February 27, 2020

Submitted via Electronic Filing

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
Division of Hydropower Licensing
888 First Street N.E.
Washington, D.C. 20246

Re: American Falls Hydroelectric Project (FERC No. 2736)
Notification of Intent to File an Application for a New License, Pre-Application Document, Request to Use Traditional Licensing Process, and Request for Designation as Non-Federal Representative. Public Classification

Dear Secretary Bose:

Pursuant to Part 5 of the regulations of the Federal Energy Regulatory Commission ("FERC" or "Commission"),[1] Idaho Power Company ("IPC") hereby submits electronically its Notice of Intent to File an Application for a New License ("NOI") (Attachment A), distribution list (Attachment B), and Pre-Application Document ("PAD") (Attachment D) for the American Falls Hydroelectric Project, FERC Project No. 2736, ("Project"), located on the Snake River in the city of American Falls, Power County, Idaho.

IPC respectfully requests that FERC: (1) designate IPC as the Commission's non-federal representative in licensing for purposes of conducting informal consultation under Section 7 of the Endangered Species Act ("ESA"),[2] and the joint agency ESA implementation regulations;[3] and (2) authorize IPC to initiate consultation under Section 106 of the National Historic Preservation Act ("NHPA"),[4] and the NHPA implementing regulations.[5] As discussed further below, and included in Sections 2.1 and 2.2 of the PAD, IPC further requests approval to use the Traditional Licensing Process ("TLP") for the Project, as provided in 18 C.F.R. § 5.3.

The PAD is being filed publicly except for two exhibits. Exhibit B contains information about the transmission and distribution of energy, therefore, pursuant to 18 C.F.R. § 388.113, IPC requests Exhibit B to be treated as critical electric infrastructure information ("CEII"). Exhibit C contains sensitive information related to archaeological and historic resources, therefore, pursuant to 18 C.F.R. § 388.112(b), IPC requests Exhibit C to be treated as privileged material.

[1] 18 C.F.R. Part 5.
[2] 16 U.S.C. § 1536.
[3] 50 C.F.R. Part 402.
[4] 54 U.S.C. § 306108.
[5] 36 C.F.R. Part 800.

In accordance with 18 C.F.R. §§ 5.5(c) and 5.6(a)(1), IPC 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, "Stakeholders"). In addition, IPC is providing two courtesy paper copies of the NOI and PAD to Commission Staff in the Office of Energy Projects and Office of General Counsel – Energy Projects, as required by the Commission's filing guidelines.

Finally, on February 26, 2020, IPC published notice of this filing in the Power County Press and Aberdeen Times, which is Power County's local newspaper and the 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. Applicant's seeking to use either the TLP or the Alternative Licensing Process ("ALP") must file a request and receive approval from FERC to do so. Therefore, concurrent with the filing of this NOI and PAD, and in accordance with 18 C.F.R. § 5.3, IPC requests approval from FERC to utilize the TLP in lieu of the default ILP to relicense the Project.

Likelihood of Timely License Issuance

IPC believes the TLP provides the best opportunity to engage in a timely and efficient licensing process that facilitates stakeholder participation and fosters collaborative decision making. IPC believes that with early coordination and consultation with Stakeholders the more flexible TLP will allow IPC to complete pre-filing requirements and ultimately file its subsequent license application in a timely manner. In fact, during the development of the PAD IPC conducted pre-PAD consultation meetings with several Stakeholders where IPC explained 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 meetings.

Complexity of the Resource Issues

IPC believes the Project effects on resources are minimal. First, the U.S. Bureau of Reclamation ("Reclamation") recently completed an Environmental Assessment ("EA"), Final Environmental Assessment ("FEA") and Finding of No Significant Impact ("FONSI") related to Reclamation's plan to improve the structural integrity of the American Falls spillway. Reclamation concluded that "implementation of the proposed action will not have a significant impact on the quality of the human environment or natural and cultural resources. The effects of the proposed action will be minor, temporary, and localized."[6] In many ways the scope of Reclamation's analysis was broader than what is required for the Project. Reclamation's action requires construction "necessary for the maintenance and rehabilitation of the spillway, spillway gate operating decks,

[6] U.S. Department of Interior, Bureau of Reclamation, Pacific Northwest Region, Snake River Area Office, PN FONSI # 19-4. Finding of No Significant Impact, Final Environmental Assessment, Maintenance and Rehabilitation of Spillway and Dam at American Falls Dam, Minidoka Project, Power County, Idaho (May 2019), at 6.

downstream dam face concrete, and stilling basin floor structures…" at the American Falls Dam, and would consist of the "cutting, removal, and replacement of existing damaged concrete" and the "reinforcement and replacement or modification of an existing drain grate."[7] IPC recognizes Reclamation's project is significantly shorter in duration than the term of a new license for the Project; however, IPC is not proposing any changes to Project operations and environmental issues are well known and documented.

Second, no state or federally threatened or endangered species or critical habitat are present in the vicinity of the Project. Hatchery white sturgeon are present in the tailrace below the Project and in the Project boundary; however, white sturgeon is not federally listed throughout their range. In the United States ("U.S."), white sturgeon is only listed in the Kootenai River. They are also listed within Canada's portion of the Columbia River, but not downstream on the U.S. side. White sturgeon has no federal protection in the Snake River and the sturgeon present below the American Falls dam are not naturally occurring. These hatchery sturgeon have been periodically stocked above their historic natural barrier (i.e., Shoshone Falls) by the Idaho Department of Fish and Game ("IDFG") to diversify exiting fisheries and provide for a popular and unique sportfishing opportunity.

Finally, IPC 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

IPC is a member of the American Falls community and our reputation and status with Stakeholders will be shaped by how we conduct the relicensing process and develop the license application. As previously mentioned, IPC conducted pre-PAD consultation meetings with several Stakeholders which did not reveal any significant controversies.

Relative Cost of the TLP Compared to the ILP

IPC believes the flexible nature of the TLP will allow IPC and Stakeholders to avoid the costs and other resource commitments needed to comply with the regimented requirements of the ILP. The flexible nature and timelines of the TLP will allow IPC to work cooperatively with Stakeholders 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. IPC anticipates the combination of information contained in the PAD and the information developed from the implementation of any study plans will provide all the

[7] U.S. Department of Interior, Bureau of Reclamation, Pacific Northwest Region, Snake River Field Office, Boise, Idaho. Environmental Assessment, Maintenance and Rehabilitation of Spillway and Dam Structures at American Falls Dam, Minidoka Project, Power County, Idaho (May 2019), at 1.

information needed for relicensing the Project. Therefore, IPC believes the potential for significant disputes over studies to be low.

Other Pertinent Factors

Other pertinent factors include (1) the Project is located on a federal dam and the operation of the Project will not change under the new license or result in any material change to the current storage, release, or flow regime, (2) the Project is operated and maintained for the generation of electric power when sufficient flows are released by Reclamation, and (3) a substantial amount of data and analysis exists for the Project that has been developed by IPC over the term of the existing license and through Reclamation's recent EA and FEA.

COMMENTS ON REQUEST TO USE THE TLP

As required by 18 C.F.R. § 5.3(d), any comments regarding IPC's request to use the TLP must be filed with the Commission within 30 days of this filing (by March 27, 2020) and must reference FERC Project No. 2736. 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 factors believed to be pertinent.

Comments must be sent to IPC and the Secretary of the Commission and reference FERC Project No. 2736. Comments sent to FERC must be submitted in accordance with the filing procedures posted on FERC's website at http://www.ferc.gov.

IPC looks forward to working with FERC and Stakeholders during the relicensing of the Project. If you have any questions regarding the NOI, PAD, or request to use the TLP, please contact David Zayas, FERC Hydro Coordinator, at (208) 388-2915 or by email at dzayas@idahopower.com.

Respectfully Submitted,

Dave Zayas
FERC Hydro Coordinator
Idaho Power Company
P.O. Box 70 (83707)
1221 W. Idaho St.
Boise, ID 83702

cc: Distribution List (see attached)
Brett Dumas, Nathan Gardiner, IPC
David Turner, Dianne Rodman, FERC

CERTIFICATE OF SERVICE

I hereby certify that I have this day caused the foregoing document to be served upon each person designated on the attached distribution list for the American Falls Hydroelectric Project, FERC Project No. 2736, in accordance with Rule 2010 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.2010.

Dated at Boise, ID this 27th day of February 2020.

__/s/ *David Zayas* _____

David Zayas
Idaho Power Company
P.O. Box 70 (83707)
1221 W. Idaho St.
Boise, ID 83702
(208) 388-2915

Attachment A. American Falls Notice of Intent

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION
February 27, 2020

Idaho Power Company **Project No. 2736**

NOTIFICATION OF INTENT TO FILE AN APPLICATION FOR NEW LICENSE

Pursuant to 18 C.F.R. § 5.5(b), Idaho Power Company ("IPC") notifies the Federal Energy Regulatory Commission ("Commission" or "FERC") of its intention to file an Application for a New License for the American Falls Hydroelectric Project ("Project"), FERC Project No. 2736. Simultaneous with the filing of this Notice of Intent ("NOI"), pursuant to 18 C.F.R. § 5.6, IPC is filing its Pre-Application Document ("PAD") for the Project with the Commission. IPC requests that all correspondence and service of documents relating to this notification and subsequent proceeding be addressed to:

Mr. David Zayas
FERC Hydro Coordinator and Compliance Consultant
Environmental Affairs Department
Idaho Power Company
P.O. Box 70 (83707)
1221 West Idaho Street
Boise, ID 83702

Email: dzayas@idahopower.com
Phone: 1-208-388-2915

Mr. Nathan Gardiner
Senior Counsel
Idaho Power Company
1221 West Idaho Street
Boise, Idaho 83702

Email: ngardiner@idahopower.com
Phone: 1-208-388-2975

The following information is provided consistent with the requirements of 18 C.F.R. § 5.5(b).

(1) The existing licensee's name and business address is:

Idaho Power Company
P.O. Box 70 (83707)
1221 West Idaho Street
Boise, ID 83702

(2) Project Number:

American Falls Hydroelectric Project, FERC Project No. 2736

(3) License Expiration Date:

The Federal Power Commission issued a license to operate the Project to IPC on March 31, 1975. The current license expires on February 28, 2025

(4) Unequivocal Statement of Intent to File an Application for a New License:

IPC hereby states its intent to file an application for a new license for the American Falls Hydroelectric Project (FERC No. 2736), using the Commission's Traditional Licensing Process ("TLP").

(5) Type of Principal Project Works Licensed:

The Project's powerplant has a total installed nameplate capacity of 92.4 MWs. The Project as licensed consists of: 1) three 18 foot (ft) steel-lined penstocks extending approximately 240 ft downstream to the centerline of project turbines from a connection with similar penstocks and intake works constructed as part of the dam; 2) reinforced concrete powerhouse containing 3 adjustable-blade turbines each rated 42,000 hp at 88-foot net head connected to three vertical-shaft, semi-outdoor type generators each rated 34.2 mVA, a 175-ton gantry crane, and other related electrical and mechanical equipment; 3) switchyard upstream from the powerhouse containing one three-phase transformer rated approximately 125 mVA, 13.8/138-kilovolt (kV), with circuit breakers and disconnect switches; 4) 138-kV steel-pole transmission line extending approximately 2,100 feet along the right bank and across the Snake River to a 138-kV switchyard; 5) tailrace 6) recreational facilities consisting of a public parking area, three small landscaped parks with picnic tables, a potable water supply and sanitary facilities, a public access area on the west bank of the Snake River to accommodate bank fishing, and boat launching facilities; and 7) appurtenant facilities.

The American Falls Dam and associated concrete spillway are not project works, but are owned and operated by the United States Bureau of Reclamation ("Reclamation").

(6) Location of the Project:

State or Territory:	Idaho
County:	Power County
Stream:	Snake River at river mile 714.7
City or Nearby City:	American Falls, ID

(7) The installed capacity of the project is:

The Project has an installed capacity of 92.4 MWs.

(8) Names and Mailing Addresses of:

(i) Every county in which any part of the Project is located, and in which any federal facility that is used or to be used by the Project is located:

Power County
543 Bannock Avenue
American Falls, ID 83211

(ii) Every city, town, or similar political subdivision:

A. In which any part of the Project is or is to be located and any federal facility that is or is to be used by the Project is located.

American Falls, ID
550 North Oregon Trail
American Falls, ID 83211

B. That has a population of 5,000 or more people and is located within 15 miles pf the proposed Project dam.

City of Pocatello
911 N 7th Avenue
Pocatello, ID 83201

The City of American Falls has a population of roughly 4,280 people.

(iii) Every irrigation district, drainage district, or similar special purpose political subdivision:

A. In which any part of the Project is located, and in which any federal facility that is used or to be used by the Project is located.

Falls Irrigation District
310 Valdez Street
American Falls, ID 83211

American Falls Reservoir District
1035 North Lincoln
P.O. Box A
Jerome, ID 83338

Aberdeen – Springfield Canal Company
P.O. Box 857
144 South Main
Aberdeen, ID 83210

B. 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 will be owned, operated, maintained, or used by any irrigation districts, drainage districts, or similar special purpose political subdivisions.

The Project uses the American Falls dam and reservoir which are owned, operated and maintained by the United States Bureau of Reclamation.

United States Bureau of Reclamation
Upper Snake Field Office
470 22nd Street
Heyburn, ID 83336

(iv) Every other political subdivision in the general area of the project or proposed project that there is reason to believe would be likely to be interested in, or affected by, this notification.

Bingham County
501 N. Maple
Blackfoot, Idaho 83221

Bannock County
624 East Center
Pocatello, ID 83201

City of Aberdeen

33 N. Main Street
Aberdeen, ID 83210

(v) Affected Indian Tribes.

