygnus Cygnus buccinator), a National Species of Special Emphasis, occasionally use the Ashton Reservoir (Utah Power and Light Company, 1984).

A small number of ospreys (Pandion haliaetus) and bald eagles (Haliaeetus leucocephalus) have been observed at Ashton Reservoir during midwinter surveys. There is evidence that eagles nested at the reservoir during 1982 and 1983 (Utah Power and Light Company 1984). The peregrine falcon (Falco peregrinus) is an occasional migrant in the project area during the fall and winter. The bald eagle and peregrine falcon are federally listed endangered species.

Environmental Impacts and Recommendations: Relicensing of the project would not result in any additional impacts to wildlife or their habitats. Original construction and reservoir filling disturbed at least 400 acres of wildlife habitat (Utah Power and Light, Company, 1984). The applicant proposes to mitigate for the project's original and continuing impacts by implementing a wildlife enhancement plan. The plan consists of: planting 31.8 acres of overgrazed habitat with beneficial plant species; constructing 5.7 miles of fencing that would exclude cattle from portions of the Ashton Reservoir shoreline; installing 15 goose nesting structures, 10 raptor perch structures, 10 osprey nesting

platforms, and 1 bald eagle nesting platform; acquiring preservation easements for 250 acres of nearby wetland habitat; and monitoring of the program.

The measures cited above would increase 'the potential value of the project area as habitat, thereby benefiting wildlife. The proposed mitigative plan, however, currently does not include the locations, design specifications, and other details of the proposed measures. The licensee, therefore, should consult with the U.S. Fish and Wildlife Service (FWS) and IDFG to develop a final mitigative plan that identifies the locations, and provides more detailed specifications of all the proposed measures.

The proposed action would not adversely affect bald eagles (letter from Bruce Blanchard, Director, Office of Environmental Project Review, Department of the Interior, Washington, D.C., July 29, 1985).

Unavoidable Adverse Impacts: None.

6. Cultural Resources

Affecting Environment: Ashton Dam and powerhouse, which were constructed and made operational between 1914 and 1918, may be eligible for inclusion in the National Register of Historic Places. However, only the unit no. 1 turbine, which would be replaced with a more efficient unit, would be affected by the proposed action. The significance of this turbine cannot be established until it is removed and inspected. No other components of the dam and powerhouse or other eligible historic or archeological sites would be affected by the proposed action (letters from Dr. Merle W. Wells, State Historic Preservation Officer, Idaho State Historical Society, Boise, Idaho, May 1984, and Dr. Thomas J. Green, State Archeologist, Idaho State Historical Society, Boise, Idaho, December 10, 1984).

Environmental Impacts and Recommendations: The Idaho State Historic Preservation Officer (SHPO) indicates that the removal of the turbine from its historic context would be mitigated by its historical documentation or preservation for public display or further study. The applicant has agreed to assess the historical significance of the turbine upon its removal, and to implement procedures to document or preserve the turbine. This work should be undertaken in a manner satisfactory to the SHPO and the National Park Service (letters from Dr. Thomas J. Green, State Archeologist, Idaho State Historical Society, Boise, Idaho, May 31, 1985, and Jody Williams, Attorney, Utah Power and Light Company, Salt Lake City, Utah, July 22, 1985).

Unavoidable Adverse Impacts: The unit no. 1 turbine would be removed from its historical context.

7. Recreation and Other Land Uses

Affected Environment: Henry's Fork in the vicinity of the Ashton Development provides a quality trout fishery, which is intensively used by anglers. In addition to fishing, Ashton Reservior provides opportunities for boating and waterfowl hunting. Public recreational facilities at the Ashton Development currently include a boat ramp and pier at the north end of the reservoir and 12 floating boat docks around the reservoir perimeter. The Targhee National Forest, located about 2 miles north of the reservoir, also provides various recreational opportunities, including fishing, hunting, boating, camping, skiing, hiking, and sight-seeing.

Recreational uses in the vicinity of the St. Anthony Development include picnicking, fishing, swimming, and team sports. There are two developed recreation areas in the vicinity of the development, both owned by the City of St. Anthony. They include a 1-acre playground, which is located west of the project, and Island Park, recently renamed Keefer Park, a 5-acre facility with picnic

tables, two barbeque grills, and an athletic field. A supervised swimming area is located across the river from the park.

Besides recreation, land use in the vicinity of the Ashton Development consists primarily of irrigated farming. In the vicinity of the St. Anthony Development, land use comprises commercial and industrial development.

Because of its outstanding sight-seeing qualities and recreational fishing opportunities, a 42-mile-long section of the Henry's Fork upstream of its confluence with the Warm River has been listed on the Nationwide Rivers Inventory. Legislation to convert this portion of the river to a study river has been introduced to Congress. The project site, however, is approximately 10 miles downstream of the boundary of this river segment.

Environmental Impacts and Recommendations: Because of the poor condition of the boat ramp and dock area at .Ashton Reservoir, upgrading and routine maintenance are needed. The Idaho Department of Parks and Recreation (IDPR) and the National Park Service (NPS) recommend measures to improve recreational facilities at the Ashton Reservoir. The applicant has incorporated these recommendations in its Recreation Area Improvement Plan, and included the plan in its Report on Recreational Resources (Report). The Report indicates that the applicant would implement the following measures: (1) acquire lands at the reservoir that are currently owned by other entities; (2) upgrade the existing concrete boat ramp and access to the fishing-observation pier; (3) add new facilities, including picnic tables, grills, trash receptacles, and a portable restroom; (4) improve traffic circulation patterns and separate vehicular movement from pedestrian activity; (5) negotiate an agreement with Fremont County that would shift the responsibility for facility operation and maintenance from the County to the applicant; and (6) reevaluate the need for additional recreational facilities at the reservoir within 5 years from the date of issuance of the license.

Applicant's proposed plan to improve recreational facilities and their operation and maintenance would enhance day-use recreation in the project area. Therefore, the Report on Recreational Resources, filed December 31, 1984, as Section 5 of the Exhibit E (Environmental Report), pages E-19 through E-59, should be implemented and all proposed recreational improvements should be completed within 1 year from the date of issuance of any license for the project.

The City of St. Anthony is concerned about the deteriorating condition of the diversion structure and the retaining wall that protects Keefer Park. Because of the poor condition of these two structures, flooding occasionally occurs in Keefer Park. The City recommends that these structures be replaced or rebuilt so that they protect the park from flooding. The applicant has agreed to repair and maintain the diversion structure and retaining wall at Keefer Park (personal communication, Jody Williams, Attorney, Utah Power and Light Company, Salt Lake City, Utah, May 9, 1986).

Maintenance of the diversion structure and retaining wall would protect the recreational resources at the development. The licensee, after consultation with the City of St. Anthony, should repair or replace those portions of the diversion structure and retaining wall needed to prevent flooding at Keefer Park.

Unavoidable Adverse Impacts: None.

B. Cumulative Impacts

Henry's Fork River Basin: The Henry's Fork of the Snake River drains 2,733 square miles in the eastern portion of Idaho. The stream originates from the outlet of Henry's Lake, located in the Continental Divide Mountains. The stream drains southwest and flows 124 miles to the Snake River. Major tributaries in the Henry's Fork Basin include the Buffalo River, Warm River, Falls River, and Teton River (figure 4).

Topography in the southwest and western portion of the basin is relatively smooth and formed by basalt flows; the northern and southeastern portions are more mountainous with heavy timber cover. Forested land comprises 39 percent of the basin area, rangeland: 26 percent, irrigated cropland: 15 percent, dryland agriculture: 13 percent, and other uses: 7 percent (Corps, 1979).

Henry's Fork is widely known as a major resident trout fishery, which is an extremely popular recreational resource. This fishery includes cuttroat trout, considered to be a National Species of Special Emphasis by FWS and a Species of Special Concern by IDFG. Henry's Fork also provides habitat for resident and non-resident bald eagles, a federally listed endangered species, and provides for a non-migratory population of trumpeter swans, considered to be a National Species of Special Emphasis by FWS and a Species of Special Concern by IDFG.

Diversions from Henry's Fork and its tributaries are substantial, primarily for irrigation. A total annual flow rate of 1,150 cfs is diverted from 42 diversions within the basin. Although most of this volume is diverted from April to September, substantial diversions occur year-round (Corps, 1979). Cross Cut Diversion Dam is part of BR's Minidoka Project, which provides irrigation to more than 1 million acres from five reservoirs. River flows are regulated by releases from Henry's Lake and Island Park Reservoir.

Proposed and Existing Hydroelectric Development: As of May 1986, there were only three proposed projects in the Henry's Fork Basin with license applications pending before the Commission. They are the Cross Cut Diversion Project, FERC No. 3991, the Island Park Project, FERC No. 2973, and this application for a relicense for the Ashton-St. Anthony Project (figure 4).

Existing hydroelectric development on the mainstem of Henry's Fork is limited to the Ashton-St. Anthony Project. The Ashton Development is located about 9 miles north of the Cross Cut Diversion, and the St. Anthony Development is located about 4 miles south of the Cross Cut Diversion (figure 4).

The only existing hydroelectric development in the northern portion of the basin is the Pond Lodge Project, FERC No. 1413, which is located on the Buffalo River near the confluence with Henry's Fork, just downstream of the Island Park Reservoir (figure 4). There are two existing projects located on the Teton River in the southern portion of the basin. They are the Felt Project, FERC No. 5089; and the Briggs Project, FERC No. 8083 (figure 4).

All of the proposed and existing projects, except the proposed Island Park Project and the existing Pond Lodge Project, are downstream of the portion of Henry's Fork listed on the Nationwide Inventory for inclusion in the Wild and Scenic Rivers System. This 41-mile stretch extends from Big Springs near River Mile (RM) 101 downstream to the confluence of Warm River, excluding the Island Park Dam and Reservoir (figure 4).

Target Resources: The staff has determined that the target resources in the Henry's Fork are resident trout, water quality, bald eagles, and trumpeter swans. The staff identified the target resources by reviewing documents related to existing hydropower projects, applications for proposed hydropower projects in the basin, and comments from federal and state natural resource agencies and the public concerning these projects.

Henry's Fork provides habitat for a major resident trout fishery, primarily rainbow and cutthroat trout. IDFG lists Henry's Fork from Big Springs to St. Anthony as Value Class I, the highest class possible for fishery resources. Fishing pressure is particularly heavy in the 10 miles upstream from the Island Park Reservoir, while the next most productive reach is from the Ashton Reservoir downstream to the Cross Cut Diversion (figure 4). Below the confluence with Falls River, the fishery is adversely affected by irrigation diversions and return flows (Corps, 1979).

The water quality of the Henry's Fork and its major tributaries is high when sampled upstream of irrigated agricultural areas (Corps, 1979). DO concentrations measured at the Henry's Fork near Rexburg, about 22 miles downstream of the St. Anthony Development, have varied between 6.5 and 13.2 mg/l over the past 15 years (Idaho Department of Health and Welfare, 1984). The state DO standard for water released from hydroelectric projects is 5 mg/l.

Bald eagles are known to nest along Henry's Fork, and may use both reservoir areas and the river for feeding. Since bald eagles feed on fish, any reduction in the fishery may also adversely affect bald eagles.

Henry's Fork is the winter habitat for 50 to 70 percent of the 1,000 birds that make up the mid-continental trumpeter swan population (letter from John P. Wolfin, Field Supervisor, U.S. Fish and Wildlife Service, Boise, Idaho, July 3, 1985). Swans feed on submerged vegetation in the slow-moving sections of the river. Low winter flows adversely affect bald eagle and trumpeter swan habitat by increasing the amount of ice on the river, and reducing the size of feeding areas.

Cumulative Impacts on Target Resources: All of the pending projects in the basin could affect resident trout by entrainment of juvenile fish and early life history stages, direct and delayed mortality from abrasion and mutilation, predation of disoriented fish returned to the river below the powerhouse, and impingement of adult fish on the trash racks.

Although impingement and entrainment mortality may continue at the Ashton and St. Anthony powerhouses, the license application includes provisions for long-term enhancement in Ashton Reservoir, and the construction of fish passage facilities is proposed at the EIC diversion.

Impacts to resident trout from impingement and entrainment from the Cross Cut Project would be minimized by placement of screens across the intake area. These screens would also enhance the fishery by preventing trout from escaping into the Cross Cut Canal, since annual dewatering of the canal causes stranding of fish and related mortality.

Impingement and entrainment impacts to resident trout at the proposed Island Park Project would be project-specific. Assuming that impacts to resident trout may occur at the Island Park Project, this hydropower development is more than 40 miles upstream from the proposed Ashton-St. Anthony Project; therefore, no interaction of the fishery impact would be expected.

While adverse impacts to the fishery below Island Park Reservoir could occur as a result of hydropower development, impacts from the Ashton-St. Anthony Project and the Cross Cut Project would be offset by enhancement measures proposed for these projects. Therefore, there is no potential for cumulative adverse impacts to resident trout.

Construction activities, which would introduce sediment into Henry's Fork, would occur at all of the pending projects. Although both the Cross Cut Project and the Island Park Project include construction of a powerhouse and related facilities, construction areas are limited to the vicinity of the existing dams. Construction at the Ashton Development is limited to placement of a larger turbine in the existing powerhouse and enlargement of the existing intake structure, while construction at the St. Anthony Development would be limited to a fish passage facility at the EIC diversion.

Disturbed areas resulting from construction activities, excluding the use of transmission lines, are estimated to be less than one-half of an acre for each of the proposed projects within the basin.

With proper erosion and sediment control measures, sediment input from construction activities at these projects would be minor and short-term. Since these pending projects are also separated by at least 4 miles to over 40 miles, impacts would also be localized. Therefore, there is no potential for

cumulative adverse impacts to water quality from increased sedimentation because of hydropower development.

Spillage over the dams, which contributes to aeration of river flows, is reduced when flows are diverted through hydroelectric turbines. Therefore, operation of all of the pending projects could contribute to some reduction of aeration in river flows, which would decrease DO in the river.

The larger turbine to be installed at the Ashton powerhouse would reduce the average number of months water would spill over the dam from 4 months to 1 month annually. Decreased spillage, however, is not expected to cause significant reductions in DO. Because operation of the St. Anthony powerhouse would remain unchanged, existing impacts to aeration of river flows would continue.

Hydropower development at the Cross Cut Diversion, would substantially decrease existing spillage. Nevertheless, the project includes provisions for a 100 cfs minimum spillage and DO monitoring during project operation to ensure compliance with state DO standards. The DO levels at Ashton and St. Anthony developments are expected to continue to comply with state standards, so there is no potential for cumulative adverse impacts on DO from simultaneous multiple project operations.

The proposed hydropower development at the Island Park Dam would have the greatest potential impacts on DO in the Henry's Fork. Island Park Reservoir stratifies during the summer, and profiles of DO measurements showed a minimum DO of 4.3 mg/l at a depth of 48 feet on July 7, 1985. Effects of decreased aeration would be attenuated in downstream reaches, as the Henry's Fork flows over a series of rapids in the 42 miles between Island Park Reservoir and the Ashton Reservoir. Accretion flows from the Warm River, located 12 miles upstream of Ashton Reservoir, would further reduce any downstream impacts resulting from the Island Park Project. Further, since the project would be required to meet state DO standards, there is no potential for cumulative impacts with projects in the downstream reaches.

All pending hydropower projects in the Henry's Fork Basin would be required to meet state standards for DO. This could be achieved by adding oxygen to turbine flows or ceasing project operations during summer low-flow periods. Monitoring of DO during project operations would also ensure that adequate DO is maintained. Therefore, cumulative adverse impacts to water quality would not be expected.

There is evidence that a pair of bald eagles nested near Ashton Reservoir during 1982 and 1983 (Utah Power and Light Company, 1984). Proposed enhancement for bald eagles includes construction of a nesting platform. No bald eagles are known to nest in the vicinity of St. Anthony, and no critical habitat for bald eagles has been identified.

While bald eagles occur along Henry's Fork, no nests are known to exist in the vicinity of the Cross Cut Project. FWS determined that the Cross Cut Project would not cause significant adverse effects to the bald eagle because transmission lines at that project would be constructed to minimize the potential for raptor electrocution.

Nesting bald eagle sites are known to occur in the vicinity of the Island Park Dam. Resident bald eagles use the river below the dam for year-round feeding, and they use the reservoir for feeding during the summer. Bald eagles could be affected by hydropower development at this site.

Since bald eagles would not be adversely affected by the Ashton-St. Anthony Project or the Cross Cut Project, any potential impacts at the Island Park Project would not be cumulative.

Trumpeter swans infrequently utilize the Ashton Reservoir. Construction activities, however, are limited to the dam site, winter flows would be unchanged, and submerged aquatic vegetation is not expected to be affected by construction activities and continued project operation. Therefore, there

would be no adverse effects to trumpeter swans in the vicinity of the Ashton Reservoir. Although trumpeter swans may occur in the vicinity of St. Anthony, no critical habitat has been identified.

Trumpeter swans may occur in the vicinity of the Cross Cut Diversion at various times of the year. However, no critical habitat has been identified in the project area, and project construction and operation would not affect submerged vegetation, which is a food source for the swans.

Winter populations of trumpeter swans at Island Park Reservoir area are reported to be in excess of 300 (Fall River Electric Cooperative, Inc., 1985). Potential impacts to trumpeter swans from hydropower development are related to freezing of the river during winter low-flow periods, which would make swan foods unavailable. If drawdown for installation of the intake structure results in a pool elevation below normal drawdown levels, this would result in reduced winter flows in order to refill the reservoir. The impacts, however, would be project-specific.

Since the trumpeter swan would not be adversely affected by the Ashton-St. Anthony Project or the Cross Cut Project, any potential impacts at the Island Park Project would not be cumulative.

In summary, construction and operation of the Ashton-St. Anthony Project would not contribute to cumulative adverse impacts to target resources in the Henry's Fork River Basin. Mitigative measures proposed for the fishery in Ashton Reservoir and provisions of fish passage facilities for the St. Anthony Development would result in enhancement of the resident fishery. With appropriate timing of multiple construction activities, careful construction practices, and use of proper sediment control measures, increased sedimentation in the Henry's Fork would be localized, minor, and short-term. During project operation, DO levels are expected to continue to comply with state standards. While bald eagles and trumpeter swans occur in the project vicinity, no cumulative impacts would be expected. For these reasons, the staff concludes that the construction and operation of the Ashton-St. Anthony Project, as conditioned, would not contribute to cumulative adverse impacts to resident trout, water quality, bald eagles, or trumpeter swans.

C. Alternative of No Action

Under the no-action alternative, there would be no new construction. Electrical power that is currently generated by existing hydroelectric facilities would have to be generated from other available energy sources or offset by conservation measures. Moreover, the no-action alternative would preclude: (1) the implementation of the fish and wildlife mitigative plans; (2) the construction of an upstream fish passage facility at the St. Anthony diverison dam; and (3) the implementation of the proposed recreation plan.

D. Recommended Alternative

The relicense of the Ashton-St. Anthony Project is recommended. The continued operation of the existing hydroelectric facilities and the replacement of one turbine-generator unit at the Ashton Development would not result in any major, long-term, adverse, environmental impacts. Moreover, relicensing the project would permit the implementation of the applicant's proposed fish and wildife mitigation and recreational improvements, which would benefit the environmental resources of the project area.

VI. FINDING OF NO SIGNIFICANT IMPACT

The Ashton and St. Anthony Developments have been in operation for over 60 years. The applicant would not alter the current operation of these facilities. The replacement of a turbine-generator unit at the existing Ashton powerhouse would involve only the modification of the powerhouse interior. The construction of a fish passage facility at the EIC diversion dam would produce some temporary, minor sedimentation and turbidity in the Henry's Fork downstream of the diversion. The continued operation

of the project could result in some minor turbine entrainment and resultant mortality of fish. In contrast, implementation of the applicant's proposed fish and wildlife mitigation and recreational improvements would benefit the existing environment. On the basis of this independent environmental analysis, issuance of a license for the project would not constitute a major federal action significantly affecting the quality of the human environment.

VII. LITERATURE CITED

Bailey, R.G. 1980. Descriptions of the eco-regions of the United States. Miscellaneous publication 139. U.S. Department of Agriculture, Forest Service. 77 pp.

Corps of Engineers. 1979. Columbia basin withdrawal environmental review. Appendix - D - Fish, Part II, Snake River. Department of the Army, Portland District Corps of Engineers, Portland, Oregon. November 1979. 161 - 187 pp.

Idaho Department of Health and Welfare. 1984. Water quality data for Henry's Fork station 151105 near Rexburg, Idaho.

_____. 1985. Idaho water quality standards and waste water treatment regulations. January 1985.

Rohrer, R. 1981. Henry's Fork fisheries investigation. Project F-73-R-3, study XI. Idaho Department of Fish and Game.

Utah Power and Light Company. 1984. Application for license for an existing dam, Ashton-St. Anthony Hydroelectric Project, FERC No. 2381-001, Salt Lake City, Utah, filed December 31, 1984.

VIII. LIST OF PREPARERS

Brad Bortner —— Terrestrial Resources (Ecologist; M.S., Wildlife Biology).

Jim Haimes —— EA Coordinator (Economist; B.A., Economics).

James Hastreiter —— Water and Fishery Resources (Fishery Biologist; M.S., Natural Resources).

Ann Miles —— Recreational Resources (Environmental Protection Specialist; M.A., Recreation Resource Management).

Kathleen L. Sherman —— Geology and Soils; Cumulative Impact Assessment (Soil Conservationist; M.S. Agronomy and Soil Science]).

Edwin D. Slatter —— Cultural Resources (Archeologist; Ph.D., Anthropology).

Mary Nowak——Writer—Editor (B.A., English).

Form L-l (Revised October, 1975)

FEDERAL ENERGY REGULATORY COMMISSION

**TERMS AND CONDITIONS OF LICENSE
FOR CONSTRUCTED MAJOR PROJECT AFFECTING
LANDS OF THE UNITED STATES**

Article 1. The entire project, as described in this order of the Commission, shall be subject to all of the provisions, terms, and conditions of the license.

Article 2. No substantial change shall be made in the maps, plans, specifications, and statements described and designated as exhibits and approved by the Commission in its order as a part of the license until such change shall have been approved by the Commission: provided, however, That if the Licensee or the Commission deems it necessary or desirable that said approved exhibits, or any of them, be changed, there shall be submitted to the Commission for approval a revised, or additional exhibit or exhibits covering the proposed changes which, upon approval by the Commission, shall become a part of the license and shall supersede, in whole or in part, such exhibit or exhibits theretofore made a part of the license as may be specified by the Commission.

Article 3. The project area and project works shall be in substantial conformity with the approved exhibits referred to in Article 2 herein or as changed in accordance with the provisions of said article. Except when emergency shall require for the protection of navigation, life, health, or property, there shall not be made without prior approval of the Commission any substantial alteration or addition not in conformity with the approved plans to any dam or other project works under the license or any substantial use of project lands and waters not authorized herein; and any emergency alteration, addition, or use so made shall thereafter be subject to such modification and change as the Commission may direct. Minor changes in project works, or in uses of project lands and waters, or divergence from such approved exhibits may be made if such changes will not result in a decrease in efficiency, in a material increase in cost, in an adverse environmental impact, or in impairment of the general scheme of development; but any of such minor changes made without the prior approval of the Commission, which in its judgment have produced or will produce any of such results, shall be subject to such alteration as the Commission may direct.

Article 4. The project, including its operation and maintenance and any work incidental to additions or alterations authorized by the Commission, whether or not conducted upon lands of the United States, shall be subject to the inspection and supervision of the Regional Engineer, of the Commission, in the region wherein the project is located, or of such other officer or agent as the Commission may designate, who shall be the authorized representative of the Commission for such purposes. The Licensee shall cooperate fully with said representative and shall furnish him such information as he may require concerning the operation and maintenance of the project, and any such alterations thereto, and shall notify him of the date upon which work with respect to any alteration will begin, as far in advance thereof as said representative may reasonably specify, and shall notify him promptly in writing of any suspension of work for a period of more than one week, and of its resumption and completion. The Licensee shall submit to said representative a detailed program of inspection by the Licensee that will provide for an adequate and qualified inspection force for construction of any such alterations to the project. Construction of said alterations or any feature thereof shall not be initiated until the program of inspection for the alterations or any feature thereof has been approved by said representative. The Licensee shall allow said representative and other officers or employees of the United States, showing proper credentials, free and unrestricted access to, through, and across the project lands and project works in the performance of their official duties. The

Licensee shall comply with such rules and regulations of general or special applicability as the Commission may prescribe from time to time for the protection of life, health, or property.

