January 30, 2026

Ms. Debbie-Anne Reese, Secretary
Federal Energy Regulatory Commission
888 First Street N.E.
Room 1A
Washington, DC 20426

Subject: FERC No. 2848 – Cascade Hydroelectric Project
Notification of Intent to File an Application for New License, Pre-Application Document, Request to Use Traditional Licensing Process, and Request for Designation as Non-Federal Representative. Public Classification.

Dear Secretary Reese:

Idaho Power Company (Idaho Power) is the licensee and current owner and operator of the Cascade Hydroelectric Project, Federal Energy Regulatory Commission (FERC or Commission) No. 2848 (Project). Idaho Power operates the Project pursuant to an existing license issued by FERC on Feb. 17, 1981, that is anticipated to expire on Jan. 31, 2031.

Idaho Power hereby files notice of Idaho Power's intent to file an application for a new license for the Project on or before Jan. 31, 2026 (NOI) (Attachment A). Idaho Power also requests FERC's authorization to use FERC's Traditional Licensing Process (TLP) to relicense the Project. In addition, Idaho Power is filing the Pre-Application Document for the relicensing of the Cascade Hydroelectric Project (Attachment D).

Pursuant to FERC's regulations, Idaho Power respectfully requests that FERC: (1) designate Idaho Power as the Commission's non-federal representative for purposes of consultation under Section 7 of the Endangered Species Act (ESA), 16 U.S.C. § 1536, the joint agency regulations thereunder at 50 CFR Part 402, Section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act, and the implementing regulations at 50 CFR § 600.920, and (2) authorize Idaho Power to initiate consultation under Section 106 of the National Historic Preservation Act, 54 U.S.C. § 306108 and the implementing regulations at 36 CFR Part 800 for activities related to the Project relicensing.

With this filing, Idaho Power is simultaneously distributing electronic and/or paper copies of the NOI, PAD, and request to use the TLP to relevant federal and state resource agencies, Native American tribes, non-governmental organizations, and other potentially interested parties (collectively, Interested Parties). See Distribution List, Attachment B.

1221 W. Idaho St (83702)
P.O. Box 70
Boise, ID 83707

On May 19, 2025, Idaho Power published notice of this filing in the Star-News, a daily newspaper of general circulation serving Valley County, where the Project is located (Attachment C).

REQUEST TO USE THE TLP

FERC's Integrated Licensing Process (ILP) is the default licensing process for applicants filing an NOI and PAD after July 23, 2005. Applicants seeking to use either the TLP or the Alternative Licensing Process must file a request and receive approval from FERC to do so. Therefore, concurrent with the filing of this NOI and PAD, and pursuant to 18 CFR § 5.3, Idaho Power requests approval from FERC to utilize the TLP in lieu of the default ILP to relicense this Project.

Likelihood of Timely License Issuance

The TLP provides the best opportunity to engage in a timely and efficient licensing process that facilitates Interested Party participation and fosters collaborative decision making. Idaho Power believes that with early coordination and consultation with Interested Parties, the more flexible TLP will allow Idaho Power to complete pre-filing requirements and ultimately file its subsequent license application in a timely manner. In fact, during the development of the PAD, Idaho Power discussed with several Interested Parties the relicensing process, the purpose of the PAD, our intent to use the TLP, reviewed resource information, and sought additional information to support the PAD development. No parties objected and no significant controversies were raised during these discussions. Idaho Power is not proposing to change the existing project facilities, and it is unlikely significant issues will be raised that cannot be resolved within the relicensing process timeframe.

Complexity of the Resource Issues

Idaho Power believes the Project's effects on resources are minimal and has not identified any substantial additional information needs to adequately characterize the Project or its surrounding environment. First, based on the location and limited Project features, issues will likely be limited. Idaho Power does not own or operate the Cascade Reservoir or Dam. Second, Idaho Power is not proposing to change existing Project facilities or its operations. Third, the archaeological, cultural, and historic built resources located on Idaho Power and federally administered land within and near the Project boundary have been previously studied. The Project boundary is not located on federally recognized Native American reservation lands. Finally, Idaho Power has been monitoring and collecting operational and resource data at the Project over the term of the current license, which has not resulted in any significant resource concerns.

Level of Anticipated Controversy

Idaho Power is a member of the Valley County community. Given the low complexity of the issues anticipated at the Project and the tenor of the pre-PAD consultation discussions with several Interested Parties, it seems unlikely that the relicensing process will create any significant controversy that cannot be overcome through a cooperative TLP process.

Relative Cost of the TLP Compared to the ILP

The flexible nature of the TLP will allow Idaho Power and Interested Parties to avoid the costs and other resource commitments needed to comply with the regimented requirements of the ILP. The TLP's framework and timelines will allow Idaho Power to work cooperatively with Interested Parties to develop information necessary to resolve any issues that may arise in the relicensing. This flexibility will aid in consensus-building and reduce the relicensing timeline and associated costs.

Amount of Available Information and Potential for Significant Disputes over Studies

The PAD contains a significant amount of existing information regarding resources associated with the Project. Idaho Power anticipates the combination of information in the PAD and the information developed from the implementation of any study plans will provide all the information needed for relicensing the Project. Therefore, Idaho Power contends the potential for significant disputes over studies is low.

Other Pertinent Factors

Other pertinent factors include (1) the Project is located just downstream of a federal dam and the operation of the Project will not change under the new license or result in any material change to current storage, release, or flow regimes; (2) the Project is operated and maintained for the generation of electric power based on flows the U.S. Bureau of Reclamation releases, and (3) a considerable amount of data and analysis exists for the Project that has been developed by Idaho Power over the term of the existing license and for this relicensing.

COMMENTS ON REQUEST TO USE THE TLP

As required by 18 CFR § 5.3(d), any comments regarding Idaho Power's request to use the TLP must be filed with FERC within 30 days of this filing and must reference FERC Project No. 2848. Comments on the request to use the TLP should address, as appropriate to the circumstances of the request, the following considerations:

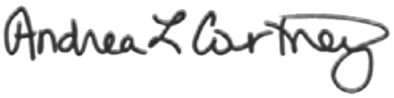
- Likelihood of timely license issuance;
- Complexity of the resource issues;
- Level of anticipated controversy;

- Relative cost of the traditional process compared to the integrated process;
- The amount of available information and potential for significant disputes over studies, and
- Other facts believed to be pertinent.

Comments must be sent to Idaho Power and the Secretary of the Commission with reference to FERC Project No. 2848. Comments sent to FERC must be submitted in accordance with the filing procedures posted on FERC's website at http://www.ferc.gov.

Idaho Power looks forward to working with FERC and Interested Parties during the relicensing of the Project. If you have any questions regarding the NOI, PAD, or request to use the TLP, please contact Andrea Courtney, Idaho Power's Hydro Licensing Lead, at (208) 388-2655 or acourtney@idahopower.com.

Respectfully submitted,



Andrea L. Courtney
Hydro Licensing Leader
Idaho Power Company
ACourtney@idahopower.com
(208) 388-2655

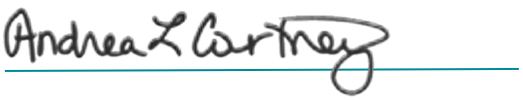
Encs.

Cc: Distribution List (see attached)

CERTIFICATE OF SERVICE

I hereby certify that I have this day caused the foregoing document with attachments to be served upon each person/entity designated on the attached distribution list for the Cascade Hydroelectric Project.

Dated at Boise, ID this 30th day of January, 2026.



Andrea L. Courtney
Hydro Licensing Lead
Idaho Power
P.O. Box 70 (83707)
1221 W. Idaho St.
Boise, ID 83702
(208) 388-2655
acourtney@idahopower.com

Attachment A = NOI

Attachment B = Distribution List

Attachment C = proof of publication

Attachment D = PAD

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Idaho Power Company Proj. No. 2848

NOTICE OF INTENT OF IDAHO POWER COMPANY TO FILE AN APPLICATION FOR NEW LICENSE FOR THE CASCADE HYDROELECTRIC PROJECT (FERC NO. 2848)

Idaho Power Company (Idaho Power) hereby gives notice to the Federal Energy Regulatory Commission (FERC) of its intent to file an Application for New License for the Cascade Hydroelectric Project (FERC No. 2848). The current FERC license for the Cascade Hydroelectric Project was issued on February 17, 1981, to Idaho Power, and expires on January 31, 2031. Idaho Power intends to file an application for a new license no later than January 31, 2029.

Idaho Power requests that all correspondence and service documents relating to this notification and subsequent proceeding be addressed to:

Andrea L. Courtney, Hydro Licensing Leader
Idaho Power Company
P.O. Box 70 (83707)
1221 West Idaho Street
Boise, ID 83702
acourtney@idahopower.com
(208) 388-2655

Nathan Gardiner, Senior Counsel
Idaho Power Company
P.O. Box 70 (83707)
1221 West Idaho Street
Boise, ID 83702
ngardiner@idahopower.com
(208) 388-2975

(1) Existing licensee's name and address:

Idaho Power Company
1221 W. Idaho St.
P.O. Box 70
Boise, Idaho 83707

(2) Project number

FERC No. 2848

(3) License expiration date:

January 31, 2031

(4) Unequivocal statement of intent to file an application for a new license:

Idaho Power hereby declares its intent to file an application for new license for the Cascade Hydroelectric Project (Project), FERC Project Number 2848, using FERC's Traditional Licensing Process (TLP).

(5) Principal project works licensed:

Comprised of approximately 11 acres, the Project consists of: 1) one 12-foot diameter penstock bifurcated into two 8.5-foot diameter penstocks, 2) one concrete powerhouse with two semi-outdoor turbines rated at 8,683 hp each, 3) one three-phase transformer with switching structures adjacent to the powerhouse, 4) a 69-kV transmission line, and 5) appurtenant facilities.

The Cascade Dam and associated spillway are not project works but are owned and operated by the United States Bureau of Reclamation.

(6) Project location:

The Project is in the State of Idaho, Valley County, just north of the City of Cascade, approximately 200 feet downstream of the Cascade Dam.

(7) Installed capacity:

This Project has a total installed nameplate capacity of 12.4 MWs.

(8) Location where information required under 18 CFR § 16.7 is available to the public:

This NOI and all other information filed with FERC related to this proceeding, including the Pre-Application Document (PAD), are available for public inspection and reproduction at Idaho Power's central office, 1221 W. Idaho Street, Boise, Idaho 83702 during regular business hours (8:00 a.m. – 5:00 p.m., Monday through Friday).

The public is instructed to contact Andrea Courtney by telephone at (208)388-2655 or by email at acourtney@idahopower.com to make an appointment, request a digital copy, or review the information.

The documents filed with FERC can also be obtained from FERC's e-Library filing system at https://elibrary.ferc.gov/eLibrary/ by searching Docket P-2848.

Additionally, one copy of the NOI and PAD will be available during business hours at the Cascade Public Library, 105 N. Front Street, Cascade, ID 83611.

(9) Names and mailing addresses of

a. Every county in which the Project is located and in which any federal facility that is used by the Project is located:

The Project is located entirely in Valley County, Idaho.

Valley County Clerk
P.O. Box 1350
200 W. Front Street
Cascade, ID 83611

b. Every city, town, or similar local political subdivision in which the Project is located and any federal facility that is used by the Project is located or that has a population of 5,000 or more people and is located within 15 miles of the existing dam:

The Project is located within the City of Cascade.

City of Cascade
P.O. Box 649
Cascade, ID 83611

The City of McCall, approximately 28 miles from the Cascade Dam, has a population of roughly 4000. No city, town or similar local political subdivision within a 15-mile radius of the Dam has a population of 5,000 or more people.

c. Every irrigation district, drainage district, or similar special purpose political subdivision

i. in which the Project is located and any federal facility that is or is proposed to be used by the Project is located:

The Project is located within Water District 65.

Water District 65
710 S. Washington Ave., Ste A
Emmett, ID 83617

ii. that owns, operates, maintains, or uses any Project facility or any federal facility that is or is proposed to be used by the Project

No Project facilities are owned, operated, maintained, or used by any irrigation districts, drainage districts, or similar special purpose political subdivisions.

The Project uses the Cascade Dam and Reservoir which are owned, operated, and maintained by the United States Bureau of Reclamation.

United States Bureau of Reclamation
940 Dam Road
Cascade, ID 83611

d. Every other political subdivision in the general area of the Project that there is reason to believe would be likely to be interested in, or affected by, the notification:

Idaho Power is unaware of any other political subdivision in the Project's general area that there is reason to believe would be likely to be interested in, or affected by, this notification.

e. Affected Indian tribes:

There are no Tribal lands located within or adjacent to the FERC project boundary. The Native American Tribes below may have an interest in the Project.

Shoshone-Bannock Tribes
P.O. Box 306
Fort Hall, ID 83203

Shoshone-Paiute Tribes
P.O. Box 219
Owyhee, NV 89832

Confederated Tribes of Warm Springs
P.O. Box C
Warm Springs, OR 97761

Nez Perce Tribe
P.O. Box 305
Lapwai, ID 83540

(10) Publication of Notice of Intent:

Idaho Power published a notice of the filing of this NOI and PAD in the following daily newspaper of general circulation in the county in which the Project is located:

The Star-News
1000 N. 1st Street
McCall, ID 83638

(11) Request for non-federal representative status for consultation:

Idaho Power requests that FERC authorize Idaho Power to initiate consultation under Section 106 of the National Historic Preservation Act and the implementing regulations at 36 CFR § 800.2(c)(4). Idaho Power also requests that FERC designate Idaho Power as FERC's non-federal representative for purposes of consultation under Section 7 of the Endangered Species Act and the joint agency regulations at 50 CFR Part 402, § 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act, and the implementing regulations at 50 CFR § 600.920.

Attachment B. Cascade Hydroelectric Project Relicensing Distribution List

Federal Agencies

Debbie-Anne A. Reese Secretary Federal Energy Regulatory Commission 888 First Street N.E., Room 1A Washington, DC 20426	Acting Regional Engineer Federal Energy Regulatory Commission Portland Regional Office 1201 NE Lloyd Blvd, Suite 750 Portland, OR 97232 re.d2si-pro@ferc.gov
Nicholas Jayjack Director, Hydropower Licensing Federal Energy Regulatory Commission 888 First Street N.E. Washington, DC 20426 nicholas.jayjack@ferc.gov	Golbahar Mirhosseini Project Manager/Environmental Engineer Federal Energy Regulatory Commission 888 First Street N.E. Washington, DC 20426 Golbahar.mirhosseini@ferc.gov
Kelsey Swieca NOAA Fisheries West Coast Region, Interior Columbia Basin Office 1201 NE Lloyd Blvd, Suite 1100 Portland, OR 97232 Kelsey.swieca@noaa.gov	Erin Kenison, PhD Hydropower Branch Chief U.S. Fish and Wildlife Service 1387 S. Vinnell Way Boise, ID 83709 Erin_kenison@fws.gov
U.S. Army Corps of Engineers Walla Walla Civil Works Districts 201 N. 3rd Ave. Walla Walla, WA 99362-1876 Cenww-pa@usace.army.mil	Rebecca Lazdauskas ROW/FERC Lead Bureau of Land Management State Office 1387 S. Vinnell Way Boise, ID 83709 rllazdauskas@blm.gov
Shannon Bassista Idaho Recreation Specialist Bureau of Land Management 1387 S. Vinnell Way Boise, ID 83709 sbassista@blm.gov	Wade Vagias, PhD National Park Service Superintendent Southern Idaho National Parks wade_vagias@nps.gov

Emma Pokon Regional Administrator U.S. Environmental Protection Agency Region 10, Pacific Northwest 1200 6th Avenue Suite 155 Seattle, WA 98101 Pokon.emma@epa.gov	Christopher Mebane Deputy Center Director Idaho Water Science Center U.S. Geological Survey 230 Collins Rd. Boise, ID 83702-4520 cmebane@usgs.gov
Chris Bentley District Ranger Cascade Ranger District U.S. Forest Service P.O. Box 696 Cascade, ID 83611 Christopher.w.bentley@usda.gov	Matthew Davis Payette National Forest's Supervisor's Office U.S. Forest Service 500 N. Mission St. McCall, ID 83638
Tim Lingle Acting Program Manager Inter-Regional Hydropower Team U.S. Forest Service 324 25th Street Ogden, UT 84401 Timothy.lingle@usda.gov	Ryan Alcorn U.S. Bureau of Reclamation Deputy Area Manager Middle Snake Field Office 230 Collins Rd. Boise, ID 83702-4520 Ralcorn@usbr.gov
Emma Diehl Program Analyst Advisory Council on Historic Preservation 401 F Street N.W., Suite 308 Washington, DC 20001 ediehl@achp.gov	

State and Federal Senators and Representatives

Senator Mike Crapo 250 E. Front St., Suite 205 Boise, ID 83702	Senator James Risch 350 N. 9th St., Suite 302 Boise, ID 83702
Representative Russ Fulcher 33 East Broadway Ave., Suite 251 Meridian, ID 83642	Christy Zito Idaho State Senator P.O. Box 1015 Mountain Home, ID 83647 CZito@senate.idaho.gov
Robert (Rob) Beiswenger Idaho State Representative P.O. Box 293 Horseshoe Bend, ID 83629 Rbeiswenger@house.idaho.gov	Faye Thompson Idaho State Representative McCall, ID 83638 FThompson@house.idaho.gov

State Government and Agencies

Idaho Office of the Governor State Capitol P.O. Box 83720 Boise, ID 83720 governor@gov.idaho.gov	Susan Buxton Director Idaho Department of Parks & Recreation 5657 E. Warm Springs Ave. Boise, ID 83702 Susan.buxton@idpr.idaho.gov
Tambra Phares 401 Certification Lead Idaho Department of Environmental Quality 1410 N. Hilton St. Boise, ID 83706 Tambra.phares@deq.idaho.gov	Mat Weaver Director Idaho Department of Water Resources P.O. Box 83720 Boise, ID 83720-0098 file@idwr.idaho.gov
Cally Younger Administrator Office of Energy and Mineral Resources P.O. Box 83720 Boise, ID 83720-0199 Cally.younger@oer.idaho.gov	Jim Fredericks Director Idaho Department of Fish and Game 600 S. Walnut St. Boise, ID 83712 Jim.fredericks@idfg.idaho.gov
Lance Holloway Surface Water Quality Manager 1445 N. Orchard St. Boise, ID 83712 lance.holloway@deq.idaho.gov	Meghan Cline Water Quality Analyst 1445 N. Orchard St. Boise, ID 83706 meghan.cline@deq.idaho.gov

Dustin Miller Director Idaho Department of Lands 300 N. 6th St., Suite 103 Boise, ID 83702 dmiller@idl.idaho.gov	Tom Bassista Technical Assistance Program Coordinator Idaho Department of Fish and Game 600 S. Walnut St. Boise, ID 83712 Tom.bassista@idfg.idaho.gov
Jess Byrne Director Idaho Department of Environmental Quality 1410 N. Hilton St. Boise, ID 83706 Jess.byrne@deq.idaho.gov	Michael Edmondson Administrator Office of Species Conservation 304 N. 8th St., Suite 149 Boise, ID 83702 Mike.edmondson@osc.idaho.gov
Emily Her Policy Manager Office of Energy and Mineral Resources P.O. Box 83720 Boise, ID 83720-0199 Emily.Her@oer.idaho.gov	Brandon Flack Regional Technical Assistance Manager Idaho Department of Fish and Game P.O. Box 25 Boise, ID 83712 Brandon.Flack@idfg.idaho.gov
Jordan Messner Regional Fisheries Manager Idaho Department of Fish and Game P.O. Box 25 Boise, ID 83712 Jordan.messner@idfg.idaho.gov	Chase Cusack Aquatic Staff Biologist Idaho Department of Fish and Game P.O. Box 25 Boise, ID 83712 chase.cusack@idfg.idaho.gov
Monica Barios-Sanchez Commission Secretary Idaho Public Utilities Commission P.O. Box 83720 Boise, ID 83720-0074 secretary@puc.idaho.gov	Chris Shaver Archaeologist Idaho State Historic Preservation Office 210 Main Street Boise, ID 83702 Chris.Shaver@ishs.idaho.gov

Counties and Municipal Government

Judith R. Nissula Mayor City of Cascade P.O. Box 649 Cascade, ID 83611 mayor@cascadeid.us	Ronald Brown Council Member City of Cascade P.O. Box 649 Cascade, ID 83611 councilmemberbrown@cascadeid.us

Rachel Huckaby Council Member City of Cascade P.O. Box 649 Cascade, ID 83611 councilmemberhuckaby@cascadeid.us	Jason Speer Council Member City of Cascade P.O. Box 649 Cascade, ID 83611 councilmemberspeer@cascadeid.us
Denise Tangen Council President City of Cascade P.O. Box 649 Cascade, ID 83611 councilmembertangen@cascadeid.us	Katlin Caldwell Commissioner, District 1 219 N. Main Street Cascade, ID 83611 kcaldwell@valleycountyid.gov

Native American Tribes

Donna Thompson Chairman Shoshone-Bannock Tribes P.O. Box 306 Fort Hall, ID 83203 Donna.thompson@sbtribes.com	Carolyn Smith Cultural Resources Coordinator Shoshone-Bannock Tribes P.O. Box 306 Fort Hall, ID 83203 csmith@sbtribes.com
Louise Dixey Cultural Resources Director Shoshone-Bannock Tribes P.O. Box 306 Fort Hall, ID 83203 ledixey@sbtribes.com	Brian Mason Chairman Shoshone-Paiute Tribes P.O. Box 219 Owyhee, NV 89832 Mason.brian@shopai.org
Jade Roubideaux Cultural Preservation Director Shoshone-Paiute Tribes P.O. Box 219 Owyhee, NV 89832 Roubideaux.jade@shopai.org	Shannon F. Wheeler Chairman Nez Perce Tribe P.O. Box 305 Lapwai, ID 83540 NPTEC@nezperce.org
Nakia Williamson-Cloud Cultural Resources Program Director Nez Perce Tribe P.O. Box 305 Lapwai, ID 85340 nakiaw@nezperce.org	Keith (Pat) Baird Tribal Historic Preservation Officer/Archaeologist Nez Perce Tribe P.O. Box 305 Lapwai, ID 85340 keithb@nezperce.org

Lawrence Squiemphen III Tribal Historic Preservation Officer Confederated Tribes of Warm Springs P.O. Box C Warm Springs, OR 97761	Confederate Tribes of Warm Springs Tribal Council 1233 Veterans Street P.O. Box C Warm Springs, OR 97761

Organizations

Water District 65 710 S. Washington Ave., Ste A Emmett, ID 83617 office@waterdistrict65.com	Brad Smith Interim Executive Director Idaho Conservation League P.O. Box 844 Boise, ID 83701 bsmith@idahoconservation.org

The Star-News

AFFIDAVIT OF PUBLICATION

State of Florida, County of Orange, ss:

I, Anjana Bhadoriya, of lawful age, being duly sworn upon oath depose and say that I am an agent of Column Software, PBC, duly appointed and authorized agent of the Publisher of The Star-News, of Valley County, State of Idaho, state that this newspaper is a qualified newspaper, published and of general circulation in said county, was published in regular edition of said paper, and that the notice of which the annexed is a copy was published on the following date(s).

Publication Dates:

- Jan 15, 2026

Advertising Fee: $92.04

Anjana Bhadoriya

Agent

VERIFICATION

State of Florida
County of Orange

JESSICA GORDON-THOMPSON
Notary Public - State of Florida
Commission # HH301656
Expires on August 17, 2026

Signed or attested before me on this: 01/15/2026

Notary Public

Notarized remotely online using communication technology via Proof.

Federal Energy Regulatory Commission
Idaho Power Company
Cascade Hydroelectric Project
FERC Project No. 2848

Idaho Power Company (IPC) is filing a Notice of Intent (NOI), a Preliminary Application Document (PAD), and a Request to use the Traditional Licensing Process (TLP) with the Federal Energy Regulatory Commission (FERC or Commission) for its Cascade Hydroelectric Project (Project) (FERC No. 2848). IPC is publishing notice of these filings and making the following information available to the public:

Summary of Documents

1. The NOI will be filed on or before January 31, 2026. The NOI notifies FERC of IPC's unequivocal intent to prepare and file an application for new license for the Project.
2. The PAD will be filed on or before January 31, 2026. The PAD provides existing and reasonably available information about the existing Project, including relevant engineering, environmental, operational, and economic information.
3. The Request to use the TLP will be filed on or before January 31, 2026. The Request to use the TLP, if granted, will allow IPC to proceed pursuant to 18 CFR Part 16. IPC's Request to use the TLP is based upon informal consultation with potentially interested parties that did not reveal any potential significant controversies, and IPC believes the TLP provides the best opportunity to engage in a timely and efficient licensing process.

Inspection and Reproduction

The NOI, PAD, and Request to use the TLP, and associated materials, will be available for inspection and reproduction online at ferc.gov/docs-filing/elibrary.asp by searching under docket P-2848. They will also be available for inspection during regular business hours at IPC's headquarters at the address below.

Applicant's Contact Information

Andrea Courtney
P.O. Box 70
1221 W. Idaho Street
Boise, Idaho 83707
Phone: (208) 388-2655
Email: acourtney@idahopower.com

Location of Project and Type of Facilities

The Project is a major constructed project, a 12.4-megawatt hydroelectric power plant, located in Valley County, just downstream of the Cascade Dam.

Comments on Request to Use the TLP

Comments on IPC's Request to use the TLP are due to the Commission and IPC no later than 30 days following the filing date of the Request to use the TLP and must reference FERC Project No. 2848. Comments on IPC's Request to use the TLP should address, as appropriate to the cir-

cumstances of the request, the (a) likelihood of timely license issuance (b) complexity of the resource issues (c) level of anticipated controversy; (d) relative cost of the traditional process compared to the integrated process (e) the amount of available information and potential for significant disputes over studies; and (f) other factors believed by the commenter to be pertinent.

Any comments must be submitted to the Secretary of the Commission in accordance with filing procedures posted on the Commission's website at ferc.gov .

Published in The Star-News January 15, 2026.

420074C

Cascade Hydroelectric Project

Andrea L. Courtney
Hydro Licensing Leader

Idaho Power Company Pre-Application Document (PAD)

Cascade, FERC Project No. 2848

January 2026

Table of Contents

List of Tables

List of Figures

List of Exhibits

List of Acronyms and Abbreviations

Acronym	Definition
ALP	Alternative licensing process
AMSL	Above mean sea level
APLIC	Avian Power Line Interaction Committee
BCC	Bird species of conservation concern
BLM	Bureau of Land Management
CEII	Critical Energy Infrastructure Information
CFR	Code of Federal Regulations
cfs	Cubic feet per second
COLD	Cold-Water Aquatic Life
DEQ	Idaho Department of Environmental Quality
DO	Dissolved oxygen
DPS	Distinct population segment
DWS	Drinking Water Supply
EFH	Essential fish habitat
EPA	U.S. Environmental Protection Agency
ESA	*Endangered Species Act*
FERC	Federal Energy Regulatory Commission
FLA	Final License Application
FR	Federal Register
ft	Foot/feet
GIS	Geographic information system
Ha	Hectare
HP	horsepower
HUC	Hydrologic Unit Code
ICRIS	Idaho Cultural Resource Information System
IDFG	Idaho Department of Fish and Game
IDL	Idaho Department of Labor
IFWIS	IDFG's Idaho Fish and Wildlife Information System
ILP	Integrated Licensing Process
IPaC	USFWS Information for Planning and Consultation
IPC	Idaho Power Company
kV	kilovolt

Acronym	Definition
m	meter
MVA	Mega volt ampere
MW	Megawatt
MWh	Megawatt hour
NFPR	North Fork Payette River
NMFS	National Marine Fisheries Service
NOI	Notice of Intent
NRCS	National Resources Conservation Service
NRHP	National Register of Historic Places
NTU	Nephelometric Turbidity Unit
PAD	Pre-Application Document
PCR	Primary Contact Recreation
pH	Hydrogen ion concentration
Project	Cascade Hydroelectric Project, FERC No. 2848
Reclamation (or BOR)	U.S. Bureau of Reclamation
RM	River mile
RMP	Resource management plan
ROW	Right of way
SCR	Secondary Contact Recreation
SHPO	Idaho State Historic Preservation Office
SS	Salmonid spawning
TCP	Traditional cultural properties
TDG	Total dissolved gas
TLP	Traditional Licensing Process
TMDL	Total maximum daily load
UPRR	Union Pacific Railroad
U.S.	United States
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

1. Introduction

1.1. Project Background and Purpose

Idaho Power Company (Idaho Power) is filing with the Federal Energy Regulatory Commission (FERC or Commission) its notification of intent (NOI) to relicense and the required Pre-Application Document (PAD) for the Cascade Hydroelectric Project (FERC No. 2848) (Project). Idaho Power is the owner and operator of the Project and holds the existing FERC license, which expires January 31, 2031. See Exhibit A and Section 3.6.1 for details about the Project's license.

The Project is located on the North Fork of the Payette River, near the city of Cascade, Idaho. More specifically, the Project is located just downstream of Cascade Dam (Dam), which created Lake Cascade, or Cascade Reservoir (Reservoir), owned and operated by the United States (U.S.) Bureau of Reclamation (BOR 2025). The Dam is an earth-filled structure, stretching 785 feet across the crest (BOR 2025). The Dam is part of the Payette Division of the Boise Project, authorized by Congress on March 27, 1905; Dam construction was completed in 1948 (BOR 2002). Congress approved the Reservoir primarily for irrigation and hydropower purposes.

Idaho Power submits this PAD pursuant to Title 18 §§ 5.6 and 16.8 the U.S. Code of Federal Regulations (CFR). This PAD accompanies Idaho Power's NOI to seek a subsequent license for the Project. Idaho Power is distributing this PAD and NOI simultaneously to federal and state resource agencies, local governments, Native American tribes, members of the public, and others interested in the relicensing proceeding (Interested Parties). The purpose of the PAD is to provide existing information relevant to the Project in Idaho Power's possession or that Idaho Power can obtain with the exercise of due diligence.

In developing this PAD, Idaho Power reviewed existing internal and external data relevant to the Project and contacted several entities that might be interested in the Project. In the discussions, Idaho Power reviewed the licensing process and schedule, discussed substantive issues, and sought additional information relevant to the Project. No significant controversies were raised in those discussions. Idaho Power also reviewed federal and state comprehensive plans filed with FERC for additional information relevant to the Project.

2. Process Plan and Schedule (18 CFR § 5.6(d)(1))

The process plan and schedule were developed to provide all parties with an understanding of what to expect during the relicensing process, such as public meetings, time frames for gathering information, submitting comments, developing and conducting studies, obtaining necessary permits, and completing all pre-filing licensing activities.

2.1. Request to Use the Traditional Licensing Process

FERC's Integrated Licensing Process (ILP) is the default licensing process for applicants filing an NOI and PAD. Applicants seeking to use either the Traditional Licensing Process (TLP) or the Alternative Licensing Process (ALP) must file a request and receive approval from FERC to do so. Concurrent with the filing of this PAD and pursuant to 18 CFR § 5.3(b), Idaho Power requests FERC's approval for using the TLP. FERC's regulations at 18 CFR § 5.3(c)(1)(i)-(ii) require an applicant to justify the request and address six factors. Idaho Power examines the six factors in its cover letter to the NOI. Idaho Power expects the Project's relicensing to be non-controversial, require few studies, and have relatively non-complex resource issues.