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

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

Attachment B. American Falls Distribution List

American Falls Hydroelectric Project (FERC Project No. 2736)
Distribution List

Federal	
David Hopper U.S. Fish and Wildlife Service 1387 S. Vinnell Way Boise, Idaho 83709 dave_hopper@fws.gov	Michael Morse Supervisor Hydro Projects U.S. Fish and Wildlife Service 2600 SE 98th Street Portland, OR 97266 Michael_morse@fws.gov
Kimberly Bose Secretary Federal Energy Regulatory Commission 888 First Street NE Washington, D.C. 20426	Brigadier General D. Peter Helmlinger Commander, Northwestern Division U.S. Army Corps of Engineers Portland, OR 97208 Peter.helmlinger@usace.army.mil
Stephen Bredthauer Technical Review Program Manager U.S. Army Corps of Engineers Northwest Division P.O. Box 2870 Portland, OR 97208 Stephen.bredthauer@usace.army.mil	Regional Hydropower Coordinator United States Forest Service Intermountain Region 324 25th Street Ogden, UT 84401 R4fswebmaster@fs.fed.us
Richie Graves Branch Chief, Columbia Hydropower Branch Interior Columbia Basin Office NOAA Fisheries, West Coast Region 1201 NE Lloyd Blvd., Suite 1100 Portland, OR 97232 Ritchie.graves@noaa.gov	John Ruhs Idaho State Director U.S. Bureau of Land Management Idaho State Office 1387 S. Vinnell Way Boise, Idaho 83709 jruhs@blm.gov
Chris Hladick Regional Administrator U.S. Environmental Protection Agency Region 10, Pacific Northwest 1200 6th Ave. Seattle, WA 98101 hladick.christopher@epa.gov	Linda Manning Craters of the Moon National Monument and Preserve National Park Service P.O. Box 29 Arco, ID 83213 linda_manning@nps.gov

John Fowler Executive Director Advisory Council on Historic Preservation 401 F Street NW, Suite 308 Washington, D.C. 20001 jfowler@achp.gov	Marijke van Heeswijk U.S. Geological Survey Regional Director (Acting) Northwest – Pacific Islands Region 909 1st Avenue, 8th Floor Seattle, WA 98104 heeswijk@usgs.gov
Nicole Carson U.S. Bureau of Reclamation 470 22nd Street Heyburn, Idaho 83336 ncarson@usbr.gov	Doug Johnson Regional Engineer Federal Energy Regulatory Commission Portland Regional Office 805 SW Broadway, Fox Tower, Suite 550 Portland, OR 97205 Douglas.johnson@ferc.gov
State and Federal Senators and Representatives	
Senator Mike Crapo 275 South 5th Avenue, Suite 100 Pocatello ID 83201 239 Dirksen Senate Office Building Washington, D.C 20510	Senator James Risch 275 South 5th Avenue, Suite 100 Pocatello, ID 83201 483 Russell Senate Office Building Washington, D.C. 20510
Representative Mike Simpson 10 Memorial Drive, Suite 203 Idaho Falls, ID 83402 2084 Rayburn HOB Washington, D.C. 20515	Jim Guthrie Idaho State Senator 320 South Marsh Creek Road McCammon, ID 83250 jguthrie@senate.idaho.gov
Randy Armstrong Idaho State Representative P.O. Box 8 Inkom, ID 83245 ARmonstrong@house.idaho.gov	Kevin Andrus Idaho State Representative 6948 East Old Oregon Trail Road Lava Hot Springs, ID 83246 KAndrus@house.idaho.gov
State Government & Agencies	
Frank Edelmann Idaho Department of Fish and Game 600 S Walnut St Boise, ID 83712 frank.edelmann@idfg.idaho.gov	Carson Watkins Regional Fishery Manager Idaho Department of Fish and Game 1345 Barton Road Pocatello, ID 83204 carson.watkins@idfg.idaho.gov

Dustin Miller Director Idaho Department of Lands 300 North 6th St., Suite 103 Boise, ID 83720 dmiller@idl.state.id.us	Meribeth Lomkin Sr. Resource Specialist Idaho Department of Lands Eastern Area – Jerome Field Office 324 South 417 East, Ste 2 Jerome, ID 83338 mlomkin@idl.idaho.gov
Mary Anne Nelson Surface and Wastewater Division Administrator DEQ State Office - Water Quality Division 1410 N. Hilton Boise, ID 83706 mary.anne.nelson@deq.idaho.gov	Lynn Van Every Surface Water Quality Manager DEQ Pocatello Regional Office 444 Hospital Way #300 Pocatello, ID 83201 lynn.vanevery@deq.idaho.gov
John Tippets Director Idaho Department of Environmental Quality 1410 N. Hilton St. Boise, ID 83706 john.tippets@deq.idaho.gov	Idaho Office of the Governor State Capitol P.O. Box 83720 Boise, ID 83720 governor@gov.idaho.gov
Anna Canning Management Services Administrator Idaho Department of Parks and Recreation 5657 E Warm Springs Ave Boise, ID 83716 Anna.Canning@idpr.idaho.gov	Gary Spackman Director Idaho Department of Water Resources P.O. Box 83720 322 E. Front St., Suite 648 Boise, ID 83720 idwrinfo@idwr.idaho.gov
Lindsay Johansson State Archaeologist Idaho State Historic Preservation Office 210 Main Street Boise, ID 83702 Lindsay.johansson@ishs.idaho.gov	Ashley Brown Compliance Architectural Historian Idaho State Historic Preservation Office 210 Main Street Boise, ID 83702 Ashley.brown@ishs.idaho.gov
Chris Shaver Archeologist Idaho State Historic Preservation Office 210 Main Street Boise, ID 83702 Chris.shaver@ishs.idaho.gov	Teri Murrison Administrator Idaho Soils and Water Conservation Commission 322 E. Front St. Boise, ID 83720 Teri.murrison@swc.idaho.gov

Diane Hanian Commission Secretary Idaho Public Utilities Commission P.O. Box 83720 11331 W. Chinden Blvd. Building 8, Suite 201-A Boise, ID 83714 Diane.hanian@puc.idaho.gov	Jim Mende Idaho Department of Fish and Game 600 S Walnut St Boise, ID 83712 Jim.mende@idfg.idaho.gov
Sean Woodhead Idaho Department of Environmental Quality Twin Falls Regional Office 650 Addison Ave West, Suite 110 Twin Falls, ID 83301 Sean.woodhead@deq.idaho.gov	
Counties and Municipal Government	
Marc Beitia Mayor City of American Falls 550 N. Oregon Trail American Falls, ID 83211 longhikers5@gmail.com	Ronald Funk Commissioner, Chairman, District 1 Power County Power County Courthouse 543 Bannock Ave. American Falls, ID 83211 rjffarms@gmail.com
William Lasley Commissioner, District 2 Power County Power County Courthouse 543 Bannock Ave. American Falls, ID 83211 blasley@co.power.id.us	Delane Anderson Commissioner, District 3 Power County Power County Courthouse 543 Bannock Ave. American Falls, ID 83211 anderson.delane@gmail.com
Brian Blad Mayor City of Pocatello P.O. Box 4169 Pocatello, ID 83205 mayor@pocatello.us	Whitney Manwaring Commissioner, Chairman Bingham County 501 N. Maple Blackfoot, Idaho 83221 wmanwaring@co.bingham.id.us
Terrel Tovey Commissioner, District 3 Bannock County 624 East Center Pocatello, ID 83201	City of Aberdeen 33 N. Main Street Aberdeen, ID 83210

Commission@bannockcounty.us	
Native American Tribes	
Ladd Edmo Chairman Shoshone-Bannock Tribes of the Fort Hall Reservation of Idaho P.O. Box 306 Fort Hall, Idaho 83203 lredmo@sbtribes.com	Shoshone-Bannock Tribes of the Fort Hall Reservation of Idaho P.O. Box 306 Fort Hall, Idaho 83203 publicaffairs@sbtribes.com
Christina Cutler Shoshone-Bannock Tribes of the Fort Hall Reservation of Idaho P.O. Box 306 Fort Hall, Idaho 83203 ccutler@sbtribes.com	Carolyn Smith Shoshone-Bannock Tribes of the Fort Hall Reservation of Idaho P.O. Box 306 Fort Hall, Idaho 83203 csmith@sbtribes.com
Shannon Wheeler Chairman Nez Perce Tribal Executive Committee P.O. Box 305 Lapwai, Idaho NPTEC@nezperce.org	Ken Clark Director Nez Perce Water Resource Development 114 Veterans Drive Lapwai, Idaho 83540 waterresources@nezperc.org
Irrigation Districts	
Shawn Smith Falls Irrigation District 310 Valdez Street American Falls, ID 83211 fallsirr@cableone.net	Debbie Falconburg Office Manager / Secretary to Board of Directors American Falls Reservoir District 1035 North Lincoln P.O. Box A Jerome, ID 83338 afrd1.1923@gmail.com
Steve Howser General Manager and Watermaster Aberdeen – Springfield Canal Company P.O. Box 857 144 South Main Aberdeen, ID 83210 www.ascanal.org	

Non-Governmental Organizations	
Mark Menlove State Director Nature Conservancy 116 1st Avenue North Hailey, ID 83333 Mark.menlove@tnc.org	John Taylor Chapter President Trout Unlimited 720-Southeast Idaho 257 North Main Pocatello, ID 83204
Nic Nelson Executive Director Idaho Rivers United 3380 West Americana Terrace, Suite 410 Boise, ID 83706 nic@idahorivers.org	Justin Hayes Executive Director Idaho Conservation League 710 North 6th Street Boise, ID 83702 jhayes@idahoconservation.org

The Power County Press | The Aberdeen Times

POWER COUNTY PRESS LEGALS

Notice of filing on hydro project

February 25, 2020

Published in The Power County Press Feb. 26, 2020.

Notice of Filing with the Federal Energy Regulatory Commission

Idaho Power Company

American Falls Hydroelectric Project

FERC Project No. 2736

Idaho Power Company (IPC), as required by the Federal Energy Regulatory Commission (FERC or Commission), hereby gives notice of its intent to file an application for a new license for the American Falls Hydroelectric Project, FERC Project No. 2736 (Project). The Project is a major constructed project located on the Snake River at river mile 714.7, in the city of American Falls, Power County, Idaho. IPC's address is P.O. Box 70 (83707), 1221 West Idaho Street, Boise, ID 83702; phone number 208-388-2915.

On February 27, 2020, pursuant to FERC's regulations in 18 Code of Federal Regulations (CFR) Part 5, IPC will file with FERC its Notice of Intent (NOI) to file a Subsequent License Application, a Preliminary Application Document (PAD), and a Request for Authorization to the use the Traditional Licensing Process (TLP) for the relicensing of the Project. The NOI provides notice of IPC's unequivocal statement of intent to file a license application for the Project. The PAD summarizes relevant and existing data regarding the Project and potential effects on environmental resources. The TLP request, if granted, will allow IPC to use the process found in 18 CFR Part 16.

IPC's request to use the TLP is based upon informal consultation with several entities that did not reveal any significant controversies and a thorough review of the Project and surrounding resources. IPC is not proposing any changes to Project operations. Environmental resources were studied when the Project was originally licensed, and current environmental issues are well known and are not expected to be controversial. IPC believes the TLP provides the best opportunity to engage in a timely and efficient licensing process that

facilitates stakeholder participation and fosters collaborative decision making, which will result in the filing of a final license application in a timely manner.

IPC invites state and federal resource agencies, Native American Tribes, members of the public and other stakeholders who are interested in the proceeding to participate in the relicensing of the Project and to comment on this notice and related matters. The NOI, PAD, and TLP request, and associated materials will be available for inspection and reproduction online at ferc.gov/docs-filing/elibrary.asp by searching under docket P-2736. They will also be available for inspection during regular business hours at IPC's headquarters at the address provided above.

As required by 18 CFR § 5.3(d), any comments regarding IPC's request to use the TLP must be filed with the Commission within 30 days of the filing (by March 27, 2020) and must reference FERC Project No. 2736. Comments on IPC's request to use the TLP should address, as appropriate to the circumstances 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 sent to the Secretary of the Commission and reference FERC Project No. 2736, and submitted in accordance with the filing procedures posted on FERC's website at ferc.gov.

← P.C. notice for candidate filings

Seasonal/Full Time Class A CDL drivers →

Leave a Reply

Your email address will not be published. Required fields are marked *

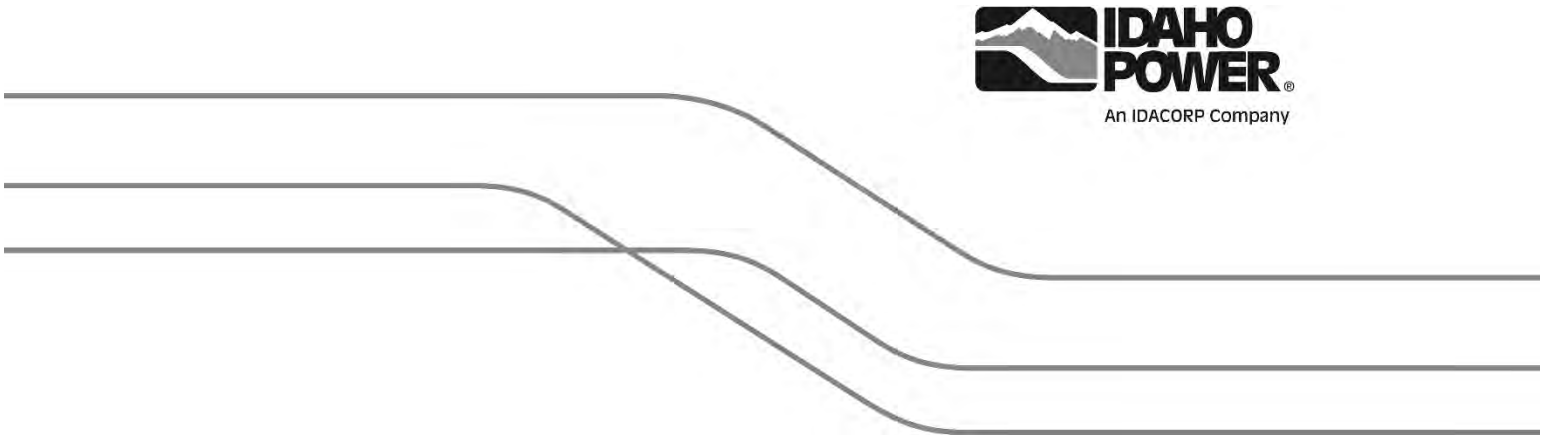
Comment

IDAHO POWER®
An IDACORP Company

American Falls Hydroelectric Project FERC Project No. 2736

Idaho Power Company Pre-Application Document

February 2020



American Falls Hydroelectric Project FERC Project No. 2736

Dave Zayas
FERC Hydro Coordinator

Idaho Power Company
Pre-Application Document

February 2020

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF EXHIBITS

LIST OF ACRONYMS

Acronym	Definition
AFPR	American Falls Project
ALP	Alternative Licensing Process
Beg. Rdg.	Beginning Reading
BEST	Boise Environmental Science and Technology, Inc.
BGEPA	Bald and Golden Eagle Protection Act
BIA	Bureau of Indian Affairs
BiOp	Biological Opinion
BLM	Bureau of Land Management
BoR	Bureau of Reclamation
CCC	Criterion Continuous Concentration
Census Bureau	United States Census Bureau
CFS	Cubic Feet per Second
CFR	Code of Federal Regulations
CMC	Criterion Maximum Concentration
COLD	Cold-Water Aquatic Life
Dam	American Falls Dam
DCS	Distributed Control System
DEQ	Idaho Department of Environmental Quality
District	State of Idaho Water District No. 1
DLA	Draft License Application
DO	Dissolved Oxygen
DWS	Drinking Water Supply
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
ESA	Endangered Species Act
ESRP	Eastern Snake River Plain
^{o}F	Degrees Fahrenheit
FEA	Final Environmental Assessment
FERC	Federal Energy Regulatory Commission
FGDC	United States Federal Geographic Data Committee Wetlands Classification Standard
FLA	Final License Application
FONSI	Finding of No Significant Impact
FPC	Federal Power Commission
ft	Feet
FWS	United States Fish and Wildlife Service

Acronym	Definition
GUI	Graphical User Interface
HCPRCSIT	Historic Properties of Religious and Cultural Significance to Indian Tribes
HUC	Hydrologic Unit Code
IDFG	Idaho Department of Fish and Game
IDL	Idaho Department of Labor
IHSI	Idaho Historic Sites Inventory
ILP	Integrated Licensing Process
INHP	Idaho Natural Heritage Program
IpaC	USFWS Information for Planning and Consultation
IPC	Idaho Power Company
ISI	Invasive Species of Idaho
ISU	Idaho State University
KA	Thousand Years Ago
kV	Kilovolt
m	meter
MA	Million Years Ago
MAF	Million Acre-Feet
MBTA	Migratory Bird Treaty Act
MW	Megawatt
MWh	Megawatt-hours
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOI	Notice of Intent
NPS	National Park Service
NRHP	National Register of Historic Places
NTS	National Trails System
NTU	Nephelometric Turbidity Unit
NW	Northwest
NWI	National Wetlands Inventory
PAD	Pre-Application Document
PCR	Primary Contact Recreation
POG	Plant Operation Guide
Project	American Falls FERC Project No. 2736
Reclamation	Bureau of Reclamation
Reservoir	American Falls Reservoir
RM	River Mile
RMP	Resource Management Plan
SCADA	Supervisory Control and Data Acquisition

Acronym	Definition
SGCN	Species of Greatest Conservation Need
SHPO	Idaho State Historic Preservation Office
SSW	Special Status Wildlife
SWAP	State Wildlife Action Plan
TL	Total Length
TLP	Traditional Licensing Process
TMDL	Total Maximum Daily Load
UP	Union Pacific Railroad
U.S.	United States
USGS	United States Geological Survey

1. INTRODUCTION

1.1 Project Background and Purpose

Idaho Power Company (IPC) is the licensee of the American Falls hydroelectric project, designated as Project No. 2736 (Project) by the Federal Energy Regulatory Commission (FERC or Commission). On March 31, 1975, the Federal Power Commission (FPC 1977) issued an Order Issuing Major License for the Project with a 50-year term, expiring on February 28, 2025 (FPC 1975). The Project's current license is included as Exhibit A.