Article 5. The Licensee, within five years from the date of issuance of the License, shall acquire title in fee or the right to use in perpetuity all lands, other than lands of the United States, necessary or appropriate for the construction, maintenance, and operation of the project. The Licensee or its successors and assigns shall, during the period of the license, retain the possession of all project property covered by the license as issued or as later amended, including the project area, the project works, and all franchises, easements, water rights, and rights of occupancy and use; and none of such properties shall be voluntarily sold, leased, transferred, abandoned, or otherwise disposed of without the prior written approval of the Commission, except that the Licensee may lease or otherwise dispose of interests in project lands or property without specific written approval of the Commission pursuant to the then current regulations of the Commission. The provisions of this article are not intended to prevent the abandonment or the retirement from service of structures, equipment, or other project works in connection with replacements thereof when they become obsolete, inadequate, or inefficient for further service due to wear and tear; and mortgage or trust deeds or judicial sales made thereunder, or tax sales, shall not be deemed voluntary transfers within the meaning of this article.

Article 6. In the event the project is taken over by the United States upon the termination of the license as provided in Section 14 of the Federal Power Act, or is transferred to a new licensee or to a non-power licensee under the provisions of Section 15 of said Act, the Licensee, its successors and assigns shall be responsible for, and shall make good any defect of title to, or of right of occupancy and use in, any of such project property that is necessary or appropriate or valuable and serviceable in the maintenance and operation of the project, and shall pay and discharge, or shall assume responsibility for payment and discharge of, all liens or encumbrances upon the project or project property created by the Licensee or created or incurred after the issuance of the license: Provided, That the provisions of this article are not intended to require the Licensee, for the purpose of transferring the project to the United States or to a new licensee, to acquire any different title to, or right of occupancy and use in, any of such project property than was necessary to acquire for its own purposes as the Licensee.

Article 7. The actual legitimate original cost of the project, and of any addition thereto or betterment thereof, shall be determined by the Commission in accordance with the Federal Power Act and the Commission's Rules and Regulations thereunder.

Article 8. The Licensee shall install and thereafter maintain gages and stream-gaging stations for the purpose of determining the stage and flow of the stream or streams on which the project is located, the amount of water held in and withdrawn from storage, and the effective head on the turbines; shall provide for the required reading of such gages and for the adequate rating of such stations; and shall install and maintain standard meters adequate for the determination of the amount of electric energy generated by the project works. The number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, shall at all times be satisfactory to the Commission or its authorized representative. The Commission reserves the right, after notice and opportunity for hearing, to require such alterations in the number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, as are necessary to secure adequate determinations. The installation of gages, the rating of said stream or streams, and the determination of the flow thereof, shall be under the supervision of, or in cooperation with, the District Engineer of the United States Geological Survey having charge of stream-gaging operations in the region of the project, and the Licensee shall advance to the United States Geological Survey the amount of funds estimated to be necessary for such supervision, or cooperation for such periods as may be mutually agreed upon. The Licensee shall keep accurate and sufficient records of the foregoing

determinations to the satisfaction of the Commission, and shall make return of such records annually at such time and in such form as the Commission may prescribe.

Article 9. The Licensee shall, after notice and opportunity for hearing, install additional capacity or make other changes in the project as directed by the Commission, to the extent that it is economically sound and in the public interest to do so.

Article 10. The Licensee shall, after notice and opportunity for hearing, coordinate the operation of the project, electrically and hydraulically, with such other projects or power systems and in such manner as the Commission may direct in the interest of power and other beneficial public uses of water resources, and on such conditions concerning the equitable sharing of benefits by the Licensee as the Commission may order.

Article 11. Whenever the Licensee is directly benefited by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement, the Licensee shall reimburse the owner of the headwater improvement for such part of the annual charges for interest, maintenance, and depreciation thereof as the Commission shall determine to be equitable, and shall pay to the United States the cost of making such determination as fixed by the Commission. For benefits provided by a storage reservoir or other headwater improvement of the United States, the Licensee shall pay to the Commission the amounts for which it is billed from time to time for such headwater benefits and for the cost of making the determinations pursuant to the then current regulations of the Commission under the Federal Power Act.

Article 12. The operations of the Licensee, so far as they affect the use, storage and discharge from storage of waters affected by the license, shall at all times be controlled by such reasonable rules and regulations as the Commission may prescribe for the protection of life, health, and property, and in the interest of the fullest practicable conservation and utilization of such waters for power purposes and for other beneficial public uses, including recreational purposes, and the Licensee shall release water from the project reservoir at such rate in cubic feet per second, or such volume in acre-feet per specified period of time, as the Commission may prescribe for the purposes hereinbefore mentioned.

Article 13. On the application of any person, association, corporation, Federal agency, State or municipality, the Licensee shall permit such reasonable use of its reservoir or other project properties, including works, lands and water rights, or parts thereof, as may be ordered by the Commission, after notice and opportunity for hearing, in the interests of comprehensive development of the waterway or waterways involved and the conservation and utilization of the water resources of the region for water supply or for the purposes of steam-electric, irrigation, industrial, municipal or similar uses. The Licensee shall receive reasonable compensation for use of its reservoir or other project properties or parts thereof for such purposes, to include at least full reimbursement for any damages or expenses which the joint use causes the Licensee to incur. Any such compensation shall be fixed by the Commission either by approval of an agreement between the Licensee and the party or parties benefiting or after notice and opportunity for hearing. Applications shall contain information in sufficient detail to afford a full understanding of the proposed use, including satisfactory evidence that the applicant possesses necessary water rights pursuant to applicable State law, or a showing of cause why such evidence cannot concurrently be submitted, and a statement as to the relationship of the proposed use to any State or municipal plans or orders which may have been adopted with respect to the use of such waters.

Article 14. In the construction or maintenance of the project works, the Licensee shall place and maintain suitable structures and devices to reduce to a reasonable degree the liability of contact between its transmission lines and telegraph, telephone and other signal wires or power transmission lines constructed prior to its transmission lines and not owned by the Licensee, and shall also place and maintain suitable structures and devices to reduce to a reasonable degree the liability of any structures or wires falling or obstructing traffic or endangering life. None of the provisions of this article are

intended to relieve the Licensee from any responsibility or requirement which may be imposed by any other lawful authority for avoiding or eliminating inductive interference.

Article 15. The Licensee shall, for the conservation and development of fish and wildlife resources, construct, maintain, and operate, or arrange for the construction, maintenance, and operation of such reasonable facilities, and comply with such reasonable modifications of the project structures and operation, as may be ordered by the Commission upon its own motion or upon the recommendation of the Secretary of the Interior or the fish and wildlife agency or agencies of any State in which the project or a part thereof is located, after notice and opportunity for hearing.

Article 16. Whenever the United States shall desire, in connection with the project, to construct fish and wildlife facilities or to improve the existing fish and wildlife facilities at its own expense, the Licensee shall permit the United States or its designated agency to use, free of cost, such of the Licensee's lands and interests in lands, reservoirs, waterways and project works as may be reasonably required to complete such facilities or such improvements thereof. In addition, after notice and opportunity for hearing, the Licensee shall modify the project operation as may be reasonably prescribed by the Commission in order to permit the maintenance and operation of the fish and wildlife facilities constructed or improved by the United States under the provisions of this article. This article shall not be interpreted to place any obligation on the United States to construct or improve fish and wildlife facilities or to relieve the Licensee of any obligation under this license.

Article 17. The Licensee shall construct, maintain, and operate, or shall arrange for the construction, maintenance, and operation of such reasonable recreational facilities, including modifications thereto, such as access roads, wharves, launching ramps, beaches, picnic and camping areas, sanitary facilities, and utilities, giving consideration to the needs of the physically handicapped, and shall comply with such reasonable modifications of the project, as may be prescribed hereafter by the Commission during the term of this license upon its own motion or upon the recommendation of the Secretary of the Interior or other interested Federal or State agencies, after notice and opportunity for hearing.

Article 18. So far as is consistent with proper operation of the project, the Licensee shall allow the public free access, to a reasonable extent, to project waters and adjacent project lands owned by the Licensee for the purpose of full public utilization of such lands and waters for navigation and for outdoor recreational purposes, including fishing and hunting: Provided, That the Licensee may reserve from public access such portions of the project waters, adjacent lands, and project facilities as may be necessary for the protection of life, health, and property.

Article 19. In the construction, maintenance, or operation of the project, the Licensee shall be responsible for, and shall take reasonable measures to prevent, soil erosion on lands adjacent to streams or other waters, stream sedimentation, and any form of water or air pollution. The Commission, upon request or upon its own motion, may order the Licensee to take such measures as the Commission finds to be necessary for these purposes, after notice and opportunity for hearing.

Article 20. The Licensee shall clear and keep clear to an adequate width lands along open conduits and shall dispose of all temporary structures, unused timber, brush, refuse, or other material unnecessary for the purposes of the project which results from the clearing of lands or from the maintenance or alteration of the project works. In addition, all trees along the periphery of project reservoirs which may die during operations of the project shall be removed. All clearing of the lands and disposal of the unnecessary material shall be done with due diligence and to the satisfaction of the authorized representative of the Commission and in accordance with appropriate Federal, State, and local statutes and regulations.

Article 21. Timber on lands of the United States cut, used, or destroyed in the construction and maintenance of the project works, or in the clearing of said lands, shall be paid for, and the resulting

slash and debris disposed of, in accordance with the requirements of the agency of the United States having jurisdiction over said lands. Payment for merchantable timber shall be at current stumpaqe rates, and payment for young growth timber below merchantable size shall be at current damage appraisal values. However, the agency of the United States having jurisdiction may sell or dispose of the merchantable timber to others than the Licensee: Provided, That timber so sold or disposed of shall be cut and removed from the area prior to, or without undue interference with, clearing operations of the Licensee and in coordination with the Licensee's project construction schedules. Such sale or disposal to others shall not relieve the Licensee of responsibility for the clearing and disposal of all slash and debris from project lands.

Article 22. The Licensee shall do everything reasonably within its power, and shall require its employees, contractors, and employees of contractors to do everything reasonably within their power, both independently and upon the request of officers of the agency concerned, to prevent, to make advance preparations for suppression of, and to suppress fires on the lands to be occupied or used under the license. The Licensee shall be liable for and shall pay the costs incurred by the United States in suppressing fires caused from the construction, operation, or maintenance of the project works or of the works appurtenant or accessory thereto under the license.

Article 23. The Licensee shall interpose no objection to, and shall in no way prevent, the use by the agency of the United States having jurisdiction over the lands of the United States affected, or by persons or corporations occupying lands of the United States under permit, of water for fire suppression from any stream, conduit, or body of water, natural or artificial, used by the Licensee in the operation of the project works covered by the license, or the use by said parties of water for sanitary and domestic purposes from any stream, conduit, or body of water, natural or artificial, used by the Licensee in the operation of the project works covered by the license.

Article 24. The Licensee shall be liable for injury to, or destruction of, any buildings, bridges, roads, trails, lands, or other property of the United States, occasioned by the construction, maintenance, or operation of the project works or of the works appurtenant or accessory thereto under the license. Arrangements to meet such liability, either by compensation for such injury or destruction, or by reconstruction or repair of damaged property, or otherwise, shall be made with the appropriate department or agency of the United. States.

Article 25. The Licensee shall allow any agency of the United States, without charge, to construct or permit to be constructed on, through, and across those project lands which are lands of the United States such conduits, chutes, ditches, railroads, roads, trails, telephone and power lines, and other routes or means of transportation and communication as are not inconsistent with the enjoyment of said lands by the Licensee for the purposes of the license. This license shall not be construed as conferring upon the Licensee any right of use, occupancy, or enjoyment of the lands of the United States other than for the construction, operation, and maintenance of the project as stated in the license.

Article 26. In the construction and maintenance of the project, the location and standards of roads and trails on lands of the United States and other uses of lands of the United. States, including the location and condition of quarries, borrow pits, and spoil disposal areas, shall be subject to the approval of the department or agency of the United States having supervision over the lands involved.

Article 27. The Licensee shall make provision, or shall bear the reasonable cost, as determined by the agency of the United States affected, of making provision for avoiding inductive interference between any project transmission line or other project facility constructed, operated, or maintained under the license, and any radio installation, telephone line, or other communication facility installed or constructed before or after construction of such project transmission line or other project facility and owned, operated, or used by such agency of the United States in administering the lands under its jurisdiction.

Article 28. The Licensee shall make use of the Commission's guidelines and other recognized guidelines for treatment of transmission line rights-of-way, and shall clear such portions of transmission line rights-of-way across lands of the United States as are designated by the officer of the United States in charge of the lands; shall keep the areas so designated clear of new growth, all refuse, and inflammable material to the satisfaction of such officer; shall trim all branches of trees in contact with or liable to contact the transmission lines; shall cut and remove all dead or leaning trees which might fall in contact. with the transmission lines; and shall take such other precautions against fire as may be required by such officer. No fires for the burning of waste material shall be set except with the prior written consent of the officer of the United States in charge of the lands as to time and place.

Article 29. The Licensee shall cooperate with the United States in the disposal by the United States, under the Act of July 31, 1947, 61 Stat. 681, as amended (30 U.S.C. sec. 601, et seq.), of mineral and vegetative materials from lands of the United States occupied by the project or any part thereof: Provided, That such disposal has been authorized by the Commission and that it does not unreasonably interfere with the occupancy of such lands by the Licensee for the purposes of the license: Provided further, That in the event of disagreement, any question of unreasonable interference shall be determined by the Commission after notice and opportunity for hearing.

Article 30. If the Licensee shall cause or suffer essential project property to be removed or destroyed or to become unfit for use, without adequate replacement, or shall abandon or discontinue good faith operation of the project or refuse or neglect to comply with the terms of the license and the lawful orders of the Commission mailed to the record address of the Licensee or its agent, the Commission will deem it to be the intent of the Licensee to surrender the license. The Commission, after notice and opportunity for hearing, may require the Licensee to remove any or all structures, equipment and power lines within the project boundary and to take any such other action necessary to restore the project waters, lands, and facilities remaining within the project boundary to a condition satisfactory to the United States agency having jurisdiction over its lands or the Commission's authorized representative, as appropriate, or to provide for the continued operation and maintenance of non-power facilities and fulfill such other obligations under the license as the Commission may prescribe. In addition, the Commission in its discretion, after notice and opportunity for hearing, may also agree to the surrender of the license when the Commission, for the reasons recited herein, deems it to be the intent of the Licensee to surrender the license.

Article 31. The right of the Licensee and of its successors and assigns to use or occupy waters over which the United States has jurisdiction, or lands of the United States under the license, for the purpose of maintaining the project works or otherwise, shall absolutely cease at the end of the license period, unless the Licensee has obtained a new license pursuant to the then existing laws and regulations, or an annual license under the terms and conditions of this license.

Article 32. The terms and conditions expressly set forth in the license shall not be construed as impairing any terms and conditions of the Federal Power Act which are not expressly set forth herein.

Exhibit E, Section 3: E-26 through E37

(Ref: License Article 402; and "Environmental Assessment", V. 4. Fishery Resources: "Report on Fish, Wildlife, and Botanical Resources", filed December 31, 1984, as Section 3 of the Exhibit E (Environmental Report), pages E-26 through E-37.]

ENHANCEMENT PLANS [See Article 402]

Plans to enhance the fish and wildlife resources in the project area are described below. Enhancement of botanical resources is restricted to improved or additional wildlife habitat and is discussed under wildlife resources. The enhancement plans were designed based on agency comments and subsequent meetings (discussed previously under Agency Recommendations). Final agency comments on the enhancement plans are contained in Appendix A.

Fish Resources

Elements of the fish resources enhancement plan are described below.

Introduction: The objective of the plan is to enhance the fishery in Ashton Reservoir. If field studies indicate enhancement of the reservoir fishery- is not feasible, enhancement actions will be implemented at a suitable off-site location.

The IDFG assumes that production in the river reach prior to inundation by Ashton Reservoir was similar to that in surrounding free-flowing river reach (Conley, 1984). Because of this, the IDFG has proposed that enhancement values be based on differences in. recreational fishery use levels in the reservoir as compared to upstream and downstream values. Catch and effort data from Rohrer's (1981) investigations on the Henry's Fork upstream, within, and downstream of Ashton Reservoir are compared in Table E-7. Given recent catch rates in the adjacent upstream fishery, as well as the sizes of fish caught, the reservoir enhancement catch rate goal of 1.00 fish per hour with a mean size of 10 to 12 inches recommended by IDFG biologists appears reasonable. If future catch rates upstream of the reservoir vary, then the corresponding catch rate goal for the reservoir will be adjusted accordingly.

Table E-7

COMPARISON OF EFFORT AND CATCH DATA FOR ASHTON REVERSOIR AMD RIVER SECTIONS IMMEDIATELY UPSTREAM AND DOWNSTREAM

(Date from Rohrer, 1981)

Parameter	Downstream			
Effort:	2B	2A	Reservoir	Upstream
Angler effort (hours)	13,939	5,226	4,685	5,128
Section length (miles)	3.6	2.7	4.2	6.7
Effort per mile	3,872	1,936	1,115	765
Census Interval (fishing season-days)	365	191	365	191
Average daily angler effort (hours/mile/day)	10.6	10.1	3.1	4.0
Catch:				
Total game fish caught	17,126	8,328	1,935	4,889
Catch per hour	1.23	1.59	0.41	0.95
Catch per hour per mile	0.34	0.59	0.10	0.14

Note: Section 2B = Chester Dam to Fritz Bridge
Section 2A = Fritz Bridge to Ashton Dam
Section 3 = Ashton Dam to Wendell Bridge
Section 4 = Wendell Bridge to Warm River

BOT401/016

Approach: The enhancement plan will consist of the following activities:

1. Collect reservoir baseline data to determine reasons for limitations in fish populations, fish harvest, and recreational fishery use, especially as related to past, generally unsuccessful stockings of hatchery rainbow trout.

2. Introduce new varieties of cutthroat trout (and possibly better-adapted varieties of rainbow trout) to Ashton Reservoir and intensively evaluate their success over a short-term period.

3. Inventory populations in the Henry's Fork upstream and downstream of Ashton Reservoir for marked fish which may have moved out of the reservoir.

4. Predict the long-term success of the introduced species based on existing reservoir conditions and the status evaluation of the stocking program. Conduct an angler opinion survey of management alternatives. Decide whether enhancement in the form of stocking/managing the introduced species should continue and determine costs. If not, determine what enhancement options of similar potential benefit are available off-site and determine costs.

5. Continue enhancement on-site or at a suitable off-site location.

Past fisheries studies provide information on some of the enhancement activities, as well as precautions, and reasons for the often limited success of stocking hatchery trout. These are discussed briefly below.

Stocking new varieties of cutthroat trout in Ashton Reservoir --in this instance, possibly Bear Lake, fine-spot, Henry's Lake, and west slope -- has been recommended by IDFG biologists. The Bear Lake variety, for example, has been introduced into Blackfoot Reservoir in southeast Idaho and reportedly done well. IDFG biologists feel it may also do well in Ashton Reservoir where stockings of hatchery rainbow trout have generally provided relatively low percentage returns to the creel. Bear Lake cutthroat trout have been suggested because of their greater dependence on forage fish than on benthos or zooplankton as a food resource. Limited availability of macro-invertebrates has been theorized as the reason for low fish productivity and fishing success in Ashton Reservoir.

The three other varieties of cutthroat trout could also potentially be well-adapted to conditions in Ashton Reservoir. TDFG has suggested the possible evaluation of different varieties of rainbow trout than have been stocked in the reservoir in the past.

In introducing a species, Wydoski and Bennett (1981) discussed the need to understand the ecological requirements of both the introduced and native species in order to intelligently manage western lakes and reservoirs. Li and Moyle (1981) cautioned that a long-term perspective be taken when introducing a new species. They felt an introduced species should meet the following criteria:

- Be co-adapted with some members of the new system
- Have a narrow niche breadth
- Be easily controlled if it escapes (and has undesirable effects)
- Be free of exotic diseases and parasites

Prior to any stocking, it will be determined that the criteria listed above can be satisfied.

Methods: Various tasks of the fish resources enhancement plan are described below.

- Describe Existing Environment

  The objective of this task will be to gather baseline data with which to describe basic physical-chemical, invertebrate, and fisheries characteristics of Ashton Reservoir. The following activities will be accomplished:

  Physical-Chemical. Determine temperature, dissolved oxygen, and conductivity profiles at 3-foot intervals from surface to bottom. Determine profiles at mid-channel locations just upstream of the dam, just downstream of the reservoir headwaters, and at a point intermediate to these two sampling locations. Conduct sampling monthly from April through October during 1985 and 1986. Calculate dissolved oxygen saturation values for each sampling location and period and determine corresponding Secchi disc values. Measure pH at near surface, mid-, and near bottom depths at each location during each sampling period. At these

same locations and times, measure total dissolved solids concentrations for potentially calculating the morphodaephic index and possibly assessing/predicting Ashton Reservoir fish productivity.

During the same sampling periods and at three adjacent near-shore locations (near dam, near headwaters, mid-point), determine (at representative single depths) temperature, dissolved oxygen, oxygen saturation, conductivity, pH, total dissolved solids, and Secchi disc values.

During the 1985 and 1986 sampling periods, record any variation in reservoir surface water levels, surface area, mean depth, and water retention time. Categorize general reservoir substrate types. Evaluate any variation in these parameters for possible effects on food producing and fish habitat (cover, nursery) areas and significant changes in the littoral/limnetic zone proportion.

Invertebrates. Kinds and numbers of potential open-water (zooplankton) and bottom (benthos) fish food organisms will be determined. Sampling will occur bi-monthly from April through October during 1985 and 1986. Results will be compared to literature values for determining general reservoir productivity and to findings of fish food habit analyses (described further below).

Zooplankton samples will be collected at the three open-water (mid-channel) reservoir stations. The net will consist of approximately 153 u mesh and will be metered for calculating volume sampled. Replicate (three) tows will be made at each station at a depth of approximately 5 feet. Tow duration will be approximately 5 minutes. Organisms will be preserved, then identified to appropriate taxonomic levels (genus where feasible). Taxa densities will be expressed as number of individuals per cubic meter of water sampled; special note will be made of numbers and kinds of ichthyoplankton present.

Benthic invertebrate samples will be collected at the three open-water and three near-shore stations. Three replicate bottom samples will be collected at each station during each sampling period using an Ekman dredge (or suitable alternative). Samples will be strained, then organisms identified to genus where

feasible. Taxa densities will be expressed as number of individuals per square meter of bottom sampled.

Fisheries. The reservoir fisheries investigation will consist of a series of activities. The first will be sampling with a variety of gears (e.g., variable mesh gill nets, fyke nets, boat electro-shocking, possibly small beach seines) to describe species composition and relative abundance in open-water and near-shore habitats. Sampling will occur monthly from April through October during both 1985 and 1986, and possibly during 1987 if additional data are necessary to determine trout growth rates and densities. These additional data may be especially useful in evaluating fingerling growth rates. The same level of effort will be expended each month to allow monthly and yearly catch comparisons and determine changes in abundance and distribution patterns. The numbers of each species or hybrid present in a catch will be recorded; distinctions will be made between wild and hatchery rainbow trout whenever possible. Lengths and weights from a subsample of each species will be determined for subsequent calculations of fish condition factors. The number of each species within 100-mm length intervals will be recorded to determine length-frequency distributions. Parasitized or diseased fish present in the catch will be noted.

A second fisheries activity will consist of growth and food habit studies on two target species. Wild rainbow trout and kokanee are proposed as target species. Scale samples and stomach contents will be taken from a minimum of ten randomly selected individuals within 100-mm length intervals for each species. Length and weight of each individual will be recorded. It is proposed that stomach contents be sampled bi-monthly from April through October during 1985 and 1986. Food items will be identified to the same taxonomic levels as described for zooplankton and benthos studies and the numbers of each recorded, together with total food volume. Results will be compared to findings of zooplankton and benthos studies. It is proposed that scale samples be collected during mid to late summer following annulus formation in 1985, 1986, and possibly 1987 if additional data are needed to determine growth rates. It is also recommended that scales be collected (as available) from other game fish present in the catch (e.g., brown trout, rainbow and cutthroat hybrids, mountain whitefish). Age-length

relationships and growth rates will be determined and compared to literature values and to known upstream and downstream values.

The final fisheries activity will be a creel census to be conducted concurrent with fish stocking. This is discussed below under the stocking program.

o Stocking Program

No more than four varieties of trout will be stocked in Ashton Reservoir during 1985 and 1986 to potentially provide anglers an attractive sport fishery. Possible varieties which may be stocked include the four cutthroat trout mentioned previously and rainbow trout, which have not been stocked in Ashton Reservoir in the past. It is recommended that catchable-size trout be stocked throughout the primary fishing season at standard stocking rates used by IDFG, and that stocking times b&~ publicized to make anglers aware of the fishing opportunity. It is also recommended that fingerling trout of each variety be stocked (if available) to evaluate their potential to grow to adult sizes at survival rates which would sustain the recreational fishery. The IDFG also recommended stocking catchable rainbow trout to serve as a control group. Stocked fish will be fin-clipped with a mark specific to year stocked (1985 or 1986) and size stocked (catchable or fingerling) to allow a long-term assessment of survival. Condition factors will be determined from length and weight measurements of a subsample of fish prior to stocking.

o Inventory

Two activities will occur concurrent with stocking. The first is a reservoir creel census during both 1985 and 1986 according to the design used by Rohrer (1981). Data will be gathered on reservoir catch and harvest rates for game fish and for each variety of stocked trout, and compared to the catch rate goal of 1.0 fish per hour. Data will also be gathered on percent return to the creel of stocked trout at different intervals during the fishing season. Lengths and weights of creeled stocked fish will be measured and compared to the size goal of 10 to 12 inches. Condition factors will be calculated and compared to pre-stocking values. When possible, stomachs will be removed from creeled stocked fish to determine food

habits, degree of fullness, and utilization of available food items. Results during 1985, and in 1986 for fish stocked in 1986, will provide information on the short-term success of the stocking program. Information in 1986 on fish stocked in 1985 will provide somewhat more long-term data on growth, survival, and catchability of fingerling and catchable cutthroat trout. A decision will be made following the 1986 sampling season on whether additional creel census data should be collected during 1987.