2.2. Comments on Idaho Power's Request to Use the TLP

As required by 18 CFR § 5.3(d), any comments in response to Idaho Power's request to use the TLP must be filed with FERC within 30 days of this filing and must reference FERC Project No. 2848. Comments must be sent to Idaho Power and the Secretary of the Commission. Comments sent to FERC must be submitted in accordance with the filing procedures posted on FERC's website at ferc.gov. Comments should address, as appropriate to the circumstances of the request, all the following considerations:

- Likelihood of timely license issuance
- Complexity of the resource issues
- Level of anticipated controversy
- Relative cost of the traditional process compared to the integrated process
- Amount of available information and potential for significant disputes over studies
- Other facts believed to be pertinent.

Idaho Power looks forward to working with FERC and the Interested Parties during the relicensing of the Project.

2.3. Relicensing Schedule, Scoping Meeting, and Site Visit

The proposed process plan and schedule for the Project set forth in the following was developed consistent with FERC's regulations at 18 CFR §§ 5.6-5.8 and 16.8. The proposed schedule provides each of the major pre-filing relicensing activities in the TLP, the party responsible for implementation of the activity, and the deadline for each activity. The deadlines included in the proposed schedule identify the time frame by which each activity must be completed to comply with FERC's regulations. However, the schedule is subject to change,

as some activities may be completed early, and certain activities are dependent on the completion of other activities.

Following the filing of the NOI, PAD, and request to use the TLP, FERC will publicly notice the documents. Comments on Idaho Power's request to use the TLP are due within 30 days of this filing. If FERC approves Idaho Power's TLP request, as set forth in 18 CFR § 16.8(b)(3)(ii), a joint meeting with Interested Parties and an opportunity for a Project site visit will be held no earlier than 30 days, but no later than 60 days, following the date FERC authorizes use of the TLP. The joint meeting will allow Interested Parties to understand existing resource conditions and participate in a question-and-answer session with Idaho Power regarding the Project. The Project site visit is an opportunity to tour the Project. Table 1 provides a draft schedule of the pre-filing process.

Table 1
Cascade Project—anticipated pre-filing relicensing schedule

18 CFR	Activity	Responsibility	Time Frame
§ 5.6(b)(2)	PAD due diligence	Idaho Power	May 2025–January 2026
§§ 5.3, 5.5, 5.6, 16.6(b), 16.7(d)	File NOI, PAD, TLP Request, and Request to be FERC's non-federal representative for informal *Endangered Species Act* (ESA) and *National Historic Preservation Act* (NHPA) consultation, and publish public notice in newspaper	Idaho Power	5 to 5.5 years prior to license expiration
§ 5.3(d)(1)	Comments on TLP Request	Interested parties	Within 30 days of TLP Request submittal
§ 5.7	Meeting with potentially affected Native American tribes	FERC	No later than 30 days after filing of NOI and PAD
§ 5.8	Issue Public Notice of NOI, PAD, and decision on TLP request and non-federal representation designation	FERC	Within 60 days of NOI, PAD, and TLP Request submittal
§ 16.8(b)(3)(i)(B), 16.8(i)(1)	Notify FERC of Joint Meeting and Site Visit and publish notice in newspaper	Idaho Power	At least 15 days in advance of joint meeting
§ 16.8(b)(3)(ii)	Joint Meeting for Consultation with Interested Parties at Idaho Power (1221 W. Idaho St., Boise, ID, with a virtual option) and opportunity for site visit	Idaho Power, Interested parties, FERC	Within 30 to 60 days of FERC's Approval of TLP Request. Joint Meeting — May 5, 2026
§ 16.8(b)(5)	Comments on PAD and Submit Study Requests	Interested parties	Within 60 days of Joint Meeting

18 CFR	Activity	Responsibility	Time Frame
§ 16.8(c)(1)	Develop study plans	Idaho Power	Following receipt of PAD comments and study requests
§ 16.8(c)(1)	Conduct field studies	Idaho Power	Following development of study plans
§16.8(c)(4)	Distribute Draft License Application (DLA) with study results to Interested Parties	Idaho Power	Following conclusion of studies
§ 16.8(c)(5)	Comments on study results and DLA	Interested Parties	90-day comment period
§§ 16.2(b), 16.8(d)(1)	Develop Final License Application (FLA) and file with FERC	Idaho Power	No later than 2 years before current license expires

2.4. Communications and Distribution Protocols

Idaho Power's goal is to maintain open communications and provide public access to relevant relicensing information. Idaho Power anticipates the distribution of primary relicensing documents, submittal of comments, and correspondence to be largely conducted electronically, either by electronic filing of documents with FERC or via email distribution. Idaho Power will also maintain a web page dedicated to the Project's relicensing where all major public documents will be accessible. This website can be accessed two ways: 1) at idahopower.com/relicensing or 2) search for the term "relicensing" on Idaho Power's homepage search bar at idahopower.com.

Relicensing documents will also be available through FERC's eLibrary, an online records information system that contains documents submitted to and issued by FERC. The eLibrary can be accessed through FERC's homepage at ferc.gov. Documents filed with FERC as part of the Project's relicensing are available for viewing and printing via eLibrary by searching under the Project's docket, P-2848. Those interested can subscribe to docket P-2848 using eSubscription on FERC's website to receive notices of issuances and filings by email.

Hard copies of the NOI and PAD are available for review at Idaho Power Company, 1221 West Idaho Street, Boise, Idaho 83702. Any requests for hard copies of relicensing documentation should be sent to Andrea Courtney, Hydro Licensing Lead, P.O. Box 70, Boise, Idaho 83707 or by email to acourtney@idahopower.com. These requests must clearly indicate the document name, publication date, and reference FERC Project No. 2848. A reproduction charge and postage costs may be assessed for hard copies requested by the public. A copy will also be available at the Cascade Public Library, 105 N. Front Street, Cascade, Idaho 83611.

Idaho Power developed a distribution list of federal and state resource agencies, Native American tribes, local governments, relevant irrigation or water districts, non-governmental organizations, and other parties likely to be interested in the Project

relicensing. This list will be used to distribute electronic copies of major relicensing documents and will be updated with additions and modifications, upon request.

2.5. Interested Parties' Communications with FERC

All communications to FERC must reference the *Cascade Project FERC No. 2848 – Application for New License* clearly on the first page and must conform to FERC's Rules of Practice and Procedure. Any hard-copy filings with FERC must be provided to Idaho Power and all other entities listed on FERC's Official Service List for the Project.

FERC strongly encourages electronic filing of comments and interventions through its eFiling or eComments systems. Information and links to these systems can be found at the FERC webpage ferc.gov/docs-filing/ferconline.asp. To eFile comments and/or interventions, interested Parties must have an eRegistration account. After preparing the comment or motion to intervene, go to ferc.gov and select the eFiling link; select the new user option, and follow the prompts. Users are required to validate their account by accessing the site through a hyperlink sent to the registered email account.

An alternative method to eFile comments is through the "Quick Comment" system available via a hyperlink on FERC's homepage. "Quick Comments" do not require users to have a subscription, the comments are limited to 6,000 characters, and all information will be public. Commenters are required to enter their name and email address when providing "Quick Comments." Commenters will receive an email with detailed instructions on how to submit "Quick Comments."

Relicensing participants without internet access may submit comments to FERC at the address below via hard copy, but should be aware that documents sent to FERC by regular mail can be subject to docket-posting delays:

Debbie-Anne Reese, Secretary
Federal Energy Regulatory Commission
888 First Street, NE Room 1A
Washington, DC 20426

2.6. Sensitive Information

Certain documents may be restricted from public access in accordance with FERC's regulations protecting Critical Energy Infrastructure Information ([CEII] 18 CFR § 388.113) or in cases where the document contains sensitive information (e.g., cultural resource sites) (18 CFR § 388.112(b)). Idaho Power will address requests for such information on a case-by-case basis and in accordance with applicable laws, throughout the relicensing process.

3. Project Location, Facilities, and Operations (18 CFR § 5.6(d)(2))

The Project is wholly located in Valley County, Idaho, 0.5 miles northwest of the city of Cascade.

3.1. Contact Information

The following individuals are authorized to act on behalf of Idaho Power for this Project's relicensing:

Andrea Courtney
Hydro License Leader
P.O. Box 70 (83707)
1221 W. Idaho St.
Boise, ID 83702
acourtney@idahopower.com
(208) 388-2655

Brett Dumas
Director, Environmental Affairs
P.O. Box 70 (83707)
1221 W. Idaho St.
Boise, ID 83702
bdumas@idahopower.com
(208) 388-2330

Nathan Gardiner
Senior Counsel
P.O. Box 70 (83707)
1221 W. Idaho St.
Boise, ID 83702
ngardiner@idahopower.com
(208) 388-2975

3.2. Project Maps

Figures 1 and 2 show the lands of the general Project boundary and the lands and waters near the Project, as well as land ownership within the Project boundary. The Project boundary is approximately 11 acres.

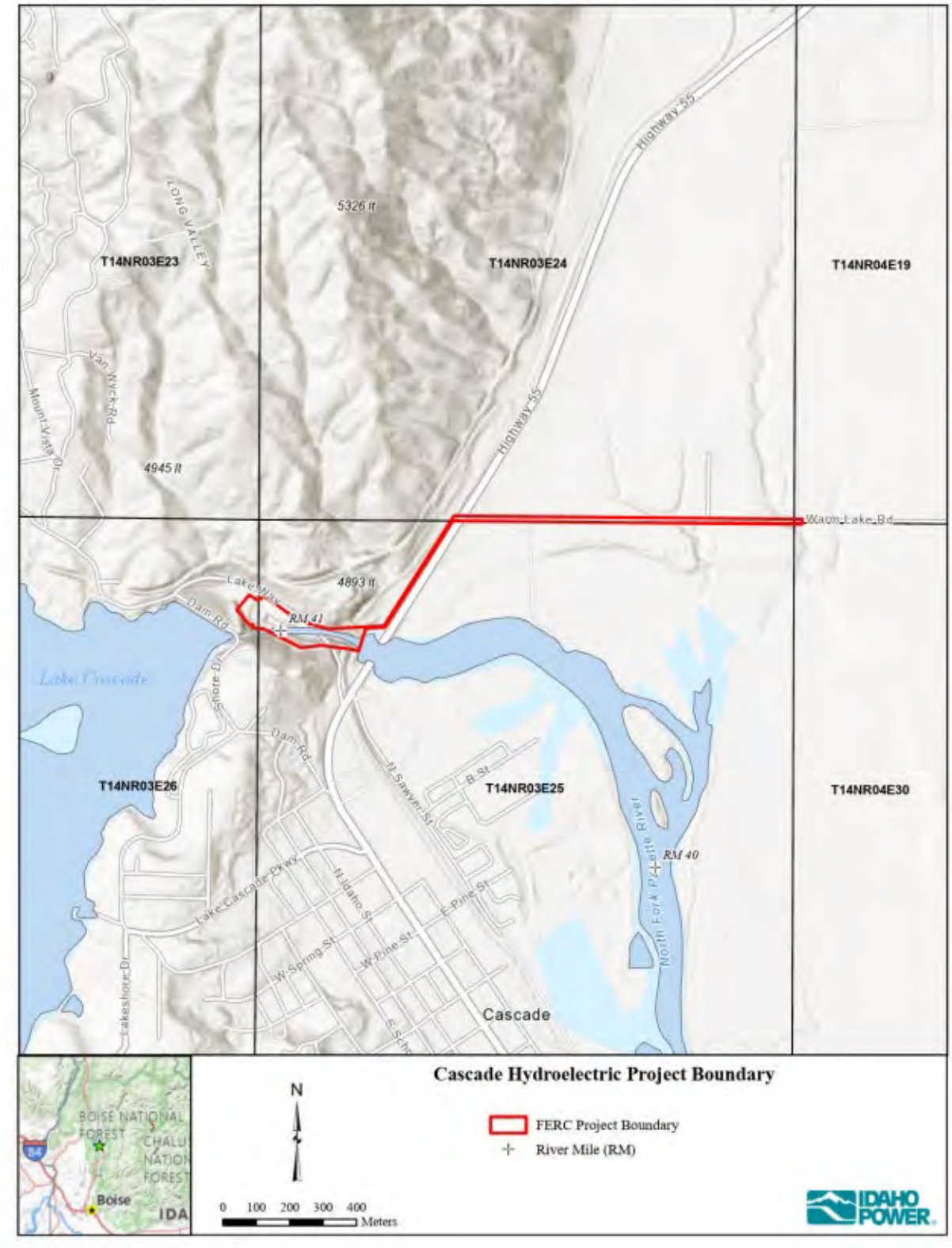


Figure 1
Project boundary

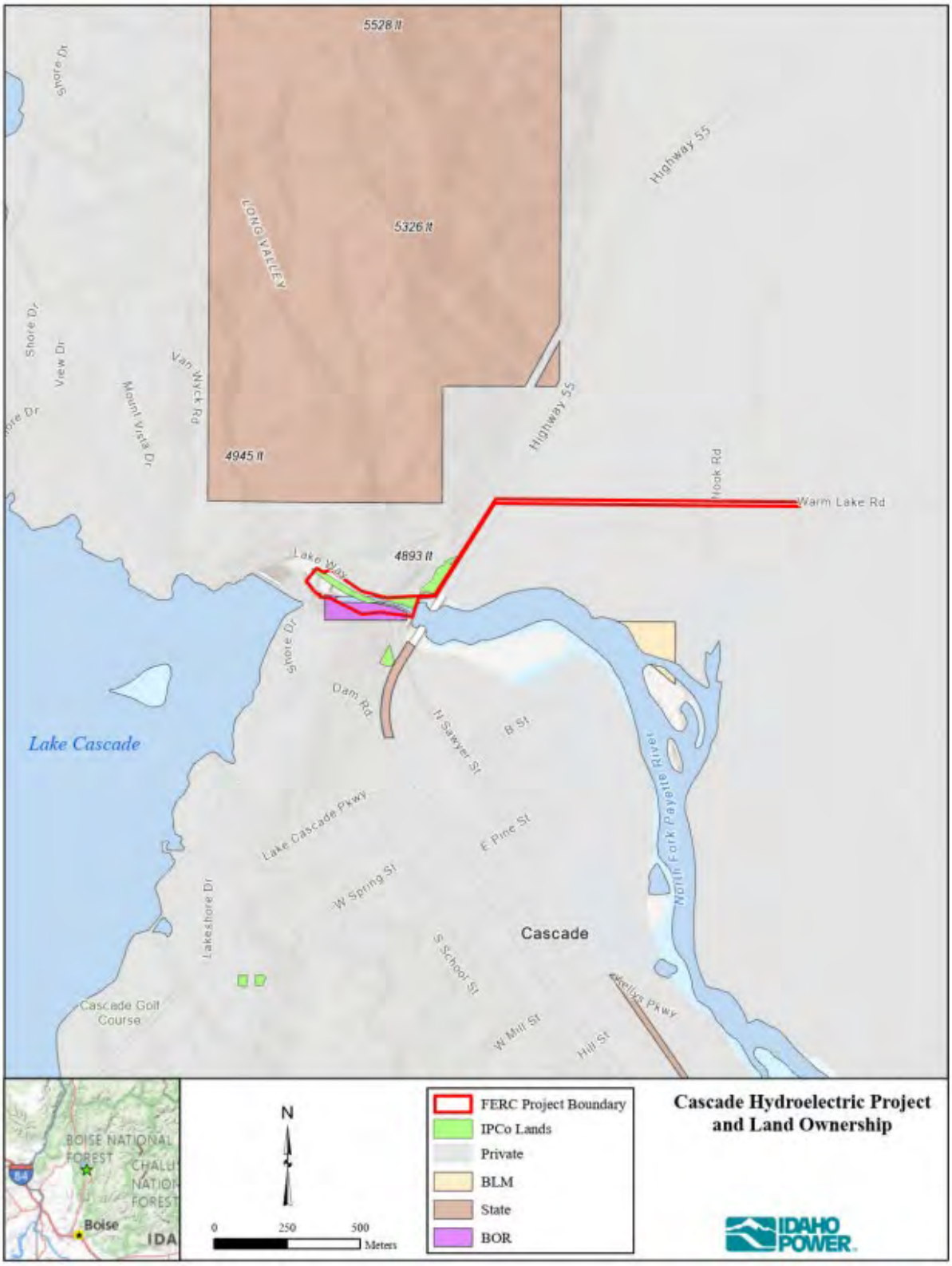


Figure 2
Land ownership along project boundary

3.3. Detailed Description of Existing Facilities and Components

The Project is located approximately 200 feet downstream of Cascade Dam on the North Fork of the Payette River. Cascade Dam, which created Cascade Reservoir, or Lake Cascade, is owned and operated by the U.S. Bureau of Reclamation (Reclamation or BOR). The Dam was authorized by Congress on March 27, 1905, pursuant to the *Reclamation Act* of June 17, 1902 (32 Stat. 388). With funding allocated in 1941, the original dam construction was completed in 1948, and the Reservoir was first filled to capacity in 1957. The Reservoir was authorized by Congress primarily for irrigation, storage, and federal hydropower purposes. Reclamation operates Lake Cascade and its other two reservoirs in the Payette River system as a unit to provide flood storage space, meet downstream irrigation demands, augment flow for salmon, or to pass through for power generation. In February 1980, Idaho Power filed an NOI to construct and operate a hydropower facility. In February 1981, FERC granted Idaho Power an exclusive license, and Idaho Power commenced construction of the Project later that year. The authorized minimum pool was changed to 46,662 acre-feet in May 1998 based on updated bathymetry. In 1995, BOR allocated 300,000 acre-feet of inactive and un-contracted storage space, below elevation 4,809.21 feet, for conservation pool maintenance. A more recent survey of the Reservoir indicates total storage volume at elevation 4,809.21 feet is 293,956 acre-feet (BOR 2002).

3.3.1. Dam and Spillway

Reclamation owns and operates the Dam and spillway. As such, these features are not Project works or within the Project boundary. However, Reclamation describes the Dam's and Reservoir's features as shown in tables 2 and 3.

Table 2
Cascade Dam features (reproduced from BOR 2025, BOR 2002, p. 3-2)

Dam Height	
Structural	107.0 feet (ft)
Hydraulic	69.0 ft
Dam Crest	
Width	35.0 ft
Length	785.0 ft
Elevation	4,840.0 ft
Outlet Works	
Capacity	2,760 cubic feet per second (cfs) at 4828.00 elevation
Spillway	
Crest elevation	4,808.0 ft
Capacity	12,500.0 cfs

Table 3
Cascade Reservoir statistics and data (reproduced from BOR 2002, p. 3-2 & updated via personal communication with BOR January 2026)

Normal Maximum Water Surface	
Elevation	4,809.21 ft mean sea level (msl)
Storage	293,956.0 acre-feet
Surface area	26,307.0 acres
Shoreline	86 miles (approx.)
Inactive (Minimum) Pool	
Elevation	4,787.5 ft msl
Storage	46,662.0 acre-feet
Surface area	5,837.0 acres
Administrative Minimum Pool	
Elevation	4,809.21 ft msl
Storage	300,000 acre-feet
Allocation of Capacity	
Inactive space	46,662.0 acre-feet
Special use pool	247,294.0 acre-feet
Irrigation contracts	310,450.0 acre-feet
Uncontracted space	88,717.0 acre-feet
Total	693,123.0 acre-feet

Cascade Dam is a zoned earth-fill structure with the spillway located on the right abutment of the Dam. Two, 21-by-20-foot radial gates at the crest allow discharge over the concrete lined spillway (BOR 2025).

3.3.2. Penstocks and Trashracks

The Project consists of one 12-foot diameter steel-lined penstock extending approximately 71 feet downstream from the original penstock to the start of a 35° bifurcation, resulting in two 8.5-foot diameter penstocks. A hydraulically opened, gravity closed, butterfly valve is connected to each of the resulting penstocks before the connection with each unit's scroll case. Idaho Power does not own, operate, or maintain the trashrack(s) or intake gate(s) at this Project; rather, that equipment is managed by Reclamation.

3.3.3. Powerhouse

The Project's powerhouse is a reinforced concrete structure containing two adjustable-blade turbines each rated at 8,683 horsepower (hp) at 81-foot net head connected to two vertical-shaft, semi-outdoor type generators each rated 6,900 Kilovolt Amp (kVA). Adjacent to the units on top of the plant are the compressor building and backup generator. Additionally,

the powerhouse is equipped with all other related electrical and mechanical equipment required for safe and efficient operation of the Project.

3.3.4. Turbines

The Project consists of two identical Kaplan turbines, each rated at 6.2 megawatts (MW) under normal conditions for a total installed capacity of 12.4 MW. Each turbine is rated at 8,683 hp at 81-foot net head. The Project's maximum hydraulic capacity is 2,300 cfs, with each turbine able to pass 1,150 cfs. The Project's minimum hydraulic capacity is 200 cfs. A picture of one turbine nameplate is provided in Figure 3.

Figure 3
Cascade turbine nameplate

3.3.5. Generators

The Project consists of two identical generators. The generator ratings are 6.9 megavolt ampere (MVA), which amounts to 6.2 MW at a power factor of 0.9. Through the North American Electric Reliability Corporation FAC-008 ratings standard, Idaho Power has rated the Project units at 6.9 MVA per unit and 6.2 MW per unit for normal operation. A picture of one generator nameplate is provided in Figure 4.

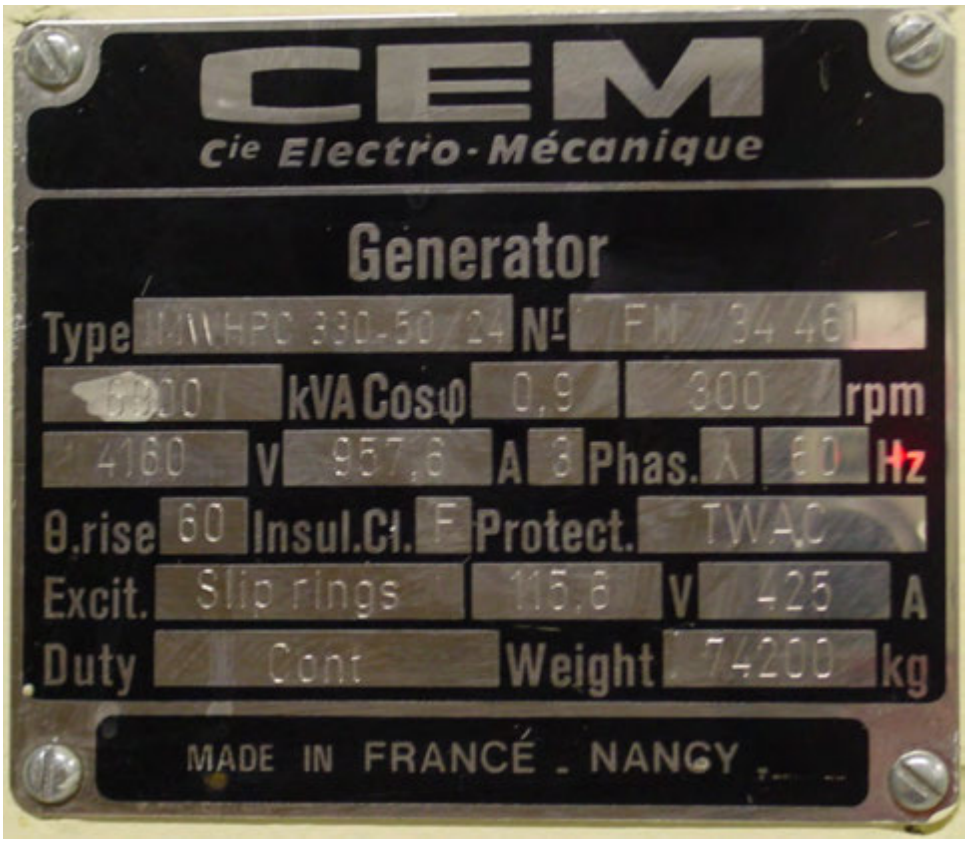


Figure 4
Cascade generator nameplate

3.3.6. Draft tubes

Two sets of two 10-by-8-foot gates are installed to provide for closure of the draft tubes. The gates are constructed of steel and equipped with rubber seals. The gates are handled by a gate hoist mounted on the gantry crane.

3.3.7. Gantry Crane

One gantry crane with a 45-ton capacity main hoist is installed. The crane supports maintenance activity at the Project.

3.3.8. Tailrace

The normal tailwater elevation is 4,730 feet. The tailrace provides a substantial recreational benefit and is further discussed in Section 4.7.

3.3.9. Transformers

One three-phase transformer is connected to the generating units with a capacity of 16,000 kVA, which steps up the voltage from 4,160 to 69,000 volts for transmission. The transformer is located adjacent to the downstream face of the Project with low voltage synchronizing breakers located adjacent to the generating unit.

3.3.10. Number, Length, Voltage, and Interconnections of Any Primary Transmission Lines

Idaho Power is not proposing any new transmission capabilities as part of the Project's relicensing. Existing transmission and interconnection infrastructure include a switchyard adjacent to the powerhouse containing one three-phase transformer rated at approximately 16 MVA, 4.1/69-kilovolt (kV), with circuit breakers and disconnect switches. From the Project, a pair of 69-kV transmission lines extend approximately 1.25 miles to Idaho Power's interconnected transmission system.

Exhibit B includes a single-line diagram that is being filed separately with FERC as CEII.

3.3.11. Energy Production

In 2025, the Project was connected to load and producing energy for 8,747 hours of the 8,760 hours possible in the year. This amounts to 99.9% availability of the Project for grid support. The average generation of the Project when it was connected to the grid was 4.7 MW. Table 4 shows the total plant generation by month in 2025.

Table 4
Cascade monthly generation in 2025

Total Gross Gen (MWh)		
	Month	**YTD**
Beg. Rdg.		
Jan.	545	545
Feb.	466	1,011
Mar.	3,836	4,847
Apr.	5,306	10,153
May	2,896	13,049
June	7,680	20,729
July	7,677	28,406
Aug.	7,162	35,568
Sept.	3,587	39,155
Oct.	680	39,835

Total Gross Gen (MWh)		
	Month	YTD
Nov.	539	40,374
Dec.	575	40,949

Between 2020 and 2025, the Project's average annual production was 35,417 MWh. Table 5 lists the total generation for each of those six years. Based on that time frame, the Project's average monthly production was 2,951 MWh.

Table 5
Cascade Project's total facility generation (MWh)

Year	Total Cascade Facility Generation (MWh)
2020	36,217
2021	27,038
2022	34,166
2023	36,142
2024	37,990
2025	40,949

The Project is operated as run-of-release; Reclamation releases water from the Reservoir for power generation throughout the year. Idaho Power's dependable capacity for this Project varies seasonally. Over the last seven years, Unit #1 averages a net winter capacity of 0.38 MW and a net summer capacity of 4.61 MW. For Unit #2 over the same period, average net winter capacity is 0.503 MW and summer is 4,219 MW.

3.4. Current and Proposed Operation

Reclamation owns and operates the Dam and is responsible for irrigation delivery, controlling flows, ramping rates, Reservoir operations, and flood control operations, among other items. Idaho Power is not proposing any changes to the current operations of the Project, as Project operations are completely dependent on Reclamation's operation of the Dam and available flows. A description of the Project's current operations is described below.

3.4.1. Spill Gates

Year-round spill gate operations are dictated and communicated by Reclamation with water orders. Idaho Power determines if the flow will be mitigated through the Project or spill gates, and Idaho Power communicates with Reclamation staff on spill mitigation. As discussed in Section 3.3.1, the Dam has two radial spill gates. The two radial gates are controlled by

Reclamation or by plant personnel in the Project's control room and can each pass a maximum flow of 5,100 cfs.

3.4.2. Operational Flows

As mentioned previously, the Project's minimum capacity is 200 cfs, and maximum hydraulic capacity is 2,300 cfs. Therefore, flows between 200 and 2,300 cfs go through the Project unless the Project is experiencing an outage, undergoing maintenance, or Idaho Power is spilling to maintain compliance with dissolved oxygen (DO) standards. All flows less than 200 cfs are generally being spilled over the spillway, and any flows greater than 2,300 cfs are being sent through the Project and spilled over the spillway.

3.4.3. Control Systems

Important control systems at the Project include Zetron, DO, Supervisory Control and Data Acquisition (SCADA), Graphical User Interface (GUI), alarms and public notifications, and inspections and monitoring.

3.4.3.1. Zetron

Idaho Power's procedure for on-call Project operators after regular working hours includes: 1) call dispatch and confirm the on-call operator has the appropriate contact numbers for any pagers, cell phones, or radios; 2) within 10 minutes of being notified by the Zetron, contact the generation dispatcher with alarm information; 3) acknowledge the Zetron alarm message; 4) wait 10 minutes for contact from the on-call operator; and 5) if there is no contact from the on-call operator within 10 minutes, begin trying to contact the operator phones in the following order: home phone, bell phone, and cell phone. If an alarm goes off, it will activate the Zetron, which will activate the bell phone. The Zetron calls the on-call operator's home phone and then the cell phone. The Zetron then calls the generation dispatcher.

3.4.3.2. Dissolved Oxygen

Idaho Power operates a computer-controlled system that monitors DO levels at the Project and automatically responds when DO levels approach minimum water quality standards. Blowers provide air to the draft tubes, which increases DO, allowing for continued operation of the Project. When the blowers provide insufficient DO, generation is reduced or stopped, and spill is initiated to increase DO to appropriate levels. In the summer, the first blower is activated when the DO level measured in the river is below 5.5 milligrams per liter (mg/L); the second blower is activated when the DO level is below 5.0 mg/L. For winter operations, the first blower is activated when the DO level measured in the river is below 6.3 mg/L. The operator is called out when the DO level in the river is below 3.5 mg/L, and spill occurs within 45 minutes of when DO levels fall below 3.5 mg/L. Spill continues until DO in the penstock reaches 5.0 mg/L, then spill tapers off as DO levels stabilize.

3.4.3.3. SCADA

SCADA provides real-time monitoring and control of generation and hydro-control equipment for remote locations. SCADA functions can include real-time monitoring, load management, capacitor automation, and report generation.

3.4.3.4. GUI

The GUI is located at the operator's desk in the control room. Units can be locally controlled with the GUI using Realflex® software. Idaho Power's Boise Operations Center also has control via SCADA and can place units on- and off-line.

3.4.3.5. Alarms and Public Notifications

The spillway gates are radial gates and do not open automatically. As necessary, Reclamation's operator will open the gates via SCADA. Before manually operating a spill gate, the Reclamation operator will initiate a siren for 60 seconds. This delay allows the siren to warn anyone immediately downstream of the spillway prior to gate operation.

3.5. Description of Proposed Facilities and Components

In this relicensing, Idaho Power is not proposing any changes in Project operation, future development, or rehabilitation, nor is Idaho Power proposing new facilities/components be constructed.[1] And because Idaho Power does not control the reservoir or dam, Idaho Power does not propose changes to those operations.

3.6. Existing Licensed Project Information

3.6.1. Current License Requirements

The license is subject to the articles set forth in Form L-2 (Revised October 1975), titled "Terms and Conditions of License for Unconstructed Major Project Affecting the Lands of the United States." These terms and conditions, designated as Articles 1 through 32, were made a part of the original license. See Exhibit A. The license is also subject to the following special conditions set forth in Table 6 as additional articles.

[1] As part of planned maintenance, Idaho Power is scheduled to change the line placement and replace certain structures. Anticipated work will be completed before Idaho Power's FLA in this relicensing will be submitted. Idaho Power will address any updates to the Project description in the FLA.