The Project is located on the Snake River in Power County, ID, near the city of American Falls, ID, about 25 miles southwest of Pocatello, ID. More specifically, the Project is located at the American Falls Dam (Dam), which created the American Falls Reservoir (Reservoir), owned and operated by the United States Bureau of Reclamation (USBR 2020; Reclamation). The Dam is part of the larger Minidoka project, authorized by the Secretary of the Interior in 1904, and provides water supply for approximately 1,150,000 acres of irrigated lands, limited flood control during spring time runoff, and power production (USBR 2019a).

Pursuant to FERC's regulations at 18 Code of Federal Regulations (CFR) Part 5, IPC is filing this Notice of Intent (NOI) and Pre-Application Document (PAD) to initiate the formal relicensing process for the Project, which will set the schedule for future relicensing activities. The purpose of a PAD is to provide existing information relevant to the Project that is in IPC's possession or that IPC can obtain with the exercise of due diligence. The PAD is filed with FERC and distributed to state and federal governmental agencies, Native American tribes, non-governmental organizations, and other interested parties (collectively, Stakeholders). Stakeholders can then use the PAD to identify potential issues and related information needs and develop any study requests and study plans.

As such, in developing this PAD, IPC reviewed existing internal and external data relevant to the Project and met with several entities with an interest in the Project. In these meetings, IPC reviewed the relicensing process and schedule, discussed substantive issues and sought additional information relevant to the Project. No significant controversies were raised in these meetings. Lastly, IPC reviewed federal and state comprehensive plans filed with the Commission for additional relevant information related to the Project (FERC 2019a).

The information contained in this PAD is organized around the requirements provided in FERC's regulations at 18 CFR § 5.6(d)(1)-(5).

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

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

Description of Existing Environment and Resource Impacts, 18 CFR § 5.6(d)(3)

Preliminary Issues and Studies List, 18 CFR § 5.6(d)(4)

Summary of Contacts, 18 CFR § 5.6(d)(5)

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 any 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 after July 23, 2005. Applicant's 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.

On April 26, 2017, FERC sent a letter to IPC requesting information regarding what licensing process IPC intended to use to relicense the Project (FERC 2017a). On June 21, 2017, IPC responded to FERC indicating our intent to use the TLP. Therefore, concurrent with the filing of this NOI and PAD, and in accordance with 18 CFR § 5.3, IPC requests approval from FERC to utilize the TLP in lieu of the default ILP to relicense the Project.

When requesting to use the TLP, FERC's regulations at 18 CFR §5.3 (c)(1)(i)-(ii) require an applicant to include justification for the request and any existing written comments on the applicant's proposal—and responses thereto—and provide guidance on a list of considerations to address when requesting the use of the TLP. The considerations include the likelihood of timely license issuance; the complexity of the resource issues; the level of anticipated controversy; the 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 factors believed by the applicant to be pertinent.

2.1.1 Likelihood of Timely License Issuance

IPC believes the TLP provides the best opportunity to engage in a timely and efficient licensing process that facilitates Stakeholder participation and fosters collaborative decision making. IPC believes that with early coordination and consultation with the various Stakeholders, the more flexible TLP will allow IPC to complete pre-filing requirements and ultimately file its subsequent license application in a timely manner. As discussed further in section 7, during the development of the PAD, IPC conducted voluntary pre-PAD consultation meetings with several entities. In these meetings, IPC explained 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 to the use of the TLP and no significant controversies were raised during these meetings.

2.1.2 Complexity of the Resource Issues

IPC believes the Project's effects on resources are minimal. First, Reclamation recently completed an Environmental Assessment (EA), Final Environmental Assessment (FEA) and Finding of No Significant Impact (FONSI) related to Reclamation's plan to improve the structural integrity of the American Falls spillway. Reclamation concluded that "implementation of the proposed action will not have a significant impact on the quality of the human environment or natural and cultural resources. The effects of the proposed action will be minor, temporary, and localized. Therefore, preparation of an Environmental Impact Statement (EIS) is not required" (USBR 2019b).

In many ways the scope of Reclamation's analysis was broader than what is required for the Project. Reclamation's action requires construction "necessary for the maintenance and rehabilitation of the spillway, spillway gate operating decks, downstream dam face concrete, and stilling basin floor structures…" at the Dam, and would consist of the "cutting, removal, and replacement of existing damaged concrete" and the "reinforcement and replacement or modification of an existing drain grate" (USBR 2019a). IPC recognizes Reclamation's project is significantly shorter in duration than the term of a new license for the Project; however, IPC is not proposing any changes to Project operations and environmental issues are well known and documented. IPC recommends that FERC incorporate by reference Reclamation's FONSI and FEA that overlap with FERC's own environmental analysis for the Project pursuant to National Environmental Policy Act (NEPA) regulations at 40 CFR § 1502.21. This would contribute to the timely issuance of a new license and reduce FERC staff resource requirements, without undermining environmental review or protections.

Second, no state or federally threatened or endangered species or critical habitat are present in the vicinity of the Project. Hatchery white sturgeon are present in the tailrace below the Project and in the Project boundary; however, white sturgeon is not federally listed throughout their range. In the United States (U.S.), white sturgeon is only listed in the Kootenai River. They are also listed within Canada's portion of the Columbia River, but not downstream on the U.S. side. White sturgeon have no federal protection in the Snake River and the sturgeon present below the Dam are not naturally occurring. These hatchery sturgeon have been periodically stocked above their historic natural barrier (i.e., Shoshone Falls) by the Idaho Department of Fish and Game (IDFG) to diversify exiting fisheries and provide for a popular and unique sportfishing opportunity (USBR 2019a).

Finally, IPC 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.

2.1.3 Level of Anticipated Controversy

IPC is a member of the American Falls community and our reputation with Stakeholders will be shaped by how we conduct the relicensing process and develop the license application. As previously mentioned, IPC conducted pre-PAD voluntary consultation meetings with several entities which did not reveal any significant resource concerns or controversies.

2.1.4 Relative Cost of the TLP Compared to the ILP

IPC believes the flexible nature of the TLP will allow IPC and Stakeholders to avoid the costs and other resource commitments needed to comply with the regimented requirements of the ILP. The flexible nature and timelines of the TLP will allow IPC to work cooperatively with Stakeholders 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.

2.1.5 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. IPC anticipates the combination of information contained 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, IPC believes the potential for significant disputes over studies to be low.

2.1.6 Other Pertinent Factors

IPC encourages FERC to view the relicensing of the Project as an opportunity to issue a new license within 2-years after the filing of the final license application (FLA). A 2-year post FLA process is supported for several reasons, including but not limited to the following:

- A substantial amount of data and analysis exists for the Project that has been developed by IPC over the term of the existing license and through Reclamation's recent EA and FEA.
- The Project is located on a federal dam and the operation of the Project will not change under the new license or result in any material change to the current storage, release, or flow regime.
- The Project is operated and maintained for the generation of electric power when sufficient flows are released by Reclamation.
- No state or federal threatened or endangered species or critical habitat are present in the vicinity of the Project.
- Early consultation with state and federal agencies did not reveal any significant controversies.

In this regard, the Project is similar to other project's that FERC has licensed in 2 years or less, (FERC 2017b) and for which FERC recently developed an expedited licensing process, with the primary distinction being that the Project is applying for a new license and not an original license (FERC 2019b). IPC believes the Commission should consider expediting new license applications if, as here, the project substantially meets the resource criteria developed under Order 858.

2.2 Comments on Request to Use the TLP

As required by 18 CFR § 5.3(d), any comments regarding IPC's request to use the TLP must be filed with the Commission within 30 days of this filing (by March 27, 2020) and must reference FERC Project No. 2736. 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;
- Amount of available information and potential for significant disputes over studies; and
- Other factors believed to be pertinent.

Comments must be sent to IPC and the Secretary of the Commission and reference FERC Project No. 2736. Comments sent to FERC must be submitted in accordance with the filing procedures posted on FERC's website at ferc.gov.

IPC looks forward to working with FERC and Stakeholders 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 below 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 specific date 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 IPC's request to use the TLP are due within 30 days of FERC's public notice. If FERC approves IPC's TLP request, as set forth in 18 CFR §16.8(b)(3)(ii), a joint meeting with Stakeholders 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 that FERC authorizes use of the TLP. The joint meeting will provide Stakeholders the opportunity to tour the Project, understand existing resource conditions, and participate in a question and answer session with IPC regarding the Project. Table 1 provides a draft schedule of the pre-filing process.

Table 1
American Falls hydroelectric project—anticipated pre-filing relicensing schedule

18 CFR	Activity	Responsibility	Time Frame	Deadline
§ 5.6(b)(2)	PAD Due Diligence	IPC	October 2019–February 2020	February 26, 2020
§§ 5.3, 5.5, 5.6, 16.6(b), 16.7(d)	File NOI, PAD, TLP Request, and Request to be Designated as FERC's non-federal representative for informal ESA and NHPA consultation, and publish public notice in newspaper	IPC	5 to 5.5 years before license expires	February 27, 2020
§5.3(d)(2)	File proof of publication in newspaper with FERC	IPC	Within 2 weeks of filing the NOI, PAD, and TLP request	February 27, 2020
§5.3(d)(1)	Comments on TLP Request	Stakeholders	Within 30 days of TLP request submittal	March 27, 2020
§5.7	Meeting with potentially affected Native American Tribes	FERC	No later than 30 days after filing of NOI and PAD	March 27, 2020
§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	April 27, 2020
§16.8(b)(3)(i)(B)	Notify FERC of Joint Meeting and Site Visit and Publish Notice in Newspaper	IPC	At least 15-days in advance of joint meeting	Between May 12–June 12, 2020
§16.8(b)(3)(ii)	Joint Meeting for Consultation with Stakeholders and site visit	IPC, Stakeholders, FERC	Within 30 to 60 days of FERC's Approval of TLP Request	American Falls, ID, June 24, 2020.
§16.8(b)(5)	Comments on PAD and Submit Study Requests	Stakeholders	Within 60 Days of Joint Meeting	No later than August 24, 2020
§16.8(c)(1)	Develop Study Plans	IPC	Following Receipt of PAD Comments and Study Requests	September 2020–February 2021
§16.8(c)(1)	Conduct Field Studies	IPC	Following Development of Study Plans	February 28, 2021 –February 28, 2022
§16.8(c)(4)	File Draft License Application (DLA) with study results and distribute to Stakeholders	IPC	Following Conclusion of Studies	July 2022

18 CFR	Activity	Responsibility	Time Frame	Deadline
§16.8(c)(5)	Comments on study results and DLA	Stakeholders	90-Day Comment Period	October 2022
§§ 16.8(d)(1), 5.17(a)	Develop Final License Application (FLA) and File with FERC	IPC	No Later Than 2-Years Before Current License Expires	February 27, 2023

2.4 Communications and Distribution Protocols

IPC's goal is to maintain open communications and to provide public access to relevant relicensing information. IPC 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 e-mail distribution. IPC will also maintain a webpage dedicated to the Project's relicensing where all public documents will be accessible. This webpage can be accessed 2 ways: 1) Idahopower.com/relicensing; and 2) search for the term "relicensing" through IPC's homepage search bar found at idahopower.com.

Relicensing documents will also be available through FERC's eLibrary, an on-line 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-2736. Interested parties can subscribe to docket P-2736 using eSubscription on the Commission's website to receive notices of issuances and filings by e-mail.

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 documents should be sent to David Zayas, FERC Hydro Coordinator, P.O. Box 70 (83703), 1221 West Idaho Street, Boise, ID 83702; or by email to dzayas@idahopower.com. These requests must clearly indicate the document name, publication date, and reference FERC Project No. 2736. A reproduction charge and postage costs may be assessed for hard copies requested by the public.

IPC also developed a distribution list of federal and state resource agencies, Native American tribes, local governments, irrigation 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. Stakeholder Communications with FERC

All communications to FERC must reference the *American Falls Project FERC No. 2736—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 IPC and all other entities listed on FERC's Official Service List.

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. In order 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:

Kimberly D. Bose
Secretary, Federal Energy Regulatory Commission
888 First Street, NE 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)). IPC 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 located at the American Falls Dam, which created the American Falls Reservoir and is owned and operated by Reclamation. The Dam is part of the larger Minidoka project, which was authorized by the Secretary of the Interior in 1904 and was the first Reclamation project constructed in Idaho. The Dam, first completed in 1927 and rebuilt in 1978, is a 103.5-foot-high composite concrete and earth gravity-type dam on river mile (RM) 714.7 of the Snake River near American Falls, Idaho. With a storage capacity of roughly 1,700,000 acre-feet, the Reservoir is the largest reservoir of the Minidoka Project. The Project itself is located in Power County, Idaho, but the Reservoir stretches northeast into both Bingham and Bannock Counties. The Dam and associated Reservoir comprise a multi-purpose facility from which principal benefits include irrigation, power generation, flood control, fish and wildlife resources, and recreation. However, the Dam's primary operation strategy is storage of water for irrigation of

lands in the Magic Valley area, including Burley, Rupert, Twin Falls, Jerome, and Gooding, Idaho (USBR 2019a).

3.1 Contact Information

The following individuals are authorized to act on behalf of IPC.

David Zayas
FERC Hydro Coordinator
P.O. Box 70 (83707)
1221 W. Idaho St.
Boise, ID 83702
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Senior Counsel
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Boise, ID 83702
ngardiner@idahopower.com
208.388.2975

3.2 Project Maps

Included below are detailed maps showing lands and waters within the vicinity of the Project.