Creel censuses and inventories of fish populations will be conducted upstream and downstream of Ashton Reservoir concurrent with the reservoir creel census. Study results will provide information on the degree and rate of movement of stocked, marked fish out of the reservoir to upstream and downstream river sections. During censuses on both the river and reservoir, anglers will be surveyed to gather their opinions on fishery management alternatives regarding enhancement of Ashton Reservoir.

The final part of the stocking program is actually an integral part of the baseline fisheries investigations described above. Stocked trout will become additional target species. Information on growth, condition, and food habits of each variety will be gathered to assess their chances for providing a valuable recreational fishery in Ashton Reservoir. Presence of young-of-the-year cutthroat trout in samples, for example, will be monitored to determine the possibility of natural reproduction near reservoir headwaters.

o Predict Long-~Term Success

The long-term success of the enhancement plan will be evaluated based on results of the program describing existing conditions and the stocking program. Examination of existing conditions will provide data on whether there are inherent reservoir characteristics which would limit the long-term success of an introduced species. This could be reflected in basic physical-chemical characteristics, the available food supply, or the abundance and health of fish species currently present. Projected long-term success of the stocking program should be

relatively: clear given .current reservoir characteristics and the evaluation period during which both catchable and fingerling trout are introduced.

The reservoir enhancement plan will be considered a success if catch rates of 1.0 fish per hour (at a mean size of 10 to 12 inches) can be forecast on a long-term basis. The possibility of successful natural reproduction and a largely self-sustaining population would make the program especially attractive from both a fisheries management and cost! benefit perspective. The possibility may also exist (perhaps through special catch/release regulations) to develop a trophy fishery for wild rainbow trout and brown trout present in Ashton Reservoir.

If studies indicate desired reservoir catch rates and sizes cannot be achieved on a long-term basis, then suitable alternative off-site enhancement measures will be identified. Off-site enhancement values will be approximately equivalent to the additional recreational fishery use that would occur between the present reservoir catch rate (0.41 fish per hour) and the reservoir catch rate goal (1.0 fish per hour).

o Long-Term Enhancement

The enhancement plan for Ashton Reservoir will continue, using appropriate varieties of cutthroat and possibly rainbow trout, or an appropriate enhancement plan will be implemented at an off-site location. The level of benefits resulting from off-site enhancement will be approximately equivalent to those which would have resulted from attaining enhancement goals in Ashton Reservoir. Long-term enhancement program costs will be developed based on results of reservoir and river investigations. IDFG costs and staff requirements necessary to conduct field investigations and the

[End of specified License inclusion @ Article 402]

Appendix A -1-2

144 FERC ¶ 62,239
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

PacifiCorp
St. Anthony Hydro LLC

Project Nos. 2381-063 and
14552-000

ORDER AMENDING LICENSE, DESIGNATING NEW DOCKET NUMBER, APPROVING TRANSFER OF LICENSE, AND REVISING ANNUAL CHARGES

(Issued September 13, 2013)

1. On June 11, 2013, PacifiCorp (PacifiCorp or transferor), and St. Anthony Hydro LLC (St. Anthony or transferee) (together referred to as applicants) filed a joint application to divide the license for the Ashton – St. Anthony Hydroelectric Project No. 2381 into two licenses and to transfer one license to St. Anthony Hydro LLC. The project is located on the Henry's Fork of the Snake River in Fremont County, Idaho, and includes the Ashton and St. Anthony developments. The St. Anthony development is also located on the Egin Irrigation Canal (Egin Canal), a diversion of the Henry's Fork. The Ashton development occupies 0.39 acres of federal land administered by the Bureau of Land Management. The St. Anthony development does not occupy any federal lands.

Background

2. The Ashton – St. Anthony Project was originally licensed to Utah Power and Light Company on December 19, 1977,[1] and relicensed on August 3, 1987.[2] The project was transferred to PacifiCorp on November 23, 1988.[3] As licensed,[4] the Ashton

[1] *Utah Power & Light Co.* 1 FERC ¶ 61,263 (1977). The license was made effective January 1, 1938, with an expiration date of December 31, 1987.

[2] *Utah Power & Light Co.* 40 FERC ¶ 61,139 (1987). The new license was issued effective January 1, 1988, with an expiration date of December 31, 2027.

[3] *Utah Power & Light Co. and PC/UP&L Merging Corp.*, 45 FERC ¶ 62,145 (1988). The license transfer was a result of a merger of PacifiCorp and Utah Power & Light Corp. into PacifiCorp.

[4] The project description was amended in *Utah Power & Light Co.*, 50 FERC ¶ 62,070 (1990), *PacifiCorp*, 58 FERC ¶ 62,042 (1992), *PacifiCorp*, 65 FERC ¶ 62,146 (1993), and *PacifiCorp*, 66 FERC ¶ 62,198 (1994).

development is comprised of: (a) a 56.6-foot-high, 226-foot-long, earth and rock-filled dam having its downstream slope covered with roller compacted concrete, upstream slope stabilized by additional rock fill, and crest elevation at 5,156.6 mean sea level (msl); (b) two-foot-high flashboards on the dam crest to prevent spillage from reservoir wave-action; (c) an 82-foot-long reinforced concrete spillway surmounted by six 10-foot-high radial gates; (d) a reservoir having a surface area of 404 acres, a gross storage capacity of 9,800 acre-feet and a usable storage capacity of 3,988 acre-feet at normal water surface elevation 5,156.6 feet msl; (e) a reinforced-concrete powerhouse located at the right bank, having integral intakes controlled by vertical slide gates and containing two generating units, each rated at 2,000 kW, and one generating unit rated at 2,850 kW; (f) a tailrace; (g) a 46/2.3-kV step-up transformer; (h) a 133-foot-long, 46-kV transmission line; (i) a 2,160-foot-long access road; and (j) appurtenant facilities.

3. The St. Anthony development is comprised of: (a) a 375.2-foot-long concrete overflow diversion dam that is approximately 6.5 feet high with a crest elevation of 4,952.5 feet msl. The crest is formed by a 152.9-foot-long concrete ogee section and by a 1.0-foot-high, 169.3-foot-long timber section. The dam also includes a 31-foot-wide stoplog section and fish passage section at the left abutment; (b) a 41-foot-wide reinforced-concrete canal intake structure; (c) a 35-foot-wide, 1,350-foot-long power and irrigation canal; (d) an irrigation canal headworks structure; (e) a 16-foot-wide, 145-foot-long screened and rubber-lined wooden-box flume having an overflow spillway and an ice chute; (f) a reinforced concrete powerhouse containing one generating unit rated at 500-kW; (g) a tailrace; (h) the 2.3-kV generator leads; and (i) appurtenant facilities.

4. The turbine at the St. Anthony development has not been operational since 2002 when the turbine shaft coupling failed. PacifiCorp states that continued operation of the facility is no longer an economically viable option for it. PacifiCorp has been providing the Commission's Division of Dam Safety and Inspections – Portland Regional Office with quarterly reports that include options on the rebuilding, decommissioning, or sale of the St. Anthony development since 2003.

Proposed Action

5. The Applicants propose to divide the two developments, remove the St. Anthony development from the original license, and transfer it to a separate license issued to St. Anthony Hydro LLC. The separation of the two noncontiguous developments does not include any alteration to project works, nor will approval of the division of the two developments and the transfer result in any lands or waters being added to or deleted from the developments.

6. St. Anthony Hydro LLC plans to restore the St. Anthony development. Attachment B of the application includes a detailed plan with work items that will be completed to restore the turbine and return the St. Anthony development to an operational

state. The estimated capital cost to return the project to operation is $800,000. Attachment C of the application includes a bank statement and letter of credit worthiness demonstrating that St. Anthony Hydro LLC has adequate financial resources to fund the rehabilitation work.

Public Notice

7. The Commission issued a public notice of the application on July 12, 2013, that established August 12, 2013, as the deadline to file comments, motions to intervene, and protests. The State of Idaho filed a timely notice of intervention on July 25, 2013.[5] No other comments, motions to intervene, or protests were received.

Discussion

A. License Amendment and Separate License

8. The license amendment would separate the Ashton and St. Anthony developments, leaving the Ashton development under the existing license, and creating a separate license for the St. Anthony development, with a new docket number. The license for the new St. Anthony Project will include all of the terms and conditions of the existing license that are applicable to that development. The two projects are not connected either physically or operationally, and the separation would not require any changes to project works. I will approve the separation of the two developments into two licenses as described below.

B. Transfer of the St. Anthony Project.

9. The separate St. Anthony Project license would be transferred to St. Anthony Hydro LLC as applicable to the two developments. None of the terms of the license for the Ashton – St. Anthony Project will be changed (although, as discussed below, we will add some new requirements in the St. Anthony Project license). The licenses for each of the new, separate projects will include those terms of the current license that are applicable to each project.[6] A transfer of license does not authorize any deviation from the terms and conditions of the existing license.

---

[5] By filing a timely notice of intervention, the State of Idaho is a party by operation of Rule 214(a)(2) of the Commission's Rules of Practice and Procedure. 18 C.F.R.§ 385.214(a)(2) (2013)

[6] In other words, all of the general terms and conditions of the current license will be included in both of the new licenses. Terms and conditions that are applicable to specific project works will be included in the license for the project that includes those

(continued)

10. PacifiCorp has complied fully with the terms and conditions of the license, with the exception of allowing the St. Anthony development to remain non-operational since 2002, and has agreed to pay charges attributable to the St. Anthony Project until the date of the transfer. St. Anthony Hydro LLC is qualified to hold a license and operate the properties under the license, and agrees to accept and be bound by all of the terms and conditions of the license as though it was the original licensee. The owner of St. Anthony Hydro LLC currently owns or manages the operation of nine hydroelectric plants ranging in size from 290 kW to 7.5 megawatts.[7] These projects have generally complied with the terms and conditions of the existing licenses or exemptions. This order includes several additional requirements for the St. Anthony Project that aim to ensure the project becomes operational in a reasonable time frame and to protect the environment and public safety in the event that the project does not become operational. By accepting the transfer St. Anthony Hydro LLC agrees that the failure to satisfy these requirements will be taken as its intention to surrender the project and that the Commission may terminate the license through implied surrender.

11. This action does not authorize new construction or any change in project operations other than that already approved in the license for the Ashton – St. Anthony Project. St. Anthony Hydro LLC's rehabilitation of the St. Anthony Project consists only of restoring the turbines and related equipment within the project powerhouse. The Commission's regulations provide that neither an environmental assessment nor an environmental impact statement need be prepared for a license transfer, and the rehabilitation work will have no environmental consequences that would require analysis. Accordingly, there is no need to prepare an environmental document in this proceeding.[8] In light of the facts discussed herein, the proposed actions are consistent with the Commission's regulations and are in the public interest.

C. Ashton License (Project No. 2381)

12. The Ashton license includes only the Ashton development of the prior Ashton – St. Anthony license, and includes the articles of the license as modified by this order.

13. Exhibits A, F, and G of the Ashton license will need to be revised to reflect the separation and removal of the St. Anthony development. PacifiCorp must revise the

---

works.

[7] FERC Project Nos. 3574 (Tiber Dam), 5637 (Pancheri), 6552 (North Fork Sprague River), 7194 (Birch Creek), 8438 (Schaffner), 9134 (Dry Creek), 10468 (Marsh Valley), 12597 (Lower Turnbull Drop), and 12598 (Upper Turnbull Drop).

[8] 18 C.F.R. § 380.4(a)(8) (2013).

exhibits to accurately reflect the project name, project number, and licensee. This order requires PacifiCorp to file for Commission approval, revised Exhibits A, F, and G, that reflect the administrative changes approved by this order and conform to sections 4.39 and 4.41 of the Commissions regulations. PacifiCorp should also take this opportunity to verify all information on the exhibits is accurate and make revisions, if necessary.

14. The Commission collects annual charges from licensees for administration of the Federal Power Act (FPA) and, where applicable, use and occupancy of U.S. lands. The Ashton Project occupies 0.39 acres of federal land administered by the Bureau of Land Management. Article 201 provides for the collection of funds for administration of the FPA and use and occupancy of U.S. lands. This order revises Article 201 of the Ashton license to reflect the correct installed capacity of the Ashton Project of 6,850 kW.[9]

D. St. Anthony License (Project No. 14552)

15. The St. Anthony license includes only the St. Anthony development of the prior Ashton – St. Anthony license and includes the requirements set forth in this order. While some of the requirements of the articles set forth below have been satisfied by the transferor and the articles may have no outstanding requirements, the articles will remain part of the St. Anthony license.

16. St. Anthony Hydro LLC must file revised Exhibits A, F, and G for Commission approval that reflect the administrative changes approved by this order and conform to sections 4.39 and 4.41 of the Commissions regulations. The exhibits must accurately reflect the project name, project number, and licensee. St. Anthony Hydro LLC should also take this opportunity to verify all information on the exhibits is accurate and make revisions, if necessary.

17. The application includes a detailed plan to return the St. Anthony Project to operation. While this plan is acceptable, the applicant did not provide a schedule. This order requires St. Anthony Hydro LLC to re-file its plan and a supplemental schedule when it files plans and specifications with the Commission's Division of Dam Safety and Inspection – Portland Regional Engineer.

18. The Commission collects annual charges from licensees for administration of the FPA. Article 201 provides for the collection of funds for administration of the FPA. The authorized installed capacity for the St. Anthony Project is 500 kW. Under the

[9] The application identifies the authorized installed capacity for the Ashton-St. Anthony Project as 9,600 horsepower (hp). The Commissioned issued an order on November 16, 1993, that revised the capacity to 9,800 hp. The Commission currently uses kilowatts measurement to determine annual charges. 18 C.F.R. § 11.1 (2013).

regulations currently in effect, projects with authorized installed capacity of less than or equal to 1,500 kW, like this project, will not be assessed an annual charge.

The Director orders:

(A) The applicants' request to separate the two developments in Project No. 2381 into two licenses is approved, as described by this order.

(B) The transfer of the license for the St. Anthony Project No. 14552 (formerly the St. Anthony development of the Ashton – St. Anthony Project No. 2381), from PacifiCorp to St. Anthony Hydro LLC is approved. The license to operate and maintain the St. Anthony Project has an expiration date of December 31, 2027, and is subject to the terms and conditions of the FPA, which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the FPA.

(C) PacifiCorp shall pay all annual charges for the St. Anthony Project No. 14552 (formerly the St. Anthony development of the Ashton – St. Anthony Project 2381), that accrue up to the effective date of the transfer to St. Anthony Hydro LLC.

(D) Approval of the transfer of the St. Anthony Project No 14552 (formerly the St. Anthony development of the Ashton – St. Anthony Project 2381), from PacifiCorp to St. Anthony Hydro LLC is contingent upon: (1) transfer of title of the properties under license, transfer of all project files including all dam safety related documents, and delivery of all license instruments to St. Anthony Hydro LLC, which shall be subject to the terms and conditions of the license as though it were the original licensee for that development; and (2) St. Anthony Hydro LLC acknowledging acceptance of this order and its terms and conditions by signing and returning the attached acceptance sheet. Within 60 days from the date of this order, St. Anthony Hydro LLC shall submit certified copies of all instruments of conveyance and the signed acceptance sheet.

(E) Project No. 2381, formerly known as the Ashton – St. Anthony Project, is now the Ashton Project.

(F) The project description for the Ashton Project No. 2381 set forth in ordering paragraph (B)(2) of the August 3, 1987 Order Issuing New License (Major Project—Existing Dam),[10] is revised to read as follows:

[10] The project description was amended in *Utah Power & Light Co.*, 50 FERC ¶ 62,070 (1990), *PacifiCorp*, 58 FERC ¶ 62,042 (1992), *PacifiCorp*, 65 FERC ¶ 62,146 (1993), and *PacifiCorp*, 66 FERC ¶ 62,198 (1994).

Project works consisting of: (a) a 56.6-foot-high, 226-foot-long, earth and rock-filled dam having its downstream slope covered with roller compacted concrete, upstream slope stabilized by additional rock fill, and crest elevation at 5,156.6 mean sea level (msl); (b) two-foot-high flashboards on the dam crest to prevent spillage from reservoir wave-action; (c) an 82-foot-long reinforced concrete spillway surmounted by six 10-foot-high radial gates; (d) a reservoir having a surface area of 404 acres, a gross storage capacity of 9,800 acre-feet and a usable storage capacity of 3,988 acre-feet at normal water surface elevation 5,156.6 feet msl; (e) a reinforced-concrete powerhouse located at the right bank, having integral intakes controlled by vertical slide gates and containing two generating units, each rated at 2,000 kW, and one generating unit rated at 2,850 kW; (f) a tailrace; (g) a 46/2.3-kV step-up transformer; (h) a 133-foot-long, 46-kV transmission line; (i) a 2,160-foot-long access road; and (j) appurtenant facilities.

(G) The following exhibits are deleted from the Ashton Project No. 2381:

Exhibit	FERC Drawing No.	Title
F-10	2381-55	Dam and Fish Passage Structure - Plan, Profile and Details
F-11	2381-41	Canal Intake and Wasteway - Plans, Elevation and Sections
F-12	2381-61	General Design Drawing
F-13	2381-43	Powerhouse – Plan
F-14	2381-44	Powerhouse – Sections
F-15	2381-45	Powerhouse – Elevations
G-7	2381-56	Project Location Map - Project Works and Principal Features

(H) The licensee for the Ashton Project No. 2381 shall file, within 60 days from the effective date of the transfer, revised Exhibits A, F, and G, for Commission approval. The revised exhibits shall reflect the administrative changes approved by this order and confirm to sections 4.39 and 4.41 of the Commissions regulations.

(I) Articles 403, 407, and 409 are deleted from the license for the Ashton Project No. 2381.

(J) Articles 201 and 404 of the license for the Ashton Project No. 2381 are revised to read as follows:

Article 201. The licensee shall pay the United States the following annual charges, as determined in accordance with the provisions of the Commission's regulations in effect from time to time:

(a) effective as of the issuance date of this order, to reimburse the United States for the cost of administration of Part I of the Federal Power Act. The authorized installed capacity for that purpose is 6,850 kW.

(b) effective as of the issuance date of this order, for the purpose of recompensing the United States for the use, occupancy, and enjoyment of 0.39 acres of its lands, a reasonable annual charge as determined by the Commission in accordance with its regulations, in effect from time to time.

Article 404. The licensee, after consultation with the Idaho Department of Fish and Game and the U.S. Fish and Wildlife Service, shall develop a monitoring plan to evaluate turbine-induced injury and mortality to fish resources at the Ashton Project. Within six months from the effective date of the license, the licensee shall file a copy of the monitoring plan, along with any comments from the above agencies on the plan, and a schedule for filing the results of the monitoring program. The Commission reserves the right to require modifications to the plan and the schedule.

The results of the monitoring shall be submitted to the Commission according to the approved schedule, along with any comments from the consulted agencies. If the results of the monitoring indicate that measures are necessary to minimize adverse effects to fish resources, the licensee also shall provide, for Commission approval, its recommendations for mitigation measures and a schedule for implementing the measures, along with comments from the above agencies on the recommended measures. Measures to be considered by the licensee shall include, but need not be limited to, screening the intakes, providing an equivalent offsite enhancement of a wild trout population, providing supplemental stocking, and providing other nonscreening alternatives, such as behavior barriers, to minimize and compensate for any fish losses. At the same time, copies of the schedule shall be served upon the agencies consulted. The Commission reserves the right to require the licensee to undertake measures different than those recommended by the licensee and to make changes in the implementation schedule.

(K) The St. Anthony Project No. 14552 shall consist of the following:

(1) All lands, to the extent of the licensee's interests in those lands, enclosed by the project boundary shown by Exhibit G.

(2) Project works consisting of: (a) a 375.2-foot-long concrete overflow diversion

dam that is approximately 6.5 feet high with a crest elevation of 4,952.5 feet msl. The crest formed by a concrete ogee section extending a length of 152.9 feet and by a 1.0-foot-high timber section extending a length of 169.3 feet. The dam, including a 31-foot-wide stoplog section and a fish passage section at the left abutment; (b) a 41-foot-wide reinforced-concrete canal intake structure; (c) a 35-foot-wide, 1,350-foot-long power and irrigation canal; (d) an irrigation canal headworks structure; (e) a 16-foot-wide, 145-foot-long screened and rubber-lined wooden-box flume having an overflow spillway and an ice chute; (f) a reinforced concrete powerhouse containing a 500-kW generating unit; (g) a tailrace; (h) the 2.3-kV generator leads; and (i) appurtenant facilities.

The project works generally described above are more specifically shown and described by Exhibits A and F.

(L) The following sections of the Federal Power Act are waived and excluded from the license for the St. Anthony Project No. 14552: 4(b), except the second sentence; 4(e), insofar as it relates to approval of plans by the Chief of Engineers, and the Secretary of the Army; 6, insofar as it relates to public notice and to the acceptance and expression in the license of terms and conditions of the Act that are waived here; 10(c), insofar as it relates to depreciation reserves; 10(d); 10(f); 14, except insofar as the power of condemnation is reserved; 15; 16; 19; 20; and 22.

(M) The license for the St. Anthony Project No. 14552 shall be subject to the articles set forth in Form L-12 (October 1975), entitled "Terms and Conditions of License for Constructed Minor Project Affecting the Interests of Interstate or Foreign Commerce" and attached to this order. The license is also subject to the following additional articles:

Article 201. The licensee shall pay the United States the following annual charges, as determined in accordance with the provisions of the Commission's regulations in effect from time to time: effective as of the issuance date of this order, to reimburse the United States for the cost of administration of Part I of the Federal Power Act. The authorized installed capacity for that purpose is 500 kW. Under the regulations currently in effect, projects with authorized installed capacity of less than or equal to 1,500 kW will not be assessed an annual charge.

Article 202 (formerly Article 203 of the Ashton Project No. 2381). The Commission reserves the authority to order upon its own motion or upon the recommendation of federal or state fish and wildlife agencies or affected Indian tribes, alterations of project structures and operations to take into account to the fullest extent practicable the regional fish and wildlife program developed pursuant to the Pacific Northwest Electric Power Planning and Conservation Act.

Article 203 (formerly Article 204 of the Ashton Project No. 2381). The licensee

for the St. Anthony Project No. 14552 shall file, within 60 days from the effective date of the transfer, revised Exhibits A, F, and G, for Commission approval. The revised exhibits shall reflect the administrative changes approved by this order and confirm to sections 4.39 and 4.41 of the Commission's regulations.

Article 301. The licensee shall start construction of the proposed work authorized in this order within one year and complete construction within three years from the effective date of the transfer. Failure to commence construction within one year from the issuance date of this order, or complete construction within three years from the issuance date of this order, will be considered intent to surrender the project and the Commission may terminate the license by implied surrender.

Article 302. At least 60 days prior to the start of construction, the licensee shall submit one copy of its plans and specifications and supporting design document to the Commission's Division of Dam Safety and Inspections (D2SI)–Portland Regional Engineer, and two copies to the Commission (one of these shall be a courtesy copy to the Director, Division of Dam Safety and Inspections). The submittal must also include as part of preconstruction requirements: a Quality Control and Inspection Program, a Temporary Construction Emergency Action Plan, a Soil Erosion and Sediment Control Plan, and a Restoration Plan and Schedule. The licensee may not begin construction until the D2SI-Portland Regional Engineer has reviewed and commented on the plans and specifications, determined that all preconstruction requirements have been satisfied, and authorized start of construction.

Article 303. Should construction require cofferdams or deep excavations, the licensee shall: (1) review and approve the design of contractor-designed cofferdams and deep excavations prior to the start of construction; and (2) shall ensure that construction of cofferdams and deep excavations is consistent with the approved design. At least 30 days before starting construction of any cofferdams or deep excavations, the licensee shall submit one copy to the Commission's Division of Dam Safety and Inspections (D2SI)-Portland Regional Engineer and two copies to the Commission (one of these copies shall be a courtesy copy to the Commission's Director, D2SI), of the approved cofferdam and deep excavation construction drawings and specifications, and the letters of approval.