Table 6
Current Project license requirements

Article No.	Description
33	In consultation with Idaho Department of Fish and Game (IDFG), Idaho Department of Environmental Quality (DEQ), U.S. Fish and Wildlife Service (FWS), among others, determine measures or studies needed to ensure the Project discharges meet Idaho DO standard; develop a DO monitoring system downstream of the tailrace and provide annual summaries to IDFG, DEQ, and FERC; and provide facilities for oxygenation of Project discharges to ensure bypass waters meet Idaho DO standard.
34	Consult with Idaho Department of Water Resources (IDWR) on design and construction of integral facilities; reimburse IDWR for any costs it incurs in the review and approval of Project design and construction of integral facilities.
35	Idaho Power shall have no claim against the U.S. for pool levels in Cascade Reservoir.
36	File with FERC's Regional Engineer plans and specifications prior to construction.
37	Idaho Power must commence construction of the Project by February 1, 1983, and complete construction by February 1, 1985.
38	Install and operate public warning devices.
39	Protect identified archaeological sites from construction-related activities; when new sites observed, consult with State Historic Preservation Officer and develop a mitigation plan.
40	Pay the U.S. annual charges of a) a reasonable amount as determined by FERC's regulations to reimburse the U.S. for the cost of administration of Part I of the *Federal Power Act*; b) a reasonable amount as determined by FERC's regulations to compensate the U.S. for use, occupancy, and enjoyment of federal lands; c) a reasonable amount as determined by FERC's regulations to compensate the U.S. for use, occupancy, and enjoyment of lands for a transmission line right-of-way; and d) an amount not to exceed $104,350.00 subject to possible adjustment pursuant to the *Federal Power Act* to compensate the U.S. for use of Cascade Dam.
41	Maintain specific amortization reserve for the Project.
42	File approval for "as-built" Exhibits F and G within one year of Project operation.

3.6.2. Summary of Project Generation

A list of the Project's annual generation in MWh for the years 2020 through 2025 is displayed in Table 5.

3.7. Current Net Investment

Idaho Power estimates the Project's current value at $9,979,846.00. The value should not be interpreted as the fair market value of the Project.

3.8. Compliance History of the Project

To the best of Idaho Power's knowledge, Idaho Power is compliant with the terms and conditions of the existing license.

3.9. Future Refurbishment and Modernization

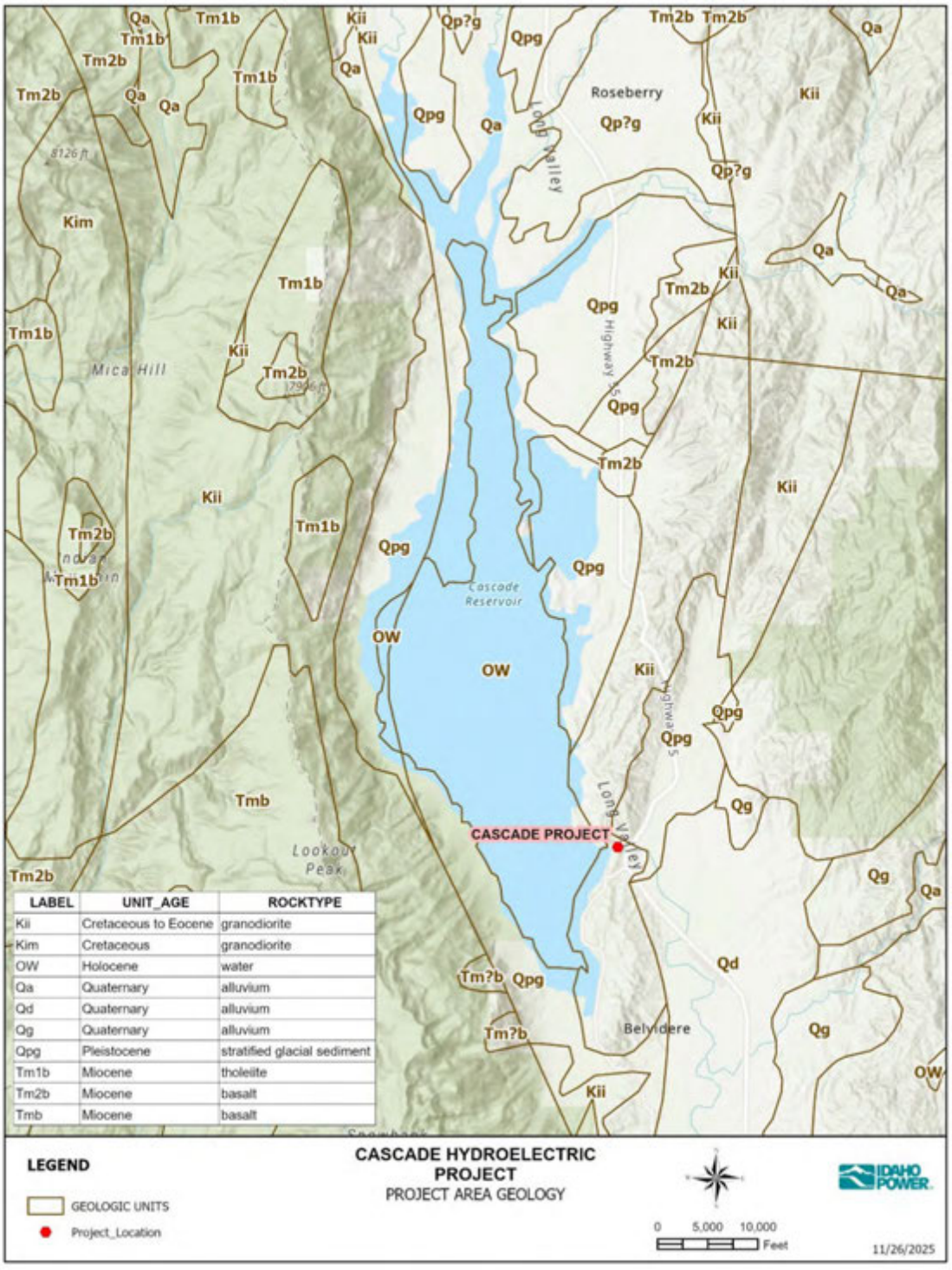
Idaho Power is not proposing to change long-term operations at the Project. Idaho Power is not currently planning to refurbish the turbine or generator at either of the Project's two units. Each unit receives regular maintenance and inspections, and the results indicate that these units remain in good condition and are expected to operate reliably for the next 10 years. Idaho Power is not currently planning any controls or wiring upgrades/modernization at this time.

4. Description of Existing Environment and Resource Impacts

4.1. Geology and Soils (18 CFR § 5.6(d)(3)(ii))

4.1.1. Description of Geological Features

Cascade Reservoir sits in the southern end of north–south running Long Valley, which varies between 5 and 7 miles wide and is 36 miles long (Figure 5). From the reservoir's west shore, the land rises quickly from the water surface at 4,828 feet to the West Mountains, whose peaks are generally from 7,000 to 7,800 feet. Just southwest of the Reservoir is Snowbank Mountain, which at 8,322 feet is the highest point in this range. The terrain to the north and northeast is the relatively flat, alluvial fill and glacial outwash plain that extends to the towns of Donnelly and McCall. The east shore rises less than 700 feet to a shorter north–south trending ridge. Beyond this ridge, the valley floor extends to the east through the town of Cascade to the Salmon River Mountains.



LABEL	UNIT_AGE	ROCKTYPE
Kii	Cretaceous to Eocene	granodiorite
Kim	Cretaceous	granodiorite
OW	Holocene	water
Qa	Quaternary	alluvium
Qd	Quaternary	alluvium
Qg	Quaternary	alluvium
Qpg	Pleistocene	stratified glacial sediment
Tm1b	Miocene	tholeiite
Tm2b	Miocene	basalt
Tmb	Miocene	basalt

Figure 5
Cascade Project area geology

The structural geology of Long Valley is dominated by the Western Idaho Fault Zone that formed the north-trending linear valleys and mountain ridges in west central Idaho (Knudsen et al. 1996). While the southern segment of the Long Valley fault near Lake Cascade is considered inactive, the northern end of the fault northwest may be potentially active (Knudsen et al. 1996). Between 14 and 10 million years ago, movement along the Long Valley fault uplifted the steep, linear mountain front along West Mountain while also lowering the graben where Cascade Reservoir is now located on top of more than 7,000 feet of sedimentary fill (Knudsen et al. 1996). The West Mountains are comprised of a block of tilted Columbia River basalt and metamorphic and granitic rocks (Breckenridge and Othberg 2006). Columbia River basalts have been mapped in the floor of the valley, as well as on top of the West Mountains (BOR 2002).

The north-trending ridge on which Cascade Dam is built is an uplifted fault block of Idaho Batholith bounded on the east by the Cascade Fault (Breckenridge & Othberg 2006). East of this fault, the eastern side of Long Valley is bounded by the Salmon River Mountains of the Idaho batholith. At the northern end of the Long Valley, the Payette Lakes are dammed behind a sequence of Pleistocene terminal moraines and outwash forms the valley floor from McCall to Cascade Reservoir (Breckenridge & Othberg 2006). Figure 5 depicts the local geology as described by Breckenridge and Othberg (2006) showing individual units, rock types, and ages.

Mineral resources in this area are mainly sand and gravel (BOR 2002). However, historically there was prospecting for gold and radioactive placer deposits (Schmidt and Mackin 1970).

4.1.2. Description of Soil Types

The parent materials for Reservoir shoreline area soils are generally granitic rock with local areas of sandy alluvium and areas of glacial outwash, composed of uncemented beds of sand and gravel, and these source materials typically produce coarse-textured soils (BOR 2002). The locations of the specific soil types surrounding Cascade Dam are shown in Figure 6, and some of their corresponding chemical and physical properties based on field studies are listed in Table 7 (Rasmussen 1981). These soils typically have sufficient soil carbon to be classified as loams or loamy soils, and they have slight to moderate erosion potentials with a wide range of drainage properties (Soil Survey Staff 2025).

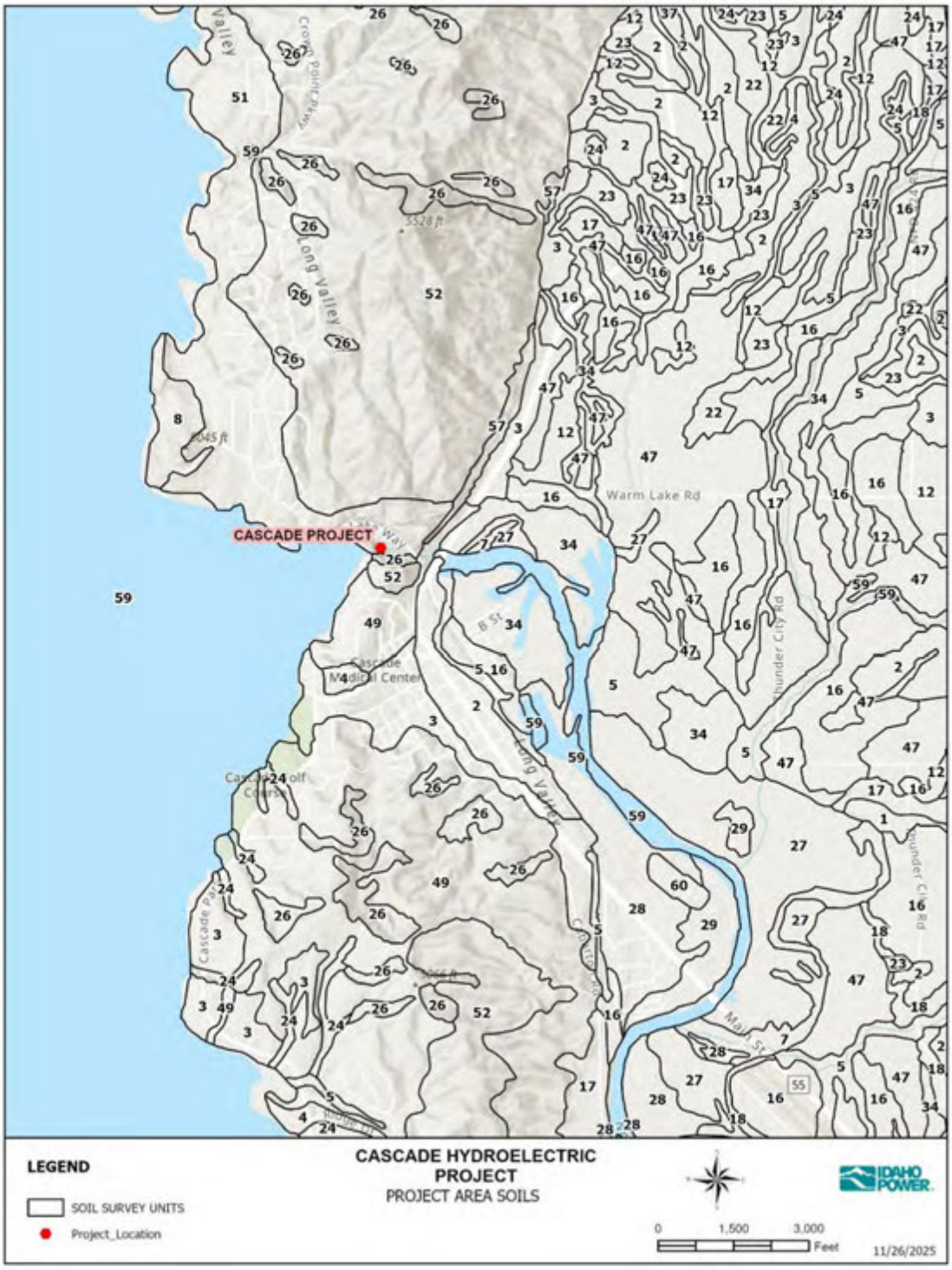


Figure 6
Cascade Project area soil types (Soil Survey Staff, 2025)

Table 7
Physical, chemical, and erosional properties of soil series around Cascade Project (Soil Survey Staff, 2025)

Map Unit	Soil Type	Drainage Class	Hydrologic Group	Potential Erosion Hazard
1	Archabal loam, 0 to 2% slopes	Well drained	B	Erosion hazard slight
2	Archabal loam, 2 to 4% slopes	Well drained	B	Erosion hazard slight
3	Archabal loam, 4 to 12% slopes	Well drained	B	Erosion hazard moderate
4	Archabal loam, 12 to 20% slopes	Well drained	B	Erosion hazard moderate
5	Blackwell silt loam, frequently flooded	Very poorly drained	C/D	Erosion hazard slight
7	Blackwell variant silt loam	Poorly drained	B/D	Erosion hazard slight
8	Bluebell cobbly loam, 5 to 35% slopes	Well drained	C	Erosion hazard moderate
12	Cabarton silty clay loam	Poorly drained	C/D	Erosion hazard slight
16	Donnel sandy loam, 0 to 2% slopes	Well drained	A	Erosion hazard slight
17	Donnel sandy loam, 2 to 4% slopes	Well drained	A	Erosion hazard slight
18	Donnel sandy loam, 4 to 12% slopes	Well drained	A	Erosion hazard moderate
22	Gestrin loam, 0 to 2% slopes	Moderately well drained	C	Erosion hazard slight
23	Gestrin loam, 2 to 4% slopes, rarely flooded	Moderately well drained	C	Erosion hazard slight
24	Gestrin loam, 4 to 12% slopes	Moderately well drained	C	Erosion hazard moderate
26	Jugson coarse sandy loam, 30 to 60% slopes	Somewhat excessively drained	B	Erosion hazard severe
27	Jurvannah sandy loam	Poorly drained	A/D	Erosion hazard slight
28	Kangas coarse sandy loam	Somewhat excessively drained	A	Erosion hazard slight
29	Kangas fine gravelly loamy coarse sand	Somewhat excessively drained	A	Erosion hazard slight
34	Melton loam	Poorly drained	B/D	Erosion hazard slight
37	Nisula loam, 4 to 12% slopes	Well drained	C	Erosion hazard moderate
47	Roseberry coarse sandy loam, occasionally flooded	Poorly drained	B	Erosion hazard slight
49	Shellrock loamy coarse sand, 12 to 35% slopes	Somewhat excessively drained	A	Erosion hazard moderate
51	Shellrock-Rock outcrop complex, 2 to 25% slopes	Somewhat excessively drained	A	Erosion hazard moderate
52	Shellrock-Rock outcrop complex, 30 to 60% slopes	Somewhat excessively drained	A	Erosion hazard moderate

Map Unit	Soil Type	Drainage Class	Hydrologic Group	Potential Erosion Hazard
57	Takeuchi coarse sandy loam, 3 to 35% slopes	Somewhat excessively drained	B	Erosion hazard moderate

Idaho Power does not own the Reservoir or control its water levels. Reclamation dictates the flows out of the Reservoir. Therefore, Project operations cannot cause erosion, mass soil movement, slumping, or other forms of instability of the reservoir shorelines or streambanks.

Reclamation owns and operates Cascade Dam and manages the Reservoir shoreline. In the 2002 Lake Cascade Resource Management Plan, Reclamation describes the shoreline as gently sloping towards the Reservoir, which continues into the Reservoir as seen in the bathymetry southwest and central shorelines and the upper reaches of the northern arms. The exceptions to this are Crown Point, portions of the tributary arms in the northeast part of the Reservoir, isolated locations along the southeast shoreline, and part of Sugarloaf Island's shoreline where the banks may be 15 to 20 feet above high water.

In their 1991 Cascade Reservoir Resource Management Plan, Reclamation described the shoreline erosion issues as serious due to concerns about potential building, structure, and dock loss; public safety; and visual impacts. They describe the erosion as being focused on the Reservoir's east shore, where wind-generated waves of 4 to 6 feet are common during severe storms that have created vertical cliffs tens of feet tall in areas. They describe the following areas of concern, "Cabarton Recreation Area, from Van Wyck Park to the dam, and residential areas starting south of Arrowhead Point and proceeding north into the Boulder Creek and Lake Fork arms of the reservoir." Reclamation believes the most severe erosion occurs during early summer due to the intersection of a full Reservoir and extreme summer storms (BOR 1991).

4.2. Water Resources (18 CFR § 5.6(d)(3)(iii))

4.2.1. Drainage Area, Flows & Uses

The Project is located at river mile (RM) 40.2 on the North Fork of the Payette River, approximately 80 miles north of Boise, Idaho. The watershed feeding Cascade Reservoir extends across 620 square miles and is located on the western slope of the Sawtooth Mountains. The major tributaries that drain into Cascade Reservoir are Lake Fork Creek, Gold Fork River, Boulder Creek, and Willow Creek. Elevations within the basin range from 4,820 feet above msl to 9,050 feet above msl (5,940 feet average).

Cascade Reservoir is one of three Reclamation reservoirs on the Payette basin system. The other two reservoirs are Deadwood Reservoir and Black Canyon Reservoir. All three reservoirs are operated as a system to meet irrigation needs, hydropower, and flood control operations, as well as recreation and water quality. Total storage volume in Cascade Reservoir is

approximately 693,956 acre-feet (BOR 2002), with storage allocated to water users and irrigators as well as space assigned to federal flow augmentation as a part of the 2004 Snake River Water Rights Agreement. The lake normally reaches its highest elevation in June or July, then is drawn down through the summer to meet downstream irrigation demand. The normal maximum elevation of the reservoir is 4,828 feet, with a corresponding maximum depth of 40.5 feet—the depth from the lake's normal maximum water surface elevation to the lake's inactive (minimum pool) storage elevation. Although Reclamation is authorized to lower water elevation to a minimum pool of 46,662 acre-feet, an administrative decision in 1984 directed Reclamation to maintain a minimum pool of 293,956 acre-feet when possible. Available records for water years 1995 through 2024 show that Lake Cascade typically fluctuates between 375,000 and 550,000 acre-feet depending on seasonal inflows, irrigation deliveries, and drought cycles and is operated at a mean depth of 8.1 feet below the lake's normal maximum water elevation.

Unregulated inflow to the Reservoir exhibits seasonal variation, with peak flows typically occurring in late spring to early summer due to mountain snowmelt, often augmented by spring precipitation. After the snowmelt season, Reservoir inflows decline to base flow conditions by late summer and persist through winter, sustained mainly by groundwater and irrigation return flows. Figure 7 shows daily unregulated inflow for both a high-water year (1997) and a low water year (2001) as well as the average daily flow calculated using data from Water Year 1995 (beginning in October 1994) through 2024.

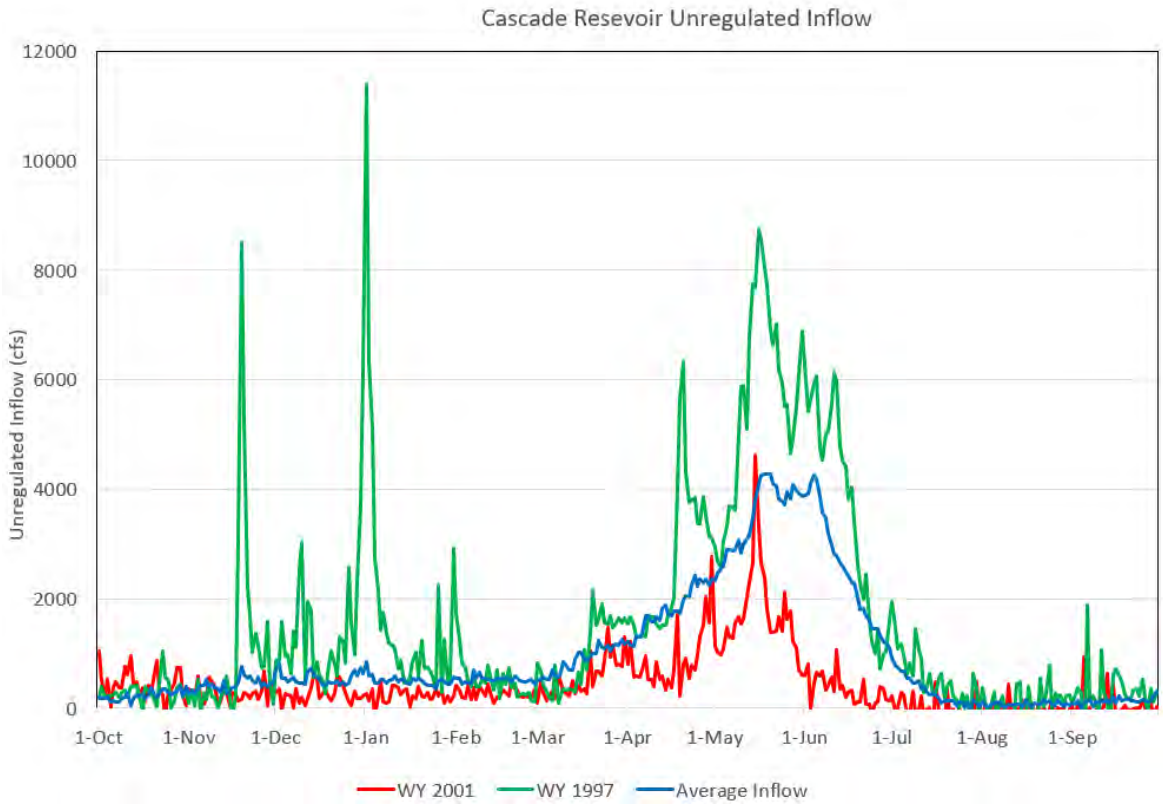


Figure 7
Unregulated daily inflow into Cascade Reservoir based upon BOR calculated flow from water years 1995 through 2024.

Flows released past Cascade Dam also vary seasonally based on Reservoir storage and downstream operational needs and requirements. At the end of irrigation season in October, flows are typically 200 cfs to meet Idaho Power's minimum flow water right for power generation. However, when inflow into the lake is less than 200 cfs during this period, outflow will be decreased to match inflow. Winter releases can exceed the minimum flow requirement in years in which Reservoir carryover is exceptionally high or unregulated inflows are high, such as in water year 1997. In late winter and early spring, in coordination with Deadwood Reservoir, water may be released from Lake Cascade for flood risk management requirements associated with Reclamation's informal flood management curve. Flood control rule curves for Lake Cascade and Deadwood Reservoir are designed to limit downstream flows at Horseshoe Bend to 12,000 cfs, with 80% of the flood control space held within Lake Cascade. Following flood control operations, flow releases from Cascade Dam may return to 200 cfs until irrigation deliveries begin in June, after natural flows in the river at Horseshoe Bend decline below 2,400 cfs. Irrigation deliveries from Lake Cascade normally continue through September. Cascade Reservoir has not historically been operated for the purpose of downstream channel

maintenance or for the management of lake or in-channel sediment, and therefore, a flushing flow rate is not available for the Project.

Table 8 shows the monthly minimum, mean, and maximum release from Cascade Dam using data from Water Year 1995 (beginning in October 1994) through 2024. Figure 8 shows the daily flow duration for releases from Cascade Dam.

Table 8
Monthly minimum, mean, and maximum flow as measured at USGS 13245000 North Fork Payette at Cascade, Idaho (Water Years 1995–2024).

Flow (cfs)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maximum	3,780	3,820	4,420	4,520	4,780	6,930	4,020	2,290	2,220	1,790	1,070	2,230
Mean	374	429	636	1,145	1,281	2,115	1,764	1,662	1,095	338	232	362
Minimum	117	179	177	176	186	193	210	241	203	129	175	36

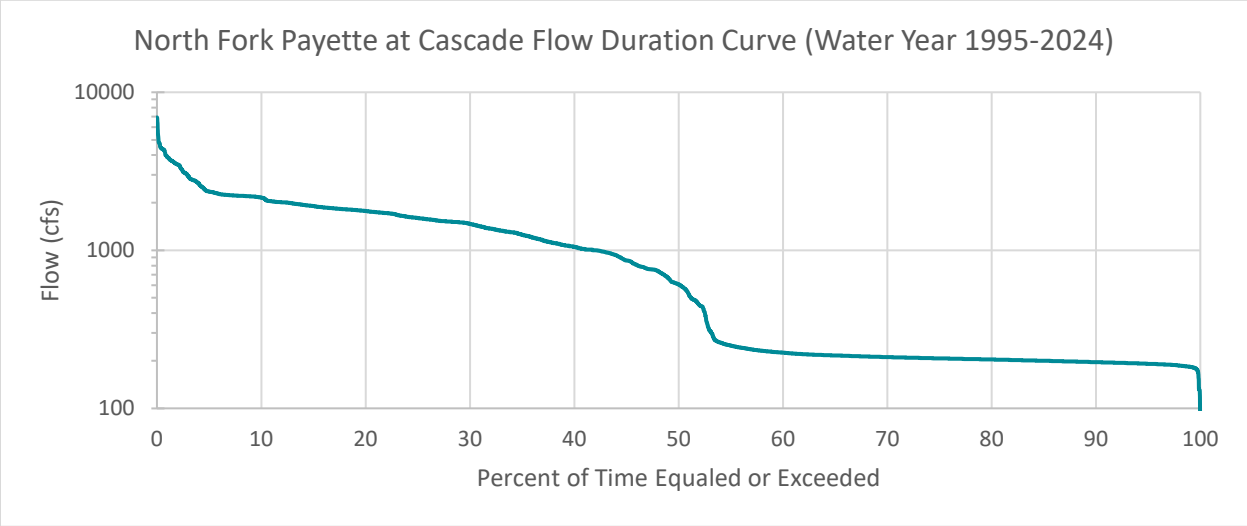


Figure 8
Daily flow duration curve using USGS 13245000 North Fork Payette at Cascade, Idaho (Water Years 1995–2024)

4.2.2. Existing and Proposed Uses of Project Waters

A multi-purpose reservoir, Lake Cascade was authorized by Congress in 1905 and built in 1948 to provide irrigation delivery and hydropower generation. It is operated by Reclamation in coordination with Deadwood Reservoir, to manage flood risk, holding approximately 152,500 acre-feet of flood control space within Cascade Reservoir from November through

March. In addition, approximately 69,600 acre-feet of reservoir storage is designated to provide releases downstream for out-migrated ESA-listed fish as a part of the federal flow augmentation program on the Snake and Columbia rivers.

Approximately 310,450 acre-feet of Lake Cascade's total active storage of 646,461 acre-feet is contracted space, primarily to meet irrigation demands within the basin from May through October. Although Reclamation is contractually obligated to release water for irrigation, the accounting and management of these releases is overseen by State of Idaho Water District No. 65 (District 65) and the IDWR. Black Canyon Irrigation District, Emmett Irrigation District, Farmers' Cooperative Irrigation Company, and the Lower Payette and Noble Ditch companies are the primary space holders within Cascade Reservoir.

In addition to flood control, flow augmentation, and irrigation deliveries, Lake Cascade and the North Fork Payette flows below the Dam are operated by Reclamation for purposes including recreation, power generation, fish and wildlife, and water quality.

4.2.3. Existing Instream Flow Uses and Water Rights

Cascade Reservoir is located within Water District 65, and there are approximately 213 surface water diversions administered by the watermaster within District 65.

Idaho Power owns and operates the power plant below Cascade Dam and holds three decreed natural flow water rights totaling 200 cfs for power generation. These three water rights are senior to the storage rights for the Dam and junior to downstream irrigation water rights. As a result, after the irrigation season and through the winter and early spring, 200 cfs of Idaho Power's water rights are in priority and released for power generation—when inflow to the lake supports the minimum release downstream. In addition, Idaho Power holds a fourth decreed water right for up to 2,000 cfs which is junior to the storage right for Lake Cascade. This water right allows Idaho Power to generate at near full power plant capacity when the water is made available by releases made for flood control operations and/or to meet downstream irrigation demands. However, because the fourth water right is junior to the storage right for Lake Cascade, Reclamation is not obligated to release natural flow to meet Idaho Power's fourth decreed water right.

There are currently 29 applications for new water rights within District 65. Twenty-two of the applications are related to irrigation and stockwater, three to commercial use, two for domestic, and two for aesthetic and minimum instream flow. New water rights have been issued by the state in recent years, but new water rights have junior priority, limiting the availability of water in low years to fill these junior water rights.

4.2.4. Federally-Approved Water Quality Standards Applicable to Project Waters

Cascade Reservoir (Assessment Unit ID17050123SW007L_0L) and the North Fork of the Payette River (NFPR) below the Dam (Assessment Unit ID17050123SW001_06) reside within the North Fork Payette Hydrologic Unit Code (HUC). Cascade Reservoir is designated for cold water aquatic life, salmonid spawning, primary contact recreation, and domestic water supply. The Reservoir supports primary contact recreation, while cold water aquatic life is impaired due to pH and DO. According to the DEQ Waterbody Assessment Guidance III (WBAG III), if cold water aquatic life is not supporting, salmonid spawning cannot be supporting (DEQ 2016). The Reservoir is listed in the 2024 Integrated Report (DEQ 2024) in Category 4a and has approved total maximum daily loads (TMDL) for pH and total phosphorus. Cascade Reservoir has also been found to have excessive algal growth and violations of the DO criteria (DEQ 2018). Reclamation operates the Reservoir.

The North Fork Payette River below Cascade Dam is designated for cold water aquatic life, salmonid spawning, primary contact recreation, and drinking water supply. Cold water aquatic life is impaired due to sediment and flow regime modification, while primary contact recreation and secondary contact recreation are unassessed. Because the NFPR is not supporting cold water aquatic life, it cannot be supporting salmonid spawning (DEQ 2016). The NFPR is in Category 4a of the 2024 Integrated Report (DEQ 2024) with an approved TDML for sediment. It is also in Category 4c for flow regime modification.