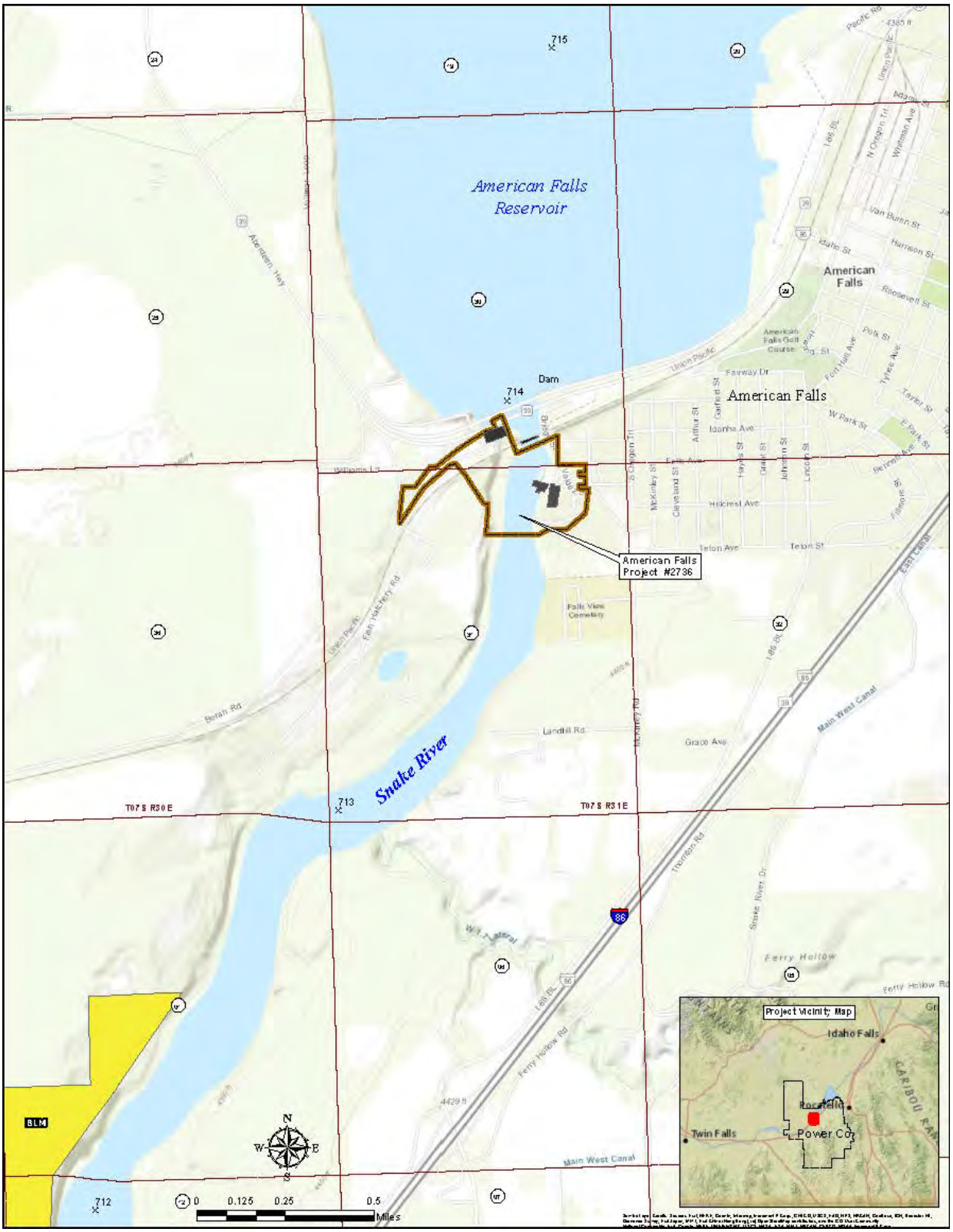


Figure 1
Project location and FERC Project boundary

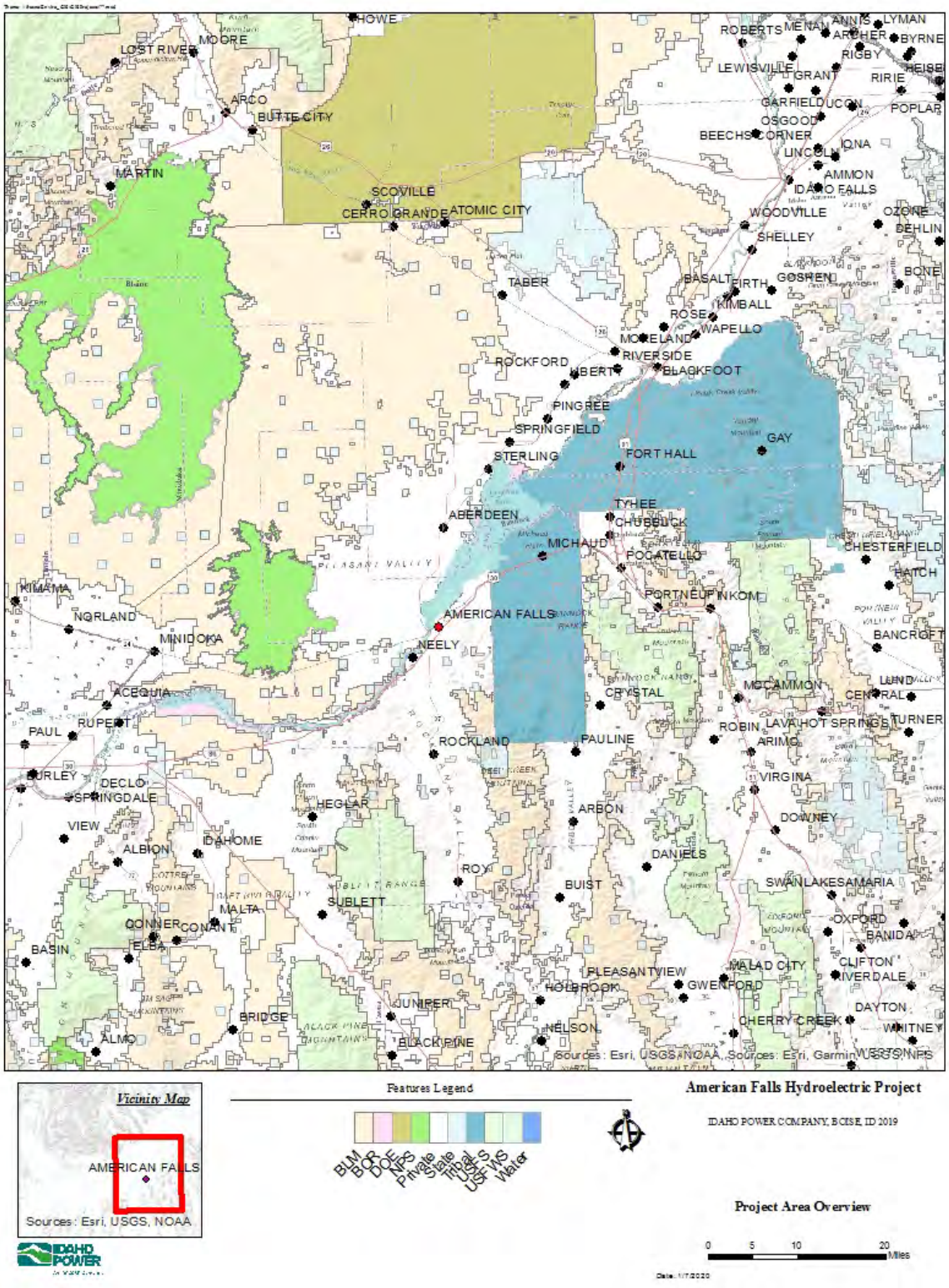


Figure 2
Project area overview and land ownership

3.3 Detailed Description of all Existing and Proposed Project Facilities and Components

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 features as:

> A concrete gravity dam with embankment wings located on the Snake River at American Falls, ID. It has a structural height of 103.5 feet (ft.) and a crest length of 5,2777 ft. The outlet's works consists of nine 7.17-foot-square low-level outlets, each with two 7-foot-square slide gates and has a capacity of 19,400 cubic feet per second (cfs). A concrete overflow spillway controlled by five 44-by 25-foot radial gates is located near the right abutment and has a capacity of 87,000 cfs (USBR 1995).

Table 2
American Falls Dam features (reproduced from USBR 1995, p. 2–3)

Dam Height	
Structural	103.5 ft.
Hydraulic	77.5 ft.
Dam Crest	
Width	42.5 ft.
Length	5,277.0 ft.
Elevation	4,366.5 ft.
Outlet Works—nine 7.17-foot square outlets	
Capacity	19,400 cfs
Spillway—concrete overflow weir with five 44-by 25-foot radial gates	
Crest elevation	4,333 ft.
Capacity	87,000 cfs

3.3.2 Reservoir Statistics

Reclamation operates and manages the Reservoir, such as drawdowns for irrigation. Therefore, the Reservoir is not within the Project boundary and IPC has no control over Reservoir operations. However, Reclamation provides the following Reservoir statistics and data (USBR 1995).

Table 3
American Falls Reservoir statistics and data (reproduced from USBR 1995, p. 2–3)

Water Surface Elevation	
Operating range	4,354.5–4295.7 ft.
Normal maximum	4,354.5 ft.
Average minimum	4,325.6 ft.
Storage	
Normal maximum	1,672,590 acre-feet
Average minimum	490,000 acre-feet
Minimum pool	None
Surface Area	
Normal maximum	58,000 acres
Average minimum	23,000 acres
Length of Pool	
At normal maximum elevation	22 miles
At average minimum elevation	16 miles
Shoreline Length	
At normal maximum elevation	115 miles
At normal minimum elevation	47 miles

3.3.3 Penstocks and Trashracks

The Project consists of three 18 ft. steel-lined penstocks extending approximately 240 ft. downstream to the centerline of the Project's turbines from a connection with similar penstocks and intake works constructed as part of the Dam.

One 14 ft. by 19 ft. fixed wheel gate is provided for each of the 3 penstocks. These gates are constructed of steel and are equipped with rubber seals. The gates are operated by hydraulic hoists and are designed to provide emergency closure of the intakes. Additionally, one bulkhead gate is used for maintenance of the fixed wheel gates.

Sectionalized steel trashracks are installed over the intake openings.

3.3.4 Powerhouse

The Project's powerhouse is a reinforced concrete structure containing there adjustable-blade turbines each rated at 42,000 hp at 88-foot net head connected to 3 vertical-shaft, semi-outdoor type generators each rated 34.2 Mega Volt Amp (MVA). Additionally, the powerhouse is equipped with all other related electrical and mechanical equipment required for safe and efficient operation of the Project.

3.3.5 Turbines

The Project consists of 3 identical Kaplan turbines each rated at 30.78 MWs under normal conditions for a total installed capacity of 92.4 MWs. Each turbine is rated at 42,000-horse power at 88-foot net head. The Project's maximum hydraulic capacity is 16,500 cfs, with each turbine able to pass 5,500 cfs. The Project's minimum, hydraulic capacity is 1,000 cfs. A picture of one turbine nameplate is provided below.

Figure 3
American Falls turbine nameplate

3.3.6 Generators

The Project consists of 3 identical Westinghouse generators. The generator ratings are 34.2 MVA, which amounts to 30.78MW at a power factor of 0.9. Through the North American Electric Reliability Corporation FAC-008 ratings standard, IPC has rated the units at the Project at 34.2MVA per unit and 30.78 MW per unit for normal operation. A picture of one generator nameplate is provided below.

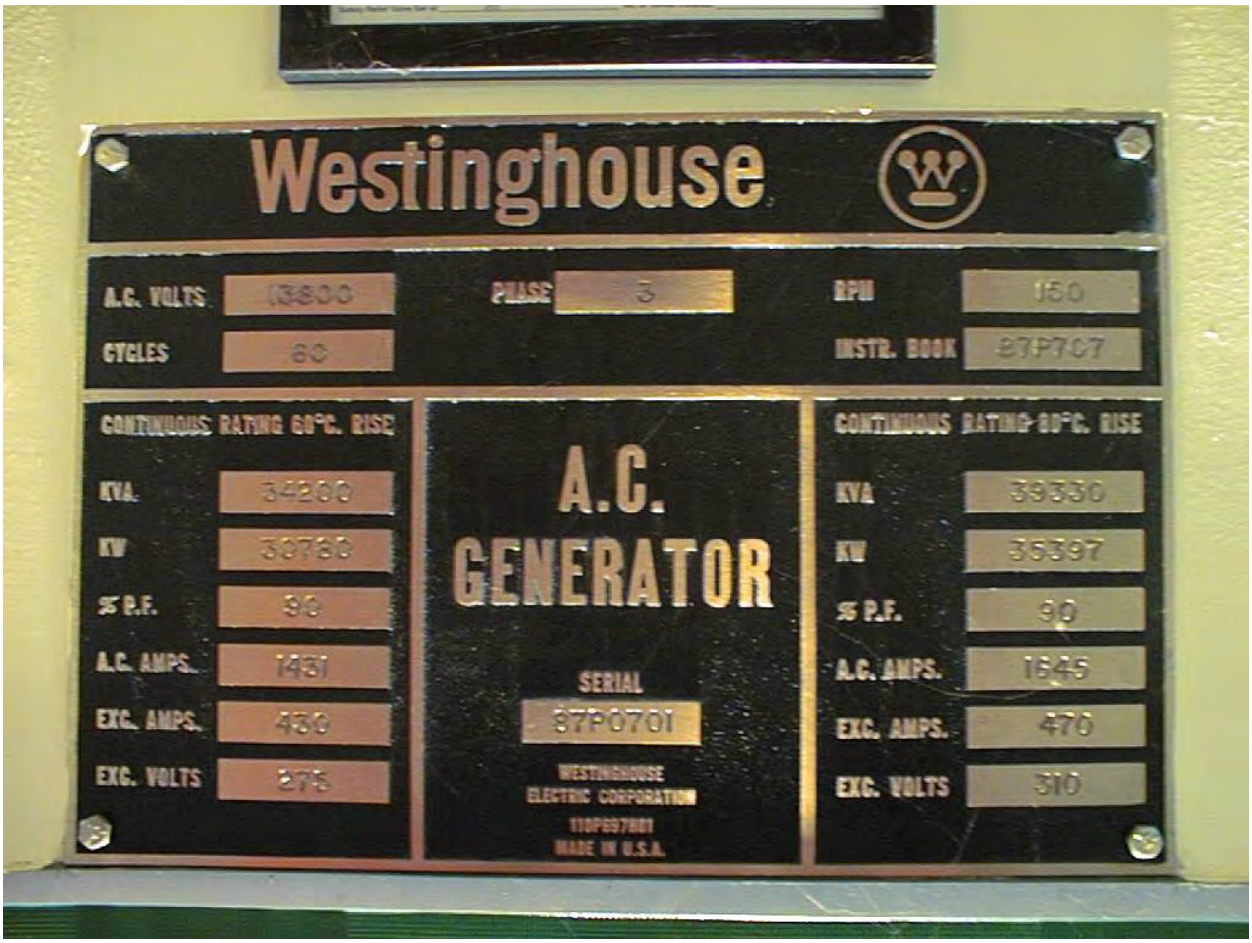


Figure 4
American Falls generator nameplate

3.3.7 Draft Tubes

Three sets of 3 gates each 13 ft. by 12 ft. are installed to provide for closure of the draft tubes. The gates are constructed of steel and are equipped with rubber seals. The gates are handled by a jib hoist mounted on the gantry crane.

3.3.8 Gantry Crane

One gantry crane with a 175-ton capacity main hoist, and one 25-ton capacity auxiliary hoist, and one 10-ton capacity draft tube gate jib hoist is installed. The crane supports maintenance activity at the Project.

3.3.9 Tailrace

The normal tailwater elevation is 4,250.0 ft. The tailrace provides a substantial recreational benefit and is further discussed in section 4.

3.3.10 Transformers

One 3-phase transformer bank is connected to the generating units, of 120,000 KVA capacity which steps-up the voltage from 13,800 to 138,000 volts for transmission. Transformers are located adjacent to the upstream face of the Project with low voltage synchronizing breakers located adjacent to the high voltage transformer bank.

3.3.11 Number, Length, Voltage, and Interconnections of Any Primary Transmission Lines

IPC 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 3-phase transformer rated at approximately 125 mVA, 13.8/138-kilovolt (kV), with circuit breakers and disconnect switches. From the Project a single 138-kV steel-pole transmission line extends approximately 2,100 ft. (0.4 miles) along the right bank and across the Snake River to the American Falls Station. American Falls Station then has numerous 138 kV lines feeding the grid. Exhibit B includes a single-line diagram that is being filed separately with the Commission as CEII.

3.3.12 Energy Production

In 2019, the Project was connected to load and producing energy for 5,860 hours of the 8,760 hours possible in the year. This amounts to 66.9% availability of the Project for grid support. The average generation of the Project when it was connected to the grid (6,972 hours) was 65.45 MWs. Additionally, during the hour of greatest load in 2019, the Project produced 106.89 MW average for the hour. Table 4 shows the average monthly generation for each of the 3 units at the Project for the 2019 generation year. Table 5 shows the total plant generation by month in 2019.