Article 304. Within 90 days of completion of construction of the facilities authorized by this order, the licensee shall file for Commission approval, revised Exhibits A, F, and G, as applicable, to describe and show those project facilities as built. A courtesy copy shall be filed with the Commission's Division of Dam Safety and Inspections (D2SI)–Portland Regional Engineer, the Director, D2SI, and the Director, Division of Hydropower Administration and Compliance.

Article 305. Within 60 days from the effective date of the transfer, the licensee shall submit one copy to the Commission's Division of Dam Safety and Inspections (D2SI)-Portland Regional Engineer and two copies to the Commission (one of these copies shall be a courtesy copy to the Commission's Director, D2SI) of a Public Safety Plan. The plan shall include an evaluation of public safety concerns at the project site, including designated recreation areas, and assess the need for the installation of safety devices or other safety measures. The submitted plan should include a description of all public safety devices and signage, as well as a map showing the location of all public safety measures. For guidance on preparing public safety plans the licensee can review the Guidelines for Public Safety at Hydropower Projects on the FERC website.

Article 306. Within 60 days from the effective date of the transfer, the licensee shall submit one copy to the Commission's Division of Dam Safety and Inspections (D2SI)-Portland Regional Engineer and two copies to the Commission (one of these copies shall be a courtesy copy to the Commission's Director, D2SI) of an Emergency Action Plan (EAP). The plan should be in accordance with Part 12, Subpart C of the Commission's Regulations and Chapter 6 of the Commission's Engineering Guidelines. If applicable, the licensee may ask for an exemption from filing an EAP in accordance with Subpart 12.21 of the Commission's Regulations.

Article 307. The licensee shall file, within 120 days from the effective date of the transfer, a Financial Assurance Plan, for Commission approval. The plan shall identify that the licensee has the funds necessary to operate and maintain the project, and identify those project facilities that would be removed, secured in-place, or otherwise modified to ensure public safety and any other measures needed to protect environmental resources in the event the licensee cannot complete project restoration or is unable to operate the project once restoration is completed. The plan must include, at a minimum, financial statements, including a balance sheet, income statement, and a statement of actual or estimated cash flows over the license term which provide evidence that the licensee has sufficient assets, credit, and projected revenues to cover project operation and maintenance expenses, and any other estimated project liabilities and expenses. The financial statements must be prepared in accordance with generally accepted accounting principles and signed by an independent certified public accountant. The plan shall also include an itemized cost estimate, prepared by a registered engineer, for those project facilities that would be removed, secured in-place, or otherwise modified in the event the licensee cannot complete project restoration or is unable to operate the project once construction is completed.

Subsequent to Commission approval of the Financial Assurance Plan, the licensee shall file documentation that the licensee has obtained a bond or equivalent financial instrument that ensures the licensee has the financial means necessary to implement the Financial Assurance Plan. The implementation of the plan and the determination of

measures necessary to render the site safe for the public and to protect environmental resources shall be at the direction of the Commission. The licensee shall maintain the bond or equivalent financial instrument throughout the term of the license. The licensee shall file annually by January 1 of each year a report documenting that the bond or equivalent financial instrument will remain in effect for the ensuing year.

Article 401 (formerly Article 403 of the Ashton Project No. 2381). The licensee shall consult with the Idaho Department of Fish and Game and the U.S. Fish and Wildlife Service and, within six months from the effective date of the license, file with the Commission, for approval, functional design drawings of fish passage facilities for the Egin Irrigation Canal diversion dam at the St. Anthony Project, and a plan to monitor the operation of the fish passage facilities. The filing shall include documentation of agency consultation and any agency comments on the drawings and monitoring plan. The Commission reserves the right to require changes in the design of the fish passage facilities and in the monitoring plan. The licensee shall file as-built drawings with the Commission within three months after completion of the construction of the fish passage facilities.

Article 402 (formerly Article 404 of the Ashton Project No. 2381). The licensee, after consultation with the Idaho Department of Fish and Game and the U.S. Fish and Wildlife Service, shall develop a monitoring plan to evaluate turbine-induced injury and mortality to fish resources at the St. Anthony Project. Within six months from the effective date of the license, the licensee shall file a copy of the monitoring plan, along with any comments from the above agencies on the plan, and a schedule for filing the results of the monitoring program. The Commission reserves the right to require modifications to the plan and the schedule.

The results of the monitoring shall be submitted to the Commission according to the approved schedule, along with any comments from the consulted agencies. If the results of the monitoring indicate that measures are necessary to minimize adverse effects to fish resources, the licensee also shall provide, for Commission approval, its recommendations for mitigation measures and a schedule for implementing the measures, along with comments from the above agencies on the recommended measures. Measures to be considered by the licensee shall include, but need not be limited to, screening the intakes, providing an equivalent offsite enhancement of a wild trout population, providing supplemental stocking, and providing other nonscreening alternatives, such as behavior barriers, to minimize and compensate for any fish losses. At the same time, copies of the schedule shall be served upon the agencies consulted. The Commission reserves the right to require the licensee to undertake measures different than those recommended by the licensee and to make changes in the implementation schedule.

Article 403 (formerly Article 407 of the Ashton Project No. 2381). The licensee,

after consultation with the City of St. Anthony, and within one year from the effective date of the license, shall repair or replace those portions of the diversion structure and retaining wall at the St. Anthony Project necessary to prevent flooding conditions at Keefer Park. Further, the licensee shall continue to maintain the above facilities during the license period.

Article 404 (formerly Article 408 of the Ashton Project No. 2381). If the licensee discovers any previously unidentified archeological or historic sites during the course of constructing or developing project works or other facilities at the project, the licensee shall stop all construction and development activities in the vicinity of the sites and shall consult a qualified cultural resources specialist and the SHPO concerning the eligibility of the sites for listing in the National Register of Historic Places and any measures needed to avoid the sites or to mitigate effects on the sites. If the licensee and the SHPO cannot agree on the amount of money to be spent for project-specific archeological and historical purposes, the Commission reserves the right to require the licensee to conduct the necessary work at the licensee's own expense.

Article 405 (formerly Article 409 of the Ashton Project No. 2381). The licensee, within one year from the effective date of the license, and after consultation with the U.S. Fish and Wildlife Service, the Idaho Department of Fish and Game, and the Idaho Board of Water Resources, shall prepare and file with the Commission a detailed, site specific plan to minimize the quantity of sediment or other potential water pollutants resulting from construction of fish passage facilities at the Egin Irrigation Canal diversion dam. The plan shall address, among other things, measures to contain sediment, to filter sediment-laden discharges, and to store and dispose of excess sediment and other spoil materials. The plan shall also include functional design drawings and map locations of control measures, an implementation schedule, monitoring and maintenance programs for construction of these facilities, provisions for periodic review of the plan and for making any necessary revisions to the plan.

Documentation of consultation with agencies during preparation of the plan, and a summary of agency comments and recommendations, must be included in the filing. In the event that the licensee does not concur with any agency recommendations, the licensee shall provide a discussion of the reasons for not concurring, based on actual site geological, soil, and groundwater conditions. The Commission reserves the right to require changes to the plan. Unless the Director, Office of Energy Projects, within 90 days from the filing date instructs otherwise, the licensee may commence instream construction or spoil-producing activities associated with installation of fish passage facilities at the Egin Irrigation Canal diversion dam at the end of that period.

Article 406 (formerly Article 410 of the Ashton Project No. 2381). (a) In accordance with the provisions of this article, the licensee shall have the authority to

grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain other types of use and occupancy, without prior Commission approval. The licensee may exercise the authority only if the proposed use and occupancy is consistent with the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the licensee shall also have continuing responsibility to supervise and control the uses and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed, under this article. If a permitted use and occupancy violates any condition of this article or any other condition imposed by the licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the licensee shall take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, cancelling the permission to use and occupy the project lands and waters and requiring the removal of any noncomplying structures and facilities.

(b) The types of use and occupancy of project lands and waters for which the licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) noncommercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 watercraft at a time and where said facility is intended to serve single-family type dwellings; and (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline. To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the uses and occupancies for which it grants permission are maintained in good repair and comply with applicable state and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the licensee shall: (1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the reservoir shoreline.

To implement this paragraph (b), the licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the licensee's costs of administering the permit program. The Commission reserves the right to require the licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

(c) The licensee may convey easements or rights-of-way across, or leases of, project lands for: (1) replacement, expansion, realignment, or maintenance of bridges and roads for which all necessary state and federal approvals have been obtained; (2) storm drains and water mains; (3) sewers that do not discharge into project waters; (4) minor access roads; (5) telephone, gas, and electric utility distribution lines; (6) non-project overhead electric transmission lines that do not require erection of support structures within the project boundary; (7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69-kV or less); and (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project reservoir. No later than January 31 of each year, the licensee shall file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed.

(d) The licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality certificates or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) nonproject overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 watercraft at a time and are located at least one-half mile from any other private or public marina; (6) recreational development consistent with an approved Exhibit R or approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from the edge of the project reservoir at normal maximum surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year. At least 45 days before conveying any interest in project lands under this paragraph (d), the licensee must submit a letter to the Director, Office of Energy Projects, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked Exhibit G or K map may be used), the nature of the proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use. Unless the Director, within 45 days from the filing date, requires the licensee to file an application for prior approval, the licensee may convey the intended interest at the end of that period.

(e) The following additional conditions apply to any intended conveyance under paragraph (c) or (d) of this article:

(1) Before conveying the interest, the licensee shall consult with federal and state fish and wildlife or recreation agencies, as appropriate, and the State Historic Preservation Officer.

(2) Before conveying the interest, the licensee shall determine that the proposed use of the lands to be conveyed is not inconsistent with any approved Exhibit R or approved report on recreational resources of an Exhibit E; or, if the project does not have an approved Exhibit R or approved report on recreational resources, that the lands to be conveyed do not have recreational value.

(3) The instrument of conveyance must include covenants running with the land adequate to ensure that: (i) the use of the lands conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; and (ii) the grantee shall take all reasonable precautions to ensure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project.

(4) The Commission reserves the right to require the licensee to take reasonable remedial action to correct any violation of the terms and conditions of this article, for the protection and enhancement of the project's scenic, recreational, and other environmental values.

(f) The conveyance of an interest in project lands under this article does not in itself change the project boundaries. The project boundaries may be changed to exclude land conveyed under this article only upon approval of revised Exhibit G or K drawings (project boundary maps) reflecting exclusion of that land. Lands conveyed under this article will be excluded from the project only upon a determination that the lands are not necessary for project purposes, such as operation and maintenance, flowage, recreation, public access, protection of environmental resources, and shoreline control, including shoreline aesthetic values. Absent extraordinary circumstances, proposals to exclude lands conveyed under this article from the project shall be consolidated for consideration when revised Exhibit G or K drawings would be filed for approval for other purposes.

(g) The authority granted to the licensee under this article shall not apply to any part of the public lands and reservations of the United States included within the project boundary.

(N) The licensee for the St. Anthony Project No. 14552 shall serve copies of any Commission filing required by this order on any entity specified in the order to be consulted on matters relating to that filing. Proof of service on these entities must accompany the filing with the Commission.

(O) This order constitutes final agency action. Any party may file a request for rehearing of this order within 30 days from the date of its issuance, as provided in section 313(a) of the Federal Power Act, 16 U.S.C. § 825*l* (2012), and the Commission's regulations at 18 C.F.R. § 385.713 (2013). The filing of a request for rehearing does not operate as a stay of the effective date of this order, or of any other date specified in this order. Failure to file a request for rehearing shall constitute acceptance of this order.

Charles K. Cover, P.E.
Chief, Project Review Branch
Division of Hydropower Administration
and Compliance

Form L-12
(October, 1975)

FEDERAL ENERGY REGULATORY COMMISSION

TERMS AND CONDITIONS OF LICENSE FOR CONSTRUCTED MINOR PROJECT AFFECTING THE INTERESTS OF INTERSTATE OR FOREIGN COMMERCE

Article 1. The entire project, as described in this order of the Commission, shall be subject to all of the provisions, terms, and conditions of the license.

Article 2. No substantial change shall be made in the maps, plans, specifications, and statements described and designated as exhibits and approved by the Commission in its order as a part of the license until such change shall have been approved by the Commission: Provided, however, That if the Licensee or the Commission deems it necessary or desirable that said approved exhibits, or any of them, be changed, there shall be submitted to the Commission for approval a revised, or additional exhibit or exhibits covering the proposed changes which, upon approval by the Commission, shall become a part of the license and shall supersede, in whole or in part, such exhibit or exhibits theretofore made a part of the license as may be specified by the Commission.

Article 3. The project area and project works shall be in substantial conformity with the approved exhibits referred to in Article 2 herein or as changed in accordance with the provisions of said article. Except when emergency shall require for the protection of navigation, life, health, or property, there shall not be made without prior approval of the Commission any substantial alteration or addition not in conformity with the approved plans to any dam or other project works under the license or any substantial use of project lands and waters not authorized herein; and any emergency alteration, addition, or use so made shall thereafter be subject to such modification and change as the Commission may direct. Minor changes in project works, or in uses of project lands and waters, or divergence from such approved exhibits may be made if such changes will not result in a decrease in efficiency, in a material increase in cost, in an adverse environmental impact, or in impairment of the general scheme of development; but any of such minor changes made without the prior approval of the Commission, which in its judgment have produced or will produce any of such results, shall be subject to such alteration as the Commission may direct.

Article 4. The project, including its operation and maintenance and any work incidental to additions or alterations authorized by the Commission, whether or not conducted upon lands of the United States, shall be subject to the inspection and

supervision of the Regional Engineer, Federal Energy Regulatory Commission, in the region wherein the project is located, or of such other officer or agent as the Commission may designate, who shall be the authorized representative of the Commission for such purposes. The Licensee shall cooperate fully with said representative and shall furnish him such information as he may require concerning the operation and maintenance of the project, and any such alterations thereto, and shall notify him of the date upon which work with respect to any alteration will begin, as far in advance thereof as said representative may reasonably specify, and shall notify him promptly in writing of any suspension of work for a period of more than one week, and of its resumption and completion. The Licensee shall submit to said representative a detailed program of inspection by the Licensee that will provide for an adequate and qualified inspection force for construction of any such alterations to the project. Construction of said alterations or any feature thereof shall not be initiated until the program of inspection for the alterations or any feature thereof has been approved by said representative. The Licensee shall allow said representative and other officers or employees of the United States, showing proper credentials, free and unrestricted access to, through, and across the project lands and project works in the performance of their official duties. The Licensee shall comply with such rules and regulations of general or special applicability as the Commission may prescribe from time to time for the protection of life, health, or property.

Article 5. The Licensee, within five years from the date of issuance of the license, shall acquire title in fee or the right to use in perpetuity all lands, other than lands of the United States, necessary or appropriate for the construction maintenance, and operation of the project. The Licensee or its successors and assigns shall, during the period of the license, retain the possession of all project property covered by the license as issued or as later amended, including the project area, the project works, and all franchises, easements, water rights, and rights or occupancy and use; and none of such properties shall be voluntarily sold, leased, transferred, abandoned, or otherwise disposed of without the prior written approval of the Commission, except that the Licensee may lease or otherwise dispose of interests in project lands or property without specific written approval of the Commission pursuant to the then current regulations of the Commission. The provisions of this article are not intended to prevent the abandonment or the retirement from service of structures, equipment, or other project works in connection with replacements thereof when they become obsolete, inadequate, or inefficient for further service due to wear and tear; and mortgage or trust deeds or judicial sales made thereunder, or tax sales, shall not be deemed voluntary transfers within the meaning of this article.

Article 6. The Licensee shall install and thereafter maintain gages and stream-gaging stations for the purpose of determining the stage and flow of the stream or streams on which the project is located, the amount of water held in and withdrawn from storage, and the effective head on the turbines; shall provide for the required reading of such gages and for the adequate rating of such stations; and shall install and maintain standard meters

adequate for the determination of the amount of electric energy generated by the project works. The number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, shall at all times be satisfactory to the Commission or its authorized representative. The Commission reserves the right, after notice and opportunity for hearing, to require such alterations in the number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, as are necessary to secure adequate determinations. The installation of gages, the rating of said stream or streams, and the determination of the flow thereof, shall be under the supervision of, or in cooperation with, the District Engineer of the United States Geological Survey having charge of stream-gaging operations in the region of the project, and the Licensee shall advance to the United States Geological Survey the amount of funds estimated to be necessary for such supervision, or cooperation for such periods as may be mutually agreed upon. The Licensee shall keep accurate and sufficient records of the foregoing determinations to the satisfaction of the Commission, and shall make return of such records annually at such time and in such form as the Commission may prescribe.

Article 7. The Licensee shall, after notice and opportunity for hearing, install additional capacity or make other changes in the project as directed by the Commission, to the extent that it is economically sound and in the public interest to do so.

Article 8. The Licensee shall, after notice and opportunity for hearing, coordinate the operation of the project, electrically and hydraulically, with such other projects or power systems and in such manner as the Commission may direct in the interest of power and other beneficial public uses of water resources, and on such conditions concerning the equitable sharing of benefits by the Licensee as the Commission may order.

Article 9. The operations of the Licensee, so far as they affect the use, storage and discharge from storage of waters affected by the license, shall at all times be controlled by such reasonable rules and regulations as the Commission may prescribe for the protection of life, health, and property, and in the interest of the fullest practicable conservation and utilization of such waters for power purposes and for other beneficial public uses, including recreational purposes, and the Licensee shall release water from the project reservoir at such rate in cubic feet per second, or such volume in acre-feet per specified period of time, as the Commission may prescribe for the purposes hereinbefore mentioned.

Article 10. On the application of any person, association, corporation, Federal agency, State or municipality, the Licensee shall permit such reasonable use of its reservoir or other project properties, including works, lands and water rights, or parts thereof, as may be ordered by the Commission, after notice and opportunity for hearing, in the interests of comprehensive development of the waterway or waterways involved and the conservation and utilization of the water resources of the region for water supply or for the purposes of steam-electric, irrigation, industrial, municipal or similar uses. The Licensee shall receive

reasonable compensation for use of its reservoir or other project properties or parts thereof for such purposes, to include at least full reimbursement for any damages or expenses which the joint use causes the Licensee to incur. Any such compensation shall be fixed by the Commission either by approval of an agreement between the Licensee and the party or parties benefiting or after notice and opportunity for hearing. Applications shall contain information in sufficient detail to afford a full understanding of the proposed use, including satisfactory evidence that the applicant possesses necessary water rights pursuant to applicable State law, or a showing of cause why such evidence cannot concurrently be submitted, and a statement as to the relationship of the proposed use to any State or municipal plans or orders which may have been adopted with respect to the use of such waters.

Article 11. The Licensee shall, for the conservation and development of fish and wildlife resources, construct, maintain, and operate, or arrange for the construction, maintenance, and operation of such reasonable facilities, and comply with such reasonable modifications of the project structures and operation, as may be ordered by the Commission upon its own motion or upon the recommendation of the Secretary of the Interior or the fish and wildlife agency or agencies of any State in which the project or a part thereof is located, after notice and opportunity for hearing.

Article 12. Whenever the United States shall desire, in connection with the project, to construct fish and wildlife facilities or to improve the existing fish and wildlife facilities at its own expense, the Licensee shall permit the United States or its designated agency to use, free of cost, such of the Licensee's lands and interests in lands, reservoirs, waterways and project works as may be reasonably required to complete such facilities or such improvements thereof. In addition, after notice and opportunity for hearing, the Licensee shall modify the project operation as may be reasonably prescribed by the Commission in order to permit the maintenance and operation of the fish and wildlife facilities constructed or improved by the United States under the provisions of this article. This article shall not be interpreted to place any obligation on the United States to construct or improve fish and wildlife facilities or to relieve the Licensee of any obligation under this license.

Article 13. So far as is consistent with proper operation of the project, the Licensee shall allow the public free access, to a reasonable extent, to project waters and adjacent project lands owned by the Licensee for the purpose of full public utilization of such lands and waters for navigation and for outdoor recreational purposes, including fishing and hunting: Provided, That the Licensee may reserve from public access such portions of the project waters, adjacent lands, and project facilities as may be necessary for the protection of life, health, and property.

Article 14. In the construction, maintenance, or operation of the project, the Licensee shall be responsible for, and shall take reasonable measures to prevent, soil

erosion on lands adjacent to streams or other waters, stream sedimentation, and any form of water or air pollution. The Commission, upon the request or upon its own motion, may order the Licensee to take such measures as the Commission finds to be necessary for these purposes, after notice and opportunity for hearing.

Article 15. The Licensee shall clear and keep clear to an adequate width lands along open conduits and shall dispose of all temporary structures, unused timber, brush, refuse, or other material unnecessary for the purposes of the project which results from the clearing of lands or from the maintenance or alteration of the project works. In addition, all trees along the periphery of project reservoirs which may die during operations of the project shall be removed. All clearing of the lands and disposal of the unnecessary material shall be done with due diligence and to the satisfaction of the authorized representative of the Commission and in accordance with appropriate Federal, State, and local statutes and regulations.

Article 16. If the Licensee shall cause or suffer essential project property to be removed or destroyed or to become unfit for use, without adequate replacement, or shall abandon or discontinue good faith operation of the project or refuse or neglect to comply with the terms of the license and the lawful orders of the Commission mailed to the record address of the Licensee or its agent, the Commission will deem it to be the intent of the Licensee to surrender the license. The Commission, after notice and opportunity for hearing, may require the Licensee to remove any or all structures, equipment and power lines within the project boundary and to take any such other action necessary to restore the project waters, lands, and facilities remaining within the project boundary to a condition satisfactory to the United States agency having jurisdiction over its lands or the Commission's authorized representative, as appropriate, or to provide for the continued operation and maintenance of nonpower facilities and fulfill such other obligations under the license as the Commission may prescribe. In addition, the Commission in its discretion, after notice and opportunity for hearing, may also agree to the surrender of the license when the Commission, for the reasons recited herein, deems it to be the intent of the Licensee to surrender the license.

Article 17. The right of the Licensee and of its successors and assigns to use or occupy waters over which the United States has jurisdiction, or lands of the United States under the license, for the purpose of maintaining the project works or otherwise, shall absolutely cease at the end of the license period, unless the Licensee has obtained a new license pursuant to the then existing laws and regulations, or an annual license under the terms and conditions of this license.

Article 18. The terms and conditions expressly set forth in the license shall not be construed as impairing any terms and conditions of the Federal Power Act which are not expressly set forth herein.

IN TESTIMONY of its acknowledgment of acceptance of all of the terms and conditions of this order, _____ this _____ day of _____, 20___, has caused its corporate name to be signed hereto by _____ _____, its President, and its corporate seal to be affixed hereto and attested by _____ its Secretary, pursuant to a resolution of its Board of Directors duly adopted on the _____ day of _____, 20____, a certified copy of the record of which is attached hereto.

By_____

Attest:

_____
Secretary
(Executed in triplicate

Appendix A-2.1-1

Plots of reservoir elevation and downstream flows

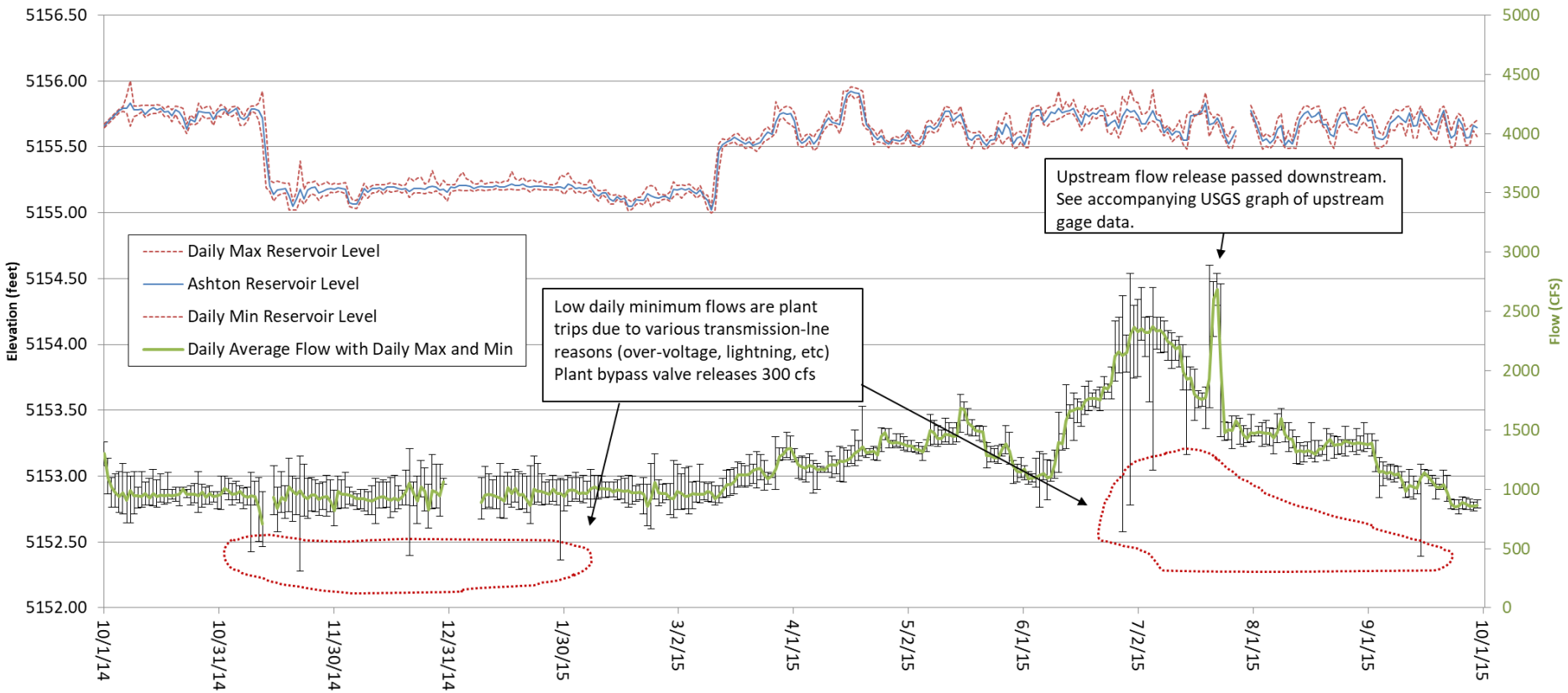
The following series of plots of reservoir elevations and downstream gage data is presented for each of the past 5 water years (October 1, 2014 to September 30, 2019). The upper half and the left axis of the graphs show the daily reservoir elevation data (average, maximum, minimum) and the lower half and the right axis of the graph show the corresponding daily flow data from the downstream gage.