4.2.4.1. General Surface Water Quality Criteria

Both Cascade Reservoir and the NFPR below the Dam are subject to the following general surface water criteria (IDAPA 58.01.02.200[2]):

- Surface waters of the state shall be free from hazardous materials in concentrations found to be of public health significance or to impair designated beneficial uses.
- Surface waters of the state shall be free from toxic substances in concentrations that impair designated beneficial uses.
- Surface waters of the state shall be free from deleterious materials in concentrations that impair designated beneficial uses.
- Radioactive materials or radioactivity shall not exceed the values listed in CFR, Title 10, Chapter 1, Part 20, Appendix V, Table 2, Effluent Concentrations, Column 2.

[2] Water quality criteria referenced in this subsection are from IDAPA 58.01.02 unless otherwise specified.

- Radioactive materials or radioactivity shall not exceed concentrations required to meet the standards set forth in Title 10, Chapter 1, Part 20, of the CFR for maximum exposure of critical human organs in the case of foodstuffs harvested from these waters for human consumption.

- Surface waters of the state shall be free from floating, suspended, or submerged matter of any kind in concentrations causing nuisance or objectionable conditions or that may impair designated beneficial uses.

- Surface waters of the state shall be free from excess nutrients that can cause visible slime growths or other nuisance aquatic growths, impairing designated beneficial uses.

- Surface waters of the state shall be free from oxygen-demanding materials in concentrations that would result in an anaerobic water condition.

- Sediment shall not exceed quantities specified in the *Idaho Administrative Procedures Act* (IDAPA) Sections 250 and 252, or, in absence of specific sediment criteria, quantities which impair designated beneficial uses.

4.2.4.2. Surface Water Quality Criteria for Aquatic Life Use Designations

Both pH and total dissolved gas (TDG) criteria apply to all aquatic life designations (IDAPA 58.01.02.250.01). Surface waters are not to vary from the following two characteristics due to human activities: 1) pH is between 6.5 and 9.0, and 2) TDG does not exceed 110% of saturation.

4.2.4.3. Dissolved Oxygen

DO criteria below the Project are dependent upon the time of year along with the application of aquatic life use designations and the hydroelectric criteria. Hydroelectric criteria apply from June 15 to October 15, cold water aquatic life criteria apply from October 16 to June 14, and if applicable, salmonid spawning (SS) criteria apply when and where spawning occurs (IDAPA 58.01.02.250.02.f). The DEQ must consult the latest Geography and Timing of Salmonid Spawning in Idaho and associated GIS layers when considering the appropriate application of SS use to a water body (DEQ 2014).

Waters designated for cold water aquatic life are not to vary from the following characteristics due to human activities, unless separate site-specific criteria are developed (IDAPA):

- DO concentrations exceeding 6 mg/L at all times. In lakes and reservoirs, this standard does not apply to the following:

    - The bottom 20% of water depth in reservoirs where depths are ≤35 meters (m).

    - The bottom 7m of water depth in reservoirs where depths are >35 m.

- Those waters of the hypolimnion in stratified reservoirs.

DO criteria for SS are a subcategory of cold water aquatic life (DEQ 2016) and are applied in areas used for spawning and during the time when spawning and incubation occur as determined by DEQ (IDAPA 58.01.02.250.02.f). This determination is based on knowledge of local fisheries biologists, published literature, records of the IDFG, and other appropriate records of spawning and incubation, as further described in WBAG III (DEQ 2016). The Geography and Timing of Salmonid Spawning in Idaho (DEQ 2014) and associated GIS layers provide an extensive review of the above records, which indicate that Cascade Reservoir and the NFPR below the Dam are not used for spawning.

Waters designated for SS, in areas used for spawning and during the time spawning and incubation occurs, are not to vary from the following characteristics due to human activities:

- Intergravel DO
  - 1-day minimum of not less than 5.0 mg/L
  - 7-day average mean of not less than 6.0 mg/L
- Water-Column DO
  - 1-day minimum of not less than 6.0 mg/L or 90% of saturation, whichever is greater

The Cascade Hydroelectric Project is subject to seasonal hydroelectric criteria for DO from June 15 to October 15. DO requirements in the NFPR below the Dam are specific to hydroelectric facilities (Table 9).

Table 9
Site-specific hydroelectric DO criteria for NFPR below Cascade Dam

Time Period	DO (mg/L)		
Annually	**30-day mean minimum**	**7-day mean minimum**	**Instantaneous Minimum**
June 15–Oct. 15	6.0	4.7	3.5

4.2.4.4. Temperature

Waterbodies designated for cold water aquatic life have the following temperature requirements:

- Water temperatures of 22° Celsius (C) or less with a maximum daily average of no greater than 19°C.

- Temperature in lakes shall have no measurable change from natural background conditions.

- Reservoirs with mean detention times of greater than 15 days are considered lakes for this purpose.

For waterbodies designated SS, the DEQ shall determine spawning periods on a waterbody-specific basis, taking into account knowledge of local fisheries biologists, published literature, IDFG records, and other appropriate records of spawning and incubation, as further described in the current version of the WBAG.

Waters designated for SS, in areas used for spawning and during the time spawning and incubation occurs, are not to vary from the following characteristics due to human activities:

- Water temperatures of 13°C or less with a maximum daily average no greater than 9°C

4.2.4.5. Ammonia

Ammonia criteria apply to cold water aquatic life and the subcategory SS (DEQ 2016) and are dependent on temperature and pH. The acute criterion (criterion maximum concentration) is an hour average concentration of total ammonia nitrogen and is not to be exceeded more than once every three years. The chronic criterion (criterion continuous concentration) is a 30-day average concentration of total ammonia nitrogen and is not to be exceeded more than once every three years.

4.2.4.6. Turbidity

Turbidity criteria apply to cold water aquatic life and the subcategory SS (WBAG III 2016). Turbidity below any applicable mixing zone set by DEQ shall not exceed background turbidity by more than 50 Nephelometric Turbidity Unit (NTU) instantaneously or more than 25 NTU for more than 10 consecutive days.

4.2.4.7. Additional Criteria

Both the Reservoir and the downstream portion of the NFPR are designated primary contact recreation and drinking water supply. Waters designated for primary contact recreation are not to contain *Escherichia coli* (*E. coli*) bacteria in concentrations exceeding a geometric mean of 126 *E. coli* organisms per 100 milliliters (mL) based on a minimum of five samples taken every 3 to 11 days over a 45-day period, or a statistical threshold value of 410 *E. coli* per 100 mL in more than 10% of samples collected over a 45-day period. Additionally, waters designated for recreation are not to contain enterococci bacteria in concentrations exceeding a geometric mean of 35 enterococci counts per 100 mL based on a minimum of five samples taken every 3 to 11 days over a 45-day period or a statistical threshold value of 130 enterococci counts per 100 mL in more than 10% of samples collected over 45-day period (IDAPA 58.01.02.251.02).

Water designated for drinking water supply must meet general surface water quality criteria set forth in Section 200 (IDAPA 58.01.02.200) and the Criteria for Protection of Human Health table of Water & Fish criteria set of tables (IDAPA 58.01.02.210.01.b).

Cascade Reservoir is owned and operated by Reclamation with Idaho Power generating electricity on water that BOR passes. Idaho Power does not control the amount or timing of water delivery. Therefore, Idaho Power is not responsible for some physical and chemical parameters, including pH, total hardness, specific conductance, chlorophyll a, suspended sediment concentrations, total N (mg/L as N), total P (mg/L as P), and E. Coli concentrations in the river downstream of the Project.

4.2.5. Seasonal Variation in Existing Water Quality Data

4.2.5.1. Dissolved Oxygen

Idaho Power does not monitor Reservoir water quality. However, the DEQ collected monthly profile data at three monitoring locations within the Reservoir from May to October from 2019 through 2024 (M. Cline, *pers. communication*, Oct. 1, 2025). Reservoir DO at the dam monitoring location was generally above the cold water aquatic life target of 6.0 mg/L for the top 3 to 6 meters of the water column; below this depth DO was less than 6.0 mg/L and frequently approached 0.0 mg/L (Figure 9).

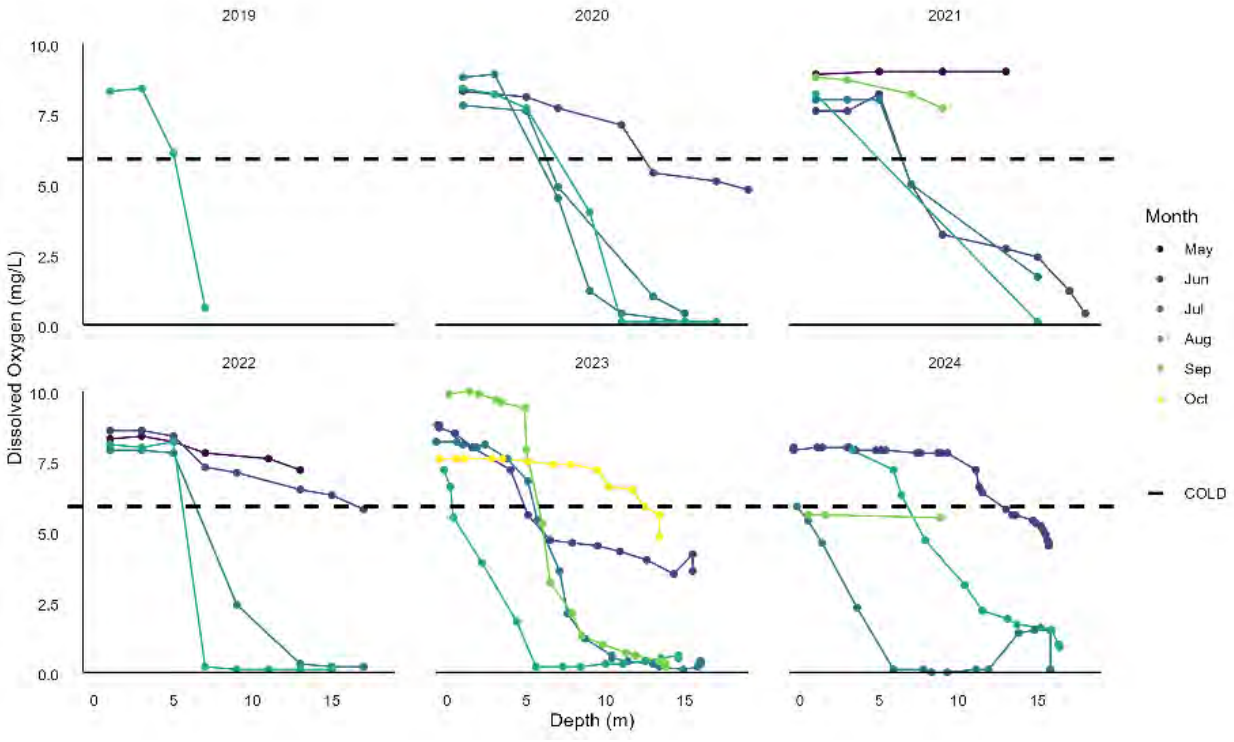


Figure 9
DEQ's DO profile data for Cascade Reservoir near the Dam

Idaho Power is required to monitor temperature and DO data at the Project. Idaho Power has monitored 10-minute water temperature and DO year-round in the Project penstock and tailrace since January 1, 1984, except from 2019 to 2024. In 2019, the DEQ approved a request from Idaho Power to cease winter monitoring because DO was supported above 6.0 mg/L between November 1 and February 29. Idaho Power returned to year-round monitoring in 2025, when Idaho Power self-reported a brief low DO event in February 2025 (IPC 2025). Additionally, Idaho Power upgraded its DO monitoring with more accurate luminescent DO probes in 2013. Idaho Power has submitted monthly water quality reports to the DEQ and annually to FERC since 1983.

Idaho Power mitigates for the low DO water it receives from the Reservoir using blowers and spill. Idaho Power operates DO mitigation based on the river probe. Figure 10 illustrates low DO water in the penstocks that Idaho Power receives from the Reservoir during the hydroelectric compliance period (June 15–October 15). Incoming penstock water was below the hydroelectric instantaneous minimum of 3.5 mg/L on multiple occasions and frequently below 6.0 mg/L between 2020 and 2024.

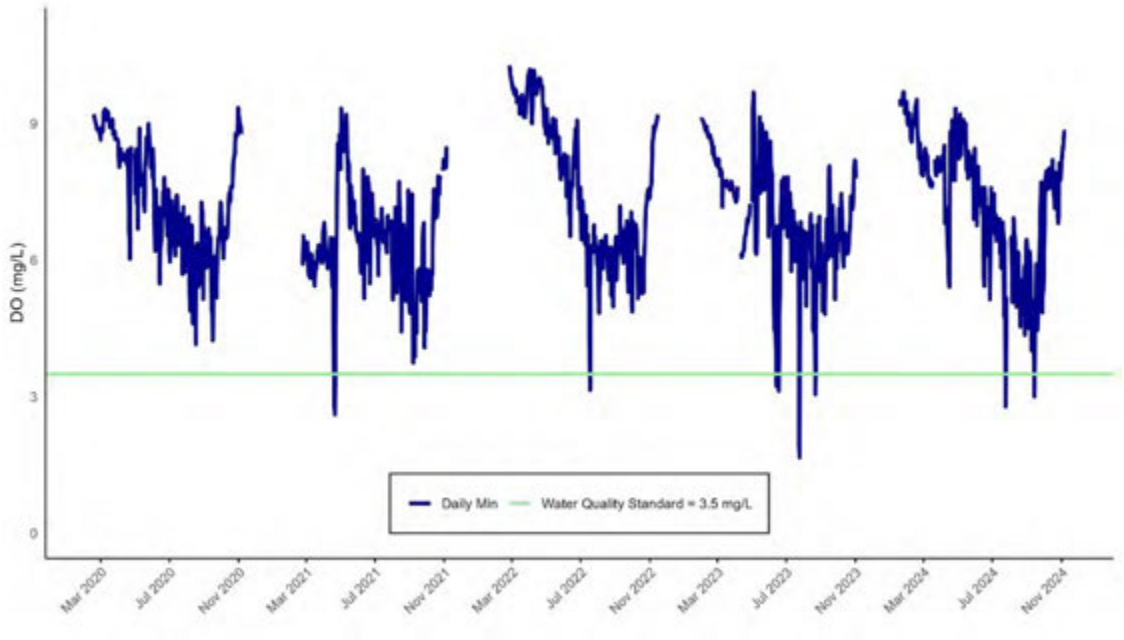


Figure 10
Cascade Dam penstock DO levels from 2020–2024

From 2013 to 2024, Idaho Power had a 100% compliance record with hydroelectric DO criteria (June 15–October 15) because of Idaho Power's DO mitigation system. This includes the instantaneous minimum of 3.5 mg/L (Figure 12), seven-day mean minimum of 4.7 mg/L (Figure 13), and the 30-day mean of 5.5 mg/L (Figure 14).

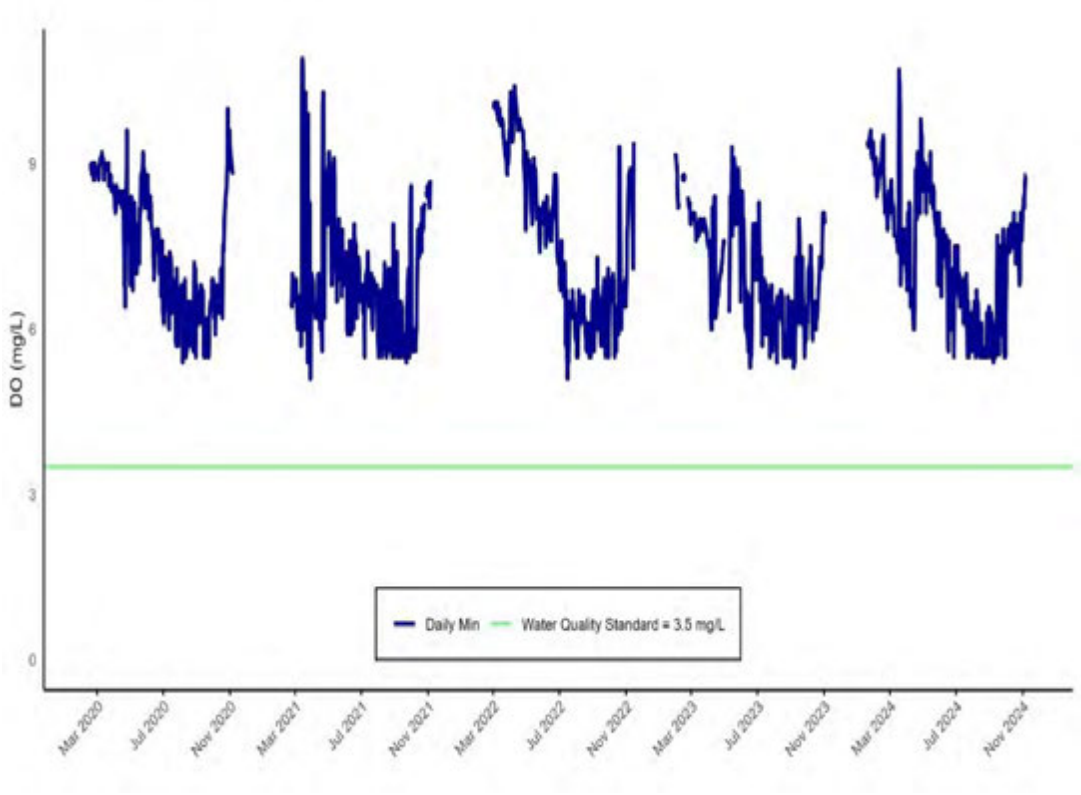


Figure 11
Daily minimum DO at the NFPR compliance site downstream of Cascade Dam from 2020–2024

A comparison of Figure 10 (penstock DO) and Figure 11 (NFPR DO) illustrates the effectiveness of Idaho Power's DO mitigation efforts.

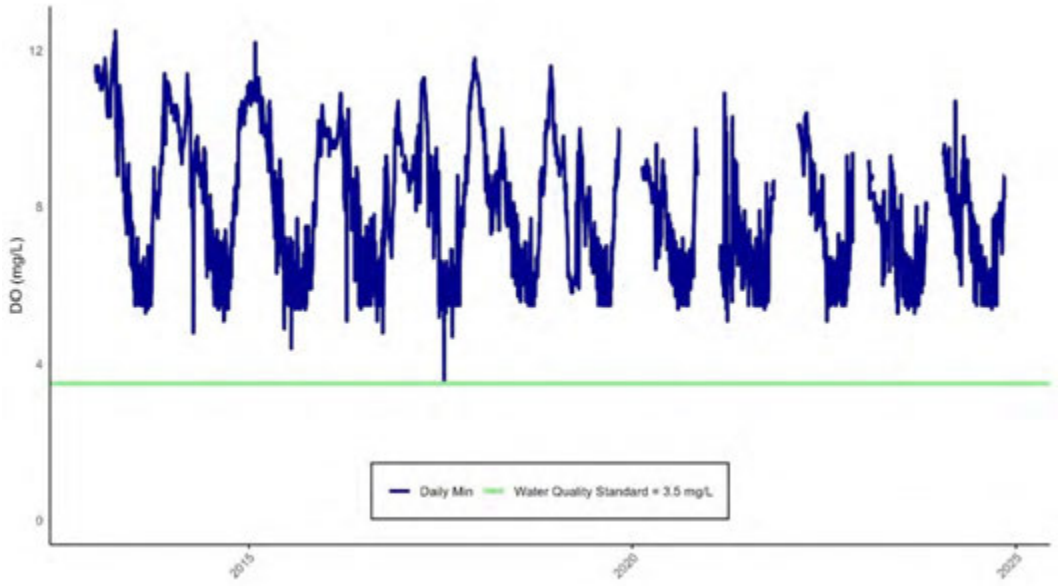


Figure 12
Daily minimum DO at the NFPR compliance site downstream of Cascade Dam from 2013–2024 compared to the hydroelectric daily minimum criterion of 3.5 mg/L

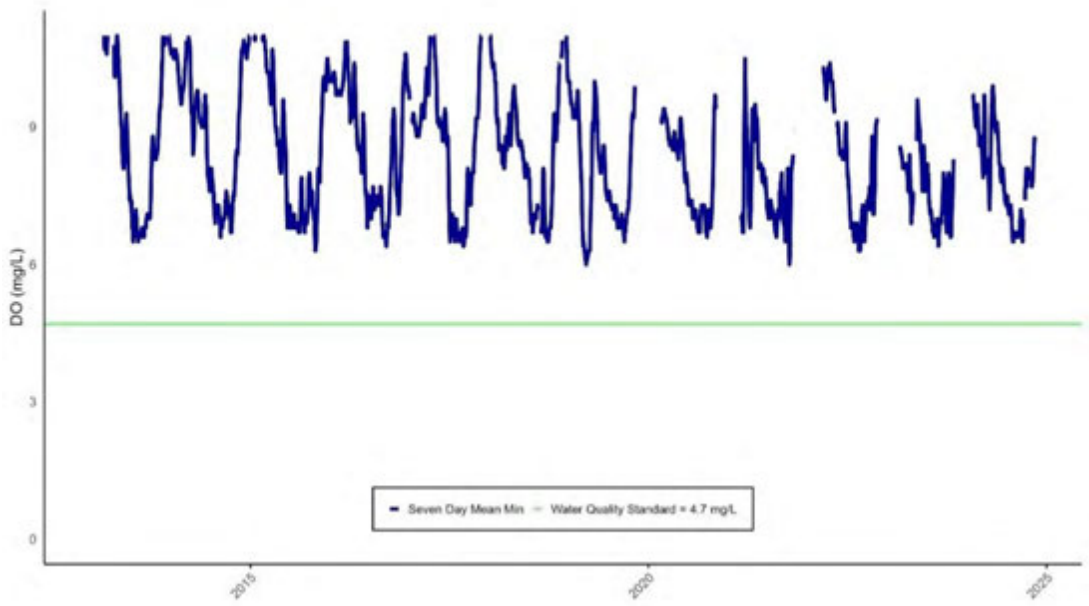


Figure 13
Seven-day mean minimum DO at the NFPR compliance site downstream of Cascade Dam from 2013–2024 compared to the hydroelectric minimum criteria of 4.7 mg/L

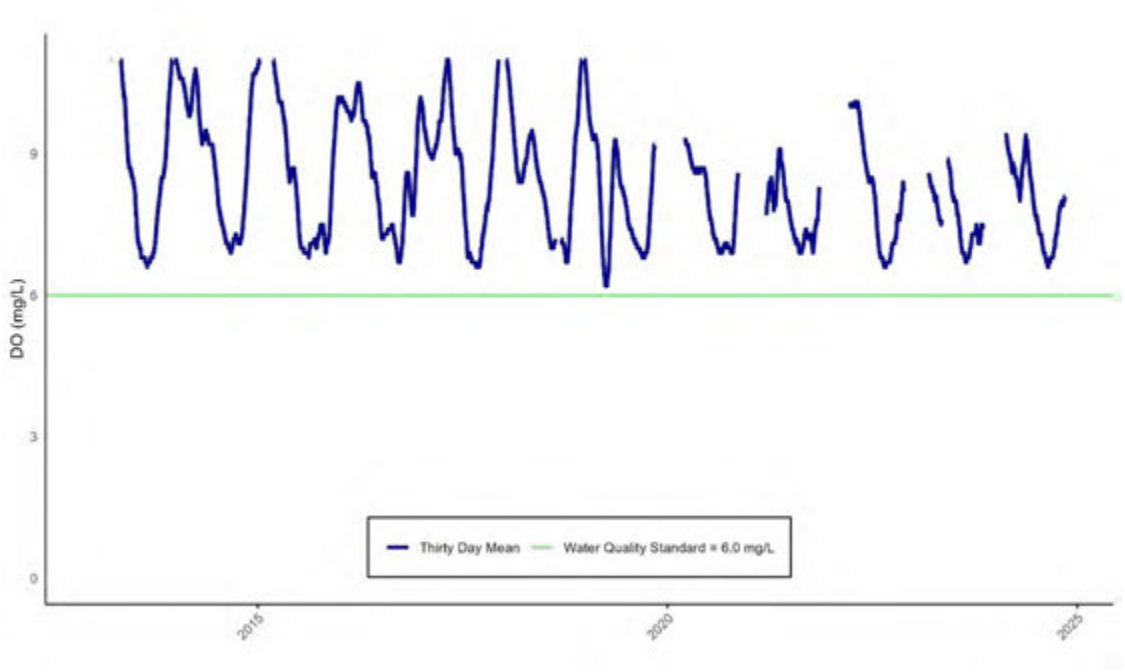


Figure 14
Thirty-day mean minimum DO at the NFPR compliance site downstream of Cascade Dam from 2013–2024 compared to the hydroelectric minimum criteria of 6.0 mg/L

Outside of the hydroelectric criteria, cold water aquatic life criteria apply from October 16 to June 14. During the cold water aquatic life time frame between 2013 and 2024, the NFPR experienced low DO events on 25 separate days (Figure 15). Low DO events were brief and did not span an entire day. Each low DO event ranged from 1 minute to 19 hours. Idaho Power was over 99% compliant with DO standards over this period.

In 2024, Idaho Power reprogrammed the blower and spill logic governing the triggers for low DO events to include criteria for ensuring compliance with the cold water aquatic life criteria. In 2019 and in consultation with the DEQ and IDFG, Idaho Power ceased monitoring during the winter period from November 1 to February 29. In preparation for the upcoming 2025 monitoring season, Idaho Power installed a compliance probe in mid-February. During this installment, Idaho Power identified brief deviation below 6.0 mg/L. Idaho Power reported this low DO event to both the DEQ and FERC, and as a result Idaho Power voluntarily reinstated year-round monitoring to ensure compliance with DO standards. Since year-round monitoring was reinstated, Idaho Power has 100% compliance with DO water quality standards.

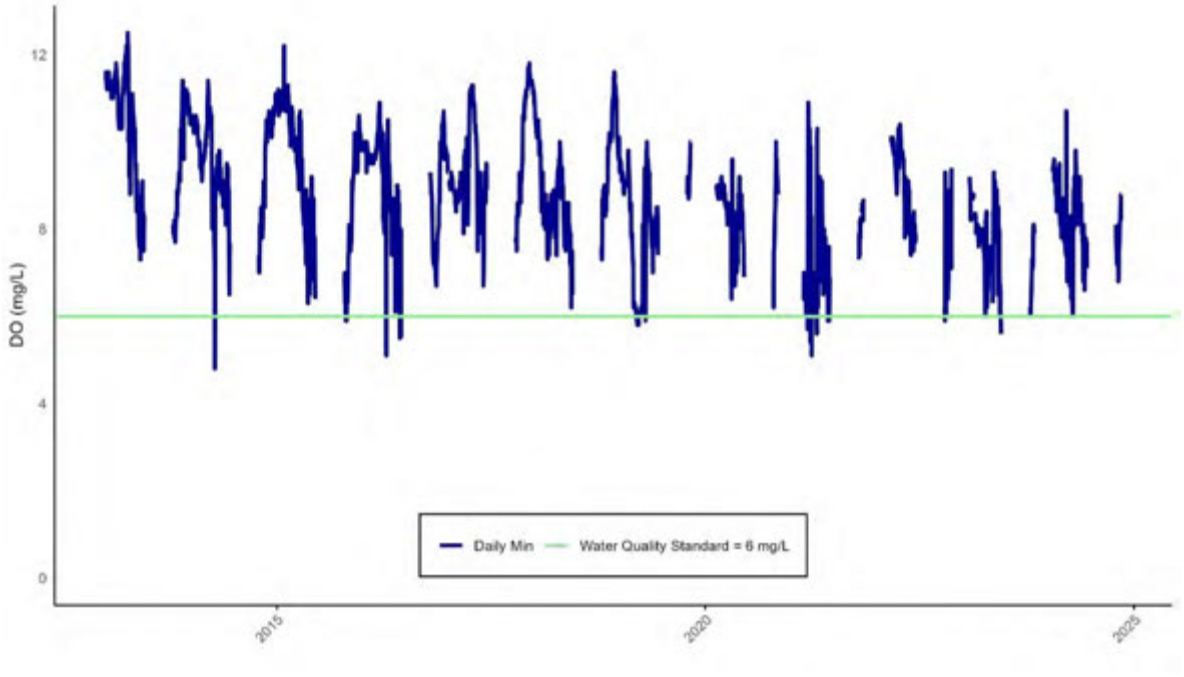


Figure 15
Daily minimum DO at the NFPR compliance site downstream of Cascade Dam during the cold water aquatic life criteria time frame (October 16–June 14) 2013–2024

4.2.5.2. Temperature

Idaho Power does not own the Dam or control Reservoir operations, and neither the Dam nor the Reservoir are within the Project boundary. Idaho Power does not monitor Reservoir water quality. However, the DEQ collected monthly temperature profiles at three Reservoir monitoring locations from May to October in 2019 through 2024 (M. Cline, *pers. communication*, Oct. 1, 2025).

The DEQ's Reservoir temperature profiles indicate water temperature in Cascade Reservoir forebay met the 22°C instantaneous cold water aquatic life criterion at lower depths, but not in the top 3 to 6 meters during the summer months (Figure 16). Comparison to the SS temperature criterion of 13°C indicates temperature is highly dependent on time of year and depth (Figure 17). Temperature exceedances within the Reservoir are not an effect of the Project. High temperatures in the Reservoir directly contribute to high temperatures downstream in the NFPR (DEQ 2005).

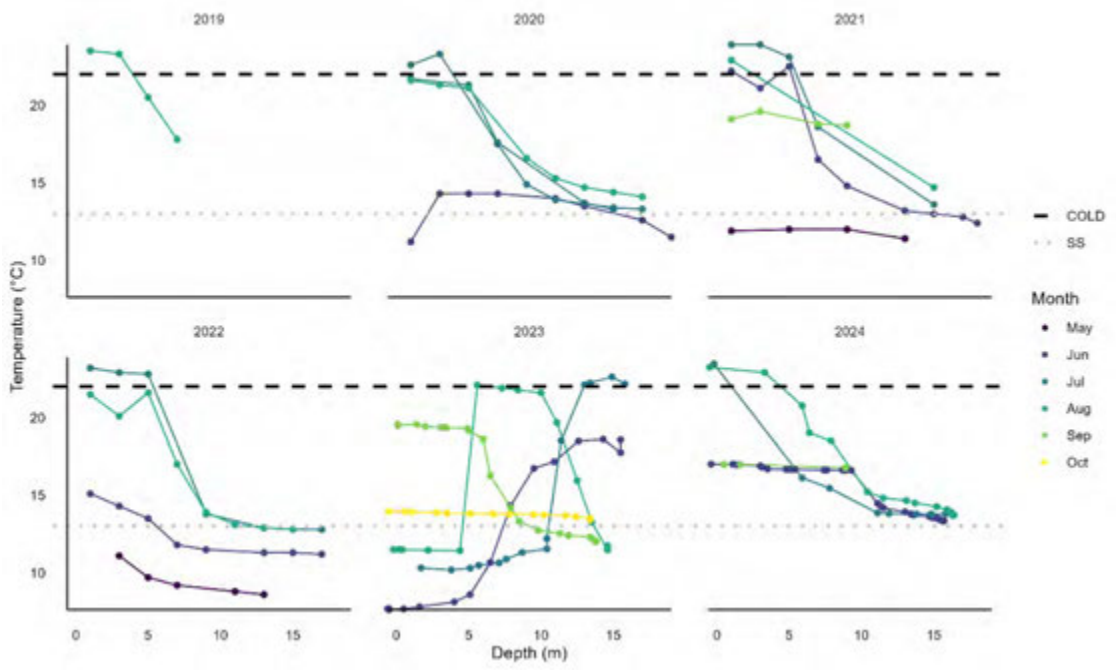


Figure 16
DEQ temperature profile data for Cascade Reservoir near the Dam

Temperature exceedances occur annually on a seasonal basis due to elevated Reservoir water temperature. Idaho Power collects temperature data in the penstock and the river, and temperature criteria are regularly exceeded in these locations. Penstock water temperature is indicative of both Reservoir temperature and pre-Project impacts and directly influences temperatures in the NFPR.