Table 4
American Falls monthly generation per unit in 2019 in megawatt-hours (MWh)

	Generation #1		Generation #2		Generation #3	
	Reading	**MWh**	**Reading**	**MWh**	**Reading**	**MWh**
Beginning Reading (Beg. Rdg.)	185,787		161,774		173,760	
Jan	185,787	0	161,774	0	173,760	0
Feb	190,618	4,831	161,774	0	174,498	738
Mar	208,539	17,921	168,671	6,897	193,112	18,614
Apr	227,008	18,469	188,427	19,756	213,670	20,558
May	247,583	20,575	209,542	21,115	234,112	20,442
June	269,106	21,523	228,137	18,595	255,993	21,881
July	290,503	21,397	249,823	21,686	277,132	21,139
Aug	307,803	17,300	267,115	17,292	292,975	15,843

	Generation #1		Generation #2		Generation #3	
	Reading	MWh	Reading	MWh	Reading	MWh
Sept	317,781	9,978	275,500	8,385	302,836	9,861
Oct	323,246	5,465	275,500	0	306,638	3,802
Nov	323,246	0	275,500	0	306,638	0
Dec	323,246	0	275,500	0	306,638	0

Table 5
American Falls monthly generation in 2019

Total Gross Gen (MWh)		
	Month	YTD
Beg. Rdg.		
Jan	0	0
Feb	5,569	5,569
Mar	43,432	49,001
Apr	58,783	107,784
May	62,132	169,916
June	61,999	231,915
July	64,222	296,137
Aug	50,435	346,572
Sept	28,224	374,796
Oct	9,267	384,063
Nov	0	384,063
Dec	0	384,063

Estimating dependable capacity depends on the type of water year and the month in question. In late winter and early spring when there is considerable run-off and water is available the plant produced around 54 MW per hour in 2019. However, generation falls closer to 29 MW per hour in the fall, and there are often a few months in a year where the plant is not generating.

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 others. IPC 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 or adjustments in flow measured at the down-stream Neely gauge. IPC determines if the flow will be mitigated through the Project or spill gates, and IPC communicates with Reclamation staff on spill mitigation.

As discussed in section 3.3.1, the Dam has 5 radical spill gates and 9 lower outlet gates. The 5 radical gates are controlled by Reclamation, and each gate is 25 ft. tall and can each pass a maximum flow of 17,400 cfs. The outlet gates can be controlled by plant personnel in the Project's control room. These gates are 7 ft. tall and can each pass a maximum of 2,155 cfs.

3.4.2 Operational Flows

Historical flow information from the Dam is discussed in section 4.3. As mentioned previously, the Project's minimum capacity is 1,000 cfs and maximum hydraulic capacity is 16,500 cfs. Therefore, flows between 1,000 and 16,500 cfs go through the Project unless the Project is experiencing an outage, undergoing maintenance, or IPC is spilling to maintain compliance with DO standards. All flows less than 1,000 cfs are generally being spilled over the spillway, and any flows greater than 16,500 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.

3.4.2.1 Zetron

IPC's procedure for on call Project operators after regular working hours includes: 1) call to notify the dispatcher and confirm that he/she 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; 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.

3.4.2.2 Dissolved Oxygen

IPC operates a computer-controlled system that monitors DO levels at the Project and automatically responds when DO levels approach minimum water quality standards. Two 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. The aeration system was designed to use

1 or 2 blowers at any given time, while a third serves as a backup. The first blower is activated when the DO level measured in the river is below 6.0 mg/L; the second blower is activated when the DO level is below 5.0 mg/L. The operator is called out when the DO level in the river is below 4.5 mg/L, and spill occurs when DO levels fall below 3.8 mg/L.

3.4.2.3 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.

3.4.2.4 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. IPC's Boise Operations Center also has control via SCADA and can place units on-and off-line.

3.4.2.5 Alarms and Public Notifications

When an auto spill starts a spill-gate, there is a 5-minute delay before the spill-gate starts to open. This delay allows the warning siren and strobe light to warn anyone immediately downstream of the spillway that a spill-gate is opening. Before manually operating a spill gate the operator will initiate a siren for 5 minutes.

3.5 Existing Licensed Project Information

3.5.1 Current License Requirements

The FPC issued an original major license for the Project by order dated March 31, 1975. The current license expires on February 28, 2025. As this license was issued prior to October 1975, there are no FERC Form L standard articles, however these articles are included in the license as article 1-34. In addition to the standard articles, the Project license includes the requirements summarized below. A copy of the current license is included in Exhibit A.

Table 6
American Falls license article requirements

License Requirement	Description
Article 35	The license shall not be construed as affecting in any way any claim the licensee may have concerning its water rights acquired pursuant to State law. Those rights, not this license, shall govern any claim the licensee may advance against the United States or other parties claiming through the United States for any damages resulting from any further depletion in the flow of the waters of the Snake River and its tributaries for the irrigation of lands or other beneficial consumptive uses.
Article 36	File with FERC copies of all executed contracts and other documents relating to financial obligations assumed by it with respect to the American Falls Replacement Dam and Reservoir.

License Requirement	Description
Article 37	Consult with District Engineer, Corps of Engineers, Walla Walla district concerning Department of Army permit requirements.
Article 38	1) Complete a study in consultation with appropriate Federal, State and Local agencies, to determine the need, if any, of an alternative alignment and/or clearance for the 138-kV transmission line extending from powerhouse to switchyard necessary for the safety and protection of persons using the reservoir for navigational purposes and (2) file revised Exhibit F and submit for FERC approval revised Exhibits J, K, M and L, reflecting any change in alignment or clearance of the 138-kV line.
Article 39	During the design, construction and maintenance of the project works, including transmission lines, follow FERC's "Guidelines for the Protection of Natural, Historic, Scenic and Recreational values in the Design and Location of Rights-of Way and Transmission Facilities" to protect and preserve the environmental values of the project.
Article 40	Consult and cooperate with the U.S. Fish and Wildlife Service, U.S. Environmental Protection Agency, Idaho Department of Fish and Game, Idaho Department of Water Resources, and other appropriate environmental agencies for the protection and development of the natural resources of the project area.
Article 41	Install and operate such signs, lights, sirens or other devices below the powerhouse to warn the public of fluctuations in flow from the project reasonably necessary to protect the public.
Article 42	In cooperation with the U.S. Department of Interior, State and Local agencies, construct, maintain and operate, or arrange thereof, a parking area along the access road to the powerhouse; a foot trail to provide public access from the access road to the west riverbank tailrace, and a boat dock adjacent to the existing park.
Article 43	Consult with Idaho Department of Health and Welfare to develop a solid waste management plan to be filed with FERC.
Article 44	In cooperation with the U.S. Department of Interior's Bureau of Reclamation (BOR) and the Idaho State Historic Preservation Office 1) in developing plans or procedures for the protection of any historic resources identified as being with the American Falls Project boundaries, and 2) in developing and executing plans for the improvement of such structures in the interest of recreation, education, and historic preservation, including the provision of public access to such resources."
Article 45	Consult with BOR and FWS to develop a fish mortality study plan, then file with FERC for approval.
Article 46	Consult with appropriate Federal and State water quality agencies, shall cooperate with the BOR and American Falls Reservoir District in the installation, maintenance, and continuous operation of a dissolved oxygen system.
Article 47	Commence construction of the project within 2 years of the effective date of the license and complete construction within 4 years of the effective date of the license.
Article 48	Pay the United States annual charges.
Article 49	No impairment of the Federal Power Act.
Article 50 (IPC 1979)	Establishment and maintenance of amortization reserves.
Article 51	Standard use and occupancy of Project lands.
American Falls Fish Compensation Agreement	Comply with all applicable requirements of the November 14, 1980 American Falls Fish Compensation Agreement.

License Requirement	Description
Stipulation and Amended Consent Order	Comply with all applicable requirements of the July 8, 1983 Stipulation and Amended Consent Order.

On June 17, 2019, FERC issued an Order amending several of IPC's FERC licenses, including the Project (FERC 2019c). The Order incorporated terms and conditions of a USFWS Biological Opinion (BiOp) that provides programmatic Endangered Species Act (ESA) coverage for 3 ESA-listed snails found in the Snake River, the Snake River Physa (*Physa natricina*), Bliss Rapids snail (*Taylorconcha serpenticola*), and Banbury Springs lanx (*Idaholanx fresti*), related to IPC's sturgeon and resident fisheries system-wide sampling program. FERC's Order and the BiOp are discussed further in section 4.7.

3.5.2 Summary of Project Generation

A summary of the Project's generation records for the 5 years preceding filing of the PAD is provided below.

Table 7
American Falls facility generation, 2015–2019

Year	Total American Falls Facility Generation (MWh)
2015	295,613
2016	244,696
2017	484,450
2018	490,905
2019	384,063

Table 8
American Falls unit and gross generation, 2015–2019

2015	Generation #1		Generation #2		Generation #3			Total Gross Generation (MWh)	
	Reading	MWh	Reading	MWh	Reading	MWh		Month	YTD
Beg. Rdg.	1,486,020		1,432,646		1,545,680				
Jan	1,487,913	1,893	1,432,646	0	1,548,548	2,868		4,761	4,761
Feb	1,498,881	10,968	1,432,646	0	1,548,548	0		10,968	15,729
Mar	1,501,645	2,764	1,442,649	10,003	1,548,548	0		12,767	28,496
Apr	1,514,718	13,073	1,452,498	9,849	1,561,774	13,226		36,148	64,644
May	1,530,857	16,139	1,468,335	15,837	1,577,255	15,481		47,457	112,101
June	1,551,593	20,736	1,489,115	20,780	1,597,730	20,475		61,991	174,092
July	1,568,497	16,904	1,505,924	16,809	1,614,448	16,718		50,431	224,523
Aug	1,581,767	13,270	1,519,231	13,307	1,627,659	13,211		39,788	264,311

2015	Generation #1		Generation #2		Generation #3			Total Gross Generation (MWh)	
	Reading	MWh	Reading	MWh	Reading	MWh		Month	YTD
Sept	1,590,723	8,956	1,526,894	7,663	1,633,896	6,237		22,856	287,167
Oct	1,595,769	5,046	1,530,294	3,400	1,633,896	0		8,446	295,613
Nov	1,595,769	0	1,530,294	0	1,633,896	0		0	295,613
Dec	1,595,769	0	1,530,294	0	1,633,896	0		0	295,613

2016	Generation # 1		Generation # 2		Generation # 3			Total Gross Generation (MWh)	
	Reading	MWh	Reading	MWh	Reading	MWh		Month	YTD
Beg. Rdg.	1,595,769		1,530,294		1,633,896				
Jan	1,595,772	3	1,530,294	0	1,633,896	0		3	3
Feb	1,595,772	0	1,530,294	0	1,633,896	0		0	3
Mar	1,595,772	0	1,530,294	0	1,633,896	0		0	3
Apr	1,603,411	7,639	1,530,298	4	1,646,857	12,961		20,604	20,607
May	1,623,570	20,159	1,534,816	4,518	1,667,531	20,674		45,351	65,958
June	1,644,521	20,951	1,555,726	20,910	1,688,606	21,075		62,936	128,894
July	1,660,595	16,074	1,572,766	17,040	1,704,986	16,380		49,494	178,388
Aug	1,673,433	12,838	1,585,624	12,858	1,718,461	13,475		39,171	217,559
Sept	1,684,013	10,580	1,590,190	4,566	1,723,822	5,361		20,507	238,066
Oct	1,687,748	3,735	1,591,230	1,040	1,725,677	1,855		6,630	244,696
Nov	1,687,748	0	1,591,230	0	1,725,677	0		0	244,696
Dec	1,687,748	0	1,591,230	0	1,725,677	0		0	244,696

2017	Generation #1		Generation #2		Generation #3			Total Gross Generation (MWh)	
	Reading	MWh	Reading	MWh	Reading	MWh		Month	YTD
Beg. Rdg.	1,687,748		1,591,230		1,725,677				
Jan	1,687,748	0	1,591,230	0	1,725,677	0		0	0
Feb	1,687,748	0	1,592,012	782	1,725,677	0		782	782
Mar	1,710,037	22,289	1,615,335	23,323	1,742,919	17,242		62,854	63,636
Apr	1,735,298	25,261	1,640,404	25,069	1,767,768	24,849		75,179	138,815
May	1,757,605	22,307	1,661,747	21,343	1,789,132	21,364		65,014	203,829
June	1,779,879	22,274	1,684,087	22,340	1,811,380	22,248		66,862	270,691
July	1,803,067	23,188	1,707,636	23,549	1,835,014	23,634		70,371	341,062
Aug	1,820,763	17,696	1,726,011	18,375	1,850,338	15,324		51,395	392,457
Sept	1,834,140	13,377	1,737,585	11,574	1,856,968	6,630		31,581	424,038
Oct	1,841,786	7,646	1,741,872	4,287	1,860,054	3,086		15,019	439,057
Nov	1,842,224	438	1,743,881	2,009	1,869,313	9,259		11,706	450,763
Dec	14,889	15,136	0	0	15,527	15,791		33,687	484,450

2018	Generation #1		Generation #2		Generation #3			Total Gross Generation (MWh)	
	Reading	MWh	Reading	MWh	Reading	MWh		Month	YTD
Beg. Rdg.	14,889		0		15,527				
Jan	32,127	17,238	9,102	9,102	30,754	15,227		41,567	41,567
Feb	40,124	7,997	24,857	15,755	38,162	7,408		31,160	72,727
Mar	56,397	16,273	34,574	9,717	56,402	18,240		44,230	116,957
Apr	81,175	24,778	59,386	24,812	81,242	24,840		74,430	191,387
May	107,350	26,175	85,503	26,117	107,659	26,417		78,709	270,096
June	131,268	23,918	109,511	24,008	131,859	24,200		72,126	342,222
July	152,830	21,562	131,493	21,982	154,089	22,230		65,774	407,996
Aug	170,666	17,836	149,500	18,007	163,515	9,426		45,269	453,265
Sept	182,991	12,325	158,651	9,151	171,663	8,148		29,624	482,889
Oct	185,787	2,796	161,774	3,123	173,760	2,097		8,016	490,905
Nov	185,787	0	161,774	0	173,760	0		0	490,905
Dec	185,787	0	161,774	0	173,760	0		0	490,905

2019	Generation #1		Generation #2		Generation #3			Total Gross Generation (MWh)	
	Reading	MWh	Reading	MWh	Reading	MWh		Month	YTD
Beg. Rdg.	185,787		161,774		173,760				
Jan	185,787	0	161,774	0	173,760	0		0	0
Feb	190,618	4,831	161,774	0	174,498	738		5,569	5,569
Mar	208,539	17,921	168,671	6,897	193,112	18,614		43,432	49,001
Apr	227,008	18,469	188,427	19,756	213,670	20,558		58,783	107,784
May	247,583	20,575	209,542	21,115	234,112	20,442		62,132	169,916
June	269,106	21,523	228,137	18,595	255,993	21,881		61,999	231,915
July	290,503	21,397	249,823	21,686	277,132	21,139		64,222	296,137
Aug	307,803	17,300	267,115	17,292	292,975	15,843		50,435	346,572
Sept	317,781	9,978	275,500	8,385	302,836	9,861		28,224	374,796
Oct	323,246	5,465	275,500	0	306,638	3,802		9,267	384,063
Nov	323,246	0	275,500	0	306,638	0		0	384,063
Dec	323,246	0	275,500	0	306,638	0		0	384,063

3.5.3 Current Net Investment

The current net investment of the Project is approximately $52,000,000. This value should not be interpreted as the fair market value of the Project.

3.5.4 Summary of Compliance History

IPC is proud of the Project's compliance history and is unaware of any significant license violations occurring at the Project over the term of the current license. Powerhouse inspections are conducted by FERC's Portland Regional Office every 3 years and IPC implements all recommendations arising from those inspections in a timely manner.

3.6 Future Refurbishment and Modernization

IPC is not proposing to change long-term operations at the Project. However, IPC is planning a maintenance project where IPC will refurbish the turbines and generators and modernize the control systems during relicensing.

3.6.1 Turbine & Generator Refurbishment

IPC is planning to refurbish the turbine and generator at each of the Project's 3 units. Each unit refurbishment will last between 6 months to 1 year, with the first unit being taken off-line in October 2022. Under the current schedule, unit 2 would be taken off-line in October 2023, and unit 3 would be taken off-line in October 2024. Therefore, single units will be off-line periodically between October 2022 and October 2025, temporarily changing Project operations by sending additional flow over the spillway. To the extent possible, IPC will coordinate unit outages to minimize operational impacts.