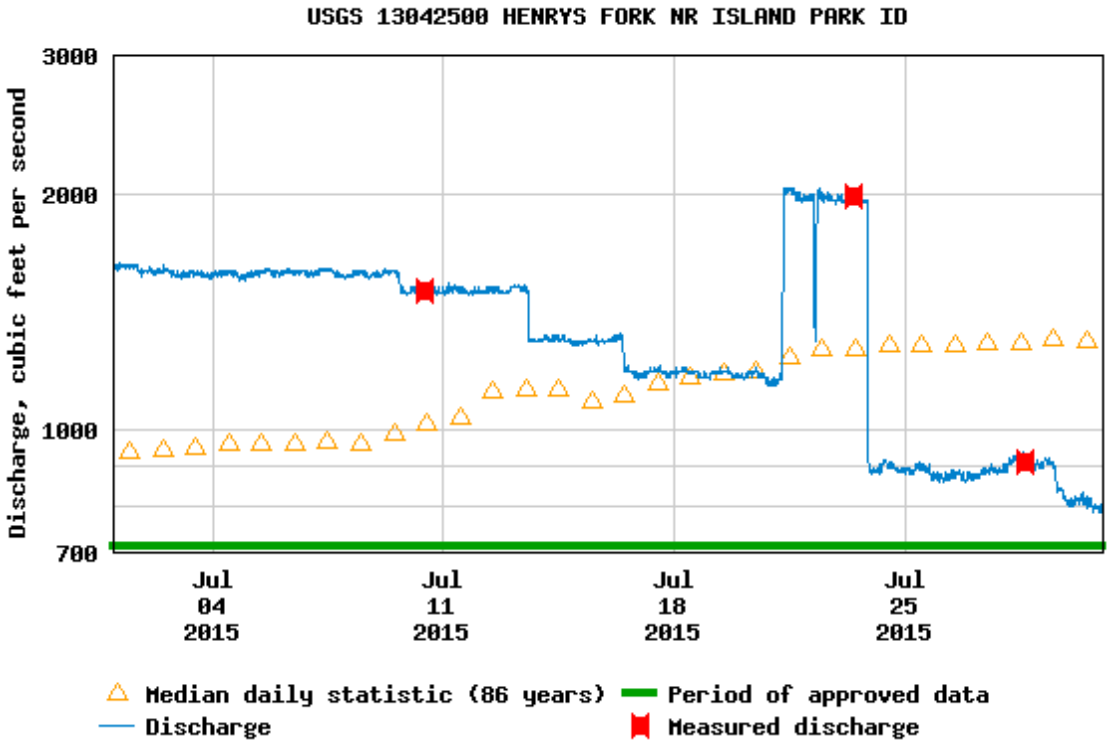
The reservoir elevation plots show that the water surface was held to a reasonably consistent level in order to pass run-of-river flows. During the last few years, the target reservoir elevation level was set to approximately 5155.55 ft (PacifiCorp datum) for the summer months and around 5155.05 ft (PacifiCorp datum) for the winter months.

The downstream gage plots generally reflect the variability of inflows to the Project because the reservoir elevation is kept relatively constant. Sudden increases in flows recorded on the downstream gage plot sometimes correspond to releases of water from sources that are far upstream as shown on the Island Park gage (see example noted on the 2015 plot on pages 2 and the upstream hydrograph on page 3).

The downstream gage plots also show instances when the Ashton plant tripped offline (lowest flow brackets for the range of daily flow). During these unplanned outages, an emergency bypass valve automatically opens to provide 300 cfs. The downstream gage data confirm that a flow of at least 300 cfs flow was maintained during these unplanned events.

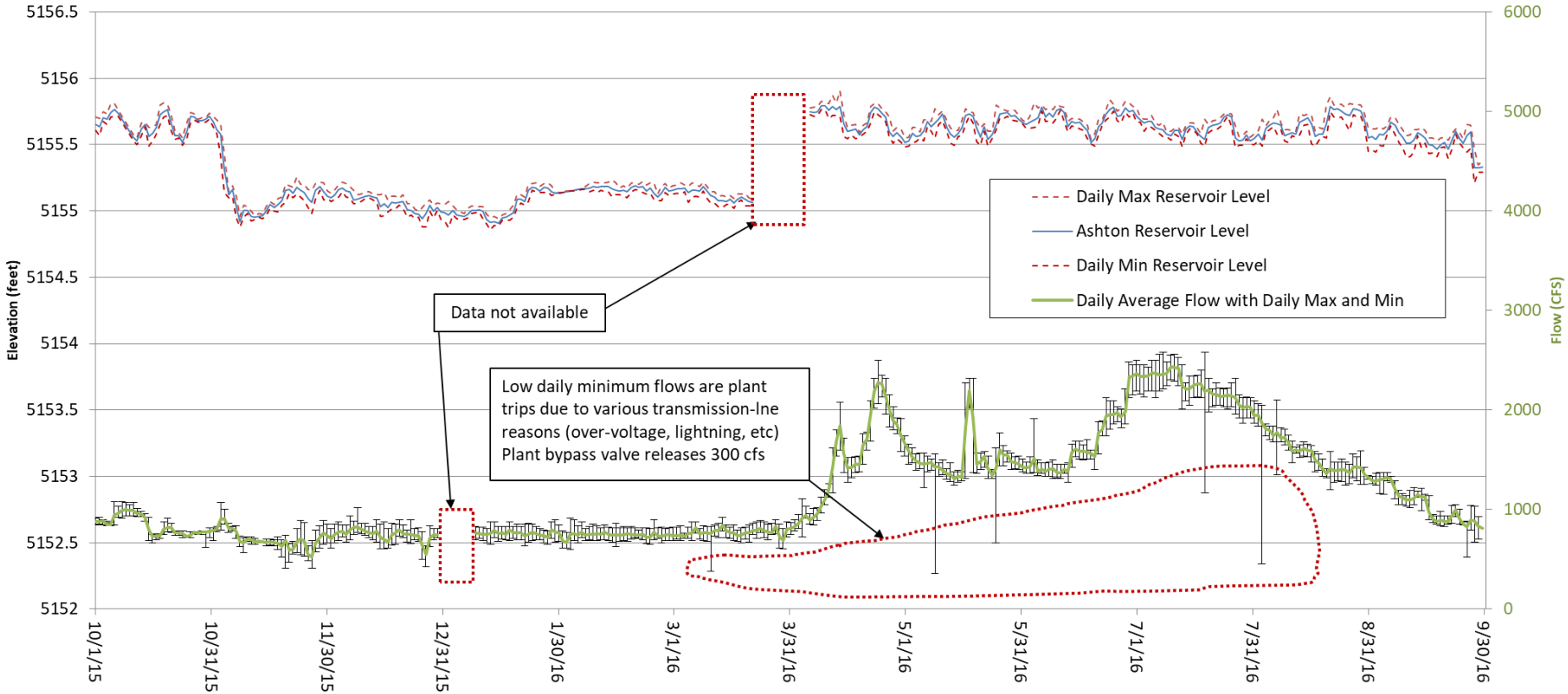
ASHTON HYDROELECTRIC PROJECT - FERC No. 2381
ASHTON RESERVOIR ELEVATION VS. STREAM FLOW BELOW DAM
WATER YEAR 2015



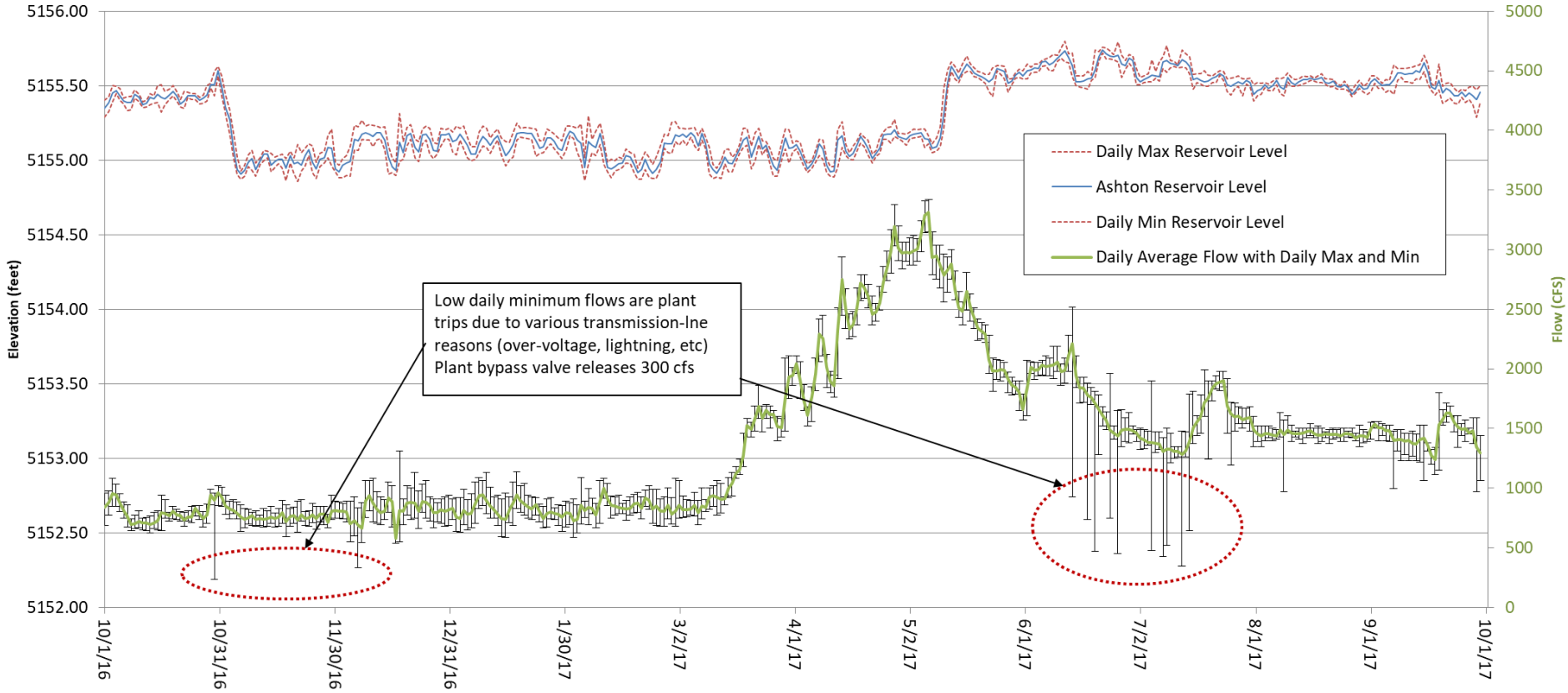


Hydrograph of upstream gage showing that the unusual period of high flow in July 2015, as noted on previous figure, was due to an upstream release. Similar events occurred in May 2016, May 2018, and June 2019.

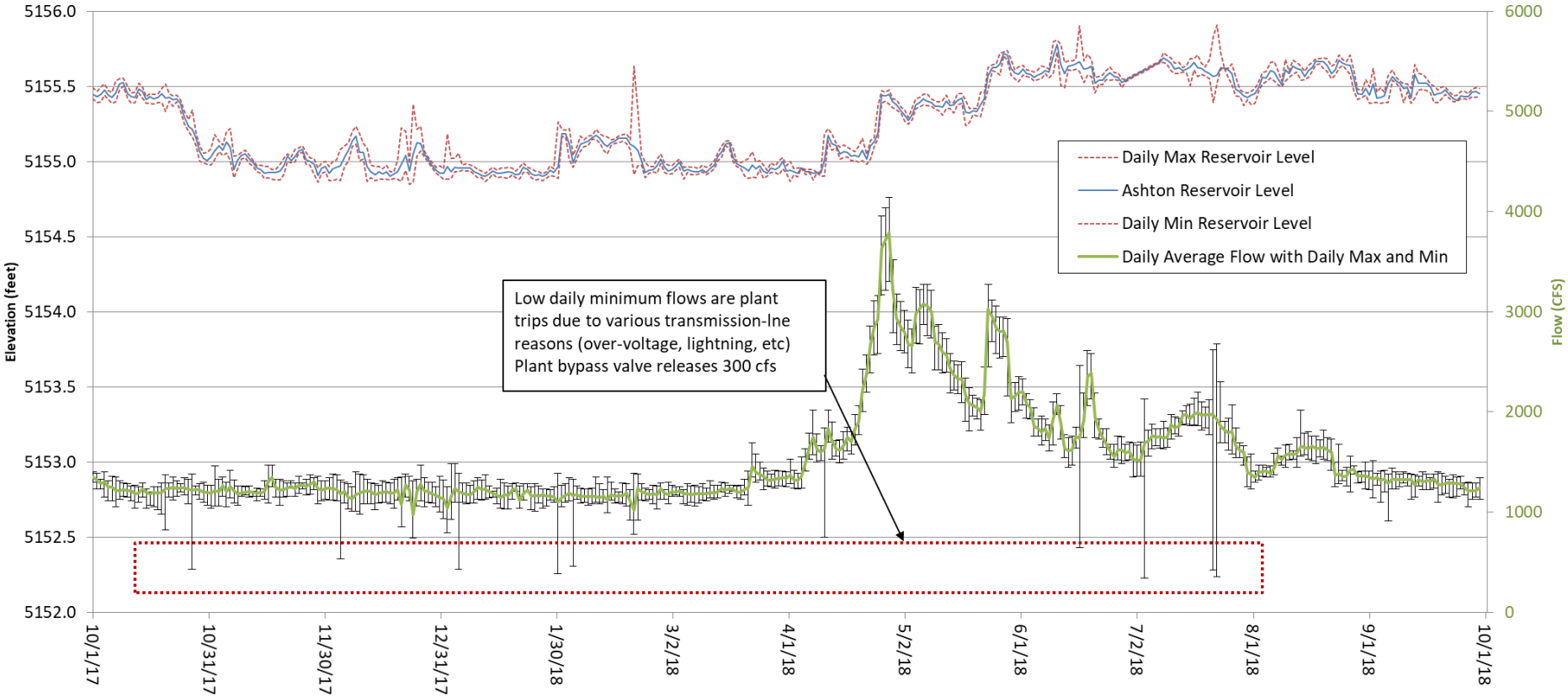
ASHTON HYDROELECTRIC PROJECT - FERC No. 2381
ASHTON RESERVOIR ELEVATION VS. STREAM FLOW BELOW DAM
WATER YEAR 2016



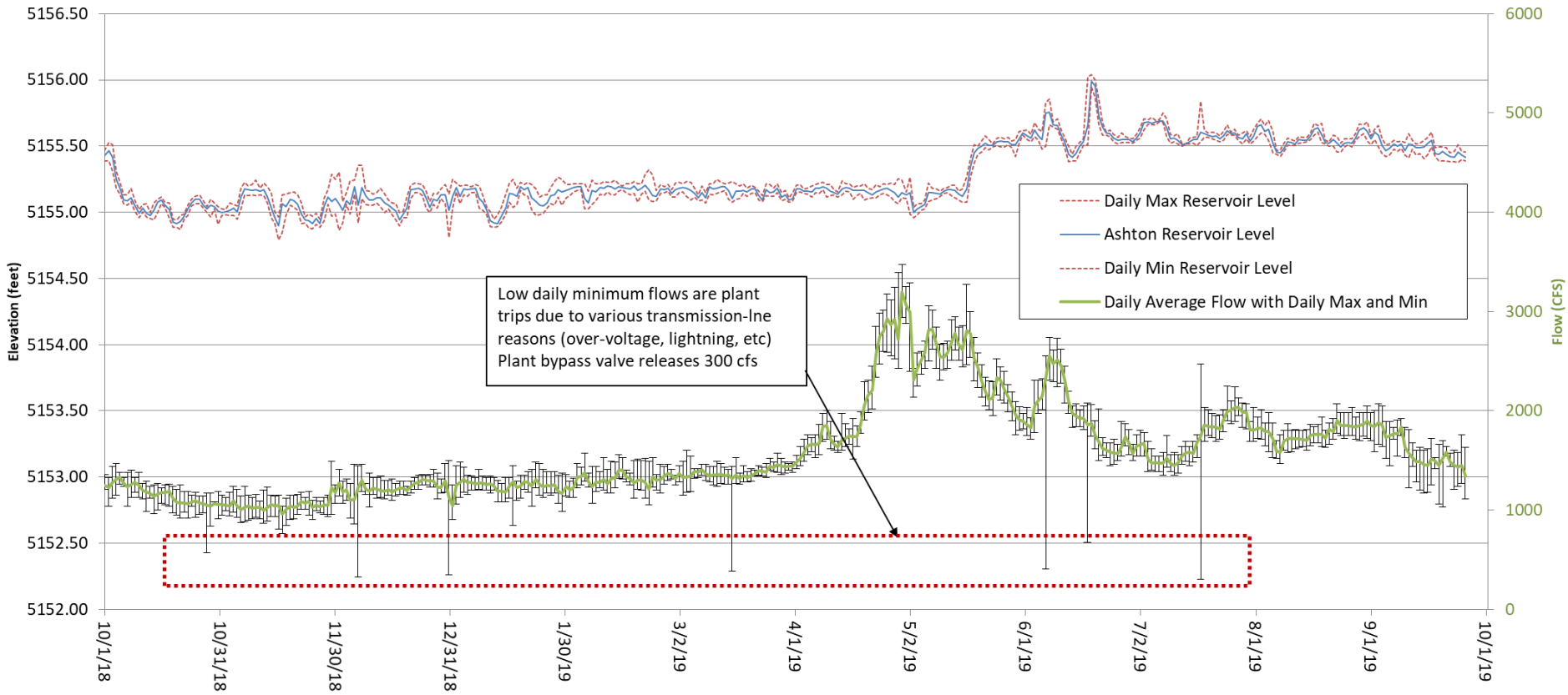
ASHTON HYDROELECTRIC PROJECT - FERC No. 2381
ASHTON RESERVOIR ELEVATION VS. STREAM FLOW BELOW DAM
WATER YEAR 2017



ASHTON HYDROELECTRIC PROJECT - FERC No. 2381
ASHTON RESERVOIR ELEVATION VS. STREAM FLOW BELOW DAM
WATER YEAR 2018



ASHTON HYDROELECTRIC PROJECT - FERC No. 2381
ASHTON RESERVOIR ELEVATION VS. STREAM FLOW BELOW DAM
WATER YEAR 2019



2016 Integrated Report - Category 5: (§303(d) list)

ID17040105SK008_04	Crow Creek - Deer Creek to border	10.44	MILES

Sedimentation/Siltation

Selenium — 10/23/2015 (GM) - Crow Creek was sampled near the lower end of this reach in 2010 through 2014, resulting in selenium concentrations of 0.00766, 0.00217, 0.00781, 0.0124 and 0.0128 mg/L, respectively. Given that the selenium criterion has been exceeded in 4 of these 5 years, DEQ has listed this AU as impaired by selenium.

ID17040105SK009_02	North Fork Sage Creek	12.45	MILES

Selenium — 11/4/2015 (GM) - The selenium concentration downstream of the confluence with Pole Creek was 0.041 mg/L in May of 1998. This exceeds the selenium criterion of 0.005 mg/L (Idaho Mining Association Selenium Subcommittee Final 1998 Regional Investigation Report, December 1999).

ID17040105SK009_02c	Sage Creek	1.81	MILES

Combined Biota/Habitat Bioassessments

ID17040105SK009_02d	Pole Canyon Creek	3.62	MILES

Selenium

ID17040105SK009_02e	South Fork Sage Creek	7.95	MILES

Combined Biota/Habitat Bioassessments — 1/20/10 - Added based on failing BURP score in 2006.

Selenium — Listing based on May 24, 2007 "Supplemental Surface Water Monitoring Data Transmittal" from Newfields.

ID17040105SK009_03	Sage Creek - confluence with North Fork Sage Creek to mouth	3.22	MILES

Selenium

ID17040105SK011_03	Rock Creek	3.46	MILES

Combined Biota/Habitat Bioassessments

ID17040105SK012_02a	Little Elk Creek	8.38	MILES

Sedimentation/Siltation

ID17040105SK012_03	Spring Creek	1.22	MILES

Combined Biota/Habitat Bioassessments

17040201 Idaho Falls

ID17040201SK013_02	Snake River - river mile 856 to Dry Bed Creek	20.4	MILES

Combined Biota/Habitat Bioassessments

17040202 Upper Henrys

ID17040202SK022_02	Moose Creek - source to confluence with Henrys Fork	18.98	MILES

Combined Biota/Habitat Bioassessments

ID17040202SK025_02	Henrys Lake Outlet - Henrys Lake Dam to mouth	34.14	MILES

Combined Biota/Habitat Bioassessments

ID17040202SK030_02	Twin Creek - source to mouth	8.57	MILES

Combined Biota/Habitat Bioassessments

ID17040202SK035_03	Timber Creek - source to mouth	3.37	MILES

Escherichia coli

17040203 Lower Henrys

ID17040203SK007_02	Conant Creek - Idaho/Wyoming border to mouth	45.25	MILES

Combined Biota/Habitat Bioassessments

ID17040203SK007_03	Conant Creek - Idaho/Wyoming border to mouth	19.42	MILES

Combined Biota/Habitat Bioassessments

ID17040203SK013_04	Sand Creek - Pine Creek to mouth	9.96	MILES

Combined Biota/Habitat Bioassessments

17040204 Teton

ID17040204SK011_02	Warm Creek - source to mouth	5.78	MILES

Combined Biota/Habitat Bioassessments

Fecal Coliform

ID17040204SK034_02	Warm Creek - source to mouth	17.61	MILES

Combined Biota/Habitat Bioassessments

Fecal Coliform

ID17040204SK046_02	Dick Creek spring complex	3.59	MILES

Combined Biota/Habitat Bioassessments

ID17040204SK048_02	Teton Creek - Idaho/Wyoming border to Highway 33 bridge	7.29	MILES

Combined Biota/Habitat Bioassessments

17040205 Willow

ID17040201SK007_05	Crow Creek - source to Willow Creek	9.24	MILES

Sedimentation/Siltation

ID17040205SK005_02	Willow Creek - Birch Creek to Bulls Fork	57.45	MILES

Combined Biota/Habitat Bioassessments

ID17040205SK005_04	Willow Creek - Birch Creek to Bulls Fork	2.3	MILES

Temperature, water

ID17040205SK008_02	Willow Creek - Mud Creek to Birch Creek	27.77	MILES

Combined Biota/Habitat Bioassessments

Escherichia coli

Appendix A - 2.2-2

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

900 North Skyline, Suite B • Idaho Falls, ID 83402 • (208) 528-2650

C. L. "Butch" Otter, Governor
Curt A. Fransen, Director

March 3, 2014

Mark Stenberg
PacifiCorp Energy
Hydro License Program Manager – Idaho
822 Grace Power Plant Road
Grace, ID 83241

RE: Water Quality Monitoring Report for Low Impact Hydroelectric Institute Certification

Dear Mark:

On January 21, 2014, the Idaho Department of Environmental Quality (DEQ) received the above referenced report and a request from PacifiCorp Energy ("PacifiCorp") to confirm recent remedial actions taken at the Ashton Dam were completed in compliance with Idaho Water Quality Standards ("WQS").

The actions at the Ashton Dam site did not contribute to an exceedence of WQS post-action or during routine operations for the period reported, 2010-2013. While WQS for temperature were exceeded during some of those times, the Ashton Dam demonstrated a net cooling effect for the river, somewhat mitigating higher temperatures observed above the dam.