Daily average water temperature (Figure 17) and daily maximum water temperature (Figure 18) in the penstock are nearly identical to temperatures measured in the river. Temperature data (2020–2024) in the NFPR indicate Idaho's water temperature criteria are frequently exceeded during late June through early September, as a result of water temperature criteria exceedance in the Reservoir.

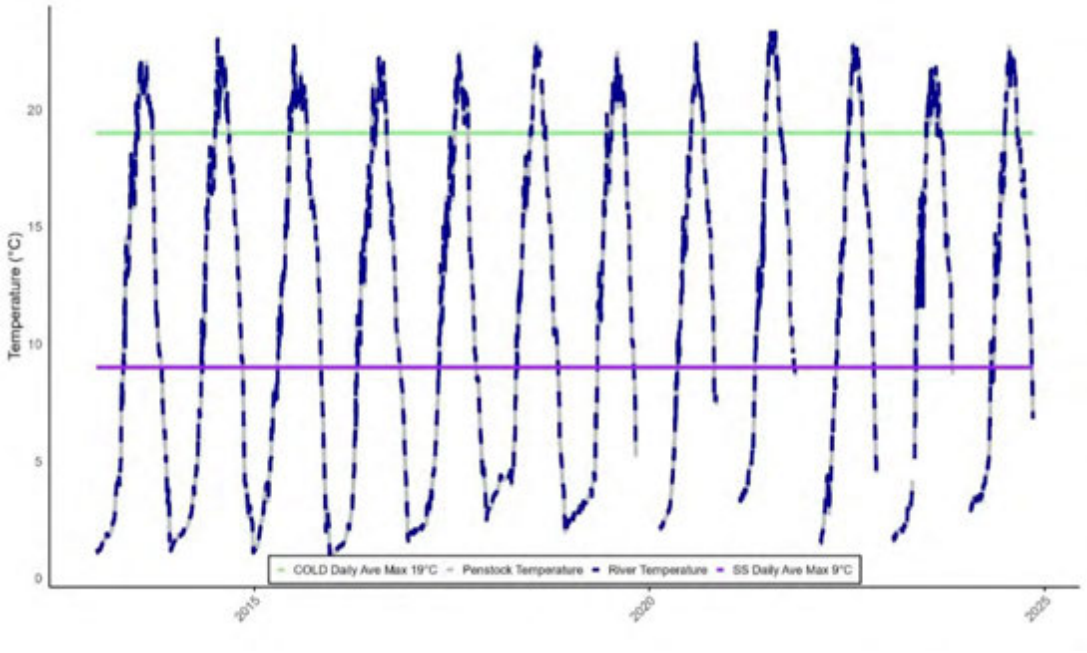


Figure 17
Daily average water temperature at the NFPR compliance site downstream of Cascade Dam and the penstock 2013 -2024

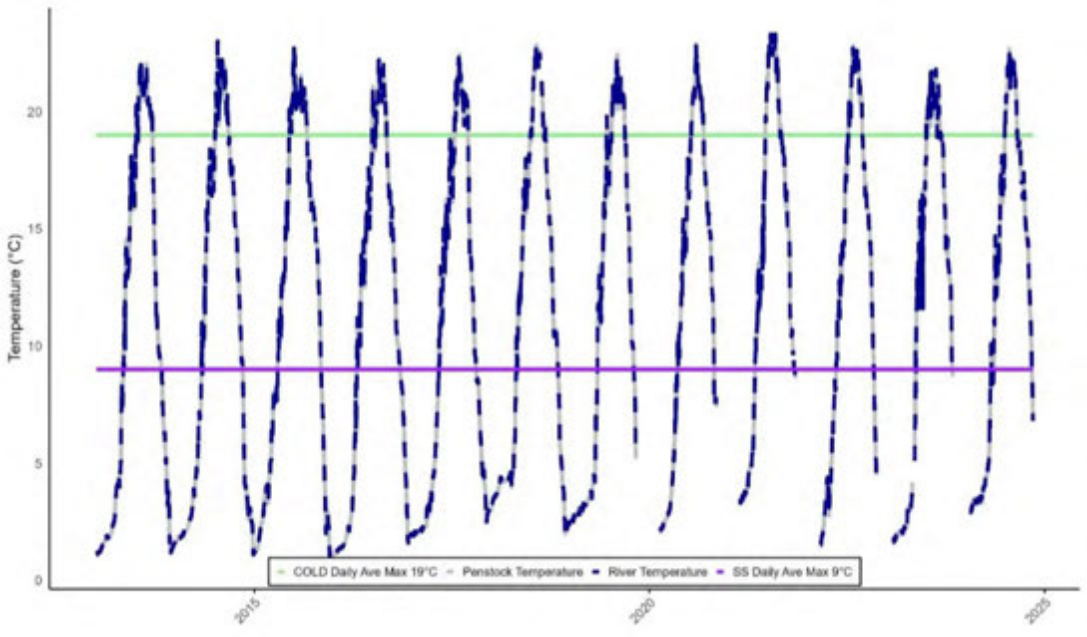


Figure 18
Daily maximum water temperature at the NFPR compliance site downstream of Cascade Dam and the penstock 2013–2024

4.3. Fish and Aquatic Resources (18 CFR § 5.6(d)(3)(iv))

4.3.1. Existing Fish and Aquatic Communities

The Project area encompasses 0.19 miles of the NFPR within the Project boundary and has no history of fish sampling. However, a 2003 survey (Janssen et. al 2006) sampled fish and river habitat in the Project vicinity (downstream approximately 2.5 miles) and farther downstream. The survey found mostly juvenile-sized fish of both native and non-native species. Surveyed game fish included non-native smallmouth bass (*Micropterus dolomieu*) and yellow perch (*Perca flavescens*), hatchery-origin rainbow trout (*Oncorhynchus mykiss*), and native mountain whitefish (*Prosopium williamsoni*). Native non-game fish species included northern pikeminnow (*Ptychocheilus oregonensis*), largescale sucker (*Catostomus macrocheilus*), bridgelip sucker (*Catostomus columbianus*), redside shiner (*Richardsonius balteatus*), dace *spp*. (genus *Rhinichthys)*, and sculpin *spp*. (genus *Cottus*). Downstream of the Project area, but within the Project vicinity, the fish community remains similar to the Project area, but fewer smallmouth bass and yellow perch. The Janssen et al. (2006) survey described this section as poor, highly impacted fish habitat and riparian areas with river substrates composed of sand and mud with aquatic vegetation common in the first uppermost mile (immediately downstream of Project area).

Diverse and popular recreational fisheries exist within the Reservoir, including a renowned yellow perch fishery. Once the most heavily fished water in the state of Idaho, Lake Cascade has undergone numerous surveys and studies to inform resource managers on current fisheries status and population dynamics. In 2021, gill net indexing in Lake Cascade indicated improving or stable relative abundance of yellow perch, Northern Pikeminnow, smallmouth bass, and largescale sucker (Thomas et al. 2023). Other species sampled (i.e., largemouth bass [*Micropterus salmoides*], mountain whitefish, black crappie [*Pomoxis nigromaculatus*], pumpkinseed [*Lepomis gibbosus*], and bridgelip sucker) were noted as low abundance or inadequately sampled by gill net (Thomas et al. 2023). Other game fish previously observed in Lake Cascade include catfish *spp.* (family *Ictaluridae*), kokanee (*Oncorhynchus nerka*), northern pike (*Esox lucius*), tiger muskellunge (*Esox masquinongy x Esox lucius*), brook trout (*Salvelinus fontinalis*), cutthroat trout (*Oncorhynchus clarkii*), and walleye (*Sander vitreus*).

The IDFG manages angling in and below the Project area with general fishing regulations (no special rules) and follows its management strategy to concentrate stocking of sterile hatchery rainbow trout in the high-use areas and work with landowners to improve fish habitats in the mainstem of the NFPR (IDFG 2025e). The Project area and immediately below supports a recreational fishery, primarily composed of shoreline anglers targeting stocked rainbow trout (sterile/triploid) and fish species that have entrained past Cascade Dam, such as coho salmon (*Oncorhynchus kisutch*), yellow perch, and panfish species (bluegill *Lepomis macrochirus*, pumpkinseed, and crappie). IDFG has stocked hatchery origin rainbow trout downstream of Cascade Dam since 1979 to support recreational angling, with annual stocking beginning in 2002 (Table 10). Stocking numbers range from 650 to 6,390 fish and include three size classes:

fingerlings (3–6 in) and two catchable sizes (6+ in and 12–14 in). Aside from rainbow trout, the only other species stocked in the project area was Chinook salmon (Oncorhynchus tshawytscha), with 603 adults released in 2001 (Byrne 2022).

Since 1968, changes in fisheries management, objectives, and yellow perch restoration efforts have shaped Lake Cascade stocking strategies and fisheries over the last five decades. During the last 10 years (2016–2025), four species (coho salmon, kokanee, rainbow trout, and tiger muskellunge) have been stocked, and only two species (sterile rainbow trout and coho salmon) have been stocked since 2023 (Table 11). Yellow perch (not currently stocked) were stocked heavily in 2004 through 2006 to restore the renowned fishery following its population collapse in the late 1990s/early 2000s. Anglers expended an approximate 219,000 hours of fishing effort from May 2021 to May 2022 (IDFG unpublished data), with yellow perch as the most sought-after fish species, followed by rainbow trout. The 2025–2030 Fishery Management Plan (IDFG 2025e) outlines strategies for yellow perch as a trophy management strategy, a quality management strategy for bass, and a general management strategy for panfish species, rainbow trout, and coho salmon. Additional, but less popular fisheries (not specifically outlined in the Fishery Management Plan), include catfish *spp*., kokanee, mountain whitefish, northern pike, tiger muskellunge, brook trout, and cutthroat trout.

Investigations of NFPR fish communities below Cascade Dam are scarce, with Janssen et al. (2006) reporting few species and poor, highly impacted habitat. Entrainment of yellow perch past Cascade Dam was investigated (Janssen et al. 2001) as a potential cause of the declining and severely depressed yellow perch fishery within Lake Cascade during the mid-1990s. Janssen et al. (2001) concluded high numbers of observed entrainment of yellow perch past Cascade Dam are an indication of high yellow perch numbers in Lake Cascade, and Project operations and entrainment are not causing of population decline (Janssen et al. 2001). Marciniak et al. (2025) briefly summarized population fluctuations of yellow perch in Lake Cascade, noting multiple northern pikeminnow reduction efforts since the late 1950s followed by periods of increased yellow perch abundance. Assessing age-0 yellow perch, Marciniak et al. (2025) found young yellow perch are an important food source for northern pikeminnow, yellow perch, and smallmouth bass and may be a major contributor to variable yellow perch recruitment.

Table 10
Ten-year (2016–2025) stocking history in the NFPR downstream of Cascade Dam to Cabarton Bridge (IDFG 2025b)

Year	Scientific Name	Common Name	Catchable (12–14 in)	Catchable (6+ in)
2016	*Oncorhynchus mykiss*	Rainbow Trout—Triploid		1,000
2017	*Oncorhynchus mykiss*	Rainbow Trout—Triploid		2,000
2018	*Oncorhynchus mykiss*	Rainbow Trout—Triploid		1,000
2019	*Oncorhynchus mykiss*	Rainbow Trout—Triploid		650
2020	*Oncorhynchus mykiss*	Rainbow Trout—Triploid		1,640
2021	*Oncorhynchus mykiss*	Rainbow Trout—Triploid		1,750
2022	*Oncorhynchus mykiss*	Rainbow Trout—Triploid		4,119
2023	*Oncorhynchus mykiss*	Rainbow Trout—Triploid		1,244
2024	*Oncorhynchus mykiss*	Rainbow Trout—Triploid		3,030
2025	*Oncorhynchus mykiss*	Rainbow Trout—Triploid	1,832	

Table 11
Ten-year (2016-2025) stocking history in Lake Cascade (IDFG 2025a)

Year	Species Name	Common Name	Catchable (12–14 in)	Catchable (6+ in)	Fry (0–3 in)
2016	*Oncorhynchus nerka*	Kokanee			497,660
	Oncorhynchus mykiss	Rainbow Trout—Triploid		93,755	
	Esox masquinongy x Esox Lucius	Tiger Muskellunge		500	
2017	*Oncorhynchus nerka*	Kokanee			501,010
	Oncorhynchus mykiss	Rainbow Trout—Triploid		96,067	
	Esox masquinongy x Esox Lucius	Tiger Muskellunge		500	
2018	*Oncorhynchus nerka*	Kokanee			148,000
	Oncorhynchus mykiss	Rainbow Trout—Triploid	32,157	71,641	

Year	Species Name	Common Name	Catchable (12–14 in)	Catchable (6+ in)	Fry (0–3 in)
	Esox masquinongy x Esox Lucius	Tiger Muskellunge		500	
2019	*Oncorhynchus nerka*	Kokanee			399,996
	Oncorhynchus mykiss	Rainbow Trout	11,584		
	Oncorhynchus mykiss	Rainbow Trout—Triploid	250	117,307	
	Esox masquinongy x Esox Lucius	Tiger Muskellunge		500	
2020	*Oncorhynchus kisutch*	Coho Salmon			131,551
	Oncorhynchus nerka	Kokanee			400,705
	Oncorhynchus mykiss	Rainbow Trout—Triploid	28,048	66,241	
2021	*Oncorhynchus mykiss*	Rainbow Trout—Triploid	131,215		
2022	*Oncorhynchus nerka*	Kokanee			400,550
	Oncorhynchus mykiss	Rainbow Trout—Triploid		62,344	
2023	*Oncorhynchus mykiss*	Rainbow Trout—Triploid	47,649	12,096	
2024	*Oncorhynchus kisutch*	Coho Salmon			136,969
	Oncorhynchus mykiss	Rainbow Trout—Triploid	83,774		
2025	*Oncorhynchus kisutch*	Coho Salmon			172,550
	Oncorhynchus mykiss	Rainbow Trout—Triploid	36,108	9,880	76,582

4.3.2. Essential Fish Habitat

The *Magnuson-Stevens Fishery Conservation and Management Act* requires federal agencies to consult with the National Marine Fisheries Service (NMFS) on all actions that may adversely affect essential fish habitat (EFH). The Project is upstream of anadromous fish passage barriers (Snake River and Payette River) and not within designated EFH waters. Therefore, no NMFS consultation is required.

4.3.3. Catadromous and Migratory Fish

There are no catadromous fish in Idaho or the Project area. Salmonid species present below the Dam, including non-native rainbow trout, often have migratory life histories associated with naturally reproducing populations and can migrate long distances. However, the fishery below the Dam is supported by sterile hatchery rainbow trout. Migration of wild rainbow trout occurs in the mainstem NFPR (*IDFG, J. Messner, pers. communication*) but are not within the Project vicinity. Rather, these migratory rainbow trout utilize the mainstem NFPR downstream of Cabarton Bridge and tributaries outside the Project vicinity. Similarly, an adfluvial strain of rainbow trout exists in Lake Cascade, with adults migrating upstream into tributaries to spawn (Thomas et al. 2023).

4.3.4. Temporal and Spatial Distribution of Fish

Fish distribution within the Project is unknown, but, given the small distance of NFPR within the boundary (0.19 miles), the distribution is likely a reflection of the reach immediately downstream of the boundary through the city of Cascade. Janssen et al. (2006) observed spatially similar species compositions throughout the Project vicinity and farther downstream to Cabarton Road, consisting of native sucker species, mountain whitefish, northern pikeminnow, and few rainbow trout, with yellow perch and smallmouth bass more numerous closer to Cascade Dam. Trawl data in Lake Cascade during 2021 indicated higher abundance of young yellow perch in the east and south regions of Lake Cascade and represented the highest abundance of young yellow perch since 2008 (Thomas et al. 2023).

4.3.5. Special-Status Fish

Idaho Power used the U.S. FWS Information for Planning and Consultation database (IPaC) to identify special-status wildlife species in the Project area (IPaC 2025). The IPaC database indicates that one fish species, bull trout (*Salvelinus confluentus)*, with a status of threatened under the ESA, may potentially occur in the Project vicinity. However, IPaC indicates the Project does not overlap with designated critical habitat (IPaC 2025). Also, within the nearby drainages, bull trout are only present in headwaters of Gold Fork River (*IDFG, J. Messner, pers. communication*), a tributary to Lake Cascade upstream of Cascade Dam. Idaho Power is confident bull trout are not present within the Project boundary, in Lake Cascade, or in the NFPR downstream of the Project boundary.

4.4. Botanical Resources Including Rare, Threatened, and Endangered Species (18 CFR §§ 5.6(d)(3)(v), (vii))

This section describes the vegetation communities and special status plants[3] within the Project. Botanical resources were determined by a desktop analysis of botanical spatial databases and supplemented with results from a pedestrian special-status plant and noxious weed survey completed by Idaho Power botanical specialists in June 2025.

4.4.1. Vegetation Communities

The Project is within the Idaho Batholith Level III ecoregion[4] (EPA 2025). The Idaho Batholith is a forested system dominated by fir, pine, and spruce trees (EPA 2013). Pedestrian surveys and National Land Cover Data (NLCD) (NLCD 2021) concluded low and medium intensity developed lands associated with power plant facilities and open water (tailrace and NFPR) are the primary cover types within the Project boundary (Figure 19, Table 12). Evergreen forest, shrub/scrub, and herbaceous wetland cover types also occur in the boundary. Table 12 includes descriptions of each cover type.

Table 12
Land cover type acres within the FERC boundary at the Cascade Project near Cascade, Idaho

Land Cover Type*	Acres	Description
Developed (low and medium intensity)	4.7	Developed lands include power plant facilities, open spaces associated with the power plant (e.g., parking areas), and roads.
Evergreen Forest	1.2	Evergreen forests have at least 20% cover of trees taller than 16-ft (5 m), with more than 75% of trees retaining leaves all year long (NLCD 2021). In the Project boundary, these areas are dominated by conifers Douglas fir (*Pseudotsuga menziesii*) and ponderosa pine (*Pinus ponderosa*).
Shrub Scrub	2.0	Shrub/scrub areas are dominated by shrubs less than 16-ft (5 m) tall with shrub canopy typically greater than 20% of the total vegetation. This class includes true shrubs, young trees in an early successional stage, or trees stunted from environmental conditions (NLCD 2021). Within the Project boundary, shrub/scrub areas were observed in the riparian/upland transitional areas primarily consisting of willows (Salix sp.) and small upland areas containing sagebrush (*Artemisia tridentata* ssp. *wyomingensis*), bitterbrush (*Purshia tridentata*), and rubber rabbitbrush (*Ericameria nauseosa*).

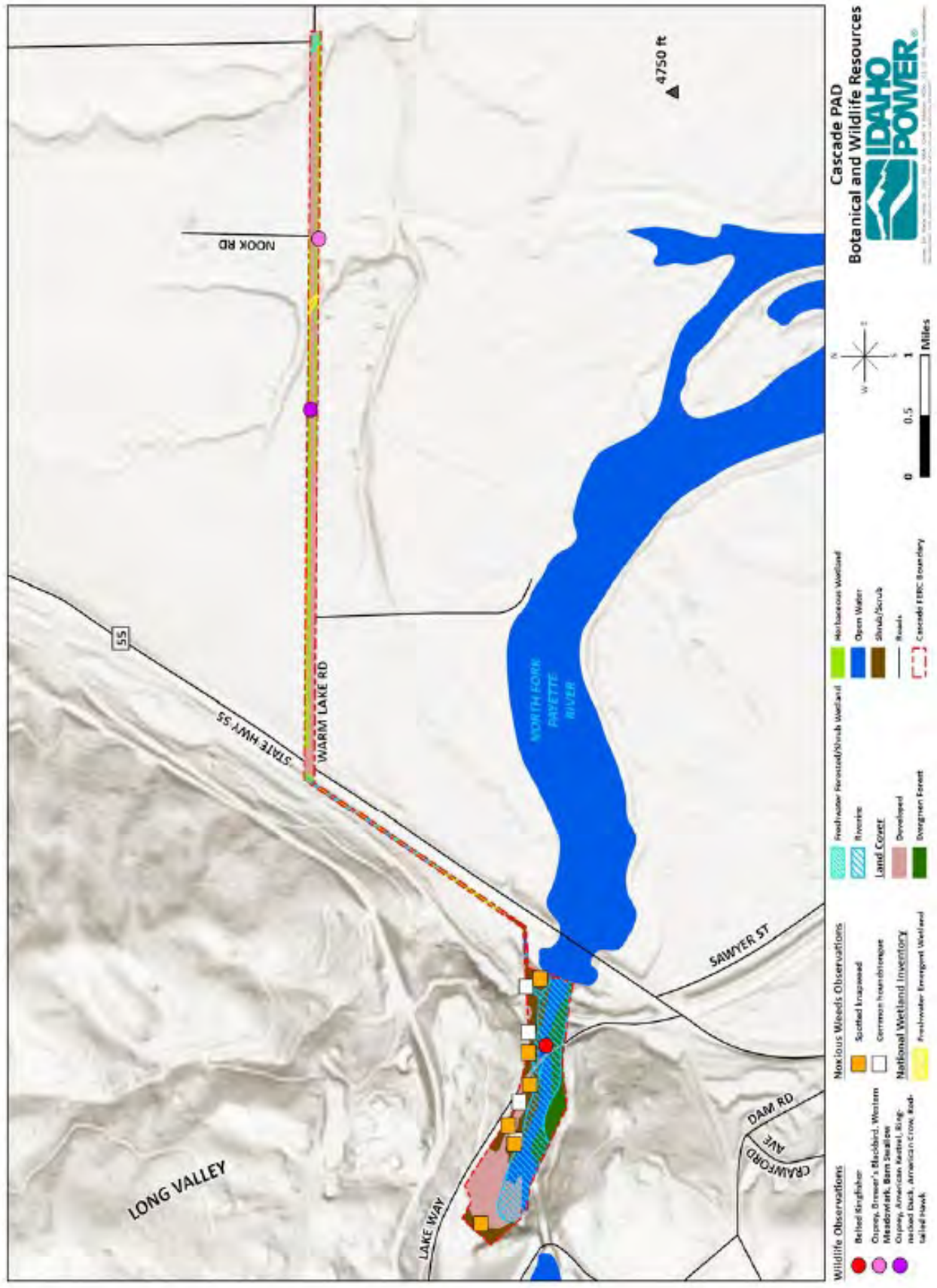
[3] A special-status plant includes ESA-listed plants within or near the FERC boundary (IPaC 2025), plants listed in IDFG's *Idaho Fish and Wildlife Information System* (IDFG 2025c), plants included on the Boise National Forest Rare Plant List (USFS 2025), and the Bureau of Land Management (BLM) Special Status Plant List (BLM 2022).

[4] Ecoregions (areas where ecosystems are similar) are used to group type, quality, and quantity of environmental resources. Level III ecoregions describe small ecological areas (EPA 2025).

Land Cover Type*	Acres	Description
Herbaceous Wetland	1.7	Areas where perennial herbaceous vegetation accounts for at least 80% of vegetation and the soil or substrate is periodically saturated with water (NLCD 2021). Reed canary grass (*Phalaris arundinacea*) is the dominant vegetation within the transmission line right-of-way (ROW) sections of the Project boundary. This area is also saturated with water periodically throughout the year due to a shallow water table.
Open Water	1.4	Open water within the Project boundary is the tailrace area and the NFPR.

*Given the small Cascade Project boundary, the NLCD spatial data was not precise enough in all locations to describe land cover types throughout the boundary. In locations where data was incomplete, Idaho Power digitized cover types from satellite imagery, using the NLCD Classification System (NLCD 2021); these areas were field verified.

Figure 19
Botanical, wildlife, and wetland observations


Cascade PAD
Botanical and Wildlife Resources
IDAHO POWER
4750 ft
NOOK RD
WARM LAKE RD
STATE HWY 55
55
NORTH FORK PAYETTE RIVER
SAWYER ST
DAM RD
CRAWFORD AVE
LAKE WAY
LONG VALLEY
Miles
0
0.5
1
Wildlife Observations
Noxious Weeds Observations
Spotted knapweed
Common houndstongue
National Wetland Inventory
Freshwater Emergent Wetland
Land Cover
Riverine
Developed
Evergreen Forest
Freshwater Forested/Shrub Wetland
Herbaceous Wetland
Open Water
Shrub/Scrub
Roads
Cascade FERC Boundary

4.4.2. Special-Status Plants

Table 13 lists special-status plants that may be present in the Project. This list was based on land cover types expected to be within the Project (NLCD 2021) and compiled from state rare plant data (IDFG 2025c), NatureServe and FWS IPaC online data (NatureServe 2025, IPaC 2025) and USFS and BLM special-status plant lists for neighboring federal lands (USFS 2025, BLM 2022).

Within the Project boundary, no ESA-listed plants or their critical habitat occurs (IPaC 2025). Two special-status plants are within 5-air miles of the Project—white bark pine (*Pinus albicaulis*) and Douglas's clover (*Trifolium douglasii*) (IDFG 2025c). White bark pine is an ESA-listed threatened tree (USFWS 2021, 2022) and Douglas's clover is a state and BLM listed special-status plant (Table 13). The Project is unlikely to support white bark pine, as it contains minimal suitable habitat (tables 12, 13) and is at approximately 5,000-feet elevation. Douglas's clover was observed near the current Project in 1939, but there are no other observations of it in this area. IDFG's Species Diversity Database (IDFG 2025c) includes a 2.5-mile diameter circle of potential habitat for Douglas's clover; the Project is roughly in the center.

Two Idaho Power resource specialists familiar with regional special-status plant identification completed a botanical pedestrian survey within the Project boundary in June 2025.
All accessible lands were surveyed for special-status plants and their habitats. No special-status plants were observed. Results for each potential special-status plant are presented in Table 13.

Table 13
State and global ranks, National Forest (NF) and BLM status for special-status plants and pedestrian survey results for special-status plants that may occur in Idaho Power's Cascade Project FERC boundary, near Cascade, Idaho. (FRFO is the BLM's Four River's Field Office. Habitat descriptions are from NatureServe [2025] and USFS [2025].)

Scientific Name	Common Name	State Rank*	Global Rank	Boise NF Status	BLM FRFO Status	Habitat Description	Survey Results
Allium madidum	Swamp onion	S3	G3	N/A	N/A	Seasonally moist mountain meadows, waterways, vernal pools, and wetlands at 3,800 to 6,500-ft elevation.	Minimal habitat was observed. No plants were observed.
Allium tolmiei var. *persimile*	Seven devil's onion	S3	G4G5T3	Sensitive	N/A	Mixed semiarid shrub and grasslands in swales, ephemeral watercourses, or seeps. Found on seasonally wet soils, on south slopes at 3,000 to 5,000-ft elevation.	Minimal habitat was observed. No plants were observed.
Allium validum	Pacific onion	S3	G4	N/A	N/A	Riparian areas, swampy meadows, springs, boggy lake edges at mid to high elevations.	Minimal habitat was observed. No plants were observed.
Botrychium simplex	Little grapefern	S2	G5	Forest Watch	N/A	Wide variety of habitats, including meadows and forested types, with ephemeral growth. Observed at 4,000 to 6,000-ft elevation.	Minimal habitat was observed. No plants were observed.
Douglasia idahoensis	Idaho dwarf-primrose	S3	G3	Sensitive	N/A	Occurs on north/east facing, open subalpine summits, ridges, and adjacent slopes, usually on northerly aspects on well-drained gravelly soils.	Habitat and plants were not observed.
Epipactis gigantea	Stream orchid	S3	G4	Proposed sensitive	Type 3	Requires surface water but can occur in a variety of habitats, including riverbanks, hot springs, and meadows in forested areas or deserts.	Riverbank habitat was limited given the water fluctuations below the dam. No stream orchid plants were observed.
Lewisia sacajaweana	Sacajawea bitter root	S2	G2	Sensitive	N/A	Sparse upper slopes and ridgetops on fractured bedrock, granitic soils near late snowbanks at 5,400 to 9,500-ft elevation.	Habitat and plants were not observed.
Pinus albicaulis	Whitebark pine	S3	G3G4	Threatened	Threatened	Occurs in sub-alpine fir zones on summits, ridges, and rocky exposed slopes. Generally observed above 6,000-ft elevation, but isolated individuals and stands can occur at lower elevations.	Minimal habitat was observed. Plants were not observed.

Scientific Name	Common Name	State Rank*	Global Rank	Boise NF Status	BLM FRFO Status	Habitat Description	Survey Results
Trifolium douglasii	Douglas's clover	S1	G3	N/A	Type 2	Occurs in moist meadow or prairie remnants (NatureServe 2025).	Wet meadows were observed in the transmission line ROW. These areas were dominated by reed canary grass. Reed canary grass has a dense rhizomatous root system, which limits the establishment of other plants. Douglas' clover was not observed.

*Ranking Definitions:

State and Global Ranking Definitions (NatureServe 2025):

Rank 1 = Critically Imperiled: at very high risk of extirpation in the jurisdiction due to very restricted range, very few populations or occurrences, very steep declines, severe threats, or other factors.

Rank 2 = Imperiled: at high risk of extinction or collapse due to restricted range, very few populations or occurrences, very steep declines, very severe threats, or other factors.

Rank 3 = Vulnerable: at moderate risk of extinction or collapse, a restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.

Rank 4 = Apparently secure: at fairly low risk of extinction or collapse due to an extensive range and/or many populations or occurrences, but with possible cause for some concern because of recent local declines, threats, or other factors.

Rank 5 = Secure: at very low risk of extinction or collapse due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats.

Rank of T = refers to the conservation status rank for a subspecies or variety

USDA Forest Service (the NF column): "Sensitive species" and "proposed sensitive" species are plants identified by the Regional Forester for which population viability is a concern, as evidenced by significant current or downward trends in population density, or significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution (USFS 2000). A "forest watch" species is an informal category designated by the managing forest—these species have population concerns and are monitored by that forest.

BLM: Type 2 special-status plant is a range-wide or globally imperiled species-high endangerment. These are species with a high likelihood of an ESA listing in the foreseeable future due to their global rarity and significant endangerment factors. Type 3—Range-wide or State-wide Imperiled—Moderate Endangerment. These are species that are globally rare or very rare in Idaho, with moderate endangerment factors. Their global or state rarity and the inherent risks associated with rarity make them imperiled species (BLM 2022).

4.4.3. Noxious Weeds

Idaho Power conducted noxious weed[5] surveys concurrently with the special-status plant survey. Surveyors searched for all Idaho-state listed noxious weeds (ISDA 2025). Spotted knapweed (*Centaurea stoebe*) and houndstongue (*Cynoglossum officinale)* were observed in the Project (Figure 19). Spotted knapweed was near the power plant, impromptu recreation areas, and along the access road. Spotted knapweed is common in Valley County (Valley County Weed Control 2025) and was likely brought into the Project from areas outside. Houndstongue was observed in small, low-density patches. Both weeds are on the "containment" section of the Idaho Noxious Weed List, indicating new or expanding populations should be reduced or eliminated; this is the lowest category of concern on the noxious weed list (ISDA 2025).