The scope for each unit refurbishment includes the following:

- The turbine will be sent to a supplier for inspection and repair of the Kaplan linkages and new turbine blades will be installed.
- Headcovers, bottom ring and operating ring will be sent to a supplier for refurbishment or replacement and installation of bushings.
- All bearings will be refurbished.
- The Kaplan servos will be refurbished.
- New wicket gates will be installed.
- The generator will be rewound.
- The rotor poles will be sent to a supplier for refurbishment.

Following refurbishment new nameplates will be affixed to each turbine and generator. Nameplate information may be displayed differently than the current nameplates, but the refurbishment will not result in a significant change to the Project's turbines or generators.

3.6.2 Control Systems Modernization

Concurrent with the turbine and generator refurbishment project, IPC is planning to modernize the Project's control systems. Modernization at all 3 units will occur within the same time frame, tentatively commencing in October 2022 and being completed between May and June 2023. The entire Project will be off-line during the modernization work, with most of the work taking place during the seasonal outage period. The scope for each unit modernization includes the following:

- Replacement of most control wiring due to new configurations.
- New protection scheme.
- Installation of plant Distributed Control System (DCS).
- Upgrade of mechanical governors to be electronic.

4. DESCRIPTION OF EXISTING ENVIRONMENT AND RESOURCE IMPACTS (18 CFR § 5.3(d)(3))

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

4.1.1 Area of River Basin and Sub-Basin

The Snake River has a total drainage area of approximately 13,600 square miles at the Dam (USBR 2019a) with headwaters near Jackson Lake in the Grand Teton National Park (363 river miles upstream). The American Falls sub-basin (Hydraulic Unit Code [HUC] 17040206) is a 2,160 mi^2 drainage area encompassing a 11.6-mile reach of the Snake River. The downstream extent of this sub-basin is just below the Reservoir, the largest reservoir (by both volume and area) in the Snake River Plain (USBR 1995).

4.1.2 Major Land and Water Uses in the Sub-Basin

Approximately 63% of the American Falls sub-basin is non-privately owned and is primarily used for wildlife management and livestock grazing. Non-private ownership in this sub-basin is primarily the Bureau of Land Management (25.1%), Tribal Lands (19.0%), Department of Energy (12.5%), and the State of Idaho (5.0%). Reclamation and the U.S. Forest Service each comprise less than 1% ownership of the sub-basin.

The remaining 36.9% of the land is privately owned and is primarily utilized for crops (79%) but is also largely comprised of rangelands (20%) and urban/industrial use (1%), such as phosphate ore processing for fertilizers (Pappani, et. al. 2014). The most abundant crops are alfalfa and potatoes. Lesser abundant crops in this sub-basin include: apples, barley, beans, sugar beets, corn, hay, onions, peas, peas, prunes, and rye (IDEQ 2012). Most crops are irrigated,

but there some dryland crops, primarily concentrated in the Bannock Creek drainage, east of the Reservoir. Dryland crops are typically alfalfa and small grains (Natural Resources Conservation Service 2006).

Rangelands accounts for only 20% of the privately-owned lands but is the dominant land use when combined with non-privately owned, making up 47% of the sub-basin (Natural Resources Conservation Service 2006). These vast expanses of rangeland are adjacent to riparian area and row crops near the Snake River and provide grazing opportunities for cattle.

4.1.3 Diversions and Dams in the Sub-Basin

Diversion demand is high relative to the available water in the Upper Snake drainage with more than 12 million acre-feet (MAF) diverted annually between Snake River headwaters and the Dam (Low and Mullins 1990). Table 9 shows all the diversions known to the Idaho Department of Water Resources (IDWR). The 2 largest diversions, Aberdeen-Springfield Canal and Snake River Valley Canal, account for nearly half the diverted flow in the sub-basin.

Only 2 main diversions come from the Snake River or the Reservoir directly, the Aberdeen-Springfield Canal upstream of the Blackfoot River Confluence and the Reservoir (not pictured on the map), and the American Falls Pumping Plant, located on the left bank immediately below the Dam. This can deliver water to Main West Canal and Main East Canal, south of the Snake River. The rest of the canals divert water from tributaries directly, especially from the 3 largest in the area: Blackfoot River, Portneuf River, and Bannock Creek.

Table 9
Diversions in the American Falls sub-basin

Water District Number	WMIS Diversion Number	IY*-2019 Volume** [ac-ft]	Diversion Name
1	13076400	22,405	Falls Irrigation Pump
1	13075900	27,224	Fort Hall Michaud Pump
130	370410104	-	Third Place Diversions
130	370410103	-	Bird Cage Diversions
130	370410102	-	Home Place Diversions
130	13062507	9,716	Parsons Canal
130	13062506	24,598	Watson Canal
130	13062504	233	Wadsworth Canal
130	13062503	11,132	Wearyrick Canal
130	13062050	18,541	Trego Canal
130	13061995	49,276	Danskin Canal
130	13062051	10,532	Jensen Grove
130	13061650	47,296	Corbett Canal
130	13061670	4,935	Nielson-Hansen Canal

Water District Number	WMIS Diversion Number	IY*-2019 Volume** [ac-ft]	Diversion Name
130	13061705	26,406	Riverside Canal
130	13061610	428,799	Aberdeen-Springfield Canal Near Firth
130	13061525	86,061	Peoples Canal
130	13061520	32,542	New Lava Side Canal
130	13061430	92,387	Blackfoot Canal
130	13060500	57,333	Reservation Canal (Idaho Canal) Near Shelley
130	13060501	-	X Reservation
130	13059525	141,716	Snake River Valley Canal
130	13059520	3,421	Woodville Siphon
130	13059505	14,989	Woodville Canal
130	13058515	0	Idaho Canal Co From Sand Creek
130	13057250	78,570	Porter Canal

*****Irrigation year (IY) from 01Nov2018-31Oct2019

******Data collected on 1-Feb-2020. Data are subject to change.

The Reservoir stores most of the water in the sub-basin, roughly 1.7 MAF of water at full pool, or approximately 0.3 years of average inflows. The magnitude and timing of these inflows is largely a function of the 2 largest upstream reservoirs: Palisades Dam (ID00273) and Jackson Lake Dam (WY01385). Combined, these 2 reservoirs store more water than the Reservoir. The 8 smaller dams in the sub-basin hold comparably little water relative to the Dam (Table 10).

Table 10
Impoundments in the American Falls sub-basin (HUC 17040206)

Name	State ID	Status	Storage (acre-feet)	Surface Area (acres)	Source
Springfield Bird Haven	35-0038	Regulated	300	59.8	Danielson Creek
Idaho Falls Lower Powerhouse Dam	01-2059	Regulated	467	64.9	Snake River
Idaho Falls Middle Dam No 3	01-2014	Regulated	441	55.1	Snake River
Gem State	01-7018	Regulated	5,000	300	Snake River
Crystal Springs Upper	35-0028A	Non-Regulated	48	15	Springs
Crystal Springs Middle	35-0028B	Non-Regulated	99	28	Springs
Crystal Springs Lower	35-0028C	Non-Regulated	27	4.5	Springs
Twin Buttes No 1	35-7446	Non-Regulated	30	5	Unnamed Spring

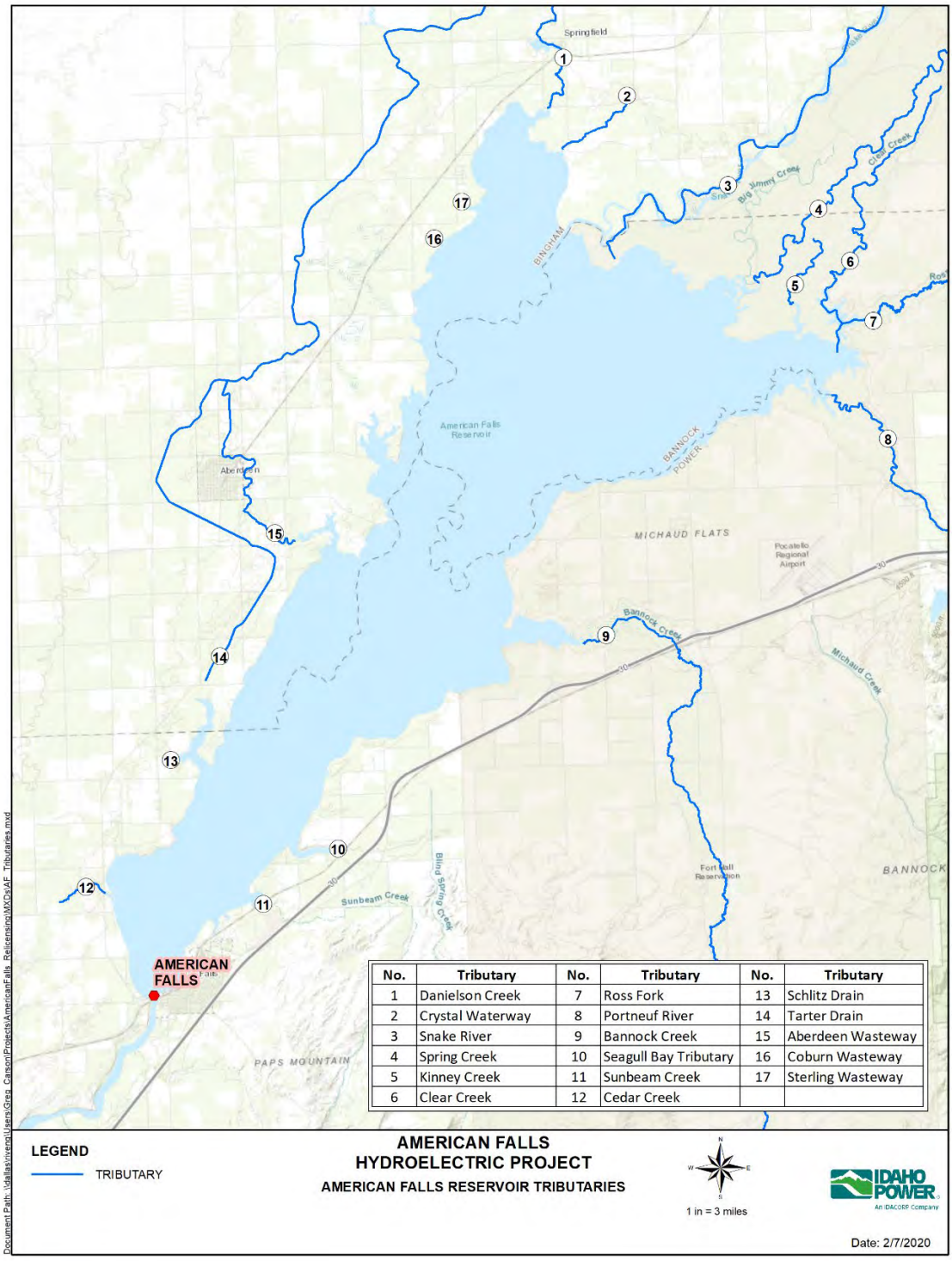
The Reservoir is the largest reservoir in the upper Snake river basin and is a storage facility of the Minidoka Project. Other storage facilities of the Minidoka Project include Lake Walcott

(impounded by Minidoka Dam), Jackson Lake, Grassy Lake, and Island Park reservoir. Other storage facilities in the upper Snake river basin include the Henry's Lake Dam, Palisades Dam, Ririe Dam, and Milner Dam.

Figure 5
Upper Snake River storage system

4.1.4 American Falls Reservoir Tributaries

Roughly 60% of inflows into the Reservoir are fed directly by the Snake River and 33% of inflows are from ground-water discharge (Kjelstrom 1998). The remaining 7% of inflows is a function of discharge from the Portneuf River, springs, small tributaries, precipitation, and irrigation-return flow (Kjelstrom 1998). Transmissivities tend to be high around the Reservoir, so groundwater tends to move faster with less head in this region (Garabedian 1992). These high transmissivities cause most of the water delivered north of the Snake River through springs. Surface water streams are either rare or in the earliest stages of geomorphic development after the recent basaltic flows north of the Reservoir.



No.	Tributary	No.	Tributary	No.	Tributary
1	Danielson Creek	7	Ross Fork	13	Schlitz Drain
2	Crystal Waterway	8	Portneuf River	14	Tarter Drain
3	Snake River	9	Bannock Creek	15	Aberdeen Wasteway
4	Spring Creek	10	Seagull Bay Tributary	16	Coburn Wasteway
5	Kinney Creek	11	Sunbeam Creek	17	Sterling Wasteway
6	Clear Creek	12	Cedar Creek		

Figure 6
American Falls Reservoir tributaries

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

4.2.1 Topography

The Reservoir provides a natural break into 2 regions, the Eastern Snake River Plain (ESRP) to the north and 2 Native American Reservations to the south (Fort Hall and Shoshone–Bannock). North of the Snake River in the American Falls sub-basin is largely thin mantle soils atop late-Cenozoic igneous formations with little relief (Biggerstaff and McGrath 1980). The average elevation of the sub-basin north of the Snake River is 4,746 ft. with a maximum of 6,575 ft. on East Butte. South of the Snake River, on the other hand, is mountainous and contains all major surface inflows into the Reservoir. The average elevation in the southern sub-basin range is 5,396 ft. with a maximum elevation of 8,752 ft. at Deep Creek Peak.

4.2.2 Geology

Late-Cenozoic deposit formations cover most of the material visible and relevant to the Project. In recent geologic time, the North American Plate moved over the Yellowstone hotspot, resulting in several calderas and silicic volcanic fields near the Dam (although buried under 1–3 km of Basalt). The volcanic field just to the north of the Reservoir, the Picabo Volcanic Field, contained ignimbrites (rock composed of pumice and ash, often deposited hot to become welded & exhibit plastic behavior prior to cooling) dated from 7.58 million years ago ([Ma] tuff of American Falls) to 10.27 Ma (Arbon Valley Tuff) (Anders et al. 2014). The southern border of this extinct caldera is just north of American Falls. There are also some exposures of ignimbrites from the Heise Volcanic Field northeast of the Picabo, dated around 6.27 Ma (Wolcott Tuff).

Bedrock in this area is split between Big Hole Basalt and fine-grained alluvial sediments beneath the American Falls Lake Beds formation. The American Falls Lake Beds formed during intermittent impoundment of the Snake River from basalt flows, resulting in a series of lacustrine deposits. The thickest recent lake deposit is thought to have been deposited from Cedar Butte basaltic lava damming the Snake River (72 thousand years ago (ka) +/- 14 ka), originating 9 miles southwest of the Dam, creating American Falls Lake (Scott et al. 1982). The depths of this historic lake have been inferred using the composition of these lacustrine strata. Strata with high concentrations of diatoms indicate the time and location where American Falls Lake was deep, while clay-rich and diatom-poor strata indicate shallower lake levels (Scott et al.1982).

Above the American Falls Lake Beds is the Bonneville Flood deposit. The Bonneville Flood began in 19.0 ka +/-1.0 ka and influenced much of the Snake River floodplain geomorphology as it is today (Oviatt and Shroder 2016). The Bonneville flood is noted for a relatively slow release of a huge volume of water. Lake Bonneville drained through the breached Red Rock Pass over a period of 18 days with estimated peak discharge of 30 million cfs (Abril-Hernandez et al. 2018). For comparison, the infamous late-Pleistocene Missoula Floods had peak discharges more than 10 times that of Bonneville even though Lake Missoula drained less than half the volume of water as Lake Bonneville (O'Conner and Baker 1992, Abril-Hernandez et al. 2018, Clarke et al. 1984). The Bonneville Flood produced thick gravel deposits, exposed throughout the southern American Falls sub-basin.