Upon a thorough review of the January 2014 report, DEQ agrees with PacifiCorp that the project has little to no negative impacts on WQS. Further, DEQ believes this letter may serve as PacifiCorp's compliance with Part D from its Low Impact Hydroelectric Institute Certification.

Please feel free to direct any comments or questions to me at troy.saffle@deq.idahgo.gov or 208.528.2650.

Thank you

for Troy Saffle
Regional Manager
Idaho Falls Regional Office

Appendix A-2.4-1

PACIFIC POWER UTAH POWER

Pacific Power
920 S.W. Sixth Avenue
Portland, Oregon 97204
(503) 464-5000
Fax: (503) 464-5209

PACIFICORP
ELECTRIC OPERATIONS GROUP

September 27, 1990

Ms. Lois D. Cashell
Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, N.E.
Washington, D.C. 20426

Dear Ms. Cashell:

Attached is a report of the Turbine Induced Fish Mortality Study that was conducted for the Ashton - St. Anthony Project, FERC No. 2381. This study was conducted in compliance with license article 404 and the study plan approved by the Commission on September 29, 1988. A time extension to October 1, 1990 was subsequently granted by the Commission.

The report identifies the fish resource and evaluates the turbine-induced injury and mortality at the project. The study concludes that the project does not present a significant risk of fish entrainment and subsequent turbine-induced losses. The findings confirm the earlier Environmental Assessment prepared by the Commission.

Review comments were received this week from the Idaho Department of Fish and Game and the U.S. Fish and Wildlife Service and are included in the report appendix.

The original report and 14 copies accompany this letter.

Very truly yours,

S. A. deSousa
Director, Hydro Resources

SdeS:mve
Attachments

cc: Mr. C.L. Emmerling
FERC - San Francisco

Mr. C. Lobdell
USFWS - Boise, Idaho

Mr. J. Conley
IDF&G - Boise, Idaho

Region 6
IDF&G - Idaho Falls, Idaho

bc: Haycock - PSB/SLC
Atwood - 900 PFFC
Burruss - GO #3306
Johnson, L.S. - PSB/SLC
Landolt - 900 PFFC
Robinson/Johnson, P. - PSB/SLC
Weiss - 800 PFFC
Williams - GO #339
HE&L File 5602.2

IDAHO FISH & GAME
600 South Walnut / Box 25
Boise, Idaho 83707

Appendix A-2.4-2

September 27, 1990

Mr. Jim Burrus
Utah Power and Light Co.
1407 West North Temple
Salt Lake City, UT 84140

Re: Ashton-St. Anthony Hydroelectric Project
FERC No. 2381
Turbine Mortality Studies

Dear Mr. Burrus:

Idaho Department of Fish and Game (Department) personnel have reviewed the turbine mortality studies for Ashton-St. Anthony Hydro Projects, FERC No. 2381, as prepared by Ecosystem Research Institute. We will provide a copy of this letter to the FERC for review of License Article 404 for FERC Project No. 2381.

Ashton Dam

The study provides a very limited review of the literature and concludes that Article 402 of the license requires development of a fishery enhancement plan for Ashton Dam, which would "compensate any fishery at risk due to the turbine-induced mortality." Department personnel have agreed to this concept in the license. However, as of September 1, 1990, an acceptable enhancement plan has not been proposed. Until we receive such a plan, the mortality issue at Ashton cannot be dismissed.

St. Anthony

In general, we believe the study contains errors in analysis and presents questionable assumptions. Based on the literature review provided in the study and research conducted by the Department, we believe mortalities for fish greater than 200mm in length will exceed 10 percent. We believe mortalities may range up to 40 percent, with 20-30 percent representing a more reasonable figure. Table 2-2 only provides data from 16 of the 66 research studies listed in the literature review. We request a similar display for those other studies. As stated in the report, "few studies have been done for fish over 200mm in size." We believe it would be appropriate to include the additional studies in Table 2-2.

A regression of the data points from Figure 2.1 should be completed, and correlation coefficient provided, if these data were used in determining the 8-10 percent mortality rate for the St. Anthony project. Also note that for peripheral runner velocity of 60 ft/sec, mortalities for juveniel steelhead ranged up to near 30 percent. Again, this is an estimate for fish less than 200mm in length.

The study does not demonstrate a cause-and-effect relationship between temperature, plant operation and plant production. In fact, behavior of the fish may have a much greater affect on entrainment than the above criteria. The study incorrectly assumes that trout will not move in the winter. Recent studies have shown that salmonids remain active through the winter. Data presented in Figure 3-5 indicate movements of fish in October, contrary to conclusions presented in the study on page 30. In addition, winter movement may be more closely associated with the canal bottom, which lies in the hydroacoustic blind zone.

Study data which indicates decreases and increases of 163 to 60 percent in estimated population numbers, leads us to conclude that trout in the study area are extremely mobile and not a "resident trout population" residing in the canal. Figure 3-8 indicates 79 percent of the fish greater than 150mm were new, unmarked fish from the March to October estimates. One must assume that a large number of fish move through the canal, and that no measure of the exchange in numbers through the canal of "new" fish between the March and October estimates is possible. In addition, all fish captured during the estimate of 10/26/89 were released upstream of the Egin Canal in the Henrys Fork. Therefore, the 4/6/90 sampling can be used only to document winter movement of fish back into the canal.

In past meetings and in correspondence from the U.S. Fish and Wildlife Service and the Department, UP&L has been asked to define the "blind zone" that exist in the hydroacoustic monitoring and to perform additional studies to determine if fish differentially use the areas immediately adjacent to the walls or bottom of the canal. The studies have not been documented. Further, the "blind zones" are treated as a constant with the monitored portion of the canal. Studies of salmonid movement indicates movement of fish in close proximity to the shore line and the bottom substrate. Therefore, we believe treating the blind zones as a constant with the remainder of the canal could underestimate the numbers of fish in the canal.

Past sampling in the Egin Canal has provided estimates that something in excess of one thousand trout enter the canal in a given year. UP&L has given the hypothesis that trout will avoid the power canal because of higher velocities there than in the irrigation canal. We have UP&L to provide velocity mapping of the irrigation canal intake to compare to the power canal.

The model used to provide estimates of fish entrainment appears to have some serious errors.

1. Actual data must be provided for the entire year to eliminate the K_1 expansion. K_1 probably underestimates unmonitored period due to lack of detection in blind zones and false assumption that fish will not move in winter.

2. $O_N/T_N * K_2 = 1$. We can see no reason to complicate the formula with this calculation. Also, this calculation will eliminate rather then expand the blind zone impact. K_2 will also underestimate the fish associated with the nondetection zone.

3. Sc should represent total fish population, not just sonar contacts.

4. P_t value used is incorrect due to use of 4/6/90 estimate.

5. P_m value used is incorrect. Based on literature, 30 percent would be more realistic.

In addition, whitefish are classified as a game fish in Idaho and are members of the salmonid family. Therefore, losses of whitefish should be included in the calculation. Should we use some of the data presented in the study, we would estimate that:

$M_t = S_o * K_1 * P_t * P_m$
$M_t = (3615 * .75) * 1.49 * .30 + 1211.9$

We would then consider this to be a conservative estimate and a significant loss, which would warrant screening.

In conclusion, the Department strongly disagrees with the position that the projected losses of wild game fish are not significant in the St. Anthony Canal. Thousands of game fish annually enter the power canal, and these fish represent potential losses to the sport fishery. We conclude measures to prevent entrainment into the power canal are warranted based on the long-term losses represented by the term of the license. In the case of Ashton Reservoir, we agree that fish mortalities are to be compensated by provision in License Article 402. Unfortunately, provisions of the article have not been implemented.

Sincerely,

Dale E. Toweill

Dale E. Toweill, Acting Chief
Bureau of Program Coordination

DET:WR:tlv

cc: USFWS (Lobdell)
Reg. 6
FERC (Cashell)

Idaho Fish and Wildlife Information System - Species Diverstiy Database
Species and County Occurrences

Appendix A-2.6-1

County	Scientific_Name	Common_Name	GRank	SRank	USFS_R1	USFS_R4	USFS_R6	BLM	USESA	IDAPA	SGCN	Category
Fremont	Coccyzus americanus	Yellow-billed Cuckoo	G5	S1B		Sensitive		1	Threatened	Protected Nongame	Yes	Bird
Fremont	Lynx canadensis	Canada Lynx	G5	SNA		Threatened		1	Threatened	Threatened	Yes	Mammal
Fremont	Spiranthes diluvialis	Ute Ladies' Tresses	G2G3	S1				1	Threatened		No	Plant
Fremont	Gulo gulo	Wolverine	G4	S1	Sensitive	Sensitive		2	Proposed	Protected Nongame	Yes	Mammal
Fremont	Falco peregrinus	Peregrine Falcon	G4	S2B					Delisted	Protected Nongame	Yes	Bird
Fremont	Haliaeetus leucocephalus	Bald Eagle	G5	S5	Sensitive	Sensitive		2	Delisted	Protected Nongame	Yes	Bird
Fremont	Ursus arctos	Grizzly Bear or Brown Bear	G4	S2		Sensitive		1	Delisted	Big Game	Yes	Mammal
Fremont	Pinus albicaulis	Whitebark Pine	G3G4	S3	Sensitive	Sensitive	Sensitive	2	Candidate		No	Plant
Fremont	Acanthis flammea	Common Redpoll	G5	S3N						Protected Nongame	No	Bird
Fremont	Accipiter	Bird Hawks									No	Bird
Fremont	Accipiter cooperii	Cooper's Hawk	G5	S4						Protected Nongame	No	Bird
Fremont	Accipiter gentilis	Northern Goshawk	G5	S3		Sensitive		2		Protected Nongame	No	Bird
Fremont	Accipiter striatus	Sharp-shinned Hawk	G5	S4				0		Protected Nongame	No	Bird
Fremont	Actitis macularius	Spotted Sandpiper	G5	S3B						Protected Nongame	No	Bird
Fremont	Aechmophorus									Protected Nongame	No	Bird
Fremont	Aechmophorus clarkii	Clark's Grebe	G5	S2B				0		Protected Nongame	Yes	Bird
Fremont	Aechmophorus occidentalis	Western Grebe	G5	S2B				0		Protected Nongame	Yes	Bird
Fremont	Aegolius acadicus	Northern Saw-whet Owl	G5	S4				0		Protected Nongame	No	Bird
Fremont	Aegolius funereus	Boreal Owl	G5	S1		Sensitive				Protected Nongame	Yes	Bird
Fremont	Agelaius phoeniceus	Red-winged Blackbird	G5	S5				0		Protected Nongame	No	Bird
Fremont	Aglais milberti	Milbert's Tortoiseshell	G5	S5							No	Arthropod
Fremont	Agoseris lackschewitzii	Pink Agoseris	G4	S2		Sensitive		4			No	Plant
Fremont	Aix sponsa	Wood Duck	G5	S4B,S4N						Game Bird Migratory	No	Bird
Fremont	Alces americanus	Moose	G5	S3						Big Game	No	Mammal
Fremont	Ambystoma mavortium	Western Tiger Salamander	G5	S4						Protected Nongame	No	Amphibian
Fremont	Ameletus sparsatus	A Mayfly	G4	S3							Yes	Arthropod
Fremont	Ammodramus savannarum	Grasshopper Sparrow	G5	S3B				2		Protected Nongame	Yes	Bird
Fremont	Amphispiza bilineata	Black-throated Sparrow	G5	S2B				2		Protected Nongame	No	Bird
Fremont	Anas - Teal spp.	Unclassified Teal									No	Bird
Fremont	Anas acuta	Northern Pintail	G5	S4B,S4N						Game Bird Migratory	Yes	Bird
Fremont	Anas americana	American Wigeon	G5	S4B,S4N				0		Game Bird Migratory	No	Bird
Fremont	Anas clypeata	Northern Shoveler	G5	S4B,S4N				0		Game Bird Migratory	No	Bird
Fremont	Anas crecca	Green-winged Teal	G5	S4B,S3N						Game Bird Migratory	No	Bird
Fremont	Anas cyanoptera	Cinnamon Teal	G5	S3B				0		Game Bird Migratory	No	Bird
Fremont	Anas discors	Blue-winged Teal	G5	S2B				0		Game Bird Migratory	No	Bird
Fremont	Anas penelope	Eurasian Wigeon	G5	S1N						Game Bird Migratory	No	Bird
Fremont	Anas platyrhynchos	Mallard	G5	S4B,S4N						Game Bird Migratory	No	Bird
Fremont	Anas strepera	Gadwall	G5	S3				0		Game Bird Migratory	No	Bird
Fremont	Anatidae - Duck spp.	Unclassified Duck									No	Bird
Fremont	Anaxyrus boreas	Western Toad	G4	S2	Sensitive	Sensitive		2		Protected Nongame	No	Amphibian
Fremont	Anser albifrons	Greater White-fronted Goose	G5	S4M				0		Game Bird Migratory	No	Bird
Fremont	Anthus rubescens	American Pipit	G5	S3B						Protected Nongame	No	Bird
Fremont	Aquila chrysaetos	Golden Eagle	G5	S3				2		Protected Nongame	No	Bird
Fremont	Archilochus alexandri	Black-chinned Hummingbird	G5	S5B				0		Protected Nongame	No	Bird
Fremont	Archilochus colubris	Ruby-throated Hummingbird	G5	SNA							No	Bird
Fremont	Ardea alba	Great Egret	G5	S2B						Protected Nongame	Yes	Bird
Fremont	Ardea herodias	Great Blue Heron	G5	S5B				0		Protected Nongame	No	Bird
Fremont	Arenaria interpres	Ruddy Turnstone	G5	SNA				0		Protected Nongame	No	Bird
Fremont	Artemisiospiza nevadensis	Sagebrush Sparrow	G5	S3B				2		Protected Nongame	No	Bird
Fremont	Asio flammeus	Short-eared Owl	G5	S3				2		Protected Nongame	Yes	Bird
Fremont	Asio otus	Long-eared Owl	G5	S5				0		Protected Nongame	No	Bird
Fremont	Astragalus bisulcatus var. bisulcatus	Two-grooved Milkvetch	G5T5	S2				4			No	Plant
Fremont	Astragalus gilviflorus	Plains Milkvetch	G5	S2				4			No	Plant
Fremont	Aythya - Scaup spp.	Unclassified Scaup									No	Bird
Fremont	Aythya affinis	Lesser Scaup	G5	S3B,S3N				0		Game Bird Migratory	Yes	Bird
Fremont	Aythya americana	Redhead	G5	S4				0		Game Bird Migratory	No	Bird
Fremont	Aythya collaris	Ring-necked Duck	G5	S4B,S4N				0		Game Bird Migratory	No	Bird
Fremont	Aythya marila	Greater Scaup	G5	SNA						Game Bird Migratory	No	Bird
Fremont	Aythya valisineria	Canvasback	G5	S3B,S3N				0		Game Bird Migratory	No	Bird
Fremont	Bartramia longicauda	Upland Sandpiper	G5	S1B						Protected Nongame	Yes	Bird
Fremont	Boloria kriemhild	Kriemhild Fritillary	G3G4	S2							Yes	Arthropod
Fremont	Bombycilla cedrorum	Cedar Waxwing	G5	S5				0		Protected Nongame	No	Bird
Fremont	Bombycilla garrulus	Bohemian Waxwing	G5	S4N				0		Protected Nongame	No	Bird
Fremont	Bonasa umbellus	Ruffed Grouse	G5	S4				0		Upland Game Bird	No	Bird
Fremont	Botaurus lentiginosus	American Bittern	G4	S1B				0		Protected Nongame	No	Bird
Fremont	Brachylagus idahoensis	Pygmy Rabbit	G4	S3				2		Upland Game Animal	Yes	Mammal
Fremont	Branta canadensis	Canada Goose	G5	S5B,S5N				0		Game Bird Migratory	No	Bird
Fremont	Branta hutchinsii	Cackling Goose	G5	SNR				0			No	Bird
Fremont	Bubo virginianus	Great Horned Owl	G5	S5				0		Protected Nongame	No	Bird
Fremont	Bubulcus ibis	Cattle Egret	G5	S1B				0		Protected Nongame	Yes	Bird
Fremont	Bucephala - Goldeneye spp.	Unclassified Goldeneye									No	Bird
Fremont	Bucephala albeola	Bufflehead	G5	S1B,S1N				0		Game Bird Migratory	No	Bird
Fremont	Bucephala clangula	Common Goldeneye	G5	S5B,S5N						Game Bird Migratory	No	Bird
Fremont	Bucephala islandica	Barrow's Goldeneye	G5	S3B,S3N						Game Bird Migratory	No	Bird
Fremont	Buteo										No	Bird
Fremont	Buteo jamaicensis	Red-tailed Hawk	G5	S4				0		Protected Nongame	No	Bird
Fremont	Buteo lagopus	Rough-legged Hawk	G5	S4N				0		Protected Nongame	No	Bird
Fremont	Buteo platypterus	Broad-winged Hawk	G5	SNA				0		Protected Nongame	No	Bird
Fremont	Buteo regalis	Ferruginous Hawk	G4	S3B				2		Protected Nongame	Yes	Bird
Fremont	Buteo swainsoni	Swainson's Hawk	G5	S5B						Protected Nongame	Yes	Bird
Fremont	Butorides virescens	Green Heron	G5	SNA				0		Protected Nongame	No	Bird
Fremont	Calamospiza melanocorys	Lark Bunting	G5	S1B				0		Protected Nongame	No	Bird
Fremont	Calcarius lapponicus	Lapland Longspur	G5	S1N				0		Protected Nongame	No	Bird
Fremont	Calidris acuminata	Sharp-tailed Sandpiper	G5	SNA				0			No	Bird
Fremont	Calidris alba	Sanderling	G5	S1M				0		Protected Nongame	No	Bird
Fremont	Calidris alpina	Dunlin	G5	S1M				0		Protected Nongame	No	Bird
Fremont	Calidris bairdii	Baird's Sandpiper	G5	S2M				0		Protected Nongame	No	Bird
Fremont	Calidris canutus	Red Knot	G4	SNA				0		Protected Nongame	No	Bird
Fremont	Calidris fuscicollis	White-rumped Sandpiper	G5	SNA				0		Protected Nongame	No	Bird
Fremont	Calidris himantopus	Stilt Sandpiper	G5	SNA				0		Protected Nongame	No	Bird
Fremont	Calidris mauri	Western Sandpiper	G5	S3M				0		Protected Nongame	No	Bird
Fremont	Calidris melanotos	Pectoral Sandpiper	G5	S2M				0		Protected Nongame	No	Bird
Fremont	Calidris minutilla	Least Sandpiper	G5	S3M				0		Protected Nongame	No	Bird
Fremont	Calidris pusilla	Semipalmated Sandpiper	G5	S1M				0		Protected Nongame	No	Bird
Fremont	Callospermophilus lateralis	Golden-mantled Ground Squirrel	G5	S5						Protected Nongame	No	Mammal
Fremont	Canis latrans	Coyote	G5	S5				0		Predatory	No	Mammal
Fremont	Cardellina pusilla	Wilson's Warbler	G5	S4B						Protected Nongame	No	Bird
Fremont	Carduelis										No	Bird
Fremont	Carex livida	Pale Sedge	G5	S2	Sensitive			4			No	Plant
Fremont	Castilleja pulchella	Beautiful Indian Paintbrush	G3G4	S2				0			No	Plant
Fremont	Castor canadensis	American Beaver	G5	S4						Furbearing Animals	No	Mammal
Fremont	Cathartes aura	Turkey Vulture	G5	S5B				0		Protected Nongame	No	Bird
Fremont	Catharus fuscescens	Veery	G5	S3B				0		Protected Nongame	No	Bird
Fremont	Catharus guttatus	Hermit Thrush	G5	S4B						Protected Nongame	No	Bird
Fremont	Catharus ustulatus	Swainson's Thrush	G5	S5B				0		Protected Nongame	No	Bird
Fremont	Catherpes mexicanus	Canyon Wren	G5	S5				0		Protected Nongame	No	Bird
Fremont	Centrocercus urophasianus	Greater Sage-Grouse	G3G4	S3		Sensitive		2		Upland Game Bird	Yes	Bird
Fremont	Certhia americana	Brown Creeper	G5	S4				0		Protected Nongame	No	Bird