4.5. Wildlife Resources Including Rare, Threatened, and Endangered Species (18 CFR §§ 5.6(d)(3)(v), (vii))

4.5.1. Wildlife Resources

A variety of wildlife use the habitat in the Project and vicinity. Wildlife species observed within one mile of the Project were determined by a spatial desktop analysis of data from the Idaho Fish and Wildlife Information System (IFWIS) (IDFG 2025c), the Xerces Society (Richardson 2023), and iNaturalist (2024) and supplemented with results from a site visit of the Project in June 2025.

Common amphibians recorded in the vicinity of the Project include the long-toed salamander (*Ambystoma macrodactylum*) and Western toad (*Anaxyrus boreas*). Reptiles include the western terrestrial garter snake (*Thamnophis elegans*), western fence lizard (*Sceloporus occidentalis*), and gopher snake (*Pituophis catenifer*). Mammals in the vicinity include red fox (*Vulpes vulpes*), North American porcupine (*Erethizon dorsatum*), northern flying squirrel (*Glaucomys sabrinus*), black bear (*Ursus americanus*), bobcat (*Lynx rufus*), American mink (*Neovison vison*), yellow-bellied marmot (*Marmota flaviventris*), American red squirrel (*Tamiasciurus hudsonicus*), Columbian ground squirrel (*Urocitellus columbianus*), and golden-mantled ground squirrel (*Callospermophilus lateralis*).

IDFG modeled mule deer and elk habitat suitability in Idaho. The model created a probability surface ranging from 0.00 to 1.00 (low to high) predicting the habitat suitability in 30 m pixels (Bergen et al. 2016a, and Bergen et al. 2016b). The entire Cascade Project area is considered suitable winter range for elk, with suitability values ranging from 0.137 to 0.563. Similarly, the

[5] A "noxious weed" is defined by the Idaho State Department of Agriculture as any plant having the potential to cause injury to public health, crops, livestock, land, or property, and which is designated as noxious by the director of the Department of Agriculture (Idaho Code, Title 22, Chapter 24 – Noxious Weeds).

area is considered suitable winter range for mule deer, though suitability is low, with values ranging from 0.001 to 0.042.

The Reservoir, river, forest, and upland habitats in the vicinity of the Project support a diverse array of bird species. IFWIS data, which includes relevant eBird checklists in the vicinity of the Project, includes 188 bird species within one mile of the Project (IDFG 2025c). eBird checklists within the Project boundary identified several upland species, including Brewer's blackbird (*Euphagus cyanocephalus*), western meadowlark (*Sturnella neglecta*), barn swallow (*Hirundo rustica*), American kestrel (*Falco sparverius*), and red-tailed hawk (*Buteo jamaicensis*) (Figure 19). Common species observed during a site visit in June 2025 include American robin (*Turdus migratorius*), tree swallow (*Tachycineta bicolor*), northern rough-winged swallow (*Stelgidopteryx serripennis*), belted kingfisher (*Megaceryle alcyon*), western tanager (*Piranga ludoviciana*), yellow-rumped warbler (*Setophaga coronata*), house wren (*Troglodytes aedon*), song sparrow (*Melospiza melodia*), black-capped chickadee (*Poecile atricapillus*), red-winged blackbird (*Agelaius phoeniceus*), American goldfinch (*Spinus tristis*), red crossbill (*Loxia curvirostra*), varied thrush (*Ixoreus naevius*), black-headed grosbeak (*Pheucticus melanocephalus*), American white pelican (*Pelecanus erythrorhynchos*), American crow (*Corvus brachyrhynchos*), bald eagle (*Haliaeetus leucocephalus*), and osprey (*Pandion haliaetus*).

4.5.2. Special-Status Wildlife

Idaho Power used IPaC to identify special-status wildlife species in the Project area (IPaC 2025). The IPaC database indicates that 18 bird species of conservation concern (BCC) may potentially occur in the Project vicinity (Table 14). The Project is bordered by Reclamation, State of Idaho, and private land. The BLM Boise District, FRFO, and the U.S. Forest Service's (USFS) Payette and Boise National Forests are not directly adjacent to the Project; however, they manage land in the vicinity of the Project. Therefore, also included in this analysis are wildlife species identified as sensitive by BLM and USFS. Three amphibian, 24 bird, one insect, 19 mammal, and three reptile species are identified as sensitive by either the FRFO or the Boise and/or Payette National Forests (Table 14). For each of the special-status species, Table 14 provides the listing status, habitat requirements, potential to occur in the Project vicinity, and rationale for why the species does or does not have the potential to occur. Idaho Power queried the IFWIS database (IDFG 2025c) and Xerces database (Richardson 2023) and identified 18 special-status bird species occurrences within one mile of the Project. No sensitive amphibians, insects, mammals, or reptiles have been recorded within 1 mile of the Project. Bald eagles were observed within the Project boundary and exhibited behavior indicating nesting is likely occurring adjacent to the Project (Table 14).

Table 14
Special-status wildlife species with the potential to occur within the Project area as identified by the FWS IPaC database, the BLM (FRFO) and USFS (Region 4, Boise and Payette National Forests)

Common Name (Scientific Name)	Status[1]	Habitat Requirements	Occurence[2]	Rationale
		Amphibians		
Columbia Spotted Frog (*Rana luteiventris*)	USFS	Found in or near lakes, ponds, sluggish streams, and marshes from sea level to 3,000 m.	Potential	Within modeled range (IDFG 2025d).
Northern Leopard Frog (*Lithobates pipiens*)	BLM	Occurs in and around wet meadows, potholes, and riparian areas with abundant vegetative cover. Disperses to moist uplands or permanent water during dry-up in summer.	Unlikely	Outside modeled range (IDFG 2025d).
Western Toad (*Anaxyrus boreas*)	BLM	The metamorphosed toads are largely terrestrial and, though they are most commonly found near marshes and small lakes, they can also be found in dry forest and shrubby thickets.	Potential	Observed within 5 miles of Project.
		Birds		
American Goshawk (Astur atricapillus)	BLM, USFS	Breeds in coniferous and mixed forests and wooded foothills of mountainous regions.	Observed	Observed within 1 mile of the Project.
Bald Eagle (*Haliaeetus leucocephalus*)	BCC, BLM, USFS	The bald eagle breeds from Alaska and Canada south to California and Florida. Bald eagles are found along coasts, rivers, lakes, and marshes with nearby tall trees or cliffs for nesting.	Observed-PB	Frequently observed within 1 mile of the Project.
Black Tern (*Chlidonias niger*)	BCC	Found near water, including freshwater marshes.	Observed	Observed within 1 mile of the Project.
Black-throated Sparrow (*Amphispiza bilineata*)	BLM	Found in dry, desert habitat.	Unlikely	At the edge of range (IDFG 2025d).
Bobolink (*Dolichonyx oryzivorus*)	BCC	Breeds in open grassy fields across North America.	Unlikely	At the edge of range, rare in area. (IDFG 2025d).

Common Name (Scientific Name)	Status[1]	Habitat Requirements	Occurence[2]	Rationale
Boreal Owl (*Aegolius funereus*)	USFS	Found in mature boreal, subalpine, and mixed woodland forests.	Potential	Within modeled range (IDFG 2025d).
California Gull (*Larus californicus*)	BCC	Breeds at lakes and marshes in interior western North America.	Observed	Commonly observed in the vicinity of the Project.
Calliope Hummingbird (*Selasphorus calliope*)	BCC	Breeds in open montane forest, mountain meadows, and willow and alder thickets. During migration, it may be found in lowland brushy areas and semi-desert regions.	Observed	Observed within 1 mile of the Project.
Cassin's Finch (*Haemorhous cassinii*)	BCC	Breeds in coniferous forest in mountains of western North America.	Observed	Commonly observed in the vicinity of the Project.
Clark's Grebe (*Aechmophorus clarkii*)	BCC	Nests on large inland lakes with suitable tree cover that can be used for nesting.	Observed	Observed within 1 mile of the Project.
Columbian Sharp-tailed Grouse (*Tympanuchus phasianellus columbianus*)	BLM , USFS	Breeds in sagebrush-bunchgrass prairies, mountain shrub, and riparian zones.	Unlikely	No current occupied range in the vicinity of the Project. (IDFG 2025d).
Common Loon (*Gavia immer*)	USFS	Summer habitat includes wooded lakes to tundra ponds. Winter habitat along the coast and inland lakes, bays, and streams.	Observed	Observed within 1 mile of the Project.
Evening Grosbeak (*Coccothraustes vespertinus*)	BCC	Breeds in coniferous and mixed forests across mountainous areas of western North America.	Observed	Observed within 1 mile of the Project.
Ferruginous Hawk (*Buteo regalis*)	BLM	Breeds in arid, semi-arid, and grassland regions of western North America.	Unlikely	Outside modeled range (IDFG 2025d).
Flammulated Owl (*Psiloscops flammeolus*)	BCC, BLM, USFS	Migratory species. Breeds in tree cavities in mature, open ponderosa pine and Douglas fir forests in western North America.	Potential	Observed within 2 miles of Project.

Common Name (Scientific Name)	Status[1]	Habitat Requirements	Occurence[2]	Rationale
Franklin's Gull (Leucophaeus pipixcan)	BCC	Nests in freshwater marshes with abundant emergent vegetation and patches of open water. After nesting they wander widely in the intermountain West.	Observed	Observed within 1 mile of the Project.
Golden Eagle (*Aquila chrysaetos*)	BCC, BLM	Golden eagles are a common breeding bird in the western U.S. In Idaho, eagles build stick nests on cliffs or a tree. Golden eagles mainly feed on small mammals including jackrabbits, cottontails, and ground squirrels but may also eat snakes, birds, ungulates, and carrion.	Observed	Observed within 1 mile of the Project.
Grasshopper Sparrow (*Ammodramus savannarum*)	BLM	Breeds in grasslands and prairies avoiding trees and shrubs.	Observed	Observed within 1 mile of the Project.
Greater Sage-Grouse (*Centrocercus urophasianus*)	BLM, USFS	Sagebrush obligate species inhabiting sagebrush-grassland communities.	Unlikely	Outside modeled range (IDFG 2025d).
Great Gray Owl (Strix nebulosa)	USFS	Pine and fir forests adjacent to montane meadows between 2,500 and 7,500 ft.	Potential	Observed within 3 miles of the Project.
Green-tailed Towhee (*Pipilo chlorurus*)	BLM	Breeds in dense, shrubby habitat, including pinyon-juniper forest, at high elevations amid scattered small conifers, and in sagebrush steppe in areas intermixed with shrubs and small trees.	Potential	Within modeled range (IDFG 2025d).
Harlequin Duck (*Histrionicus histrionicus*)	USFS	Breeds in subalpine or coastal habitats. Uses fast-flowing sections of rivers early in the breeding season, moving to slower-moving stretches or lakes once the chicks have hatched.	Potential	Observed within 10 miles of Project.
Lesser Yellowlegs (*Tringa flavipes*)	BCC	Uses mudflats, marshes, lake and pond edges, and flooded agricultural fields.	Observed	Observed within 1 mile of the Project.
Lewis's Woodpecker (*Melanerpes lewis*)	BCC, BLM	Nests in open ponderosa pine forests with a high density of snags. Also breeds in woodlands near streams.	Observed	Observed within 1 mile of the Project.

Common Name (Scientific Name)	Status[1]	Habitat Requirements	Occurence[2]	Rationale
Loggerhead Shrike (*Lanius ludovicianus*)	BLM	Inhabits open country with short vegetation and well-spaced shrubs or trees, including desert scrubland, riparian areas, prairies, pastures, and old orchards.	Potential	Within modeled range (IDFG 2025d).
Long-billed Curlew (*Numenius americanus*)	BLM	Nests in shortgrass prairies in a shallow scrape in the ground.	Potential	Observed within 2 miles of the Project.
Long-eared Owl (*Asio otus*)	BCC	In Idaho, nests in willows, cottonwoods, and junipers adjacent to shrub steppe.	Potential	Observed within 2 miles of the Project.
Mountain Quail (*Oreortyx pictus*)	BLM, USFS	Inhabits mountainous terrain with dense shrubs, including riparian corridors along waterway.	Unlikely	Outside modeled range (IDFG 2025d).
Olive-sided Flycatcher (*Contopus cooperi*)	BCC, BLM	Breeds in open areas of coniferous western forests up to 10,000 ft in elevation near water.	Potential	Observed within 2 miles of the Project.
Peregrine Falcon (*Falco peregrinus*)	USFS	Widespread, nesting in a scrape on cliff edges or on tall human-made structures.	Potential	Observed within 2 miles of the Project.
Rufous Hummingbird (*Selasphorus rufus*)	BCC	Typically breed in open or shrubby areas, forest openings, parks, and forests from sea level to 6,000 ft.	Observed	Observed within 1 mile of the Project.
Sage Thrasher (*Oreoscoptes montanus*)	BLM	Breeds in shrub steppe habitats through the interior west.	Potential	Observed within 2 miles of the Project.
Short-eared Owl (*Asio flammeus*)	BLM	Found in open habitats such as grassland and marshes.	Unlikely	Outside modeled range (IDFG 2025d).
Three-toed Woodpecker (*Picoides dorsalis*	USFS	Inhabit mature coniferous forests damaged by windstorms, floods, or fire where snags occur.	Potential	Within modeled range (IDFG 2025d).
Western Grebe (*Aechmophorus occidentalis*)	BCC	Breeds on large freshwater lakes and marshes.	Observed	Observed within 1 mile of the Project.
White-headed Woodpecker (*Dryobates albolarvatus*)	BLM, USFS	Nests in pine forests in mountains of western North America.	Observed	Observed within 1 mile of the Project.

Common Name (Scientific Name)	Status[1]	Habitat Requirements	Occurence[2]	Rationale
Williamson's Sapsucker (*Sphyrapicus thyroideus*)	BCC	Inhabits coniferous and mixed forest in high elevation dry forests below ridgeline.	Observed	Observed within 1 mile of the Project.
Willow Flycatcher (*Empidonax trailii*)	BLM	Breeds in a variety of habitats, ranging from brushy fields to willow thickets along streams, as well as the edges of gallery forests along rivers or streams.	Potential	Within modeled range (IDFG 2025d).
		Invertebrates		
Western Bumble Bee (*Bombus occidentalis*)	BLM	Found in open grassy areas, sagebrush steppe, and mountain meadows.	Potential	Three western bumble bee records within 2 miles of the Project.
		Mammals		
Big Brown Bat (*Eptesicus fuscus*)	BLM	Generalist species that can live in urban, suburban, and rural environments.	Potential	Within modeled range (IDFG 2025d).
Bighorn Sheep (*Ovis canadensis*)	BLM, USFS	Found in a variety of habitats from desert grasslands to alpine meadows.	Unlikely	Project is outside modeled range (IDFG 2025d).
Canyon Bat (*Parastrellus hesperus*)	BLM	Found in deserts and lowlands, desert scrub flats, and rocky canyons of western United States below 5,000 ft. elevation.	Unlikely	Outside modeled range (IDFG 2025d).
Fisher (*Pekania pennanti*)	BLM, USFS	Found in upland and lowland mixed, deciduous or coniferous forests. In Idaho, prefer mature forests with dense canopy.	Potential	Within modeled range (IDFG 2025d).
Fringed Myotis (*Myotis thysanodes*)	BLM	Found in desert shrublands, sagebrush-grassland and wooded habitats from 3,600 to 6,300 ft.	Potential	Within modeled range (IDFG 2025d).
Gray Wolf (*Canis lupus*)	BLM	Generally found in forested and mountainous country in central Idaho.	Potential	Observed within 2 miles of the Project.
Hoary Bat (*Lasiurus cinereus*)	BLM	Roosts in trees at the edge of clearing in both coniferous and deciduous trees.	Potential	Within modeled range (IDFG 2025d).
Little Brown Myotis (*Myotis lucifugus*)	BLM	Found in a wide range of elevations often associated with forests containing snags, old buildings, and slack water areas.	Potential	Within modeled range (IDFG 2025d).

Common Name (Scientific Name)	Status[1]	Habitat Requirements	Occurence[2]	Rationale
Long-eared Myotis (*Myotis evotis*)	BLM	Found in forest habitat under exfoliating bark, in tree cavities, in stumps from logging, and in cliff crevices.	Potential	Within modeled range (IDFG 2025d).
Long-legged Myotis (*Myotis volans*)	BLM	Occurs in a variety of habitats, from desert to mountainous coniferous forest, where it is most common near open water.	Potential	Within modeled range (IDFG 2025d).
Pallid Bat (*Antrozous pallidus*)	BLM	Found in arid or semi-arid shrub steppe, grasslands, and higher elevation coniferous forests. Roosts in rock crevices, mines, hollow cavities in trees, and buildings.	Unlikely	Outside modeled range (IDFG 2025d).
Piute Ground Squirrel (*Urocitellus mollis*)	BLM	Found in shrub steppe habitat in areas with well-drained soils.	Unlikely	Outside modeled range (IDFG 2025d).
Pygmy Rabbit (*Brachylagus idahoensis*)	BLM	Found in areas with deep soils and tall, dense sagebrush.	Unlikely	Outside modeled range (IDFG 2025d).
Silver-haired Bat (*Lasionycteris noctivagans*)	BLM	Found in a wide range of elevations in trees containing cavities or exfoliating bark.	Potential	Within modeled range (IDFG 2025d).
Southern Idaho Ground Squirrel (*Urocitellus endemicus*)	BLM, USFS	Found in sagebrush steppe habitat in a restricted area of Gem, Payette, and Washington counties in Idaho.	Unlikely	Outside known breeding range (IDFG 2025d).
Spotted Bat (*Euderma maculatum*)	BLM, USFS	Found in various habitats from desert to montane coniferous forests up to 7,500 ft. in elevation.	Unlikely	Outside known breeding range (IDFG 2025d).
Townsend's Big-eared Bat (*Corynorhinus townsendii*)	BLM, USFS	Found in a variety of habitats from desert shrub to deciduous and coniferous forests at a wide range of elevations. May use mines and old buildings as roosts.	Potential	Within modeled range (IDFG 2025d).
Western Small-footed Myotis (*Myotis ciliolabrum*)	BLM	Found in arid habitats associated with cliffs and talus slopes.	Unlikely	Outside modeled range (IDFG 2025d).
Yuma Myotis (*Myotis yumanensis*)	BLM	Found in a variety of western lowland habitat in areas of abundant water.	Potential	Within modeled range (IDFG 2025d).

Common Name (Scientific Name)	Status[1]	Habitat Requirements	Occurence[2]	Rationale
		Reptiles		
Great Basin Collared Lizard (*Crotaphytus bicinctores*)	BLM	Associated with arid habitats with rocks and boulders.	Unlikely	Outside modeled range (IDFG 2025d).
Long-nosed Snake (Rhinocheilus lecontei)	BLM	Found in desert lowland areas that have sandy or loose soil and numerous burrows. In Idaho, long-nosed snakes can be found in southwestern desert regions.	Unlikely	Outside modeled range (IDFG 2025d).
Western Groundsnake (*Sonora semiannulata*)	BLM	Found in arid habitats usually having loose or sandy soil, ranging from rocky areas (talus slopes, canyon rims and outcroppings) to low desert shrub areas.	Unlikely	Outside modeled range (IDFG 2025d).

[1] BCC – Birds of Conservation Concern (IPaC 2025), BLM – Sensitive (FRFO) (BLM 2023), USFS - Sensitive (Payette and Boise NF) (USFS 2016).

[2] IFWIS (IDFG 2025c) – Observed–PB – Species observed within the Project boundary; Observed – Species observed within 1 mile of the Project; Potential – Habitat is available within 1 mile of the Project that may be suitable for the species or observed within 10 miles of the project; Unlikely – Habitat is not available in the vicinity of the Project or the Project is outside of the species' known range.

4.5.3. Federal Endangered Species Act Listed and Proposed or Candidate Wildlife Species

Idaho Power used IPaC to identify any species listed as threatened or endangered or proposed for listing under the ESA and critical habitat for any listed species that may exist in the Project vicinity (IPaC 2025). The monarch butterfly (*Danaus plexippus*), Suckley's cuckoo bumble bee (*Bombus suckleyi*), Canada lynx (*Lynx canadensis*), and wolverine (*Gulo gulo*) could potentially occur in the Project vicinity (Table 15). The Project is outside the current range of the northern Idaho ground squirrel. No critical habitat for any species occurs on Idaho Power land, within the Project boundary or within the vicinity of the Project. There are no known occurrences of ESA-listed snails in the Project vicinity. The nearest known population of Snake River physa (*Physa natricina*) occurs on the Snake River, which is 82.7 miles downstream of the Project.

For each of the listed species, Table 15 provides the listing status, habitat requirements, potential to occur in the Project vicinity, and rationale for why the species does or does not have the potential to occur. Listed species observed within one mile of the Project were determined by a spatial desktop analysis of data from IFWIS (IDFG 2025c), the Xerces Society (Richardson 2023), Western Milkweed Mapper (WMMOD 2025), and iNaturalist (2024), and a site visit on June 4, 2025.

4.5.3.1. Life Histories of ESA-Listed and Candidate or Proposed Species

1. Monarch Butterfly

The monarch butterfly was designated as a proposed threatened species, with a corresponding Section 4(d) rule under the ESA on December 12, 2024 (89 Federal Register (FR) 100662).

Monarch butterflies rely on milkweed (*Asclepias* spp.) plants as larval habitat and as an adult nectar source. Eggs are laid on milkweed plants, and larvae (caterpillars) feed on leaves as they develop through five instars, culminating in a green and gold chrysalis (pupa). Adult monarch butterflies emerge from the chrysalis within 6 to 14 days, with the entire development process taking approximately four to six weeks, dependent on ambient temperature.
Multiple generations of monarch butterflies are produced each spring/summer at breeding locations, where they will live for two to five weeks. Based on lower ambient temperatures, monarch butterflies will begin a reproductive diapause in preparation for migration and overwintering. Individuals will live for six to nine months and travel hundreds to thousands of miles during the fall migration and overwintering period. The western monarch found in Idaho primarily migrates to and overwinters in California and Baja Mexico. Proposed critical habitat encompasses approximately 4,395 acres in California. The western monarch population size has declined steeply over the last 20 to 30 years—only thousands, compared to millions, are being recorded each year at overwintering sites. Only 9,110 western monarchs were counted at overwintering sites in 2024, the second lowest count recorded (Xerces Society 2025).

The Binary Modeled Suitable Habitat for migrating western monarch butterflies identified potentially suitable habitat for monarch butterfly in the Project boundary (ESRI 2025). However, the Western Milkweed Mapper, which compiles monarch and milkweed data currently shows no records of adult monarch or milkweed plants within one mile of the Project boundary. During the June 4, 2025, site visit, no milkweed was observed within the Project boundary. As milkweed is essential for monarch reproduction, the lack of host plants indicates the Project area does not provide suitable breeding habitat. However, monarch butterflies may occur as transients.

2. Suckley's Cuckoo Bumble Bee

On December 17, 2024, the FWS proposed to list the Suckley's cuckoo bumble bee as an endangered species pursuant to the ESA (86 FR 25833). If this rule is finalized, it would add this species to the List of Endangered and Threatened Wildlife. Due to the lack of data, proposed critical habitat has not been designated for this species.

Suckley's cuckoo bumble bee has a broad historical distribution across North America, and it has been found in various habitat types including prairies, grasslands, meadows, urban and agricultural areas, and woodlands from 2 to 3,200 meters (6 to 10,500 feet) in elevation (Williams et al. 2014; Martin et al. 2023). Cuckoo bumble bees are generally observed in low abundance at the margins of a host species' range, and cuckoo bumble bee distributions are less than that of the host species (Antonovics and Edwards 2011).

Suckley's cuckoo bumble bee has not been observed in the United States since 2016, despite widespread historical occurrence records and increased sampling effort for bumble bees through collaborative efforts of the Bumble Bee Atlas. Range wide declines have occurred, and since 2000 the species has only been detected in 9 of the 15 ecoregions that were previously occupied (USFWS 2024b). Since Suckley's cuckoo bumble bees are entirely dependent on host bumble bee colonies, host colony availability is critical for the species' survival and overall viability. Cuckoo bumble bee females emerge from hibernation in the spring and take over the nest of a suitable host colony, where host workers care for their young. Suckley's cuckoo bumble bee is described as a semi-specialist parasite (Lhomme and Hines 2019) and is confirmed to usurp nests of western bumble bees (*Bombus occidentalis*) and Nevada bumble bees (*B. nevadensis*), with other potential hosts in subgenus Bombus throughout the extent of its range, including yellow-banded bumble bee (*B. terricola*), red-belted bumble bee (*B. rufocinctus*), yellow bumble bee (*B. fervidus*), and white-shouldered bumble bee (*B. appositus*) (Hobbs 1968; Williams et al. 2014). Bumble bees typically nest in underground cavities, such as old rodent burrows or nests, cavities in wood, dry grass, or leaf litter.

Cuckoo bumble bees have higher extinction vulnerability than host species because they are entirely dependent on host colonies for reproduction (Suhonen et al. 2015). The presence of parasitic bees depends on the presence of their hosts; any stressor effects on the host will be reflected in the status of the parasite (Sheffield et al. 2013). Because cuckoo bumble bees

depend on host species, there is a co-extinction risk for host and parasite species (Suhonen et al. 2015). Thus, signs that host species are declining are of major concern to the viability of Suckley's cuckoo bumble bee.

The Project is located within the Western Cordillera ecoregion. The last detection of Suckley's cuckoo bumble bee in this ecoregion was in Canada in 2018 (USFWS 2024b). The nearest historic record was observed in 1982 approximately 23.7 miles (38 km) from the Project. The last recorded Suckley's cuckoo bumble bee in Idaho was in 1982 (IDFG 2025c). Nevada bumble bee and western bumble bee, hosts for Suckley's cuckoo bumble bee, have recent occurrence records within 2 miles of the Project boundary (IDFG 2025c, Richardson 2023, iNaturalist 2024). Suckley's cuckoo bumble bee has not been identified recently in Idaho by the Pacific Northwest Bumble Bee Atlas despite widespread surveys from 2018 to 2024 (The Xerces Society et al. 2024). Therefore, Suckley's cuckoo bumble bee has the potential to occur in the Project but is unlikely due to the precipitous population decline of the species.

3. Canada Lynx

The FWS listed the contiguous U.S. Distinct Population Segment (DPS) of Canada lynx as ESA threatened on March 24, 2000 (65 FR 16052). The final rule designating critical habitat for lynx was published in the FR on November 9, 2006 (71 FR 66008). The final rule designating revised critical habitat was published in the FR on February 25, 2009 (74 FR 8616). The 12-month finding on a petition to change the final listing of the DPS of the Canada lynx to include New Mexico was published in the FR on December 17, 2009 (74 FR 66937). The proposed rule to revise the designation of critical habitat and the boundary for the lynx DPS was published in the FR on September 26, 2013 (78 FR 59430), and a Final Rule was published in October 2014 (79 FR 54781-54846). The FWS created a draft recovery plan (USFWS 2023) and proposed revised critical habitat (89 FR 94656-94680, USFWS 2024a) in response to litigation settlement agreements. The recovery plan and critical habitat revision have not yet been finalized.

In the Northern Rocky Mountain Region, most records of Canada lynx are associated with Rocky Mountain conifer forests within the 4,920- to 6,560-foot elevation zone (McKelvey et al. 1999). Primary vegetation that contributes to lynx habitat is lodgepole pine (*Pinus contorta)*, subalpine fir (*Abies lasiocarpa)*, and Engelmann spruce (*Picea engelmannii)* (Aubry et al. 2000). In extreme northern Idaho, northeastern Washington, and northwestern Montana, cedar-hemlock habitat types may also be considered primary vegetation. In central Idaho, Douglas fir (*Pseudotsuga menziesii)* on moist sites at higher elevations may also be considered primary vegetation. Secondary vegetation types that may also contribute to lynx habitat when interspersed within subalpine forests include grand fir, western larch, and aspen forests. Canada lynx generally use habitat located above dry forest types dominated by ponderosa pine (Squires et al. 2010). Canada lynx distribution and abundance appear closely associated with that of the snowshoe hare (*Lepus americanus*), which is the Canada lynx's primary prey and comprises 35% to 97% of its diet (Hodges 2000). Within these habitat types, snowshoe hares prefer stands of conifers with shrub understories that provide forage, cover to escape

predators, and protection during extreme weather. Snowshoe hares have evolved to survive in areas that receive deep snow.

The Project is located at approximately 4,800-foot elevation in an area dominated by ponderosa pine and Douglas fir. While ponderosa pine is not considered primary habitat for Canada lynx, moist Douglas fir sites may provide suitable foraging or travel habitat. The Project encompasses approximately 11 acres, of which 4.7 acres are developed, or industrial land and 1.4 acres are open water, limiting the availability of suitable habitat. No designated critical habitat for Canada lynx occurs in the vicinity of the Project. Although Canada lynx observations have been documented within seven miles of the Project area (IDFG 2025), no snowshoe hares, the primary prey species for lynx, have been observed within two miles. Given the small size of the Project area, the lack of critical habitat, limited prey base, and existing development, the site is unlikely to support breeding lynx. However, transient individuals may pass through the area.

4. Wolverine

On November 30, 2023, the FWS listed the distinct population segment of the wolverine occurring in the contiguous United States as Threatened under the ESA (88 FR 83726). Critical habitat for the wolverine has not been designated at this time. Under the interim 4(d) rule, incidental take caused by research activities, lawful trapping of other species, and forest management activities associated with wildfire risk reduction is not prohibited.

The North American wolverine inhabits arctic, boreal, and alpine habitats in Alaska, western Canada, and the western contiguous U.S. (Slough 2007). Within these occupied areas, wolverines are restricted to areas in high mountains, near the tree line, where conditions are cold year-round and snow cover persists well into the month of May. Wolverines do not appear to specialize on specific vegetation or geological habitat aspects but instead select cold areas that receive enough winter precipitation to reliably maintain deep, persistent snow late into the warm season (Copeland et al. 2010). Wolverines, while primarily carnivorous scavengers, are opportunistic feeders that consume a variety of foods, depending on availability. They are known for scavenging the carrion of large animals like elk, deer, and moose, but they are also capable of killing small mammals and birds.

The Project is within the modeled range of wolverine. The nearest sighting of a wolverine was approximately one mile from the Project along Highway 55. The Project does not encompass alpine conditions needed for wolverine breeding, but wolverines may occur as transient animals.

Table 15
Species listed under the ESA as threatened, endangered, or proposed for listing

Common Name (Scientific Name)	Status	Habitat Requirements	Occurence[1]	Rationale
		Invertebrates		
Suckley's Cuckoo Bumble Bee (*Bombus suckleyi*)	ESA-Proposed Endangered	Suckley's cuckoo bumble bee is a semi-specialist parasite and is confirmed to usurp nests of western bumble bees and Nevada bumble bees, with other potential hosts in subgenus Bombus. Bumble bees typically nest in underground cavities, such as old rodent burrows or nests, cavities in wood, dry grass, or leaf litter. Cuckoo bumble bees require a variety of native floral resources (pollen and nectar).	Potential	Host species (Three Western Bumble Bee and 1 Nevada bumble bee occurrences) occur within 2 miles of the Project.
Monarch butterfly (*Danaus plexippus*)	ESA-Proposed Threatened	Monarch butterflies rely on milkweed plants as larval habitat and as an adult nectar source. Adults require nectar-rich flowers for feeding. No proposed critical habitat exists within the Project boundary.	Potential	Milkweed plants do not occur within the Project boundary. May occur as transient foragers.
		Mammals		
Canada Lynx (*Lynx canadensis*)	ESA - Threatened	Occur in subalpine forests in the western U.S. Primary vegetation that contributes to lynx habitat is lodgepole pine, subalpine fir, Engelmann spruce, and Douglas fir.	Potential	Breeding habitat is not present in the Project area, but species may occur as a transient.
Wolverine (*Gulo gulo*)	ESA - Threatened	Inhabits arctic, boreal, and alpine habitats in Alaska, western Canada, and the western contiguous U.S. Wolverines are restricted to areas in high mountains, near the tree line, where conditions are cold year-round and snow cover persists well into the month of May.	Observed	Breeding habitat is not present in the Project area, but species may occur as a transient. Observation within 1 mile of the project.