Although the ESRP shows no evidence of recent local glaciation, outwash from regional glaciation (higher in the Snake River drainage) supplied American Falls sub-basin with thick deposits of stratified glacial sediment. Two of the most significant glaciers providing sediment to the ESRP both originated over the Yellowstone Plateau; Bull Lake Glaciation (150 +/- 4 ka) and Pinedale (present between about 21 ka to 14 ka) (Pierce et al. 2018). These meltwaters flooded the area and provided the region stratified sequences of sand and silt terrace deposits adjacent to the Reservoir. Recent dating techniques suggest the Pinedale glaciation is the primary driver for thick, widespread loess deposits exposed at or near the surface (Phillips et al. 2009).

Like the topography, it is easier to characterize the sub-basin into 2 general regions, south and north of American Falls. South of American Falls have exposures of Paleozoic marine sedimentary rocks. These formations seldom are exposed at the surface but can have considerable volume. For instance, the Laketown Dolomite is between 600–1000 ft. thick (Carr and Trimble 1963). North of American Falls also has 2 economically significant geologic formations; gravel from the Michaud Flats formation and phosphate from the Permian Phosphoria formation (Carr and Trimble 1963, Low and Mullins 1990). The Permian Phosphoria formation lies along the pre-Cretaceous overthrust belt in southwestern Idaho (Armstrong and Sriel 1965, Trimble 1976). North of American Falls show relatively undeformed, flat-lying sequences. From youngest to oldest, alluvial terrace deposits, eolian loess deposits and the Big Hole Basalts dominate (Carr and Trimble 1963).

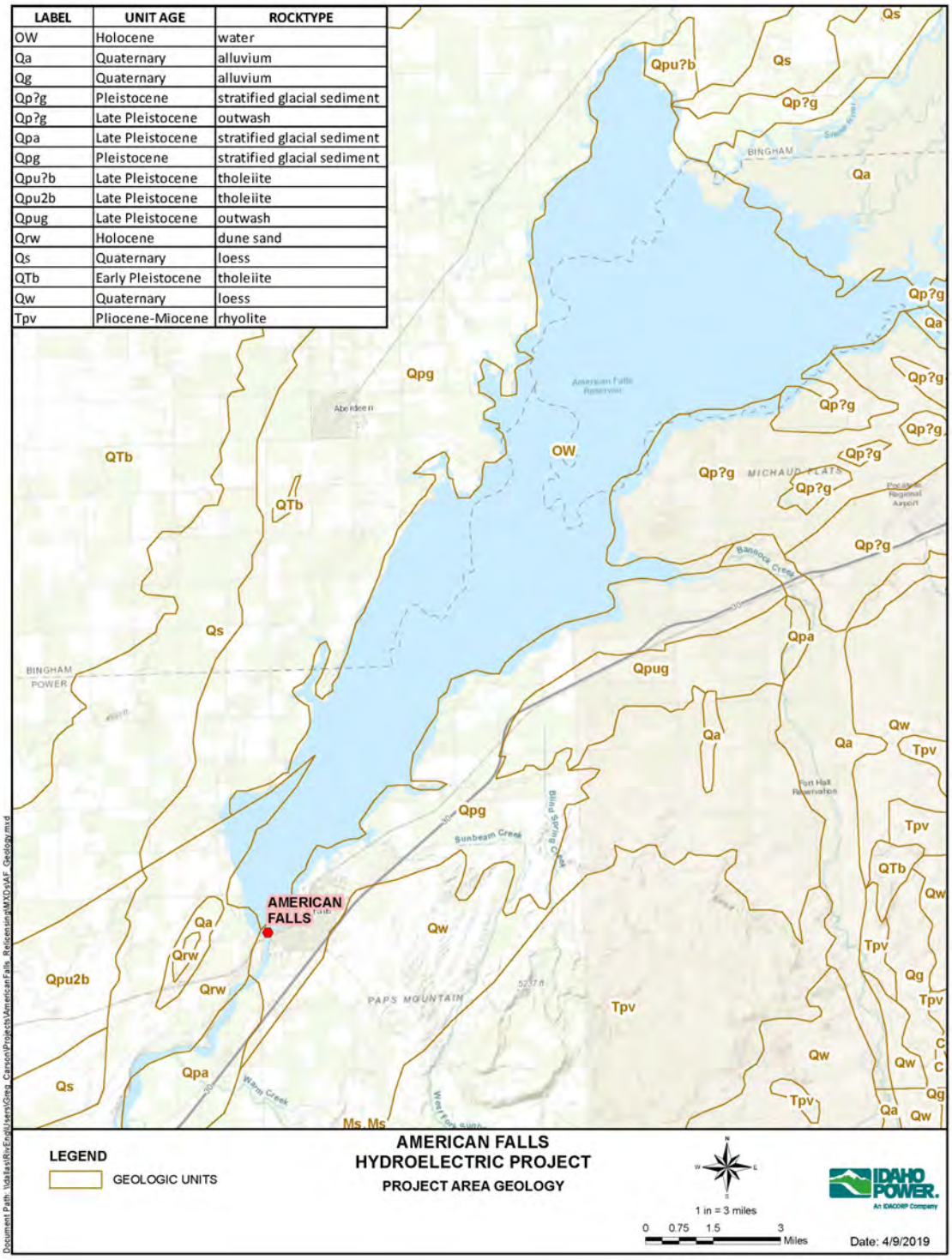


Figure 7
Project area geology

4.2.3 Soils

The soils in the vicinity of the Dam are primarily of alluvial origin, and therefore are largely comprised of loams. Loams have a low proportion of clay and a roughly equally split between silt and sand. The most prominent soil series surrounding the Dam is declo loam, (Biggerstaff and McGrath 1980) with isolated patches of Paniogue, Feltham, Escalante, and Broncho series commonly present (McDole 1977). Varieties of declo loams comprise 37% of the area with the most common occurrences at 0–2% slopes (16.5% of the area, excluding open water). These soils receive about 9–11 inches of precipitation annually, have an annual average temperature between 47–51degrees Fahrenheit (^{o}F), and the length of the frost-free season is typically 100–140 days (McDole 1977, Biggerstaff and McGrath 1980).

Declo loams in this area are deep and well drained. At the surface, they are moderately calcareous to a depth of about 11 inches and become gradually whiter and more calcareous with depth, for about 60 additional inches. Because the area near and around the Dam is dominated by declo loams, erodibility is an especially high hazard for bare ground. Void of vegetation, this soil can be significantly reworked by wind and water. Additionally, the infiltration rate near the surface can be low, resulting in runoff events with significant erosion potential.

Figure 8
Project area soils

Soil Code	Soil Type
8	Declo fine sandy loam, 0 to 2 percent slopes
9	Declo fine sandy loam, 2 to 4 percent slopes
10	Declo fine sandy loam, 4 to 8 percent slopes
11	Declo loam, 0 to 2 percent slopes
12	Declo loam, 2 to 4 percent slopes
13	Declo loam, 4 to 8 percent slopes
14	Declo loam, 8 to 12 percent slopes
15	Declo loam, 12 to 20 percent slopes
18	Feltham loamy sand, 0 to 2 percent slopes
19	Feltham loamy sand, 2 to 4 percent slopes
27	Kecko-Escalante complex, 8 to 12 percent slopes
28	Kucera silt loam, steep
29	Kucera silt loam, very steep
36	McDole-Parehat complex, 0 to 3 percent slopes
37	Mike stony silt loam, steep, extremely stony
40	Neeley silt loam, 2 to 4 percent slopes
41	Neeley silt loam, 4 to 8 percent slopes
42	Neeley silt loam, 8 to 12 percent slopes
44	Neeley silt loam, 4 to 12 percent slopes
45	Neeley silt loam, 12 to 20 percent slopes
46	Neeley silt loam, 20 to 30 percent slopes
47	Neeley-Hodad complex, 2 to 4 percent slopes
54	Paniogue sandy loam, 2 to 4 percent slopes
55	Paniogue loam, 0 to 2 percent slopes
56	Paniogue loam, 2 to 4 percent slopes
57	Paniogue complex, 4 to 12 percent slopes
58	Pits
59	Pocatello silt loam, 2 to 4 percent slopes
60	Pocatello silt loam, 4 to 8 percent slopes
61	Pocatello silt loam, 8 to 12 percent slopes
64	Pocatello silt loam, 12 to 20 percent slopes
68	Portino silt loam, 2 to 4 percent slopes
75	Quincy fine sand, rolling
76	Quincy loamy fine sand, 4 to 12 percent slopes
86	Rock outcrop and Torriorthents
89	Trevino-Portino-Rock outcrop complex, rolling
94	Wheeler silt loam, 4 to 12 percent slopes
95	Wheeler silt loam, 12 to 20 percent slopes
96	Wheeler silt loam, 20 to 30 percent slopes
97	Wheeler silt loam, 30 to 60 percent slopes
102	Xerollic Calciorthids, steep
104	Water
105	Miscellaneous water

Figure 9
American Falls soil code legend

4.2.4 Reservoir Shorelines and Streambanks

Reclamation owns and operates the Dam and manages the Reservoir shorelines. Shoreline erosion is known to be significant in some areas, where land loss has been measured as high as 6 horizontal feet per year. These high erosion areas tend to be on the north side (river right) of the Reservoir. Natural causes of soil erosion include wind and wave action, shrinking and swelling of soils, and rains splash/overland flow from precipitation. Human activities chiefly responsible for erosion include irrigation drainage, livestock grazing, and off-road vehicle usage (USBR 1995).

Slopes tend to be moderately steep in this area. Using a 200-ft. buffer on a 10-m Digital Elevation Model, 35% of the shoreline exceeds a 5-degree slope. This elevation band had an average slope of 6.4 degrees. The north side of the Reservoir is where shoreline erosion is of greatest concern, thus receiving the most attention in recent bank stabilization programs involving rip rap and willows planting (USBR 1995). The erosion on the north side is principally due to livestock grazing and off-highway vehicle use but has also been noted in more remote locations on steeper slopes (adjacent to buttes) and sections with steep rocky/sandy soils that do not support vegetation.

Canopy cover is sparse along the Reservoir shoreline. Nearly half the acreage surrounding the Reservoir is comprised of sagebrush-grassland communities and one quarter of acreage considered agricultural. Cheatgrass and mustards offer little shoreline protection and are pervasive in disturbed sites (fire or overgrazing) around the Reservoir (USBR 1995).

Table 11
Land Cover on Reclamation lands in the vicinity of the Project*

Type	Area [acres, % of total]
Sagebrush-grassland	1,871 (43%)
Riparian/wetland	917 (21%)
Agricultural	1,107 (26%)
Bare ground	133 (3%)
Developed areas	151 (4%)
Other	123 (3%)
Total	4,302

*Table reproduced from USBR 1995

4.2.5 Seismicity

The American Falls sub-basin is characterized by moderate seismic activity (Digital Atlas of Idaho). Most of these events occurred at or near the Blizzard Mountains (North of Crater Lakes National Monument) or in the North Hansel Mountains, with the latter having the highest magnitude event in recent history (6.2 in 1974). All 7 magnitude-4 and above earthquakes occurred in the North Hansel Mountains or east of the Portneuf Range; all south or southeast of the sub-basin, respectively. The nearest earthquake occurred 19 miles away near Wildhorse Mountain in 1984 (Richter magnitude 2.0).

Seismic activity in this area has been described as ‘seismic parabolas’, an area bounded by 2 parabolas, with the head near Yellowstone National Park and trending northeast (Anders et al. 1989). Almost all local seismic events fall in an area between these 2 parabolas. In the wake of these parabolas is the Snake River Plain; characterized by infrequent and low-magnitude seismic activity.

The most recent active (and normal) faults are in the North Hansel Mountains (Lewis et al. 2012), with the nearest ‘active’ fault approximately 49 miles from the Dam. Here, active is defined as faulting within the past 15,000 years. Looking back further in time, the nearest fault is on the eastern ridge of the Sublett Range, approximately 24 miles south of the Dam. Formations older than the middle Pliocene have already accommodated significant regional stresses. Exposed older formations, south of the Reservoir, dip 1–2^{o} (degrees) northwest (NW) in the mid-Pliocene and 13^{o} NW in the lower-to mid-Pliocene (i.e., the Starlight formation) (Carr and Trimble 1963). Formations younger than the mid-Pliocene do not have a dominate regional dip direction.