County	Scientific_Name	Common_Name	GRank	SRank	USFS_R1	USFS_R4	USFS_R6	BLM	USESA	IDAPA	SGCN	Category
Fremont	Charadrius semipalmatus	Semipalmated Plover	G5	S1M				0		Protected Nongame	No	Bird
Fremont	Charadrius vociferus	Killdeer	G5	S4B,S4N				0		Protected Nongame	No	Bird
Fremont	Charina bottae	Northern Rubber Boa	G5	S5						Protected Nongame	No	Reptile
Fremont	Chen caerulescens	Snow Goose	G5	S5M				0		Game Bird Migratory	No	Bird
Fremont	Chen rossii	Ross's Goose	G4	S3M				0		Game Bird Migratory	No	Bird
Fremont	Chlidonias niger	Black Tern	G4	S2B				2		Protected Nongame	Yes	Bird
Fremont	Chondestes grammacus	Lark Sparrow	G5	S4B				0		Protected Nongame	No	Bird
Fremont	Chordeiles minor	Common Nighthawk	G5	S4B				0		Protected Nongame	No	Bird
Fremont	Chroicocephalus philadelphia	Bonaparte's Gull	G5	S3M						Protected Nongame	No	Bird
Fremont	Chrysemys picta	Painted Turtle	G5	S3						Protected Nongame	No	Reptile
Fremont	Cicindela arenicola	Idaho Dune Tiger Beetle	G1G2	S2				2			Yes	Arthropod
Fremont	Cicuta bulbifera	Bulb-bearing Waterhemlock	G5	S2	Sensitive			4			No	Plant
Fremont	Cinclus mexicanus	American Dipper	G5	S3				0		Protected Nongame	No	Bird
Fremont	Circus cyaneus	Northern Harrier	G5	S4				0		Protected Nongame	No	Bird
Fremont	Cistothorus palustris	Marsh Wren	G5	S5B,S5N				0		Protected Nongame	No	Bird
Fremont	Clangula hyemalis	Long-tailed Duck	G5	S1N				0		Game Bird Migratory	No	Bird
Fremont	Claytonia multiscapa	Yellow Spring Beauty	G4?	S1				4			No	Plant
Fremont	Coccothraustes vespertinus	Evening Grosbeak	G5	S4				0		Protected Nongame	No	Bird
Fremont	Colaptes auratus	Northern Flicker	G5	S5						Protected Nongame	No	Bird
Fremont	Colligyrus greggi	Rocky Mountain Duskysnail	G4	S3Q							No	Mollusc
Fremont	Columba livia	Rock Pigeon	G5	SNA				0			No	Bird
Fremont	Contopus cooperi	Olive-sided Flycatcher	G4	S3B				2		Protected Nongame	No	Bird
Fremont	Contopus sordidulus	Western Wood-Pewee	G5	S5B						Protected Nongame	No	Bird
Fremont	Corvus brachyrhynchos	American Crow	G5	S5				0		Game Bird	No	Bird
Fremont	Corvus corax	Common Raven	G5	S5				0		Protected Nongame	No	Bird
Fremont	Corynorhinus townsendii	Townsend's Big-eared Bat	G4	S3	Sensitive	Sensitive		2		Protected Nongame	Yes	Mammal
Fremont	Crotalus oreganus	Western Rattlesnake	G5	S4						Protected Nongame	No	Reptile
Fremont	Cyanocitta cristata	Blue Jay	G5	S1N				0		Protected Nongame	No	Bird
Fremont	Cyanocitta stelleri	Steller's Jay	G5	S5				0		Protected Nongame	No	Bird
Fremont	Cygnus	Swan									No	Bird
Fremont	Cygnus buccinator	Trumpeter Swan	G4	S1B,S4N		Sensitive		2		Game Bird Migratory	Yes	Bird
Fremont	Cygnus columbianus	Tundra Swan	G5	S4M,S4N						Game Bird Migratory	No	Bird
Fremont	Dendragapus obscurus	Dusky Grouse	G5	S5						Upland Game Bird	No	Bird
Fremont	Dipodomys ordii	Ord's Kangaroo Rat	G5	S4				0			No	Mammal
Fremont	Dolichonyx oryzivorus	Bobolink	G5	S2B				0		Protected Nongame	No	Bird
Fremont	Draba incerta	Yellowstone Draba	G5	S2				0			No	Plant
Fremont	Dumetella carolinensis	Gray Catbird	G5	S5B				0		Protected Nongame	No	Bird
Fremont	Egretta thula	Snowy Egret	G5	S1B				0		Protected Nongame	Yes	Bird
Fremont	Eleocharis tenuis	Slender Spike-rush	G5	SNA				0			No	Plant
Fremont	Empidonax										No	Bird
Fremont	Empidonax hammondii	Hammond's Flycatcher	G5	S5B						Protected Nongame	No	Bird
Fremont	Empidonax minimus	Least Flycatcher	G5	S2B				0		Protected Nongame	No	Bird
Fremont	Empidonax oberholseri	Dusky Flycatcher	G5	S4B				0		Protected Nongame	No	Bird
Fremont	Empidonax occidentalis	Cordilleran Flycatcher	G5	S5B						Protected Nongame	No	Bird
Fremont	Empidonax traillii	Willow Flycatcher	G5	S4B		Endangered		2		Protected Nongame	No	Bird
Fremont	Empidonax wrightii	Gray Flycatcher	G5	S4B				0		Protected Nongame	No	Bird
Fremont	Epilobium palustre	Swamp Willow-weed	G5	S3	Sensitive			4			No	Plant
Fremont	Eptesicus fuscus	Big Brown Bat	G5	S3				2		Protected Nongame	No	Mammal
Fremont	Eremophila alpestris	Horned Lark	G5	S5				0		Protected Nongame	No	Bird
Fremont	Erethizon dorsatum	North American Porcupine	G5	S5							No	Mammal
Fremont	Eriophorum viridicarinatum	Green Keeled Cotton-grass	G5	S2	Sensitive			0			No	Plant
Fremont	Euphagus cyanocephalus	Brewer's Blackbird	G5	S4						Protected Nongame	No	Bird
Fremont	Euphydryas gillettii	Gillette's Checkerspot	G3	S2							Yes	Arthropod
Fremont	Falco										No	Bird
Fremont	Falco columbarius	Merlin	G5	S4						Protected Nongame	Yes	Bird
Fremont	Falco mexicanus	Prairie Falcon	G5	S4						Protected Nongame	No	Bird
Fremont	Falco rusticolus	Gyrfalcon	G5	SNA				0		Protected Nongame	No	Bird
Fremont	Falco sparverius	American Kestrel	G5	S4				0		Protected Nongame	No	Bird
Fremont	Ferrissia										No	Mollusc
Fremont	Fissidens grandifrons	Large-leaved Pocket Moss	G5	SNR							No	Plant
Fremont	Fluminicola	Fluminicola sp.									No	Mollusc
Fremont	Fluminicola coloradoensis	Green River Pebblesnail	G3G4	S3							Yes	Mollusc
Fremont	Fluminicola fuscus	Ashy Pebblesnail	G2	S3				2			No	Mollusc
Fremont	Fossaria										No	Mollusc
Fremont	Fulica americana	American Coot	G5	S4B,S4N				0		Game Bird Migratory	No	Bird
Fremont	Gallinago delicata	Wilson's Snipe	G5	S3N,S4B				0		Game Bird Migratory	No	Bird
Fremont	Gavia	Gavia sp.									No	Bird
Fremont	Gavia adamsii	Yellow-billed Loon	G4	SNA				0		Protected Nongame	No	Bird
Fremont	Gavia immer	Common Loon	G5	S1B,S2N	Sensitive	Sensitive		0		Protected Nongame	Yes	Bird
Fremont	Gavia pacifica	Pacific Loon	G5	SNA				0		Protected Nongame	No	Bird
Fremont	Gavia stellata	Red-throated Loon	G5	SNA				0		Protected Nongame	No	Bird
Fremont	Gentianella propinqua	Four-parted Gentian	G5	S2				0			No	Plant
Fremont	Geothlypis tolmiei	MacGillivray's Warbler	G5	S5B						Protected Nongame	No	Bird
Fremont	Geothlypis trichas	Common Yellowthroat	G5	S5B				0		Protected Nongame	No	Bird
Fremont	Glacicavicola bathyscioides	Blind Cave Leiodid Beetle	G1G3	S1				2			Yes	Arthropod
Fremont	Glaucidium gnoma	Northern Pygmy-Owl	G4G5	S3						Protected Nongame	No	Bird
Fremont	Glaucomys sabrinus	Northern Flying Squirrel	G5	S4				0		Protected Nongame	No	Mammal
Fremont	Grus americana	Whooping Crane	G1	SNA		Endangered		0		Protected Nongame	No	Bird
Fremont	Grus canadensis	Sandhill Crane	G5	S3B						Game Bird Migratory	Yes	Bird
Fremont	Gyraulus										No	Mollusc
Fremont	Gyraulus deflectus	Flexed Gyro	G5	SNR							No	Mollusc
Fremont	Gyraulus parvus	Ash Gyro	G5	S5							No	Mollusc
Fremont	Haemorhous cassinii	Cassin's Finch	G5	S4				2		Protected Nongame	No	Bird
Fremont	Haemorhous mexicanus	House Finch	G5	S4						Protected Nongame	No	Bird
Fremont	Haemorhous purpureus	Purple Finch	G5	SNA						Protected Nongame	No	Bird
Fremont	Haemorhous purpureus	Purple Martin	G5	SNA						Protected Nongame	No	Bird
Fremont	Himantopus mexicanus	Black-necked Stilt	G5	S4B				0		Protected Nongame	Yes	Bird
Fremont	Hirundo rustica	Barn Swallow	G5	S5B						Protected Nongame	No	Bird
Fremont	Hydrocoloeus minutus	Little Gull	G5	SNA						Protected Nongame	No	Bird
Fremont	Hydroprogne caspia	Caspian Tern	G5	S1B						Protected Nongame	Yes	Bird
Fremont	Icteria virens	Yellow-breasted Chat	G5	S4B				0		Protected Nongame	No	Bird
Fremont	Icterus										No	Bird
Fremont	Icterus bullockii	Bullock's Oriole	G5	S4B						Protected Nongame	No	Bird
Fremont	Idagona westcotti	Idaho Lava Tube Millipede	G1G2	S1							No	Arthropod
Fremont	Junco hyemalis	Dark-eyed Junco	G5	S5				0		Protected Nongame	No	Bird
Fremont	Lanius										No	Bird
Fremont	Lanius excubitor	Northern Shrike	G5	S3N				0		Protected Nongame	No	Bird
Fremont	Lanius ludovicianus	Loggerhead Shrike	G4	S3				2		Protected Nongame	No	Bird
Fremont	Laridae - Tern spp.	Unclassified Tern									No	Bird
Fremont	Larus										No	Bird
Fremont	Larus argentatus	Herring Gull	G5	S2N				0		Protected Nongame	No	Bird
Fremont	Larus californicus	California Gull	G5	S3B, S2N						Protected Nongame	Yes	Bird
Fremont	Larus canus	Mew Gull	G5	SNA				0		Protected Nongame	No	Bird
Fremont	Larus delawarensis	Ring-billed Gull	G5	S2B,S2N						Protected Nongame	No	Bird
Fremont	Larus thayeri	Thayer's Gull	G5	SNA				0		Protected Nongame	No	Bird
Fremont	Lasionycteris noctivagans	Silver-haired Bat	G3G4	S3				2		Protected Nongame	No	Mammal
Fremont	Lasiurus cinereus	Hoary Bat	G3G4	S3				2		Protected Nongame	No	Mammal
Fremont	Lepus americanus	Snowshoe Hare	G5	S3				0		Upland Game Animal	No	Mammal

Idaho Fish and Wildlife Information System - Species Diverstiy Database
Species and County Occurrences

County	Scientific_Name	Common_Name	GRank	SRank	USFS_R1	USFS_R4	USFS_R6	BLM	USESA	IDAPA	SGCN	Category
Fremont	Lepus californicus	Black-tailed Jackrabbit	G5	S4				0		Predatory	No	Mammal
Fremont	Lepus townsendii	White-tailed Jackrabbit	G5	S4				0		Predatory	No	Mammal
Fremont	Leucophaeus pipixcan	Franklin's Gull	G4G5	S3B						Protected Nongame	Yes	Bird
Fremont	Leucosticte atrata	Black Rosy-Finch	G4	S2						Protected Nongame	Yes	Bird
Fremont	Leucosticte tephrocotis	Gray-crowned Rosy-Finch	G5	S4						Protected Nongame	No	Bird
Fremont	Limnodromus	Limnodromus sp.									No	Bird
Fremont	Limnodromus griseus	Short-billed Dowitcher	G5	SNA				0		Protected Nongame	No	Bird
Fremont	Limnodromus scolopaceus	Long-billed Dowitcher	G5	S4M				0		Protected Nongame	No	Bird
Fremont	Limosa fedoa	Marbled Godwit	G5	S2M				0		Protected Nongame	No	Bird
Fremont	Limosa haemastica	Hudsonian Godwit	G4	SNA				0			No	Bird
Fremont	Lithobates pipiens	Northern Leopard Frog	G5	S2				2		Protected Nongame	Yes	Amphibian
Fremont	Lophodytes cucullatus	Hooded Merganser	G5	S2B,S2N				0		Game Bird Migratory	Yes	Bird
Fremont	Loxia curvirostra	Red Crossbill	G5	S4				0		Protected Nongame	No	Bird
Fremont	Loxia leucoptera	White-winged Crossbill	G5	S4				0		Protected Nongame	Yes	Bird
Fremont	Lycopodiella inundata	Northern Bog Clubmoss	G5	S2	Sensitive			0			No	Plant
Fremont	Lymnaea stagnalis	Swamp Lymnaea	G5	S4							No	Mollusc
Fremont	Margaritifera falcata	Western Pearlshell	G4G5	S2							Yes	Mollusc
Fremont	Marmota flaviventris	Yellow-bellied Marmot	G5	S4							No	Mammal
Fremont	Martes americana	American Marten	G5	S5						Furbearing Animals	No	Mammal
Fremont	Megaceryle alcyon	Belted Kingfisher	G5	S4						Protected Nongame	No	Bird
Fremont	Melanerpes lewis	Lewis's Woodpecker	G4	S3B				2		Protected Nongame	Yes	Bird
Fremont	Melanitta americana	Black Scoter	G5	SNA							No	Bird
Fremont	Melanitta fusca	White-winged Scoter	G5	SNA						Game Bird Migratory	No	Bird
Fremont	Melanitta perspicillata	Surf Scoter	G5	SNA				0		Game Bird Migratory	No	Bird
Fremont	Melospiza lincolnii	Lincoln's Sparrow	G5	S5B				0		Protected Nongame	No	Bird
Fremont	Melospiza melodia	Song Sparrow	G5	S5				0		Protected Nongame	No	Bird
Fremont	Mephitis mephitis	Striped Skunk	G5	S4				0		Predatory	No	Mammal
Fremont	Mergus	Merganser									No	Bird
Fremont	Mergus merganser	Common Merganser	G5	S3						Game Bird Migratory	No	Bird
Fremont	Mergus serrator	Red-breasted Merganser	G5	S1M				0		Game Bird Migratory	No	Bird
Fremont	Microtus longicaudus	Long-tailed Vole	G5	S5						Protected Nongame	No	Mammal
Fremont	Microtus montanus	Montane Vole	G5	S4				0			No	Mammal
Fremont	Microtus pennsylvanicus	Meadow Vole	G5	S5				0			No	Mammal
Fremont	Microtus richardsoni	North American Vole or Water Vole	G5	S4				0			No	Mammal
Fremont	Mimus polyglottos	Northern Mockingbird	G5	S1B				0		Protected Nongame	No	Bird
Fremont	Molothrus ater	Brown-headed Cowbird	G5	S5B				0		Protected Nongame	No	Bird
Fremont	Mustela	Mustela sp.									No	Mammal
Fremont	Mustela erminea	Ermine or Short-tailed Weasel	G5	S4				0		Predatory	No	Mammal
Fremont	Mustela frenata	Long-tailed Weasel	G5	S5						Predatory	No	Mammal
Fremont	Myadestes townsendi	Townsend's Solitaire	G5	S5				0		Protected Nongame	No	Bird
Fremont	Myodes gapperi	Southern Red-backed Vole	G5	S4							No	Mammal
Fremont	Myotis ciliolabrum	Western Small-footed Myotis	G5	S3				2		Protected Nongame	No	Mammal
Fremont	Myotis evotis	Long-eared Myotis	G5	S3				2		Protected Nongame	No	Mammal
Fremont	Myotis lucifugus	Little Brown Myotis	G3	S3				2		Protected Nongame	No	Mammal
Fremont	Myotis volans	Long-legged Myotis	G4G5	S3				2		Protected Nongame	No	Mammal
Fremont	Myotis yumanensis	Yuma Myotis	G5	S3				2		Protected Nongame	No	Mammal
Fremont	Neotoma cinerea	Bushy-tailed Woodrat	G5	S5				0			No	Mammal
Fremont	Nucifraga columbiana	Clark's Nutcracker	G5	S2				0		Protected Nongame	No	Bird
Fremont	Numenius americanus	Long-billed Curlew	G5	S2B				2		Protected Nongame	Yes	Bird
Fremont	Numenius phaeopus	Whimbrel	G5	SNA				0		Protected Nongame	No	Bird
Fremont	Nycticorax nycticorax	Black-crowned Night-Heron	G5	S2B,S2N				0		Protected Nongame	Yes	Bird
Fremont	Oenothera psammophila	St. Anthony Evening Primrose	G3	S3				2			No	Plant
Fremont	Ondatra zibethicus	Common Muskrat	G5	S4				0		Furbearing Animals	No	Mammal
Fremont	Onychomys leucogaster	Northern Grasshopper Mouse	G5	S4				0			No	Mammal
Fremont	Oreoscoptes montanus	Sage Thrasher	G5	S3B				2		Protected Nongame	No	Bird
Fremont	Oreothlypis celata	Orange-crowned Warbler	G5	S4B						Protected Nongame	No	Bird
Fremont	Oreothlypis ruficapilla	Nashville Warbler	G5	S4B						Protected Nongame	No	Bird
Fremont	Oxyura jamaicensis	Ruddy Duck	G5	S2						Game Bird Migratory	No	Bird
Fremont	Pandion haliaetus	Osprey	G5	S4B				0		Protected Nongame	No	Bird
Fremont	Parkesia noveboracensis	Northern Waterthrush	G5	S4B						Protected Nongame	No	Bird
Fremont	Passer domesticus	House Sparrow	G5	SNA				0			No	Bird
Fremont	Passerculus sandwichensis	Savannah Sparrow	G5	S5B				0		Protected Nongame	No	Bird
Fremont	Passerella iliaca	Fox Sparrow	G5	S4B				0		Protected Nongame	No	Bird
Fremont	Passerina										No	Bird
Fremont	Passerina amoena	Lazuli Bunting	G5	S4B						Protected Nongame	No	Bird
Fremont	Passerina cyanea	Indigo Bunting	G5	SNA				0		Protected Nongame	No	Bird
Fremont	Pekania pennanti	Fisher	G5	S2				2		Furbearing Animals	Yes	Mammal
Fremont	Pelecanus erythrorhynchos	American White Pelican	G4	S3B						Protected Nongame	Yes	Bird
Fremont	Perdix perdix	Gray Partridge	G5	SNA				0		Upland Game Bird	No	Bird
Fremont	Perisoreus canadensis	Gray Jay	G5	S2				0		Protected Nongame	No	Bird
Fremont	Perognathus parvus	Great Basin Pocket Mouse	G5	S5				0			No	Mammal
Fremont	Peromyscus maniculatus	North American Deermouse	G5	S5				0			No	Mammal
Fremont	Petrochelidon pyrrhonota	Cliff Swallow	G5	S5B						Protected Nongame	No	Bird
Fremont	Phalacrocorax auritus	Double-crested Cormorant	G5	S4B				0		Protected Nongame	No	Bird
Fremont	Phalaenoptilus nuttallii	Common Poorwill	G5	S4B				0		Protected Nongame	No	Bird
Fremont	Phalaropus lobatus	Red-necked Phalarope	G4G5	S3M				0		Protected Nongame	No	Bird
Fremont	Phalaropus tricolor	Wilson's Phalarope	G5	S4B						Protected Nongame	Yes	Bird
Fremont	Pheucticus ludovicianus	Rose-breasted Grosbeak	G5	SNA				0		Protected Nongame	No	Bird
Fremont	Pheucticus melanocephalus	Black-headed Grosbeak	G5	S5B						Protected Nongame	No	Bird
Fremont	Physa										No	Mollusc
Fremont	Physella	Physella sp.									No	Mollusc
Fremont	Pica hudsonia	Black-billed Magpie	G5	S5				0		Protected Nongame	No	Bird
Fremont	Picea glauca	White Spruce	G5	S1				4			No	Plant
Fremont	Picoides arcticus	Black-backed Woodpecker	G5	S4	Sensitive					Protected Nongame	No	Bird
Fremont	Picoides dorsalis	American Three-Toed Woodpecker	G5	S4		Sensitive		0		Protected Nongame	Yes	Bird
Fremont	Picoides pubescens	Downy Woodpecker	G5	S4				0		Protected Nongame	No	Bird
Fremont	Picoides villosus	Hairy Woodpecker	G5	S4				0		Protected Nongame	No	Bird
Fremont	Pinicola enucleator	Pine Grosbeak	G5	S4				0		Protected Nongame	No	Bird
Fremont	Pipilo chlorurus	Green-tailed Towhee	G5	S4B				2		Protected Nongame	No	Bird
Fremont	Pipilo maculatus	Spotted Towhee	G5	S4				0		Protected Nongame	No	Bird
Fremont	Piranga ludoviciana	Western Tanager	G5	S5B				0		Protected Nongame	No	Bird
Fremont	Planorbella subcrenata	Rough Rams-horn	G5	S5							No	Mollusc
Fremont	Planorbella trivolvis	Marsh Rams-horn	G5	S5							No	Mollusc
Fremont	Plectrophenax nivalis	Snow Bunting	G5	S4N				0		Protected Nongame	No	Bird
Fremont	Plegadis										No	Bird
Fremont	Plegadis chihi	White-faced Ibis	G5	S2B						Protected Nongame	Yes	Bird
Fremont	Plegadis falcinellus	Glossy Ibis	G5	S1B							No	Bird
Fremont	Pluvialis dominica	American Golden-Plover	G5	S1M				0		Protected Nongame	No	Bird
Fremont	Pluvialis squatarola	Black-bellied Plover	G5	S1M				0		Protected Nongame	No	Bird
Fremont	Podiceps auritus	Horned Grebe	G5	S2N				0		Protected Nongame	No	Bird
Fremont	Podiceps grisegena	Red-necked Grebe	G5	S2B				0		Protected Nongame	Yes	Bird
Fremont	Podiceps nigricollis	Eared Grebe	G5	S1N,S2B				0		Protected Nongame	No	Bird
Fremont	Podilymbus podiceps	Pied-billed Grebe	G5	S3				0		Protected Nongame	No	Bird
Fremont	Poecile atricapillus	Black-capped Chickadee	G5	S4						Protected Nongame	No	Bird
Fremont	Poecile gambeli	Mountain Chickadee	G5	S4				0		Protected Nongame	No	Bird
Fremont	Polioptila caerulea	Blue-gray Gnatcatcher	G5	S5B				0		Protected Nongame	No	Bird
Fremont	Pooecetes gramineus	Vesper Sparrow	G5	S5B				0		Protected Nongame	No	Bird
Fremont	Porzana carolina	Sora	G5	S1N,S4B						Protected Nongame	No	Bird