[1] Observed – Species observed within 1 mile of the Project (IDFG 2025c), Potential – Habitat is available within 1 mile of the Project that may be suitable for the species, Unlikely – Habitat is not available in the vicinity of the Project, or the Project is outside of the species' known range.

4.6. Wetlands, Riparian, and Littoral Habitats (18 CFR § 5.6(d)(3)(vi))

Within the Project, 1.04 acres of land are considered a regulatory floodway, and of those 0.70 and 0.04 acres have a 1% and 2% annual flood chance, respectively (IDWR 2025).

The National Wetland Inventory and IPaC (USFWS 2015, IPaC 2025) indicate approximately 3.4 acres of riverine wetland areas (wetland classification codes: R4SBC, R4SBCx, R5UBH) occur within the FERC boundary, but two of those acres are developed areas or uplands associated with the power plant (Figure 19). The other riverine acres are the tailrace and the NFPR. Freshwater Emergent Wetland (0.04 acres; PEM1C) and Freshwater Forested/Shrub (0.04 acres; PSSC) wetlands are also listed within the Project boundary, but these are parts of Warm Lake Road.

Neither the USFWS (2015) nor IPaC (2025) has riparian habitat mapped within the Project boundary. During the pedestrian survey in June 2025, areas along the NFPR within the FERC boundary were observed for riparian vegetation. In this area, the river shoreline was steep and predominantly rocky. Within the rocks, willows (*Salix* sp.), common riparian plants, were occasionally observed in patches along the river's shoreline, and minimal to no herbaceous understory occurred in this area. The upper, rocky slope immediately transitioned into upland shrub and tree habitat.

There are no littoral habitats within the Project boundary.

4.7. Recreation and Land Use (18 CFR § 5.6(d)(3)(viii))

4.7.1. Existing Recreation

Recreational use at the Project centers around angling and sightseeing in the immediate spillway and tailwater area. Reclamation and the State of Idaho manage all aspects of recreational access to the Reservoir. Within the Project boundary (Figure 20), the area where Idaho Power bears responsibility for reasonable public access is limited in size and includes some topography—in the upper tailwater channel—that is not conducive to safe recreation access.

Figure 20
Partial Project boundary with day-use parking and Part 8 locations

The watercourse in the tailwater channel directly below the spillway and power plant down to the Highway 55 bridge is restricted from public access pursuant to Chapter 10, Title 5 of the City of Cascade Code (Ordinance 536 sections 5-10-1 through 4) due to its lack of safe ingress and egress (Figure 21). Bank angling is permitted but is difficult due to the distance to the watercourse, thereby naturally limiting that activity. Angling use, highest during summer peak season, is focused further downstream in the tailwater just above the Highway 55 bridge where access to the waterfront is more gradual, and populations of yellow perch and rainbow trout are denser (Figure 22).

Figure 21
View of tailwater channel, immediately downstream from Cascade Plant looking east (Note that the terrain is not conducive for public access to the water.)

Figure 22
The lower tailwater area is popular with anglers (Note: Better foot access compared to tailwater channel upstream. Photo taken from Highway 55 bridge, looking west.)

For the relatively low volume of sightseers who pull in directly below the power plant, there is a small linear gravel parking area with Idaho Power's project information sign (Figure 23).
At times of spring spill operations, controlled by Reclamation, sightseeing visitation is more regular.

Figure 23
Part 8 sign at Cascade tailwater parking

4.7.2. Shoreline

The Reservoir and Dam are owned and operated by Reclamation, and as such Idaho Power does not have authority over reservoir operations or reservoir shoreline management. Less than one acre of tailrace shoreline, with limited public access, lies within the Project. Idaho Power consequently does not have a Shoreline Management Plan and does not anticipate developing one for this relicensing.

4.7.3. Land Use

The Project encompasses approximately 11 acres of land. A small portion of the land is used for the power plant and appurtenant equipment. Just below the power plant, the tailrace makes up most of the land in the boundary, the lower portion of which is where recreational bank angling is popular. There is also a small parking area with a FERC Part 8 interpretive sign on the

north side of the tailrace (Figure 23). Downstream of this point, the boundary extends approximately 0.9 miles and narrows to include only the necessary ROW width for the primary 69-kilovolt (kV) transmission line.

The lands to the west and north of the Project area are comprised mainly of the Reservoir, which is managed primarily for water storage and recreation use. Tamarack Resort lies on the west side of the Reservoir approximately 11 miles north of the Dam and is managed for year-round recreation, including skiing, mountain biking, hiking, and golf. The land east and adjacent to the Project is primarily private land managed for agricultural grazing and farming. On the south end of Cascade, Idaho, Kelly's Whitewater Park offers opportunities for swimming in a heated pool and whitewater activities, such as kayaking and surfing. This, along with the whitewater kayaking and rafting opportunities in the NFPR, is dependent on flows of the river. Idaho Power does not have any control over river flows or quantities of water below the Project.

No Project lands within the Project boundary are under study for inclusion on the National Trails System or under study for inclusion as a Wilderness Area. The river below the Dam is not designated as wild and scenic and is not under state protected designation.

4.7.4. Future Recreation Needs

Idaho Power intends to continue allowing reasonable public access to the Project for compatible uses, such as sightseeing and bank angling. Continued provision of public access aligns with the 2023 Idaho Statewide Comprehensive Outdoor Recreation Plan as well as the Valley County Recreation Strategic Plan (2025).

Idaho's population growth lends itself to increased pressure on existing recreation areas. Expanding access in this area is problematic given the small Project area, challenging topography, surrounding roadways, and ordinance-driven restrictions. However, future recreation pressure could be met with enhancements to existing opportunities related to information, sanitation, and possible delineation of parking and access routes.

4.8. Aesthetic Resources (18 CFR § 5.6(d)(3)(ix))

The Project lies approximately 78 miles north of Boise, Idaho, at the northern edge of Cascade, Idaho. The Dam impounds the North Fork of the Payette River and creates Lake Cascade with a surface area of 47 square miles. The Dam and powerhouse are visible through a tree obstructed view from Idaho State Highway 55. The Project encompasses approximately 11 acres and is viewable from the crest of the Dam and from Highway 55 (Figure 24). To the east and south along the NFPR, the area consists of the rural community of Cascade, Idaho, and adjacent pastureland that abuts to forested mountains (Figure 25). Lake Cascade fills the viewshed from the Dam to the west and north (Figure 26). A few private residences are also visible from the crest of the Dam along the shoreline of the lake. From the valley floor, where the Dam sits, forested mountains rise in all directions to elevations nearing 8,000 feet above sea level. A 69-

kV primary transmission line extends to the east of the Dam for approximately 0.9 miles and is included in the Project boundary.

Figure 24
View above the Dam looking southeast toward Highway 55

Figure 25
View looking South at Cascade, Idaho, from above the tailrace and Highway 55

Figure 26
View looking northwest from above the Dam over Cascade Reservoir

4.9. Cultural and Historical Resources (18 CFR § 5.6(d)(3)(x))

4.9.1. Cultural and Historical Resources within the Project Boundary and Surrounding Area

A review of available cultural records from the Idaho State Historic Preservation Office's (SHPO) Idaho Cultural Resource Information System (ICRIS) and IPC's internal cultural records indicate lands within the Project have been previously surveyed for cultural and historical resources. These surveys have identified and documented five cultural resources within the Project, including a historic bridge, a railroad grade, roads/highways, and the Cascade Dam itself. The five resources are described below. No precontact Native American cultural resources have been identified within the Project by previous cultural inventories. Of the known cultural resources within the Project, three have been found eligible for the National Registry of Historic Places (NRHP). These are the Union Pacific Railroad (UPRR) Grade (10VY482/10VY800), State Highway (SH) 55 (10VY1866), and the Cascade Dam (10VY1882).

UPRR Grade (10VY482/10VY800): This NRHP-*eligible* historic linear site consists of the grade and bed of a UPRR alignment. Completed in 1914 as part of the Oregon Short Line Railroad (a UPRR subsidiary), this segment of rail line was referred to as the "Idaho Northern Branch" and ran between Nampa and McCall, Idaho. The rail line near the Project was realigned in 1947 to accommodate the Cascade Reservoir and abandoned in 1980.

SH 55 (10VY1866): This NRHP-*eligible* historic linear site consists of Idaho SH 55. SH-55 was created in 1967 when SH-72, SH-15, and Eagle Road in Ada County were combined. The approximately 148-mile-long state highway connects Marsing, Idaho, to New Meadows, Idaho. Created in 1919, SH-15 was the original "Payette Highway." Near the Project area, SH-15 was relocated approximately 12.5 miles due to the inundation of Long Valley from the construction of the Cascade Dam around 1947.

Cascade Dam (10VY1882): This NRHP-*eligible* historic structure is an earthen dam on the NFPR that was constructed between 1946 and 1948. The Cascade Dam is 107 feet high and 785 feet long and forms the nearly 700,000 acre-feet capacity Cascade Lake.

Lake Way Blvd. Bridge (10VY795): This NRHP-*ineligible* historic structure is a deck plate-girder bridge over the NFPR. This bridge was fabricated in 1913 and used for the Idaho Northern Branch segment of the UPRR to cross the NFPR where the current railroad grade is located (10VY482). The bridge carried the rail line until approximately 1947, when the Cascade Dam was constructed, and the rail line was forced to re-route.

Warm Lake Highway (10VY2132): This NRHP-*ineligible* historic linear site is the historic era route between Cascade, Warm Lake, and Landmark. Warm Lake Highway, also referred to as Warm Lake Road, was established in the early 1900s and paved and altered between the 1960s and 1980s.

In October 2025, Idaho Power conducted background research in ICRIS to identify previously recorded cultural resources within one mile of the Project boundary. The search revealed 64 cultural resources: six are eligible for the NRHP, 53 are ineligible, and five remain unevaluated (Table 16).

Table 16
Documented cultural resources within one mile of Project (highlighted resources found within FERC Project boundary)

Smithsonian	Property Type	Resource Name	Overall Eligibility	Relationship to FERC Project Area
10VY2187	Building	Warehouse	Not Eligible	Outside FERC Boundary
10VY2132	Linear Resource	Warm Lake Highway	Not Eligible	Inside FERC Boundary
10VY2003	Site	Van Wyck townsite	Unevaluated	Outside FERC Boundary
10VY2001	Site	Crawford townsite	Unevaluated	Outside FERC Boundary
10VY1919	Building	Tackle Tom's	Not Eligible	Outside FERC Boundary
10VY1918	Building	Howdy's Gas & Grub	Not Eligible	Outside FERC Boundary
10VY1917	Building	Cascade Lake Inn	Not Eligible	Outside FERC Boundary
10VY1916	Building	N. Main St., 315—house	Not Eligible	Outside FERC Boundary
10VY1882	Structure	Cascade Dam	Eligible	Inside FERC Boundary
10VY1876	Site	Cascade Golf Course	Not Eligible	Outside FERC Boundary
10VY1866	Linear Resource	State Highway 55	Eligible	Inside FERC Boundary
10VY1835	Building	N. Main St., 319—house	Not Eligible	Outside FERC Boundary
10VY1732	Structure	North Fork Payette River Bridge—14830	Not Eligible	Outside FERC Boundary
10VY1686	Building	W. Market St. house—110	Not Eligible	Outside FERC Boundary
10VY1683	Building	Nissula Cabin and Bunkhouse	Eligible	Outside FERC Boundary
10VY1674	Building	Cascade Jail	Unevaluated	Outside FERC Boundary
10VY1646	Building	Valley County Courthouse	Not Eligible	Outside FERC Boundary
10VY1645	Building	N. Main St., 209—commercial	Not Eligible	Outside FERC Boundary
10VY1644	Building	Bate's Car Lot	Not Eligible	Outside FERC Boundary
10VY1643	Building	Raiser's Parking Lot	Not Eligible	Outside FERC Boundary
10VY1642	Building	Valley Club	Not Eligible	Outside FERC Boundary
10VY1641	Building	Fun Center	Not Eligible	Outside FERC Boundary
10VY1640	Building	Florist Shop	Not Eligible	Outside FERC Boundary
10VY1639	Building	Ponderosa Plaza	Not Eligible	Outside FERC Boundary
10VY1638	Building	Telephone Office/Mac's	Not Eligible	Outside FERC Boundary
10VY1637	Building	Crawford Mercantile Co.	Not Eligible	Outside FERC Boundary
10VY1636	Building	Key Bank/Intermountain State Bank	Not Eligible	Outside FERC Boundary

Smithsonian	Property Type	Resource Name	Overall Eligibility	Relationship to FERC Project Area
10VY1635	Building	Post Office/Kerby Building	Not Eligible	Outside FERC Boundary
10VY1634	Building	Radkc's Furniture	Not Eligible	Outside FERC Boundary
10VY1633	Building	Elaine's Draperies	Not Eligible	Outside FERC Boundary
10VY1632	Building	Ringel Associates	Not Eligible	Outside FERC Boundary
10VY1631	Building	Ewing Residence	Not Eligible	Outside FERC Boundary
10VY1630	Building	Car Wash	Not Eligible	Outside FERC Boundary
10VY1629	Building	Ponderosa Electric	Not Eligible	Outside FERC Boundary
10VY1628	Building	Cascade Auto Body and Lot	Not Eligible	Outside FERC Boundary
10VY1627	Building	Broadbent Arts	Not Eligible	Outside FERC Boundary
10VY1626	Building	Masonic Lodge	Not Eligible	Outside FERC Boundary
10VY1625	Building	Webb Insurance	Not Eligible	Outside FERC Boundary
10VY1624	Building	Heartland Chevron	Not Eligible	Outside FERC Boundary
10VY1623	Building	Cascade Auto	Not Eligible	Outside FERC Boundary
10VY1622	Building	Roxy Theater	Eligible	Outside FERC Boundary
10VY1621	Building	N. Main, 208—commercial	Not Eligible	Outside FERC Boundary
10VY1620	Building	Grandma's Homestead Restaurant	Not Eligible	Outside FERC Boundary
10VY1610	Building	Wheeler's Corner Store/McCloud's Barber Shop	Not Eligible	Outside FERC Boundary
10VY1609	Building	Wheeler's Pharmacy	Not Eligible	Outside FERC Boundary
10VY1608	Building	High Country Inn/Tortilla Mtn.	Not Eligible	Outside FERC Boundary
10VY1607	Building	Cheney Real Estate Investments	Not Eligible	Outside FERC Boundary
10VY1602	Building	Mtn. Title & Escrow	Not Eligible	Outside FERC Boundary
10VY1601	Building	Bob Bate Ford	Not Eligible	Outside FERC Boundary
10VY1593	Building	N. Main St., 202-204—commercial	Not Eligible	Outside FERC Boundary
10VY1570	Building	Warm Lake Road Ranch	Not Eligible	Outside FERC Boundary
10VY1569	Building	St. John Catholic Church	Not Eligible	Outside FERC Boundary
10VY1541	Building	Cascade School (non-extant)	Not Eligible	Outside FERC Boundary
10VY1540	Building	Cascade Elementary School	Not Eligible	Outside FERC Boundary
10VY1534	Building	D-9 Grocery	Not Eligible	Outside FERC Boundary
10VY1491	Archaeological Site	Historic trash scatter	Not Eligible	Outside FERC Boundary
10VY1267	Building	Cascade "Brown House", Cascade Brown House	Not Eligible	Outside FERC Boundary
10VY847	Archaeological Site	Long Valley Massacre Site	Eligible	Outside FERC Boundary

Smithsonian	Property Type	Resource Name	Overall Eligibility	Relationship to FERC Project Area
10VY832	Archaeological Site	Isolated lithic (flake)	Not Eligible	Outside FERC Boundary
10VY820	Building	Cascade Damtender's House	Not Eligible	Outside FERC Boundary
10VY796	Archaeological Site	Historic dump	Unevaluated	Outside FERC Boundary
10VY795	Structure	Lake Way Blvd. bridge	Not Eligible	Inside FERC Boundary
10VY534	Archaeological Site	Cascade Ranger Station	Unevaluated	Outside FERC Boundary
10VY800, 10VY482	Linear Resource	Union Pacific Railroad Grade, Union Pacific Railroad's Idaho Northern Branch Line grade	Eligible	Inside FERC Boundary

Due to the proximity to the town of Cascade, most of the previously recorded cultural resources within one mile of the Project boundary are historic buildings and structures. Cascade is one of the most populus towns in Long Valley, with its origins in ranching, timber, and as a railroad hub that served mining efforts in the surrounding mountains. One pre-contact Native American cultural resource has been identified within a mile of the Project boundary (10VY832); a single piece of lithic debitage was classified as an isolated find and determined ineligible. Another site within a mile of the Project is associated with Euro-American and Native American conflict; 10VY847 is the presumed location of the Long Valley Massacre of August 20, 1878. This eligible site consists of a carved inscription on a granite outcrop memorializing the alleged ambush and killing of three early Idahoan Euro-American settlers by members of the Sheepeater Shoshone band. The site includes the rock inscription, a memorial plaque, burial marker for the settlers killed in the altercation, and an unassociated scatter of historic debris.

More than one mile from the Project but within the local area, pre-contact Native American archaeological sites have been identified with occupations that date to at least 10,000 years ago to around 200 years ago (Arnold 1984, BOR 2002). Lithic debitage sites, primarily along the west side of Lake Cascade, reflect a frequent use of the general area as short-term or seasonal use locations. Most pre-contact sites have been found on the west side of Lake Cascade between Gibson and Campbell Creeks. One non-lithic archaeological site consisting of a cambium peeled tree (10VY886) has been identified 11 miles north of the Project.

The Project has had previous iterations of hydroelectric facilities. In 1918, the first hydroelectric facility was constructed on the undammed North Fork of the Payette River. In 1926, another hydroelectric facility was constructed by the Wood River Power Company, replacing the 1918 power plant in the same general vicinity. In 1944, Idaho Power took over ownership and operation of the 1926 power plant. In 1947, in conjunction with Reclamation’s building of the Cascade Dam, the power plant was modified to generate hydropower from a reservoir rather than from a free-flowing river. The 1926 power plant burned in a major fire in 1961, was rebuilt, and continued operating until Idaho Power constructed the current facility in 1980.

During the original Cascade FERC licensing process, SHPO recommended a photographic and architectural record of the 1926 power plant to be submitted for evaluation as well as considered in potential project effects. These records were submitted, and SHPO determined the powerhouse did not meet the necessary requirements to be considered eligible for the NRHP (Wells 1979). After construction of the 1980 Cascade Power Plant, the historic 1926 power plant was taken off-line, dismantled, and removed from the Project boundary.

4.9.2. Existing Discovery Measures

Previous cultural resource studies relied on pedestrian surveys. In 1979, Ames conducted an archaeological survey as part of the environmental studies supporting the 1980 FERC license application for the Cascade Project (Ames 1979). Rossillon and McCormick carried out a thorough Class III pedestrian survey in 1991 and 1992, covering approximately 8,000 acres of land adjacent to Lake Cascade (Rossillon and McCormick 1993). This survey included most of the Project west of SH-55. In 1994, FERC amended Idaho Power's Cascade license to recognize 0.65 miles of 69-kV transmission line relocated along Warm Lake Road. SHPO had concurred with a no adverse effect finding for the amendment based on a cultural resource survey (Gaston 1989). Multiple surveys examined the portion of the Project adjacent to SH-55 (Rudolph 2001) and the Warm Lake Road segment (Vrem 2004; Kalosky and Byszewski 2016).

Idaho Power has completed internal cultural studies within the Project, including a Class III 8,145 square foot survey associated with the power plant parking lot enlargement project (Baker 2006) and a Class I desktop review associated with an avian protection project (Kroll 2015).

In 2002, the BOR developed a Resource Management Plan (RMP) for the federally managed Lake Cascade (BOR 2002). The BOR RMP relied on approximately 30 cultural inventories from 1948 (prior to inundation) to 2002 to help develop appropriate management strategies to protect and preserve cultural resources around Lake Cascade. BOR's intensive RMP process provides relatively current and reliable data about the cultural resources in the vicinity of the Project. In the development of the RMP, the BOR consulted with the Nez Perce and Shoshone-Paiute Tribes concerning Traditional Cultural Properties (TCP) and Indian Sacred Sites. This study identified Native American TCPs as food and medicine gathering locales on the west side of Lake Cascade, opposite the Project. A survey was undertaken to identify properties of religious or spiritual importance in the Lake Cascade area, and both Tribes consulted stated that these properties were present. Due to their sensitive nature, the locations of these sites were not revealed.

Furthermore, the BOR RMP synthesized probable unrecorded cultural resource locations through tribal consultation and predictive modeling. The tribal preference for the west side of Lake Cascade could be attributed to easier access to high-quality lithic material available in the West Mountains, increased availability of water, cultural preference for a morning view of the sun (as indicated by the Nez Perce), and the fact that recorded pre-contact sites have been

found on slopes averaging 4.5%, which characterize much of the western portions of Lake Cascade (BOR 2002).

While these surveys and investigations provide useful information on cultural resources within the Project, some are dated. Current SHPO guidance states that surveys over 10 years old need to be evaluated, and resources recorded over a decade ago may need to be redocumented. Idaho Power is proposing to conduct a Class III pedestrian survey on all accessible lands within the Project to inventory, assess, and evaluate cultural resources.

4.10. Tribal Resources (18 CFR § 5.6(d)(3)(xii))

The Project is not located on any federally recognized Native American reservation lands. Historically (at the time of Euro-American contact), the Project appears to have been within a transitional zone between two widely recognized North American culture areas: the Columbia Plateau and the Great Basin. Long Valley, Idaho, seems to have been within a contested zone between the Nez Perce (Columbia Plateau) and the Shoshone and Bannock (Great Basin) (Murphy and Murphy 1986, Reid and Pitkin 2012, Walker 1998). Nez Perce territory centered around the middle Snake River, Clearwater and the northern portion of the Salmon River in central Idaho, northeastern Oregon, and southeastern Washington. The Shoshone and the Bannock tribes occupied what today is southern Idaho from south of the Salmon River to the Nevada border. Specifically, the Tukudeka, or Sheepeater Shoshone group, was known to be affiliated with the Long Valley and surrounding area (BOR 2002).

Idaho Power utilized a federal database, the Tribal Directory Assessment Tool (TDAT), to obtain geographic areas of current and ancestral interest for federally recognized tribes. TDAT recommended the Confederated Tribes of the Warm Springs Reservation of Oregon, the Nez Perce Tribe, the Shoshone-Bannock Tribes of Fort Hall Reservation, and the Shoshone-Paiute Tribes of the Duck Valley Reservation, Nevada, could potentially have culturally significant ties to lands within the Project boundary.

4.10.1. Nez Perce Tribe

The headquarters for the Nez Perce Tribe is located approximately 140 miles north of the Project area in Lapwai, Idaho.

The Treaty of 1855 was signed on June 11, 1855, and established the Nez Perce Reservation, which covered large parts of north-central Idaho and portions of Oregon and Washington. This reservation was subsequently reduced once gold was discovered in the Clearwater region of Idaho in the 1860s, culminating into the Treaty of 1863. The Nez Perce Indians, or Nimipuu, typically lived in seasonal villages positioned near the confluence of a tributary and a larger river, such as the Clearwater or Imnaha rivers. Nez Perce subsistence focused largely on anadromous fish, big game, and foraged roots and berries. The Nez Perce near the upper region of their territory shared similarities with the Plains culture and often traveled east to hunt buffalo (Walker 1998).

Concerning the Project area, the Nez Perce have established historic and cultural use of Long Valley. The Nez Perce name for the area of Long Valley is /welu.kitpe/ which translates to "crooked or winding stream" (BOR 2002). The general alignment of SH-55 from Cascade to McCall also follows an ancient trail network utilized by the Nez Perce (BOR 2002). Also, a prominent figure in Nez Perce history is Chief Red Bear, a leader who gained his chieftainship in Long Valley and witnessed the arrival of the first Euro-Americans and missionaries in the area.

Besides the alignment of SH-55 following an ancient Nez Perce trail, Idaho Power does not have any additional data available about specific resources in the general area of the Project that may have cultural or religious significance to the Nez Perce Tribe.

4.10.2. Shoshone–Bannock Tribes of the Fort Hall Indian Reservation

The headquarters for the Fort Hall Indian Reservation of the Shoshone–Bannock Tribes is located about 130 miles due east of the Project in Fort Hall, Idaho.

The Fort Hall Reservation was created by executive order on June 14, 1867, and the Tribes signed the Fort Bridger Treaty on July 3, 1868. The reservation is the remnant of a much larger territory once occupied by the native peoples referred to today as the Shoshone-Bannock Tribes, which includes members of several once discrete groups, including the Northern Shoshone, the Bannock, the Lemhi, and the Western Shoshone. The Lemhi and Western Shoshone occupied their own separate territories until they were moved on to the Fort Hall Reservation, while the Bannocks and Northern Shoshone had already effectively combined by the time contact occurred with Euro-Americans. The Bannocks are Northern Paiutes that migrated into the area perhaps as late as the eighteenth century, adopting an equestrian lifestyle and becoming closely allied with the Northern Shoshone. During the period prior to Euro-American contact, all these tribes were relatively mobile hunting/gathering/foraging groups who frequently travelled over large distances throughout the course of each year to utilize natural subsistence resources (Murphy and Murphy 1986).

Idaho Power does not currently have any data available about specific resources in the general area of the Project that may have cultural or religious significance to the Shoshone–Bannock Tribes.

4.10.3. Shoshone–Paiute Tribes of the Duck Valley Reservation

The headquarters for the Duck Valley Indian Reservation of the Shoshone–Paiute Tribes is located approximately 110 miles south of the Project boundary in Owyhee County, Idaho.

These tribes share interconnections with the tribes at Fort Hall, and there was considerable overlap in their traditional use areas, which jointly covered most of southern Idaho, western Utah, and northern Nevada. The Duck Valley Reservation was created by executive

order in 1877 and was expanded by subsequent additional executive actions in 1886 and 1910. The tribes have an unratified treaty dating to 1855.

A historical account of Shoshone-Paiute involvement with the Sheepeater War of 1878-79 has been documented as a series of skirmishes involving U.S. soldiers tracking Sheepeaters, Weiser, and Bannock people who refused to be relocated to a reservation. This event lasted three months, with the Native Americans attempting to avoid U.S. soldiers throughout the Long Valley region (BOR 2002).

Idaho Power does not currently have any data available about specific resources in the general area of the Project that may have cultural or religious significance to the Shoshone–Paiute Tribes.

4.10.4. Confederated Tribes of the Warm Springs Reservation of Oregon

The headquarters for the Warm Springs Indian Reservation is located approximately 260 miles west of the Project area in Warm Springs, Oregon.

The Confederation of Tribes of the Warm Springs consists of bands of Warm Springs, Wasco, and Northern Paiute peoples. The Warm Springs Reservation was created by the Treaty with the Tribes of Middle Oregon on June 25, 1855. This treaty was ratified in 1859 and ceded a vast majority of their ancestral lands in north-central Oregon for the Warm Springs Reservation at a fraction of its original size. At that time, the "1855 Warm Springs Treaty" primarily included just the Warm Springs and Wasco bands; in the late 1860s, Northern Paiute peoples were moved from southeastern Oregon onto the reservation. The Warm Springs and Wasco bands' subsistence models closely revolved around anadromous fish runs, while the Northern Paiute people were relatively mobile hunting/gathering/foraging groups who frequently travelled over large distances throughout the course of each year to utilize natural subsistence resources (French and French 1998).

Idaho Power does not currently have any data available about specific resources in the general area of the Project that may have cultural or religious significance to the Confederated Tribes of Warm Springs.

4.10.5. Project Operations' Effect on Tribal Resources

The Project's daily and long-term operations are not known to be negatively affecting cultural resources associated with Tribes or Native Americans in general. There are no known archaeological sites associated with pre-contact Native Americans within the Project despite survey coverage spanning over 40 years. Cultural resource information within the Project has failed to identify existing Project construction and operation effects that could be impactful to tribal cultural or economic interests.

4.11. Socio-economic Resources (18 CFR § 5.6(d)(3)(xi))

The Project is located solely in Valley County, Idaho. The population of Valley County is estimated at 12,777 according to the U.S. Census 2024 estimates (Census Bureau 2025b). This is an approximate 7.9% increase from 2020, when the population was 11,842 residents. In comparison, nationwide population only increased an estimated 2.6% over the same period. The City of Cascade is the county seat, and McCall is the county's largest city with an estimated population of 4,104.

A rural county in west central Idaho, Valley County stretches over 3,700 square miles, with 68 of those miles consisting of water. Valley County is the fifth largest county by area in the state. It is also the 14th fastest growing of Idaho's 44 counties, expected to double in the next 20 to 30 years with projected population for 2030, 2040, and 2060 of 14,565; 18,061; and 26,253, respectively (Valley County Planning & Zoning 2025).

Valley County boasts "world-class recreation" with "small-town vibes" (Valley County 2025). Offerings include skiing, snowshoeing, snowmobiling, hunting, all-terrain vehicle/utility-terrain vehicle, fishing, foraging, hiking, hot springs, lake sports, boating, rafting/kayaking/canoeing, mountain biking, rock climbing, rodeos, and renowned summer and winter festivals. Valley County is nestled near two national forests, several larger water bodies including Lake Cascade and Payette Lake, two state parks, and the Frank Church-River of No Return Wilderness Area, which is the largest contiguous wilderness area in the lower 48 states, approximately 56 miles west of McCall. Over 91% of the county's 2.3 million acres are under federal, state, or county control. (Valley County Planning & Zoning 2025). The remainder are privately owned and mostly residential and commercial/industrial. Cascade, McCall, and Donnelly are the county's urban areas. Land-use patterns have changed drastically from decades ago agriculture-use to current recreational homes and subdivision development (Valley County Planning & Zoning 2025).

The unemployment rate in Valley County as of August 2025 was 4.7%, which is higher than the State's rate of 3.7% in July 2025 (IDL 2025). Some seasonality to its employment rates is expected given the main industries in the county: leisure and hospitality; trade, transportation, and utilities; education and health services; public administration, and construction (IDL 2025). Those same five industries top the county's list for at least a decade. Top employers in Valley County include the ski industry, the USFS, a hospital, a school district, and local governments (IDL 2025).

The median household income for the State of Idaho is almost the national average, and income in Valley County is less than Idaho's. In 2024, Valley County's median household income was $76,125, while the median household income was $81,166 statewide and $81,604 nationwide (Census Bureau 2025a; IDL 2025). Most homes in Valley County are second homes (78–83%) (Valley County Planning & Zoning 2025). Those second homeowners and other seasonal visitors are not reflected in population numbers but nonetheless add to the seasonal and weekend population of the county.

Idaho Power proposes no changes to the Project and will continue with usual operations and maintenance. Idaho Power does not expect any adverse impacts to socio-economic resources based on continued Project operation.

4.12. River Basin Description (18 CFR § 5.6(d)(3)(xiii))

Located in western Idaho, the North Fork Payette watershed above Cascade Dam extends north above the town of McCall and Payette Lakes to the boundaries of the Salmon River (Figure 27).