County	Scientific_Name	Common_Name	GRank	SRank	USFS_R1	USFS_R4	USFS_R6	BLM	USESA	IDAPA	SGCN	Category
Fremont	Potamopyrgus antipodarum	New Zealand Mudsnail	G5	SNA							No	Mollusc
Fremont	Pseudacris maculata	Boreal Chorus Frog	G5	S4				0		Protected Nongame	No	Amphibian
Fremont	Psiloscops flammeolus	Flammulated Owl	G4	S3B	Sensitive	Sensitive		2		Protected Nongame	Yes	Bird
Fremont	Pyrgulopsis	Pyrgulopsis sp.									No	Mollusc
Fremont	Quiscalus mexicanus	Great-tailed Grackle	G5	S1B				0		Protected Nongame	No	Bird
Fremont	Quiscalus quiscula	Common Grackle	G5	S1B				0		Protected Nongame	No	Bird
Fremont	Rallus limicola	Virginia Rail	G5	S2N,S3B				0		Protected Nongame	No	Bird
Fremont	Rana luteiventris	Columbia Spotted Frog	G4	S4		Sensitive				Protected Nongame	No	Amphibian
Fremont	Recurvirostra americana	American Avocet	G5	S3B,S3M				0		Protected Nongame	Yes	Bird
Fremont	Regulus calendula	Ruby-crowned Kinglet	G5	S4				0		Protected Nongame	No	Bird
Fremont	Regulus satrapa	Golden-crowned Kinglet	G5	S5				0		Protected Nongame	No	Bird
Fremont	Rhynchophanes mccownii	McCown's Longspur	G4	SNA						Protected Nongame	No	Bird
Fremont	Riparia riparia	Bank Swallow	G5	S4B						Protected Nongame	No	Bird
Fremont	Salix candida	Hoary Willow	G5	S2	Sensitive			4			No	Plant
Fremont	Salix glauca	Gray Willow	G5	S2				0			No	Plant
Fremont	Salix pseudomonticola	False Mountain Willow	G4G5	S1				3			No	Plant
Fremont	Salpinctes obsoletus	Rock Wren	G5	S5B				0		Protected Nongame	No	Bird
Fremont	Sanicula graveolens	Sierra Sanicle	G4G5	S1				0			No	Plant
Fremont	Saxifraga cernua	Nodding Saxifrage	G5	S2				0			No	Plant
Fremont	Sayornis phoebe	Eastern Phoebe	G5	SNA				0		Protected Nongame	No	Bird
Fremont	Sayornis saya	Say's Phoebe	G5	S5B				0		Protected Nongame	No	Bird
Fremont	Sceloporus graciosus	Common Sagebrush Lizard	G5	S5						Protected Nongame	No	Reptile
Fremont	Scheuchzeria palustris	Pod Grass	G5	S2	Sensitive			0			No	Plant
Fremont	Schoenoplectus subterminalis	Water Clubrush	G4G5	S3	Sensitive			4			No	Plant
Fremont	Scolopacidae - Sandpiper spp.	Unclassified Sandpiper									No	Bird
Fremont	Selasphorus calliope	Calliope Hummingbird	G5	S4B						Protected Nongame	No	Bird
Fremont	Selasphorus platycercus	Broad-tailed Hummingbird	G5	S5B				0		Protected Nongame	No	Bird
Fremont	Selasphorus rufus	Rufous Hummingbird	G5	S4B						Protected Nongame	No	Bird
Fremont	Setophaga coronata	Yellow-rumped Warbler	G5	S5						Protected Nongame	No	Bird
Fremont	Setophaga dominica	Yellow-throated Warbler	G5	SNA							No	Bird
Fremont	Setophaga magnolia	Magnolia Warbler	G5	SNA						Protected Nongame	No	Bird
Fremont	Setophaga nigrescens	Black-throated Gray Warbler	G5	S4B						Protected Nongame	No	Bird
Fremont	Setophaga pensylvanica	Chestnut-sided Warbler	G5	SNA						Protected Nongame	No	Bird
Fremont	Setophaga petechia	Yellow Warbler	G5	S5B						Protected Nongame	No	Bird
Fremont	Setophaga pinus	Pine Warbler	G5	SNA							No	Bird
Fremont	Setophaga ruticilla	American Redstart	G5	S2B				0		Protected Nongame	No	Bird
Fremont	Setophaga striata	Blackpoll Warbler	G5	SNA						Protected Nongame	No	Bird
Fremont	Setophaga townsendi	Townsend's Warbler	G5	S5B						Protected Nongame	No	Bird
Fremont	Sialia currucoides	Mountain Bluebird	G5	S5B				0		Protected Nongame	No	Bird
Fremont	Sitta canadensis	Red-breasted Nuthatch	G5	S4				0		Protected Nongame	No	Bird
Fremont	Sitta carolinensis	White-breasted Nuthatch	G5	S4				0		Protected Nongame	No	Bird
Fremont	Sorex cinereus	Cinereus or Masked Shrew	G5	S5							No	Mammal
Fremont	Sorex monticolus	Dusky or Montane Shrew	G5	S5							No	Mammal
Fremont	Sorex palustris	American Water Shrew	G5	S4				0			No	Mammal
Fremont	Sorex vagrans	Vagrant Shrew	G5	S5				0			No	Mammal
Fremont	Sphaerium										No	Mollusc
Fremont	Sphyrapicus	Sphyrapicus sp.									No	Bird
Fremont	Sphyrapicus nuchalis	Red-naped Sapsucker	G5	S4B						Protected Nongame	No	Bird
Fremont	Sphyrapicus thyroideus	Williamson's Sapsucker	G5	S4B						Protected Nongame	No	Bird
Fremont	Sphyrapicus varius	Yellow-bellied Sapsucker	G5	SNA							No	Bird
Fremont	Spinus pinus	Pine Siskin	G5	S4						Protected Nongame	No	Bird
Fremont	Spinus psaltria	Lesser Goldfinch	G5	S5						Protected Nongame	Yes	Bird
Fremont	Spinus tristis	American Goldfinch	G5	S5						Protected Nongame	No	Bird
Fremont	Spiza americana	Dickcissel	G5	SNA				0			No	Bird
Fremont	Spizella										No	Bird
Fremont	Spizella arborea	American Tree Sparrow	G5	S3N				0		Protected Nongame	No	Bird
Fremont	Spizella breweri	Brewer's Sparrow	G5	S4B				2		Protected Nongame	Yes	Bird
Fremont	Spizella pallida	Clay-colored Sparrow	G5	SNA				0		Protected Nongame	No	Bird
Fremont	Spizella passerina	Chipping Sparrow	G5	S5B				0		Protected Nongame	No	Bird
Fremont	Stelgidopteryx serripennis	Northern Rough-winged Swallow	G5	S4B						Protected Nongame	No	Bird
Fremont	Stercorarius longicaudus	Long-tailed Jaeger	G5	SNA				0		Protected Nongame	No	Bird
Fremont	Stercorarius parasiticus	Parasitic Jaeger	G5	SNA				0		Protected Nongame	No	Bird
Fremont	Stercorarius pomarinus	Pomarine Jaeger	G5	SNA				0		Protected Nongame	No	Bird
Fremont	Sterna forsteri	Forster's Tern	G5	S2B				0		Protected Nongame	Yes	Bird
Fremont	Sterna hirundo	Common Tern	G5	SNA				0		Protected Nongame	No	Bird
Fremont	Streptopelia decaocto	Eurasian Collared-Dove	G5	SNA				0			No	Bird
Fremont	Strix nebulosa	Great Gray Owl	G5	S3		Sensitive				Protected Nongame	No	Bird
Fremont	Sturnella neglecta	Western Meadowlark	G5	S5				0		Protected Nongame	No	Bird
Fremont	Sturnus vulgaris	European Starling	G5	SNA				0		Predatory	No	Bird
Fremont	Surnia ulula	Northern Hawk-Owl	G5	SNA						Protected Nongame	No	Bird
Fremont	Sylvilagus nuttallii	Mountain Cottontail	G5	S4				0		Upland Game Animal	No	Mammal
Fremont	Symphyotrichum boreale	Rush Aster	G5	S2	Sensitive			4			No	Plant
Fremont	Tachycineta bicolor	Tree Swallow	G5	S5B				0		Protected Nongame	No	Bird
Fremont	Tachycineta thalassina	Violet-green Swallow	G5	S5B				0		Protected Nongame	No	Bird
Fremont	Tamias amoenus	Yellow-pine Chipmunk	G5	S5						Protected Nongame	No	Mammal
Fremont	Tamias minimus	Least Chipmunk	G5	S5						Protected Nongame	No	Mammal
Fremont	Tamiasciurus hudsonicus	Red Squirrel	G5	S5				0		Protected Nongame	No	Mammal
Fremont	Taxidea taxus	American Badger	G5	S4						Furbearing Animals	No	Mammal
Fremont	Telesonix jamesii	James' False Saxifrage	G2G3	S1				0			No	Plant
Fremont	Thalictrum dasycarpum	Purple Meadow-rue	G5	S1				3			No	Plant
Fremont	Thamnophis elegans	Terrestrial Gartersnake	G5	S5						Protected Nongame	No	Reptile
Fremont	Thamnophis sirtalis	Common Gartersnake	G5	S3						Protected Nongame	No	Reptile
Fremont	Thomomys talpoides	Northern Pocket Gopher	G5	S5				0			No	Mammal
Fremont	Tringa - Yellowlegs spp.	Unclassified Yellowlegs									No	Bird
Fremont	Tringa flavipes	Lesser Yellowlegs	G5	S2M				0		Protected Nongame	No	Bird
Fremont	Tringa melanoleuca	Greater Yellowlegs	G5	S3M						Protected Nongame	No	Bird
Fremont	Tringa semipalmata	Willet	G5	S3B						Protected Nongame	No	Bird
Fremont	Tringa solitaria	Solitary Sandpiper	G5	S1M				0		Protected Nongame	No	Bird
Fremont	Troglodytes aedon	House Wren	G5	S4B				0		Protected Nongame	No	Bird
Fremont	Troglodytes pacificus	Pacific Wren	G5	S5						Protected Nongame	No	Bird
Fremont	Turdus migratorius	American Robin	G5	S5						Protected Nongame	No	Bird
Fremont	Tyrannidae - Flycatcher spp.	Unclassified Flycatcher									No	Bird
Fremont	Tyrannus tyrannus	Eastern Kingbird	G5	S5B				0		Protected Nongame	No	Bird
Fremont	Tyrannus verticalis	Western Kingbird	G5	S5B				0		Protected Nongame	No	Bird
Fremont	Tyto alba	Barn Owl	G5	S4				0		Protected Nongame	No	Bird
Fremont	Urocitellus armatus	Uinta Ground Squirrel	G5	S4							No	Mammal
Fremont	Urocitellus beldingi	Belding's Ground Squirrel	G5	S4							No	Mammal
Fremont	Urocitellus elegans	Wyoming Ground Squirrel	G5	S3						Protected Nongame	Yes	Mammal
Fremont	Ursus americanus	American Black Bear	G5	S4						Big Game	No	Mammal
Fremont	Utricularia gibba	Humped Bladderwort	G5	SNR				0			No	Plant
Fremont	Vallonia										No	Mollusc
Fremont	Valvata										No	Mollusc
Fremont	Valvata humeralis	Glossy Valvata	G5Q	S3							No	Mollusc
Fremont	Vireo cassinii	Cassin's Vireo	G5	S5B				0		Protected Nongame	No	Bird
Fremont	Vireo gilvus	Warbling Vireo	G5	S5B						Protected Nongame	No	Bird
Fremont	Vireo olivaceus	Red-eyed Vireo	G5	S4B				0		Protected Nongame	No	Bird
Fremont	Vireo philadelphicus	Philadelphia Vireo	G5	SNA						Protected Nongame	No	Bird
Fremont	Vison vison	American Mink	G5	S3						Furbearing Animals	No	Mammal

Idaho Fish and Wildlife Information System - Species Diverstiy Database
Species and County Occurrences

County	Scientific_Name	Common_Name	GRank	SRank	USFS_R1	USFS_R4	USFS_R6	BLM	USESA	IDAPA	SGCN	Category
Fremont	Vulpes vulpes	Red Fox	G5	S4				0		Furbearing Animals	No	Mammal
Fremont	Xanthocephalus xanthocephalus	Yellow-headed Blackbird	G5	S4B				0		Protected Nongame	No	Bird
Fremont	Xema sabini	Sabine's Gull	G5	SNA				0		Protected Nongame	No	Bird
Fremont	Zapus princeps	Western Jumping Mouse	G5	S4				0			No	Mammal
Fremont	Zenaida macroura	Mourning Dove	G5	S5				0		Game Bird Migratory	No	Bird
Fremont	Zonotrichia albicollis	White-throated Sparrow	G5	S1N				0		Protected Nongame	No	Bird
Fremont	Zonotrichia leucophrys	White-crowned Sparrow	G5	S5				0		Protected Nongame	No	Bird
Fremont	Zonotrichia querula	Harris's Sparrow	G5	SNA						Protected Nongame	No	Bird

Appendix A-2.6-2

KEY to `Rare and Sensitive Species Table, by County':

County

Idaho counties (Ada, Adams, Bannock, Bear Lake, Benewah, Bingham, Blaine, Boise, Bonner, Bonneville, Boundary, Butte, Camas, Canyon, Caribou, Cassia, Clark, Clearwater, Custer, Elmore, Franklin, Fremont, Gem, Gooding, Idaho, Jefferson, Jerome, Kootenai, Latah, Lemhi, Lewis, Lincoln, Madison, Minidoka, Nez Perce, Oneida, Owyhee, Payette, Power, Shoshone, Teton, Twin Falls, Valley, Washington)

Scientific Name

Scientific name uses formal Latin name in binomial/trinomial nomenclature. Species or Intraspecific species name include: genus, specific epithet, and variety, if applicable.

Common Name

Common name uses an accepted, local common name.

Global Conservation Rank (NatureServe)

G	Global rank indicator; denotes rank based on range wide status.
T	Trinomial rank indicator; denotes range wide status of variety or subspecies.
GX	Believed to be extinct throughout its range.
G1	Critically imperiled: at very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
G2	Imperiled: at high risk of extinction or elimination due to very restricted range, very few populations, steep declines, or other factors.
G3	Vulnerable: at moderate risk of extinction or elimination due to a restricted range, relatively few populations, recent and widespread declines, or other factors.
G4	Apparently Secure: uncommon, but not rare; some cause for long-term concern due to declines or other factors.
G5	Secure: Common, widespread, and abundant

State Conservation Rank (Idaho Natural Heritage Program)

S	State rank indicator; denotes rank based on state wide status.
SX	Believed to be extinct throughout its range with in State.
S1	Critically imperiled: at very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
S2	Imperiled: at high risk of extinction or elimination due to very restricted range, very few populations, steep declines, or other factors.
S3	Vulnerable: at moderate risk of extinction or elimination due to a restricted range, relatively few populations, recent and widespread declines, or other factors.
S4	Apparently Secure: uncommon, but not rare; some cause for long-term concern due to declines or other factors.
S5	Secure: Common, widespread, and abundant

Variant Conservation Status Rank (NatureServe & Natural Heritage)

G#G# S#S#	Range Rank – a numeric range rank used to indicate a range of uncertainty about the status of the species.
GU or SU	Unrankable – currently unrankable due to lack of information
GNR or SNR	Not Ranked – rank level not yet assessed

Rank Qualifiers (NatureServe & Natural Heritage)

?	Inexact Numeric Rank
i	Introduced
r	Reintroduced/restored

Breeding Status Qualifier

B	Breeding
N	Non-breeding
M	Migratory

Federally Listed

US Fish and Wildlife Service listed species, per Endangered Species Act

SWAP

State Wildlife Action Plan

SCGN

Species of Greatest Conservation Need

CWCS

Comprehensive Wildlife Conservation Strategy (see: http://fishandgame.idaho.gov/public/wildlife/cwcs/)

USFSreg1 (US Forest Service - Northern Region)

Listing status based on federal status under the Endangered Species Act: Endangered, Threatened, Proposed, and Candidate

USFSreg4 (US Forest Service - Intermountain Region)

Listing status based on federal status under the Endangered Species Act: Endangered, Threatened, Proposed, and Candidate

BLM (Bureau of Land Management) Status

Type 1	Threatened, Endangered, Proposed, and Candidate species.
Type 2	Rangewide/globally imperiled species-high endangerment.
Type 3	Rangewide/globally imperiled species-moderate endangerment (plants) or Regional/state imperiled species (animals).
Type 4	Species of Concern (plants) or Peripheral Species (animals).
Type 5	Watch list (plants and animals).

IDAPA State Protection Status

Idaho Administrative Procedures Act: Designation 13 Title 01 Chapter 06 (IDAPA 13.01.06) -Rules Governing Classification and Protection of Wildlife

INPS (Idaho Native Plant Society) State Rare Species Definitions

Possibly Extirpated	Taxa known in Idaho only from historical (pre-1920) records or otherwise believed to be extirpated from the state.
State Priority 1	Taxa in danger of becoming extinct or extirpated from Idaho in the foreseeable future if identifiable factors contributing to their decline continue to operate. These are taxa whose populations are present only at critically low levels or whose habitats have been degraded or depleted to a significant degree.
State Priority 2	Taxa likely to be classified as Priority 1 within the foreseeable future in Idaho, if factors contributing to their population decline or habitat degradation or loss continue.
S**ensitive**	Taxa with small populations or localized distributions within Idaho that presently do not meet the criteria for classification as Priority 1 or 2, but whose populations and habitats may be jeopardized without active management or removal of threats.
Monitor	Taxa common within a limited range in Idaho, as well as those which are uncommon, but have no identifiable threats (e.g., certain alpine taxa).

INPS (Idaho Native Plant Society) Threat Priority:

Priority	Taxonomy	Threat Magnitude	Threat Immediacy
1	Monotypic genus	High	Imminent
2	Species	High	Imminent
3	Subspecies/Variety	High	Imminent
4	Monotypic genus	High	Non-imminent
5	Species	High	Non-imminent
6	Subspecies/Variety	High	Non-imminent
7	Monotypic genus	Low	Imminent
8	Species	Low	Imminent
9	Subspecies/Variety	Low	Imminent
10	Monotypic genus	Low	Non-imminent
11	Species	Low	Non-imminent
12	Subspecies/Variety	Low	Non-imminent

Appendix A-2.7-1

www.history.idaho.gov

Idaho • State Historical SOCIETY

C.L. "Butch" Otter
Governor of Idaho

Janet Gallimore
Executive Director

Administration
2205 Old Penitentiary Road
Boise, Idaho 83712-8250
Office: (208) 334-2682
Fax: (208) 334-2774

Membership and Fund Development
2205 Old Penitentiary Road
Boise, Idaho 83712-8250
Office: (208) 514-2310
Fax: (208) 334-2774

Historical Museum and Education Programs
610 North Julia Davis Drive
Boise, Idaho 83702-7695
Office: (208) 334-2120
Fax: (208) 334-4059

State Historic Preservation Office and Historic Sites
Archeological Survey of Idaho
210 Main Street
Boise, Idaho 83702-7264
Office: (208) 334-3861
Fax: (208) 334-2775

Statewide Sites:
• Franklin Historic Site
• Pierce Courthouse
• Rock Creek Station and
• Stricker Homesite

Old Penitentiary
2445 Old Penitentiary Road
Boise, Idaho 83712-8254
Office: (208) 334-2844
Fax: (208) 334-3225

Idaho State Archives
2205 Old Penitentiary Road
Boise, Idaho 83712-8250
Office: (208) 334-2620
Fax: (208) 334-2626

North Idaho Office
112 West 4th Street, Suite #7
Moscow, Idaho 83843
Office: (208) 882-1540
Fax: (208) 882-1763

June 20, 2012

Mark Stenberg
PacifiCorps
License Program Manager
822 Grace Power Road
Grace, Idaho 83241

RE: Cultural Resource Inventory for the Ashton Reservoir Drawdown Zone and Borrow Sites in Fremont County, Idaho

Dear Mark:

Our office has received the report documenting the archaeological survey of the Ashton Reservoir drawdown zone and borrow sites in Fremont County, Idaho. The work was completed by SWCA and easily meets the Secretary of the Interior's Standards.

Seven isolated artifacts, the Henry's Fork Bridge, and four archaeological sites were recorded during the survey. We agree that the isolates and the bridge are not eligible for the National Register of Historic Places. We disagree, however, with the evaluations of the four archaeological sites (CK-S-1, CK-S-2, CK-S-3, and CK-S-4). We believe that the sites should be treated as eligible until archaeological testing and material sourcing are completed.

The report indicates that these sites will not be affected by any work around the reservoir and are not being looted. If this is the case, there is no pressure to complete this work immediately. It appears, however, that it will have to be timed with the drawdown.

We appreciate your cooperation. If you have any questions, please feel free to contact me at 208-334-3847, ext. 107.

Sincerely,

Susan Pengilly

Susan Pengilly
Deputy SHPO

Appendix A-2.7-2

Idaho • State Historical SOCIETY

www.history.idaho.gov

C.L. "Butch" Otter
Governor of Idaho

Janet Gallimore
Executive Director

Administration
2205 Old Penitentiary Road
Boise, Idaho 83712-8250
Office: (208) 334-2682
Fax: (208) 334-2774

Membership and Fund Development
2205 Old Penitentiary Road
Boise, Idaho 83712-8250
Office: (208) 514-2310
Fax: (208) 334-2774

Historical Museum and Education Programs
610 North Julia Davis Drive
Boise, Idaho 83702-7695
Office: (208) 334-2120
Fax: (208) 334-4059

State Historic Preservation Office and Historic Sites
Archeological Survey of Idaho
210 Main Street
Boise, Idaho 83702-7264
Office: (208) 334-3861
Fax: (208) 334-2775

Statewide Sites:
• Franklin Historic Site
• Pierce Courthouse
• Rock Creek Station and
• Stricker Homesite

Old Penitentiary
2445 Old Penitentiary Road
Boise, Idaho 83712-8254
Office: (208) 334-2844
Fax: (208) 334-3225

Idaho State Archives
2205 Old Penitentiary Road
Boise, Idaho 83712-8250
Office: (208) 334-2620
Fax: (208) 334-2626

North Idaho Office
112 West 4th Street, Suite #7
Moscow, Idaho 83843
Office: (208) 882-1540
Fax: (208) 882-1763

May 15, 2013

Mark Stenberg
PacifiCorp Energy
822 Grace Power Plant Road
Grace, Idaho 83241

RE: Test and Site Reevaluation of Four Prehistoric Archaeological Sites within the Ashton Reservoir Drawdown Zone, Fremont County, Idaho; Archaeological Report by Lindsay Fenner, Michele Parvey, and James Bard, SWCA, Salt Lake City Utah, dated April 18, 2013

Dear Mark:

Thank you for submitting the report documenting archaeological testing of sites 10FM520, 10FM521, 10FM522, and 10FM523. We accept the report as written and appreciate PacifiCorp performing the additional investigations.

The reevaluation finds all four sites eligible for the National Register of Historic Places. We support this finding. We also agree that no additional work is needed at this time, provided that the sites remain protected from public access, and a high pool elevation is maintained. If any of these variables change, or a project requiring ground disturbance is planned for this area, data recovery will be necessary. We also recommend that you inform project personnel of the significance of the sites and penalties for site looting, and that you and project personnel monitor the area regularly.

Finally, PacifiCorp may want to plan additional investigations during future drawdowns.

We appreciate your cooperation. If you have any questions, please feel free to contact me at 208-334-3847, ext. 107.

Sincerely,

Susan Pengilly

Susan Pengilly
Deputy SHPO

Appendix A - 2.7-3

FEB 2 8 1992

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D. C. 20426

Project No. 2381-022--Idaho
Ashton-St. Anthony Project
PacifiCorp

Mr. S. A. deSousa
Director, Hydro Resources
Pacific Power
920 S.W. Sixth Avenue
Portland, OR 97204

Dear Mr. deSousa:

This refers to the material you filed on December 31, 1991, to comply with article 408 of the license for the Ashton-St. Anthony Project. The material included a letter dated November 4, 1991, from the Idaho State Historic Preservation Officer stating that the turbine upgrade work will not affect the historic significance of the Ashton hydroelectric development or its eligibility for the National Register of Historic Places.

The material fulfills the requirements of article 408. If you have any questions concerning this matter, please contact Mr. John Costello at (202) 219-2914.

Sincerely,

J. Mark Robinson

J. Mark Robinson
Director, Division of Project
Compliance and Administration

FERC DOCKETED

FEB 28 1992

9203040307

IDAHO STATE HISTORICAL SOCIETY

Appendix A-2.7-4

July 25, 2019

Brad Little
Governor of Idaho

Janet Gallimore
Executive Director
State Historic
Preservation Officer

Administration:
2205 Old Penitentiary Rd.
Boise, Idaho 83712
208.334.2682
Fax: 208.334.2774

Idaho State Museum:
610 Julia Davis Dr.
Boise, Idaho 83702
208.334.2120

Idaho State Archives and State Records Center:
2205 Old Penitentiary Rd.
Boise, Idaho 83712
208.334.2620

State Historic Preservation Office:
210 Main St.
Boise, Idaho 83702
208.334.3861

Old Idaho Penitentiary and Historic Sites:
2445 Old Penitentiary Rd.
Boise, Idaho 83712
208.334.2844

HISTORY.IDAHO.GOV

Mark Stenberg
License Program Manager - Idaho
PacifiCorp
822 Grace Power Plant Rd.
Grace, Idaho 83241

Re: Consultation Request Concerning Removal of Housing at the Ashton Hydroelectric Project / SHPO Review No.: 2019-326

Dear Mr. Stenberg

Thank you for consulting with our office on the above reference project. We understand the scope of the work includes removal of three company houses and a shed within the Ashton Hydroelectric Project on the Henry's Fork of the Snake River, Fremont County, Idaho. An architectural survey has been completed for the project in order to identify cultural resources and evaluate project impacts to historic properties. The Ashton Hydroelectric Project District (Temporary No. 001) was identified and concurred by our office as ineligible for the National Register of Historic Places (NRHP).

Pursuant to 36 CFR 800.5, we have applied the criteria of effect to the proposed undertaking. Based on the additional information received 1 July 2019, we find that the proposed project actions will result in **no historic properties affected** (36 CFR 800.4(d)).

However, we strongly emphasize that in the event that cultural material is inadvertently encountered during the implementation of this project, work shall be halted in the vicinity of the finds until they can be inspected and assessed by the appropriate consulting parties. Our office should be consulted if there is an inadvertent find. If you have any questions, or the scope of the work changes, please contact me at chris.shaver@ishs.idaho.gov or (208) 488-7467.

Sincerely,

Christopher L. Shaver
Compliance Archaeologist
Idaho State Historic Preservation Office

Appendix B
Project Photos

APPENDIX B: PROJECT PHOTOS

Photo 1. Ashton Dam and powerhouse.
Photo 2. View of Ashton Dam looking west across the spillway (foreground) and dam, with the powerhouse and substation in the background.
Photo 3. View of the dam and powerhouse from the reservoir.
Photo 4. Spillway from the reservoir.
Photo 5. View from the top of the spillway overlooking the fishing access site gravel bar (before picnic table installation) and canyon downstream of Ashton Dam.
Photo 6. Ashton Reservoir looking north from the left (east) side of the dam. 6/9/2006.
Photo 7. Ashton Reservoir southeast shore.
Photo 8. Ashton Reservoir northwest shore.
Photo 9. Bald eagles on artificial perch at Ashton Reservoir.

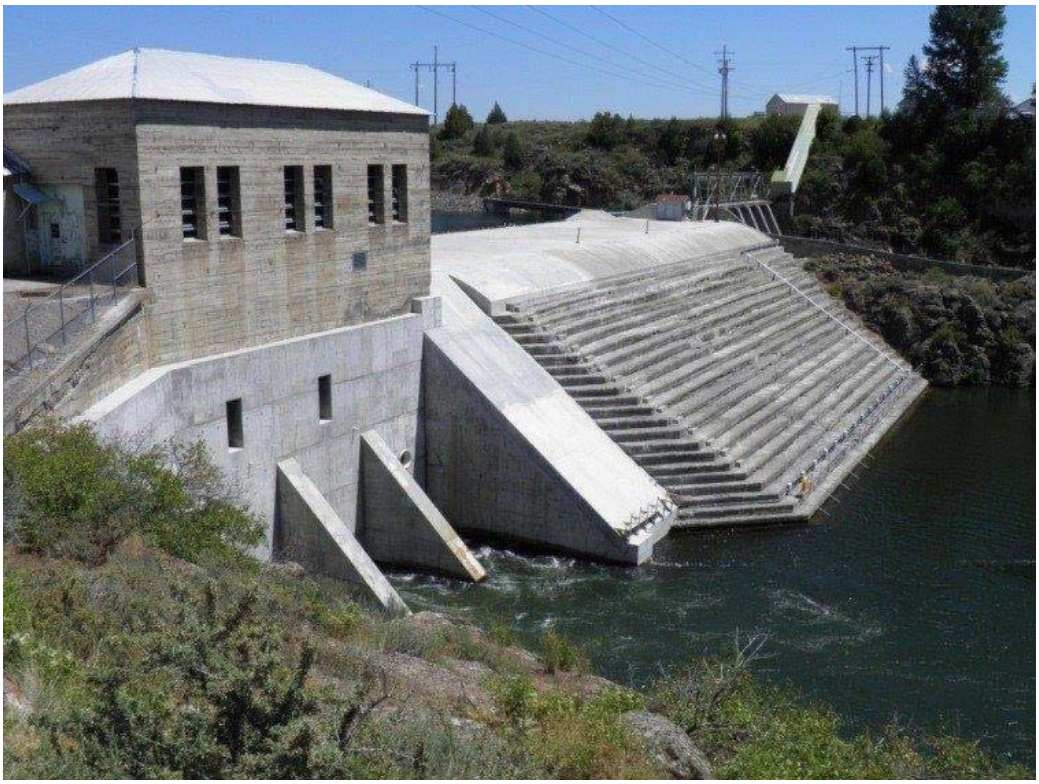


Photo 1. Ashton Dam and powerhouse.

Photo 2. View of Ashton Dam looking west across the spillway (foreground) and dam, with the powerhouse and substation in the background.

Photo 3. View of the dam and powerhouse from the reservoir.

Photo 4. Spillway from the reservoir.

Photo 5. View from the top of the spillway overlooking the fishing access site gravel bar (before picnic table installation) and canyon downstream of Ashton Dam.

Photo 6. Ashton Reservoir looking north from the left (east) side of the dam. 6/9/2006.

Photo 7. Ashton Reservoir southeast shore.

Photo 8. Ashton Reservoir northwest shore.

Photo 9. Bald eagles on artificial perch at Ashton Reservoir.