Figure 27
North Fork Payette River Basin

The drainage area above the Dam is 620 square miles. The Duck Creek–Cascade Reservoir sub-basin (Hydrologic Unit Code is 170501230400) extends north from Cascade Dam to encompass most of the Reservoir.

The basin area's high-elevation landscape is predominantly forested (60%), while agriculture (9%), lake surface (8%), and developed areas (<1%) comprise the remainder (US Geological Survey, 2019).

The upper Payette River basin has 41 active dams of various ownership: 37 are private, 2 are federal, 2 are state and local government (USACE National Inventory of Dams 2025). Irrigation is the primary purpose of most of them (27 out of 41). Three of the dams are on the Payette River itself—Upper Payette Lake, Payette Lake, and Cascade. Idaho Power does not own any of the dams in the Upper Payette basin.

The North Fork Payette watershed is situated in a semi-arid region characterized by significant year-to-year variability in precipitation. In addition to the annual variability, the watershed's hydrology is primarily governed by winter snowpack, which generates runoff that feeds mountain streams during the spring and summer seasons. These surface flows constitute the majority of inflow into Cascade Reservoir.

The Reservoir receives its largest tributary inputs from the north, where streams such as the NFPR, Gold Fork River, Lake Fork, Willow Creek, and Boulder Creek drain various portions of the Long Valley. In contrast, the west, south, and east shores of Cascade Reservoir are fed by only minor tributaries, contributing relatively little to overall inflow.

Reclamation controls the operation of the Reservoir and dictates the flows through the power plant that are released to the river downstream. Idaho Power does not control the operations of the Reservoir or determine flows through the Cascade power plant; therefore, Idaho Power's operations do not impact tributaries, rivers, or streams.

5. Preliminary Issues and Studies List for Each Resource Area (18 CFR §§ 5.6(d)(4)(i), (ii))

The primary purpose of the PAD is to identify environmental resources that may be affected by the Project and to inform the development of any proposed studies to assess the scope of potential Project impacts. Idaho Power proposes to continue operating the Project as originally licensed. Idaho Power is not proposing any changes to the Project's operations under the new license. Therefore, the Project will not result in any new adverse impacts on environmental resources. Idaho Power believes there is sufficient existing information to assess resource concerns but recognizes additional analysis may be warranted for cultural resources.

5.1. Geology and Soils

Idaho Power believes the geology and soils discussion in Section 4.1 is sufficient, and no additional analysis or studies are proposed.

5.2. Water Resources

Cascade Reservoir is owned and operated by Reclamation and is authorized by Congress primarily for irrigation, storage, and hydropower purposes. Reclamation also operates Cascade Reservoir in conjunction with two other reservoirs in the Payette River system to provide flood storage space, meet downstream irrigation demands, as well as deliver flow augmentation flows for anadromous ESA species. Idaho Power believes that Reclamation will continue to operate the Reservoir and Dam for these purposes over the term of a future license. Therefore, given the discussion in Section 4.2, no water resource or water quality operational changes or subsequent studies are proposed.

5.3. Fish and Aquatic Resources

Idaho Power believes the fish and aquatic resources discussion in Section 4.3 is sufficient, and no additional analysis or studies are proposed.

5.4. Botanical Resources, including Rare, Threatened, and Endangered Species

Idaho Power believes the botanical resources discussion in Section 4.4 is sufficient, and no additional analysis or studies are proposed.

5.5. Wildlife Resources, including Rare, Threatened, and Endangered Species

Idaho Power believes the wildlife resources discussion in Section 4.5 is sufficient, and no additional analysis or studies are proposed.

5.6. Wetlands, Riparian, and Littoral Habitat

Idaho Power believes the wetlands, riparian, and littoral habitat discussion in Section 4.6 is sufficient, and no additional analysis or studies are proposed.

5.7. Recreation and Land Use

Idaho Power believes the recreation and land use discussion in Section 4.7 is sufficient, and no additional analysis or studies are proposed.

5.8. Aesthetic Resources

Idaho Power believes the aesthetic resources discussion in Section 4.8 is sufficient, and no additional analysis or studies are proposed.

5.9. Cultural and Historical Resources

Idaho Power is not proposing any changes at the Project. And while the discussion in Section 4.9 references a host of surveys and investigations, Idaho Power anticipates the need to conduct a cultural resources inventory of the accessible lands within the Project boundary to evaluate any resources that may be present.

5.10. Tribal Resources

Idaho Power believes the tribal resources discussion in Section 4.10 is sufficient, and no additional analysis or studies are proposed.

5.11. Socio-economic Resources

Idaho Power believes the socio-economic discussion in Section 4.11 is sufficient, and no additional analysis or studies are proposed.

5.12. River Basin Description

Idaho Power believes the river basin discussion in Section 4.12 is sufficient, and no additional analysis or studies are proposed.

6. Comprehensive and Resource Management Plans (18 CFR §§ 5.6(d)(4)(iii), (iv))

The PAD must include the relevant qualifying federal and state or tribal comprehensive waterway plans and relevant resource management plans.

Idaho Power has reviewed the May 2025 FERC List of Comprehensive Plans (https://www.ferc.gov/media/comprehensive-plans) applicable to Idaho and adopted by FERC pursuant to Section 10(a)(2)(A) of the *Federal Power Act* (FPA), 16 USC § 803(a)(2)(A). On April 27, 1988, FERC issued Order No. 481-A, revising Order No. 481, issued on October 26, 1987, establishing that the Commission will accord FPA section 10(a)(2)(A) comprehensive plan status to any federal or state plan that:

- Is a comprehensive study of 1 or more of the beneficial uses of a waterway(s);
- Specifies the standards, data, and methodology used; and

- Is filed with the secretary of the Commission.

According to FERC, a comprehensive plan should contain the following: 1) A description of the waterway(s) that are the subject of the plan, including pertinent maps detailing the geographic area of the plan; 2) a description of the significant resources of the waterway(s); 3) a description of the various existing and planned uses of the resources; and 4) a discussion of goals, objectives, and recommendations for improving, developing, or conserving the waterway(s) in relation to these resources. The plan should contain an examination of how the different uses will promote the overall public interest. The description of the significant resources in the area should contain the following elements:

1. Navigation
2. Power development
3. Energy conservation
4. Fish and wildlife
5. Recreational opportunities
6. Irrigation
7. Flood control
8. Water supply
9. Other aspects of environmental quality.

6.1. Qualifying Comprehensive Plans

FERC currently lists 65 state and federal comprehensive plans for Idaho. Of these, 22 are potentially relevant to the Project and were reviewed in the development of this PAD. Each relevant plan is listed below.

1. Bureau of Land Management. 1988. Cascade Resource Management Plan. Department of the Interior. Boise, Idaho. July 1, 1988.
2. Bureau of Land Management. 2015. Record of Decision and Approved Resource Management Plan for the Great Basin Region, Including the Greater Sage-Grouse Sub-Regions of Idaho and Southwestern Montana, Nevada and Northeastern California, Oregon, and Utah. Washington, D.C. September 2015.
3. Bureau of Land Management. 2019. Idaho Greater Sage-Grouse Record of Decision and Approved Resource Management Plan Amendment. Boise, Idaho. March 2019.

4. Forest Service. 2010. Boise National Forest Land and Resource Management Plan. Department of Agriculture, Boise, Idaho. July 2020.

5. Forest Service. 2003. Payette National Forest land and resource management plan. Department of Agriculture, McCall, Idaho. July 2003.

6. Idaho Department of Water Quality. 2018. Water Quality Standards. Boise, Idaho.

7. Idaho Department of Fish and Game. 2008. Idaho mule deer management plan: 2008–2017. Boise, Idaho. March 2008.

8. Idaho Department of Fish and Game. 2010. Mule deer initiative action plan. Boise, Idaho. 2010.

9. Idaho Department of Fish and Game. 2014. Idaho Elk management plan: 2014–2024. Boise, Idaho. June 2014.

10. Idaho Department of Fish and Game. 2017. Idaho State Wildlife Action Plan 2015. Boise, Idaho.

11. Idaho Department of Fish and Game. 2019. Fisheries Management Plan 2019-2024. Boise, Idaho. 2019.

12. Idaho Department of Fish and Game. 2023. Idaho State Wildlife Action Plan. Boise, Idaho. January 2024.

13. Idaho Department of Parks and Recreation. 2022. 2023 Idaho Statewide Comprehensive Outdoor Recreation Plan. August 2022. Boise, Idaho.

14. Idaho Water Resource Board. 1999. Comprehensive state water plan: Payette River Basin. Boise, Idaho. February 5, 1999.

15. Idaho Water Resource Board. 2012. Idaho State water plan. Boise, Idaho. November 2012.

16. National Marine Fisheries Service. 2008. Mainstem Columbia River Hydropower Projects Recovery Plan Module. Portland, Oregon. September 2008.

17. Northwest Power and Conservation Council. 2014. Columbia River Basin Fish and Wildlife Program. Portland, Oregon. Council Document 2014-12. October 2014.

18. Northwest Power and Conservation Council. 2020. 2020 Addendum to the 2014 Columbia River Basin Fish and Wildlife Program. Portland, Oregon. Council Document 2020-9. October 2020.

19. Northwest Power and Conservation Council. 2022. The 2021 Northwest Power Plan. Portland, Oregon. Council Document 2022-03. February 2022.

20. U.S. Fish and Wildlife Service. 2015. Recovery Plan for the Coterminous United States Population of Bull Trout (*Salvelinus confluentus*). Pacific Region, U.S. Fish and Wildlife Service. Portland, Oregon. September 28, 2015.

21. U.S. Fish and Wildlife Service. N.d. Fisheries USA: the recreational fisheries policy of the U.S. Fish and Wildlife Service. Washington, D.C.

22. Western Association of Fish and Wildlife Agencies. 2019. Western monarch butterfly conservation plan, 2019–2069.

6.2. Relevant Resource Management Plans

As part of its PAD due diligence, Idaho Power also identified the following plans, which were not listed in FERC's current comprehensive plan list for Idaho. While the below plans are not listed qualifying comprehensive plans, they may be nonetheless relevant to the Project.

1. Bureau of Land Management. 2023. Record of Decision for the Four Rivers Field Office Resource Management Plan. Department of the Interior, Four Rivers Field Office. August 2023.

2. Bureau of Reclamation. 2002. Lake Cascade Resource Management Plan. Pacific Northwest Region. Snake River Area Office. February 2002.

3. Idaho Department of Fish and Game. 2025. Fisheries Management Plan, 2025–2030. Boise, Idaho. 2025.

4. Idaho Department of Fish and Game. 2024. Idaho Elk Management Plan 2024–2030. Boise, Idaho. July 2024.

5. Idaho Department of Fish and Game. 2019. Idaho Mule Deer Management Plan 2020–2025. Boise, Idaho. December 2019.

6. Valley County Planning & Zoning. 2025. Valley County, Idaho Comprehensive Plan. Revised Dec. 1, 2025. Available: https://www.co.valley.id.us/media/Departments/PlanningZoning/Plans/Plans/Comprehensive%20Plan%20-%20December%202025.pdf

7. Valley County Recreation Department. 2025. Valley County Recreation Strategic Plan 2025. Cascade, Idaho.

7. Summary of Contacts (18 CFR § 5.6(d)(5))

During the development of the PAD, Idaho Power conducted voluntary in-person, conference call, email, and/or written letter pre-PAD consultation discussions with the entities

listed in Table 17. In the discussions, Idaho Power explained the relicensing process, the purpose of the PAD and our intent to use the TLP, answered questions and clarified understanding, reviewed resource information, and sought additional information to support the PAD development. No significant controversies were raised during the discussions. Idaho Power also invited the Shoshone-Bannock Tribes, Shoshone-Paiute Tribes, Nez Perce Tribe, and the Confederated Tribes of Warm Springs to schedule meetings for discussion, but to date, none of the Tribes have requested a pre-PAD meeting.

Table 17
Pre-PAD consultation record – summary of contacts (If more than one contact, the date of the earliest is listed.)

Interested Party	Date	Specific Contact(s)
Idaho Department of Fish & Game	8/22/2025	Jordan Messner
U.S. Fish & Wildlife Service	10/16/2025	Erin Kenison & Alyssa Bangs
U.S. Bureau of Land Management	10/16/2025	Becky Lazdauskas & Shannon Bassista
National Oceanic and Atmospheric Administration	10/16/2025	Kelsey Swieca
U.S. National Park Service	10/16/2025	Wade Vagias
Confederated Tribes of Warm Springs	11/14/2025	Tribal Council & Lawrence Squiemphen III
Nez Perce Tribe	11/14/2025	Chairman Wheeler, Nakia Williamson-Cloud & Keith (Pat) Baird
Shoshone-Bannock Tribes	11/14/2025	Chairwoman Thompson, Louise Dixey & Carolyn Boyer Smith
Shoshone-Paiute Tribes	11/14/2025	Chairman Mason & Jade Roubideaux
U.S. Forest Service—Cascade Ranger District	11/14/2025	Chris Bentley
U.S. Forest Service—Payette National Forest	11/14/2025	Matthew Davis
U.S. Bureau of Reclamation	1/13/2026	Steve Crawford
Idaho Department of Environmental Quality	1/13/2026	Tambra Phares, Meghan Cline & Lance Holloway
City of Cascade	1/13/2026	Mayor Nissula
Cascade City Council	1/13/2026	Council President Denise Tangen
Valley County Commissioners	1/13/2026	Commissioner Katlin Caldwell
U.S. Army Corps of Engineers	1/13/2026	Walla Walla Civil Works District
Idaho Governor's Office of Energy & Mineral Resources	1/13/2026	Cally Younger, Emily Her & Hannah Young
Idaho State Historic Preservation Office	1/13/2026	Chris Shaver
U.S. Environmental Protection Agency	1/13/2026	Emma Pokon

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Exhibit A
Cascade Project original license

14 FERC P 62171 (F.E.R.C.), 1981
**1 Office Director Orders

Idaho Power Company

Project No. 2848
Order Issuing License (Major)
(Issued February 17, 1981)

***63264** William W. Lindsay, Director, Office of Electric Power Regulation.

Idaho Power Company (Applicant) filed on February 7, 1980, an application for a license under Part I of the Federal Power Act (Act) to construct, operate, and maintain the Cascade Hydroelectric Project No. 2848. The project would be located approximately 200 feet downstream of the Department of the Interior, Water and Power Resources Service's (WPRS) Cascade Dam and Reservoir on the North Fork Payette River in Valley County, Idaho.[1] The project would utilize waters released from the Cascade Reservoir for irrigation and other purposes.

Notice of the application has been published and comments have been received from interested Federal, State, and local agencies. Black Canyon Irrigation District (District) filed a petition to intervene that was granted on November 20, 1980. No protests were filed. The significant concerns of the commenting agencies and the intervenor are discussed below.

The proposed project would consist of a penstock, a powerhouse with a total installed capacity of 12,800 kW and a 0.3 mile long, 69-kV ***63265** transmission line connecting the project with the Applicant's existing Cascade Switchyard.[2] The proposed project would replace the Applicant's existing unlicensed powerhouse which has an installed capacity of 300 kW.

Jurisdiction

The proposed project would occupy United States lands and utilize surplus water or water power from a government dam; thus, it is required to be licensed pursuant to Section 23(b) of the Act.

Safety and Adequacy

The project structures, associated only the generation of electricity are not water impoundment structures. The Cascade Dam and Reservoir are Federal property and are not subject to the Commission's licensing jurisdiction. The proposed project structures will be safe if constructed in accordance with accepted engineering practices and construction procedures.

Economic Feasibility

The January 1980 estimated cost of the project is $14,962,450. Staff has analyzed the economic feasibility of the project and finds that the project will produce power at less cost than the least cost alternative by approximately $208,700 per year.[3]

Recreation

There are no existing recreational facilities at the project and Applicant's Exhibit E does not propose any recreational development. The U.S. Department of the Interior (Interior) stated that the Applicant should be responsible for a share of proposed recreational facility development of the adjacent WPRS Cascade Reservoir Project. Applicant responded that it considered its plans appropriate based on a review of all relevant factors and noted that the generation potential of the proposed project is relatively small, the output is seasonal, and thus the economic viability of the project is highly sensitive to increased costs. Applicant did, however, state its willingness to discuss further with appropriate agencies feasible recreation opportunities in relation to the proposed project, should the Commission deem it appropriate.

**2 By retrofitting hydroelectric facilities to an existing dam, a licensee is not relieved of its recreational development responsibilities under the Federal Power Act. It would seem, however, that recreational facilities that are clearly related to the Federal agency's development (as distinguished from the Applicant's power development) are the responsibility of the Federal agency. Applicant should continue to consult with appropriate agencies to monitor the need for recreational development in the vicinity of the project and determine the extent to which any need could be met by recreational facilities appropriately related to its hydropower development. Article 17 of the license ensures the construction of such reasonable recreational facilities at the project as may be needed in the future.

Water Quality

The U.S. Environmental Protection Agency (EPA) and the Idaho Department of Fish and Game (DFG) are concerned that the proposed deepening of approximately 900 feet of the river channel would eliminate the rapidly falling section of the North Fork Payette River below Cascade Dam, which currently provides reaeration of the oxygen-depleted reservoir waters. DFG is concerned that the reduced dissolved oxygen levels would drive fish away from the project reach of the river and would eliminate a very popular fishery.

Applicant has been sampling dissolved oxygen levels from July to September at the outlet of Cascade Reservoir and downstream of the project in order to determine the magnitude or reaeration which occurs in the project reach of the river. The Applicant indicated that, based on these studies, it would provide for oxygenation of project discharges as part of project design to the extent necessary to ensure compliance with state water quality standards. Based on these assurances, the Idaho Department of Health and Welfare issued a water quality certificate for Project No. 2848 on December 3, 1980.

Article 33 of the license requires the Applicant to consult with appropriate State and Federal agencies in determining measures necessary to ensure that project waters meet the State's dissolved oxygen standard and in devising a plan to monitor dissolved oxygen concentrations at the project to determine the effectiveness of any mitigative measures. The article also requires that reservoir releases bypass the project in the event project releases do not meet State standards.

Federal Versus Private Development

The Water and Power Resources Services (WPRS) operates the Cascade Dam and has expressed interest in developing hydro power at the site. The WPRS has made preliminary studies of the Cascade hydro potential and the results of those studies are included in the WPRS's July 1980 "Report on Assessment of Small Hydroelectric Development at Existing Facilities." The report shows that the proposed ***63266** Federal development would have an installed capacity of 3.2 MW and produce about 20 million kWh of energy annually. This would be significantly less than the project proposed by the Applicant with an installed capacity of 12.4 MW producing approximately 49.92 million kWh of energy annually. The Department of the Interior, in a letter dated September 4, 1979, commenting on the permit application for the proposed project, stated that a brief evaluation of the Cascade development showed that there was potential for the installation of 12 MW of capacity.

****3** There would be no additional benefits resulting from Federal rather than private development and, since no firm Federal development plans exist, it would take longer to get the project on line if Federally developed. Also, Federal development of power at the site would require congressional approval. It is concluded that it would be in the public interest to issue a license for the proposed project to the Applicant.[4]

Article 34 of the license requires the Applicant to submit plans and specifications to the Regional Director, Water and Power Resources Service, for review and approval of those facilities that will be an integral part of or that could affect the integrity of the Cascade Dam.

Environmental Impacts

The construction of the powerhouse and the deepening of the riverbed would have a temporary adverse impact on the fish and invertebrates inhabiting the project reach of the North Fork Payette River. Organisms downstream of the proposed project site would be affected to a lesser degree. Approximately 900 feet of the existing river channel and its aquatic habitat would be eliminated by powerhouse construction. The deepening of 800 feet of river channel would temporarily increase turbidity and sedimentation. Temporary diversion of the river may be necessary, but measures would be undertaken to prevent excessive entrainment of sediment in the river. Construction and operation of the project would have no significant long term effect on the fishery resource of the Cascade Reservoir.

As discussed earlier, the deepening and leveling of the river bottom would eliminate a rapidly falling section of the river below Cascade Dam resulting in reduced reaeration of the oxygen-depleted reservoir releases. Article 33 of the license requires the Applicant to take measures to ensure that project discharges meet the State dissolved oxygen standard.

Noise, dust, minor erosion, and other short-term disturbances would result from construction and excavation practices. The installation of the 0.3-mile-long transmission line and removal of the existing powerhouse would have a minimal impact on the existing riparian vegetation.

No endangered or threatened plant or animal species are known to occur within the project area. Similarly, no historical or archeological sites would be affected by construction or operation of the project.

For the above reasons, it is concluded that approval of the application would not constitute a major Federal action significantly affecting the quality of the human environment.

Comprehensive Development

The proposed project will have an estimated average annual output of 49,920,000 kWh, and will displace energy that would otherwise be generated by fossil fuel powerplants. The proposed powerhouse will replace an existing powerhouse which has an installed capacity of 300 kW and utilizes only a fraction of the water available. The existing powerhouse produces about 2,620,000 kWh annually. The net increase in energy due to the new powerhouse will be 47,300,000 kWh annually. The new powerhouse will utilize all of the available flow except during periods of low flow and periods of flooding, thereby utilizing about 95% of the available water.

****4** For the above reasons, it is concluded that the project as licensed will be best adapted to a comprehensive plan for development and use of North Fork Payette River for beneficial public use.

Annual Charge for Use of a Government Dam

The Federal Power Act requires the Commission to assess a licensee a reasonable annual charge for use of a Government dam. The annual charge to the Applicant for the use of the Cascade Dam, based upon the sharing of net benefits method and the Applicant's proposed level of development, is as follows:
Net annual benefit divided by 2 = $208,7^{00}/_{2}$ = $104,350

However, the Commission's Staff is currently reassessing the subject of annual charges for use of government dams for the purpose of making recommendations to the Commission; therefore, a final determination of the charge for the use of the Cascade Dam will be reserved. Article 40 provides for subsequent determination of the charge which will not be more than $104,350.

***63267** *Intervenor's Claim for Compensation*

The District states that it has certain water storage rights and repayment responsibilities with regard to the Cascade dam and reservoir pursuant to a contract with the United States. The District avers that it holds water storage rights to 52% of the Cascade reservoir capacity; pays annually 45% of the WPRS's operation and maintenance expenses for Cascade dam and reservoir; and has repaid $5,167,723 of the $7,346,815 which represents the District's original allocated share of the cost of the Cascade dam and reservoir. On this basis, the District asserts that "Idaho Power Company will thus receive a 'headwater benefit' from the use of the District's water and consequently the District believes it has a compensable interest which it wishes to assert and protect by its intervention here."

The District's claim for compensation for headwater benefit at the Cascade Project is without merit. In return for the benefit provided by the Cascade dam and reservoir, Applicant will be assessed an annual charge for use of the Government dam pursuant to Section 10(e), which will be paid to the United States. To the extent that the District feels it has a compensable interest under its contract with the United States, it should pursue any available remedies under the contract by dealing directly with WPRS. Additionally, even if there were arguably a compensable "headwater benefit" derived by the Applicant by its development at the Cascade dam, Section 10(f) authorizes the Commission to require compensation only to a licensee, a permittee or the United States for such a benefit. The District's asserted interests fall under none of those categories.

It is ordered that:

(A) This license is issued to Idaho Power Company (Licensee), of Boise, Idaho, under Part I of the Federal Power Act (Act), for a period of 50 years, effective the first day of the month in which this order is issued, for the construction, operation, and maintenance of the Cascade Hydroelectric Project No. 2848, located at the Department of the Interior, Water and Power Resources Services (WPRS), Cascade Dam on the North Fork Payette River, in Valley County, Idaho, using surplus water or water power from a government dam and affecting lands of the United States. This license is subject to the terms and conditions of the 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.
****5** (B) The Cascade Hydroelectric Project No. 2848 consists of:

(1) All lands, to the extent of the Licensee's interest in those lands, constituting the project area and enclosed by the project

boundary. The project area and boundary are shown and described by certain exhibits that form part of the application for license and that are designated and described as:

(2) Project works consisting of: (a) a 12-foot diameter steel penstock approximately 20-feet long bifurcated into two 9-foot diameter penstocks, each approximately 65 feet long, connecting the Cascade Reservoir's outlet tunnel to the powerhouse; (b) a concrete powerhouse, located on the north bank of the river, containing two semi-outdoor type generating units with total installed capacity of 12,800 kW; (c) a $4.^{16}/_{69}$-kV transformer and switching structures adjacent to the powerhouse; (d) a 0.3-mile long 69-kV transmission line connecting the project to the IPC's Cascade Switchyard, southeast of the powerhouse, and (e) appurtenant facilities.

The location, nature and character of these project works are specifically shown and described by certain exhibits that form a part of the application for license and that are designated and described as:
Exhibit E:

Section 3 of the exhibit entitled "Report on Fish, Wildlife, and Botanical Resources", consisting of 6 pages of text, filed February 7, 1980; and

Exhibit	*FERC No. 2848—*	*Showing*
F-1	2	Plan
F-2	3	Profiles and Sections
F-3	4	Power Plans and Sections
G		

Location and Detail Map

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

(C)(1) Exhibits E (Section 3) and F designated in order paragraph (B) above are approved and made part of the license.
(2) Exhibit G designated in ordering paragraph (B) above is approved and made part of the license only to the extent that it shows general location of the project.

(D) This license is also subject to Articles 1 through 32, inclusive, set forth in Form L-2 (revised October, 1975), entitled "Terms and Conditions of License for Unconstructed Major ***63268** Project Affecting Lands of the United States" attached to (See 54 FPC 1808) and made a part of this license. The license is also subject to the following additional articles:

Article 33. Licensee shall, in consultation with the Idaho Department of Fish and Game, the Idaho Department of Health and Welfare, and the Fish and Wildlife Service and the Water and Power Resources Service of the U.S. Department of the Interior, determine what measures or additional studies are necessary to ensure that the project discharges meet the State of Idaho dissolved oxygen standard. Licensee shall, prior to start of any construction, file a report of its findings and, as a part of the final design, submit any recommendations for changes in project works or operation along with correspondence containing comments from the above named agencies on the recommendations.

****6** The Licensee, following consultation with the aforementioned agencies, shall plan and institute a dissolved oxygen monitoring system immediately downstream from the tailrace and provide annual summaries or summaries at other intervals when requested, to the Idaho Departments of Fish and Game, and Health and Welfare, and the Commission. Licensee shall also provide facilities for oxygenation of project discharges or ensure that procedures exist whereby water releases from the Cascade Dam will bypass the project in order that dissolved oxygen levels meet approved state standards.

Article 34. The design and construction of only those facilities that will be an integral part of or that could affect the integrity of Cascade Dam shall be done in consultation with and subject to the review and approval of the Regional Director, Water and Power Resources Service (WPRS), Boise, Idaho. The Commission reserves the right to resolve any disagreement between the Licensee and the Regional Director. Licensee shall reimburse the WPRS for costs they incur in the review and approval of the design and construction of project works directly related to the integrity of Cascade Dam.

Article 35. The Licensee shall have no claim against the United States arising from the effect of any changes made in the operating pool levels of the Cascade Reservoir.

Article 36. Licensee shall file with the Commission's Regional Engineer and the Director, Office of Electric Power Regulation, one copy each of the plans and specifications prior to start of construction. The Director, Office of Electric Power Regulation, may require changes in the plans and specifications so as to assure a safe and adequate project.

Article 37. The Licensee shall commence construction of the project within two years from the effective date of this license and, in good faith and with due diligence, shall prosecute and complete construction of the project works within four years from the effective date of this license.

Article 38. The Licensee shall, to the satisfaction of the Commission's authorized representative, install and operate any barriers, signs, lights, sirens, or other devices that may reasonably be needed to warn the public of fluctuations in flow from the project.

Article 39. Prior to commencement of any construction development of any project works or other facilities at the project, the Licensee shall consult and cooperate with the State Historic Preservation Officer (SHPO) to determine the need for, and extent of, any archeological or historic resource surveys and any mitigative measures that may be necessary. The Licensee

shall provide funds in a reasonable amount for such activity. If any previously unrecorded archeological or historic sites are discovered during the course of construction, construction activity in the vicinity shall be halted, a qualified archeologist shall be consulted to determine the significance of the sites, and the Licensee shall consult with the SHPO to develop a mitigation plan for the protection of significant archeological or historic resources. If the Licensee and the SHPO cannot agree on the amount of money to be expended on archeological or historic work related to the project, the Commission reserves the right to require the Licensee to conduct, at its own expense, any such work found necessary.

**7 *Article 40.* The Licensee shall pay the United States the following annual charges:

(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 17,067 horsepower.

(b) For the purpose of recompensing the United States for the use, occupancy, and enjoyment of its lands other than for transmission line right-of-way, a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time. The acreage of those lands shall be determined later.

(c) For the purpose of recompensing the United States for the use, occupancy, and enjoyment of its lands for transmission line right-of-way, a reasonable amount as ***63269** determined in accordance with the provisions of the Commission's regulations in effect from time to time. The acreage of those lands shall be determined later.

(d) For the purpose of recompensing the United States for the use of the Cascade Dam an amount to be determined later and that shall not exceed $104,350, subject to possible adjustment at the intervals specified in Section 10(e) of the Act.

Article 41. Pursuant to Section 10(d) of the Act, after first 20 years of operation of the project under license, 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 after the first 20 years of operation 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 after the first 20 years of operation 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 reserve 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 cost 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).

**8 *Article 42.* Within one year from the date of commencement of operation of the project, the Licensee shall file for approval "as-built" Exhibits F and G drawings to show the project as finally constructed and located and the amount of the U.S. lands occupied by it.

(E) This order is final unless a petition appealing it to the Commission is filed within 30 days from the date of its issuance, as provided in Section 1.7(d) of the Commission's regulations, 18 C.F.R. 1.7(d) (1979), *as amended,* 44 Fed. Reg. 46449 (1979). The filing of a petition appealing this order to the Commission or an application for rehearing as provided in Section 313(a) of the Act does not operate as a stay of the effective date of this license or of any other date specified in this order, except as specifically ordered by the Commission. The Licensee's failure to file a petition appealing this order to the Commission shall constitute acceptance of this license and its terms and conditions, it shall be signed by the Licensee and returned to the Commission within 60 days from the date this order is issued.

Footnotes

[1] Authority to act on this matter is delegated to the Director, Office of Electric Power Regulation, under §375.308 of the Commission's regulations, 45 Fed. Reg. 21216 (1980), *amending* 44 Fed. Reg. 46449 (1979) and 18 C.F.R. 3.5(g) (1979).

[2] A more detailed description of the proposed project works is contained in ordering paragraph (B).

[3] The proposed project, with its average annual generation of 49.9 million kWh, will utilize a renewable resource that will save the equivalent of approximately 88,600 barrels of oil or 23,100 tons of coal per year.

[4] Public Law 96-375 authorized the Secretary of the Interior to engage in feasibility investigations of certain water resource developments, including the Cascade Dam as part of the Boise Project Power and Modification Study. Section 13 of Public Law 96-375 specifically provides that "[n]othing in [that act] shall be interpreted to preclude or delay issuance of a license by the Federal Energy Regulatory Commission.

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Document Content(s)

Exhibit B
Cascade single-line diagram

Exhibit B contains information about the transmission and distribution of energy. Therefore, pursuant to 18 CFR § 388.113, Idaho Power is filing Exhibit B separately as Critical Energy Infrastructure Information (CEII). Procedures for obtaining access to CEII may be found in 18 CFR § 388.113. Requests for access to CEII should be made to the Commission's CEII Coordinator.