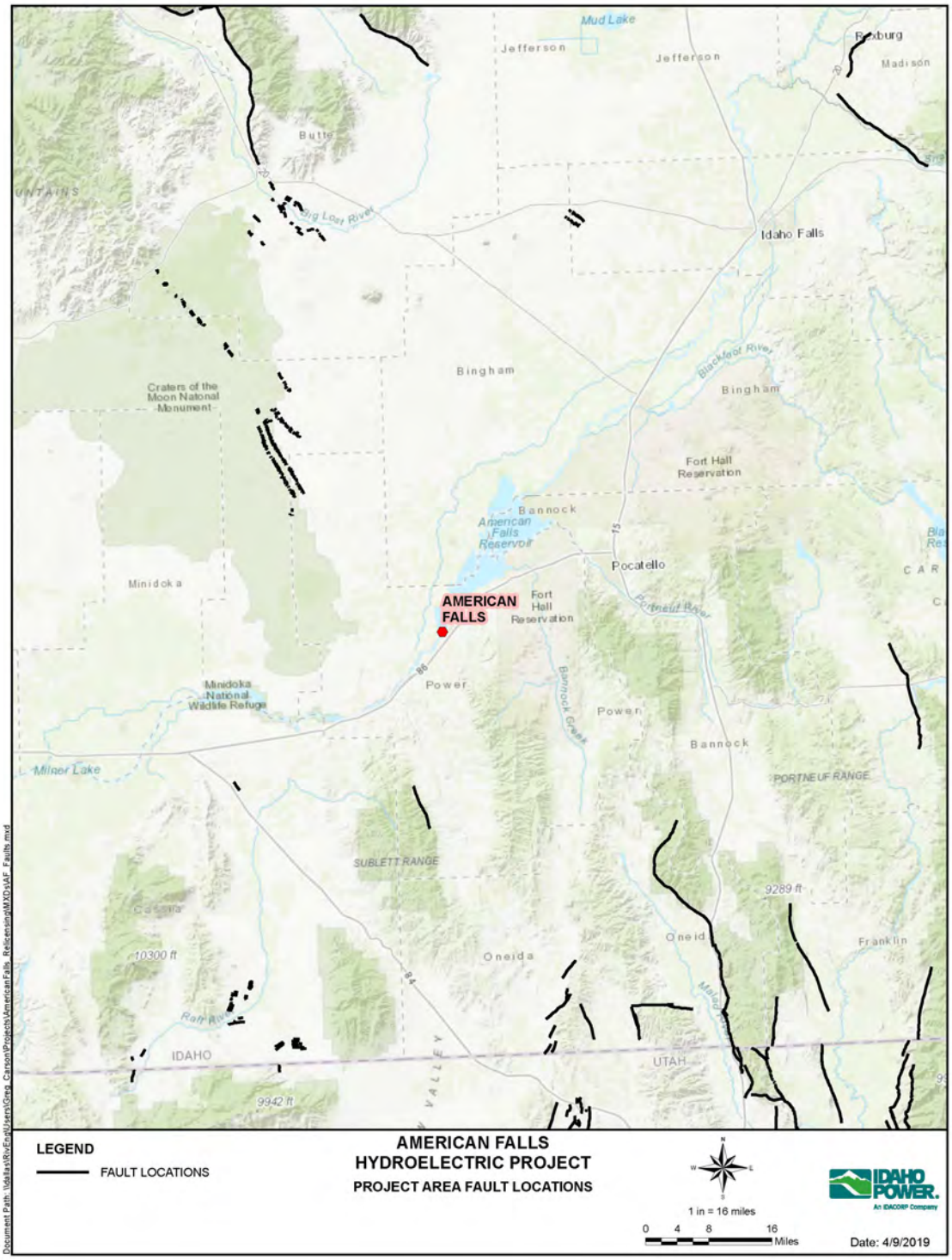


Figure 10
Fault locations near American Falls

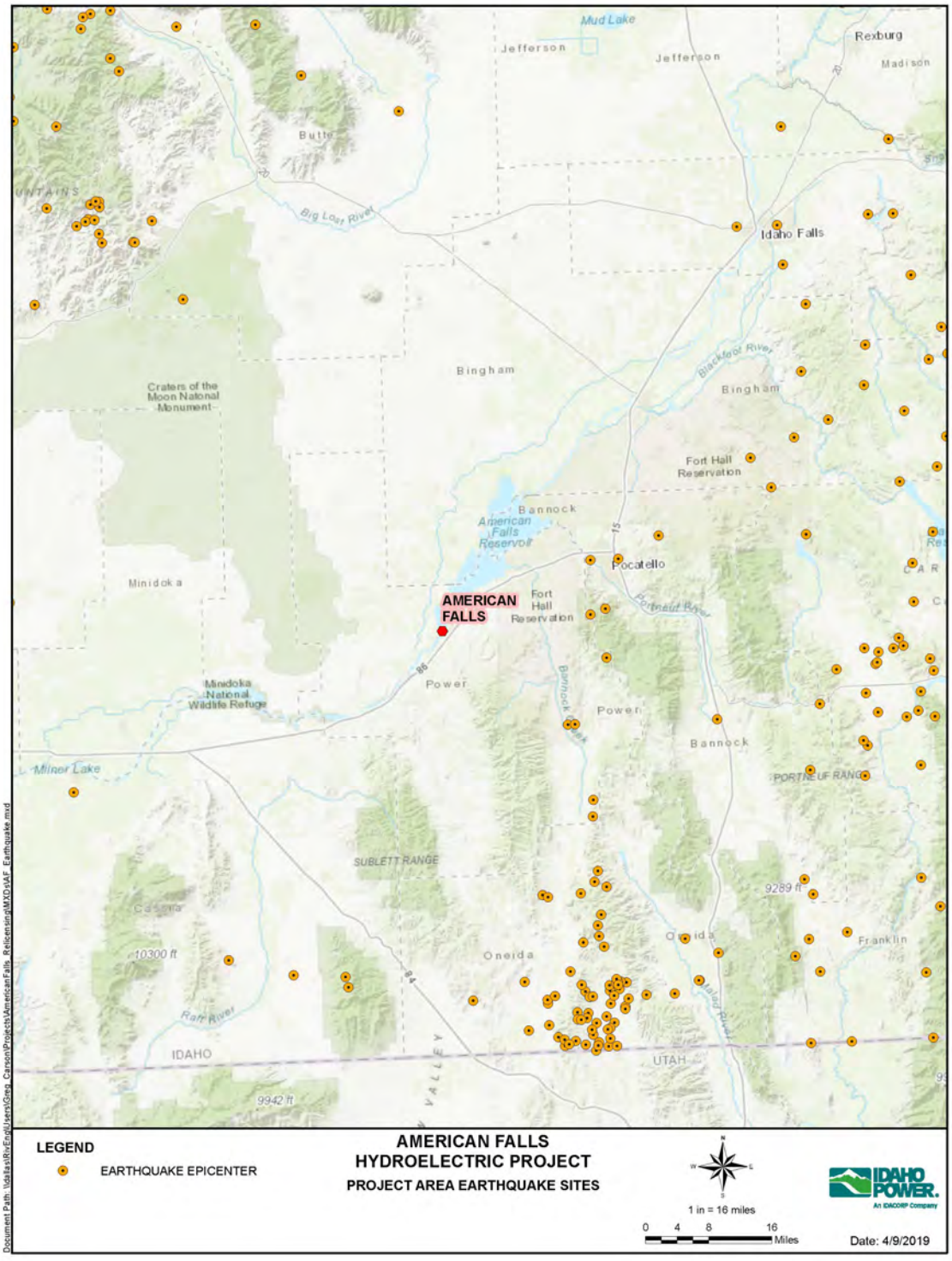


Figure 11
120-Year history of earthquake epicenter locations near American Falls

4.3 Water Resources (18 CFR § 5.6(d)(3)(iii))

4.3.1 Drainage Area, Flows and Uses

The Project is located at RM 714.7, and pursuant to a Falling Water contract dated March 31, 1976, IPC has a right to use water released from the Dam for hydroelectric generation. Total storage in the Reservoir is approximately 1,700,000 acre-feet (USBR 2019b), with all available storage allocated to water users and irrigators. The drainage area upstream of the Dam is approximately 13,600 square miles (USBR 2019a).

Flows released past the Dam vary seasonally. At the end of the irrigation season in October, flows are typically 350 cfs since this, combined with the reach gain between American Falls and Minidoka Dam, satisfies the winter minimum power right at the Minidoka project. Winter releases can exceed the minimum flow requirements during years of exceptional Reservoir carryover or high late season natural flows. In late winter, releases may be increased due to flood risk management requirements, or due to operational requirements related to ice impacts on riprap along the Dam embankment. In early spring, flood risk management operations from upstream reservoirs can lead to increased releases. Following flood risk management operations, salmon flow augmentation is released past the Dam.

Irrigation deliveries typically begin in early April and increase as the growing season progresses. Releases from the Dam to satisfy irrigation demand typically peak between June and August, and steadily decrease until the end of irrigation season in mid to late October. Table 12 shows the monthly minimum, mean, and maximum releases from the Dam. Table 13 shows the 5-year monthly flow at the Dam. Figure 12 shows a monthly flow duration curve for releases from the Dam. Monthly statistics and the flow duration curve use data from Water Year 1980 (beginning in October of 1979) through 2019 as this represents a good reflection of current irrigation demand and operations throughout the Upper Snake River basin.

Table 12
Monthly minimum, mean, and maximum flow as measured at USGS 13077000 Snake River at Neeley Gauge (1980–2019)

Flow (cfs)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Maximum	12,640	18,080	19,940	19,660	24,060	35,580	16,560	13,850	13,560	12,630	12,420	10,600
Mean	2,905	2,758	4,150	8,634	12,594	14,760	12,882	10,973	7,605	3,518	2,129	2,521
Minimum	352	315	306	1,951	4,776	9,281	9,568	8,081	3,762	1,045	341	327

Table 13
Five-year monthly flow at American Falls Dam (water years 2015—2019)

Year	Monthly Flow (cfs)											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2014										1,942	375	395
2015	1,075	2,246	2,277	6,722	9,035	12,810	11,200	10,060	7,282	2,798	446	487
2016	407	374	394	3,796	8,214	13,020	11,280	10,280	6,206	2,106	391	382
2017	405	548	15,290	19,660	15,490	17,690	15,550	11,270	7,298	3,064	2,150	5,930
2018	7,343	6,155	7,884	16,990	17,730	17,240	15,730	12,620	7,844	2,282	446	398
2019	506	1,503	7,462	13,380	11,030	12,250	13,860	11,540	7,675			

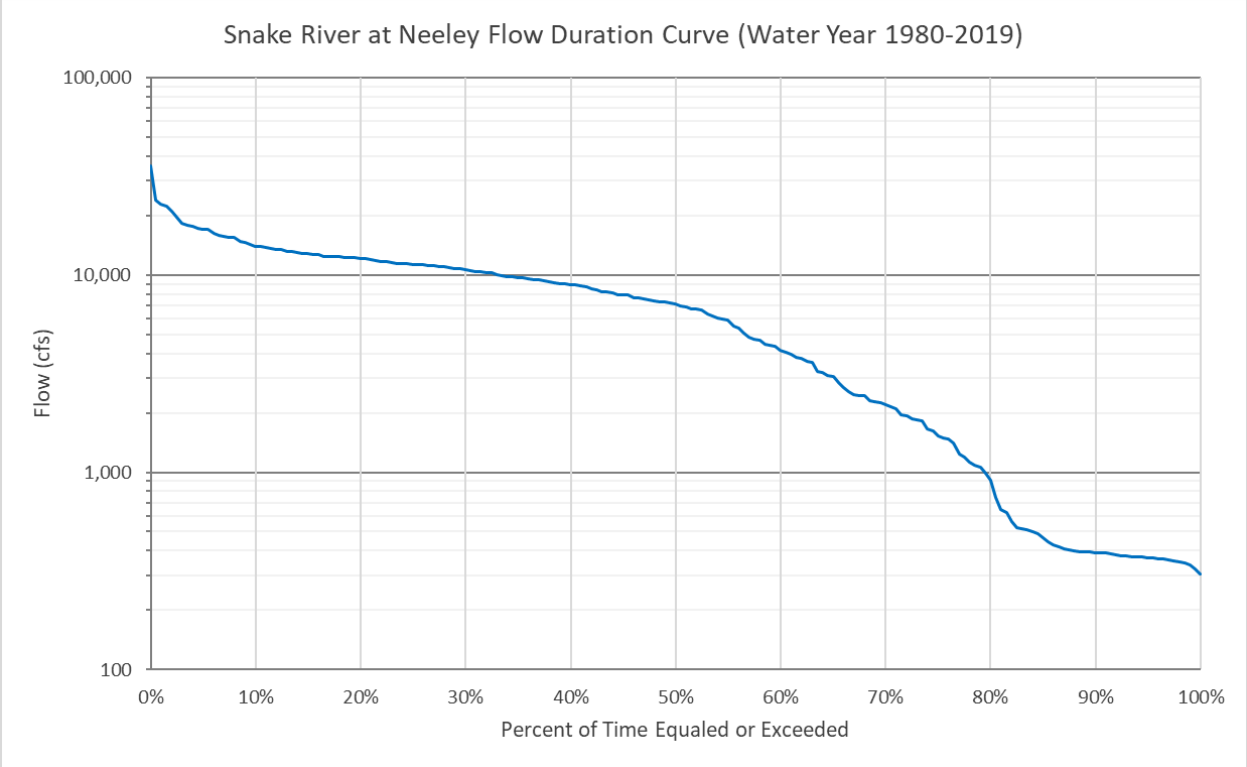


Figure 12
Monthly flow duration curve using USGS 13077000 Snake River at Neeley Gauge (1980–2019)

4.3.2 Existing and Proposed Uses of Project Waters

The Reservoir and Snake River flows above and below the Dam are operated by Reclamation and accommodate a wide variety of resource needs, including irrigation, power generation, flood control, fish and wildlife, and recreation benefits. However, the primary operation strategy is the storage of water for irrigation of lands (USBR 1995). IPC's use of flows for electrical generation is incidental to Reclamation's operational strategy.

4.3.3 Existing Instream Flow Uses and Water Rights

The Reservoir is located within the State of Idaho Water District No. 1 (District) and there are approximately 345 surface water diversions administered by the District. These diversions account for approximately 1,400 surface water rights within the District. Inflow to the Snake River below the Reservoir is limited and most of these water rights are sourced from either natural flow above the Reservoir or from storage in, or above the Reservoir.

New water rights for irrigation or other consumptive uses have been approved in recent years, but these rights have junior priorities and are only in priority for a limited period each year, if at all, such as times of high flow early in the irrigation season. Some new water rights for natural flow have recently been granted for aquifer recharge. These rights are also only in priority during periods of high flow or can only be diverted downstream of the Dam.

There are currently 22 applications for new water rights within the District. Nine of the applications are for aquifer recharge, 10 are for irrigation, and 3 are for power production. Three of the applications for aquifer recharge also include an irrigation component.

4.3.4 Federally-approved Water Quality Standards Applicable to Project Waters

The Snake River below the Dam (Assessment Unit ID17040409SK011_07) is in the Lake Walcott HUC and is designated for cold-water aquatic life (COLD), primary contact recreation (PCR), and drinking water supply (DWS). It is in Category 4C of the 2016 Integrated report and not supporting COLD due to flow regime alteration. It fully supports PCR. Waterbody impairment listings in Category 4C do not require a Total Maximum Daily Load (TMDL) (IDEQ 2018). For additional information on the Lake Walcott sub-basin, Idaho Department of Environmental Quality (IDEQ) completed a TMDL 5-Year Review in October 2019 (IDEQ 2019).

The Reservoir (Assessment Unit ID17040206SK001L_0L) is in the American Falls HUC and is designated for COLD, PCR, and DWS. Additionally, it is in Category 4a of the 2016 Integrated Report and has an approved TMDL for 0.015 mg/L chlorophyll *a* to control dissolved oxygen (DO). Both the Reservoir and the Snake River below the Dam are subject to the following general surface water criteria (IDAPA 58.01.02.200):

- 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 the CFR, Title 10, Chapter 1, Part 20, Appendix B, Table 2, Effluent Concentrations, Column 2. Additionally,

radioactive materials or radioactivity shall not exceed concentrations required to meet the standards set forth in Title 10, Chapter 1, Part 20, of the Code of Federal Regulations 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 Sections 250 and 252, or, in the absence of specific sediment criteria, quantities which impair designated beneficial uses.

Both pH and TDG criteria apply to all aquatic life designations.

Table 14
General aquatic life criteria

General Aquatic Life Criteria (American Falls Reservoir and downstream Snake River)	
pH	**TDG**
6.0–9.5	Not to exceed 110% of saturation

Both the Reservoir and the downstream portion of the Snake River are designated COLD. Waters designated for COLD are not to vary from the following characteristics due to human activities, unless separate site-specific criteria are developed (IDAPA):

- Dissolved Oxygen Concentrations exceeding 6 mg/l at all times. In lakes and reservoirs this standard does not apply to:

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

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

    - Those waters of the hypolimnion in stratified reservoirs.

Dissolved oxygen requirements in the Snake River below the Dam are specific to hydroelectric facilities.

Table 15
Site specific hydroelectric DO criteria for Snake River below American Falls Dam

Time Period	DO mg/L		
Annually	**30-day mean minimum**	**7-day mean minimum**	**Instantaneous Minimum**
May 15–Oct 15	5.5	4.7	3.5

- Water temperatures of 22ºC or less with a maximum daily average of no greater than 19ºC.
- 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.
- Ammonia criteria are dependent upon temperature and pH. The acute criterion (criterion maximum concentration [CMC]) is the 1-hour average concentration of total ammonia nitrogen, this is not to exceed, more than once every 3 years. The chronic criterion (criterion continuous concentration [CCC]) is the 30-day average concentration of total ammonia nitrogen, which is not to exceed, more than once every 3 years.
- Turbidity, below any applicable mixing zone set by the Department, 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.

Both the Reservoir and the downstream portion of the Snake River are designated PCR. Waters designated for PCR are not to contain *Escherichia coli* (*E. coli*) bacteria in concentrations exceeding a geometric mean of 126 *E. coli* organisms per 100 mL based on a minimum of 5 samples taken every 3–7 days over a 30-day period (*Idaho Administrative Procedures Act n.d.*).

The following DWS standards apply, and waters designated DWS are to exhibit the following characteristics (*Idaho Administrative Procedures Act n.d.*):

- Radioactive materials or radioactivity not to exceed concentrations specified in Idaho Department of Environmental Quality Rules, IDAPA 58.01.08, "Rules Governing Public Drinking Water Systems."

4.3.5 Seasonal Variation of Existing Water Quality Data

4.3.5.1 Water Temperature and Dissolved Oxygen, Including Seasonal Vertical Profiles in the Reservoir

IPC does not have seasonal vertical profile data for the Reservoir; however, IDEQ has an extensive long-term dataset for multiple locations including physiochemical and water quality data. IPC has included IDEQ data for monitoring location AF-1 in the forebay of the Reservoir from 2013–2018. This period corresponds with later reported downstream monitoring data. These data indicate exceedances of both temperature and DO criteria occurring primarily in July

and August, and may occur as early as June, particularly in high water years. However, IPC does not own the Dam or control Reservoir operations, and neither the Dam nor the Reservoir are within the Project boundary. Therefore, temperature and DO exceedances in the forebay are not an effect of the Project.

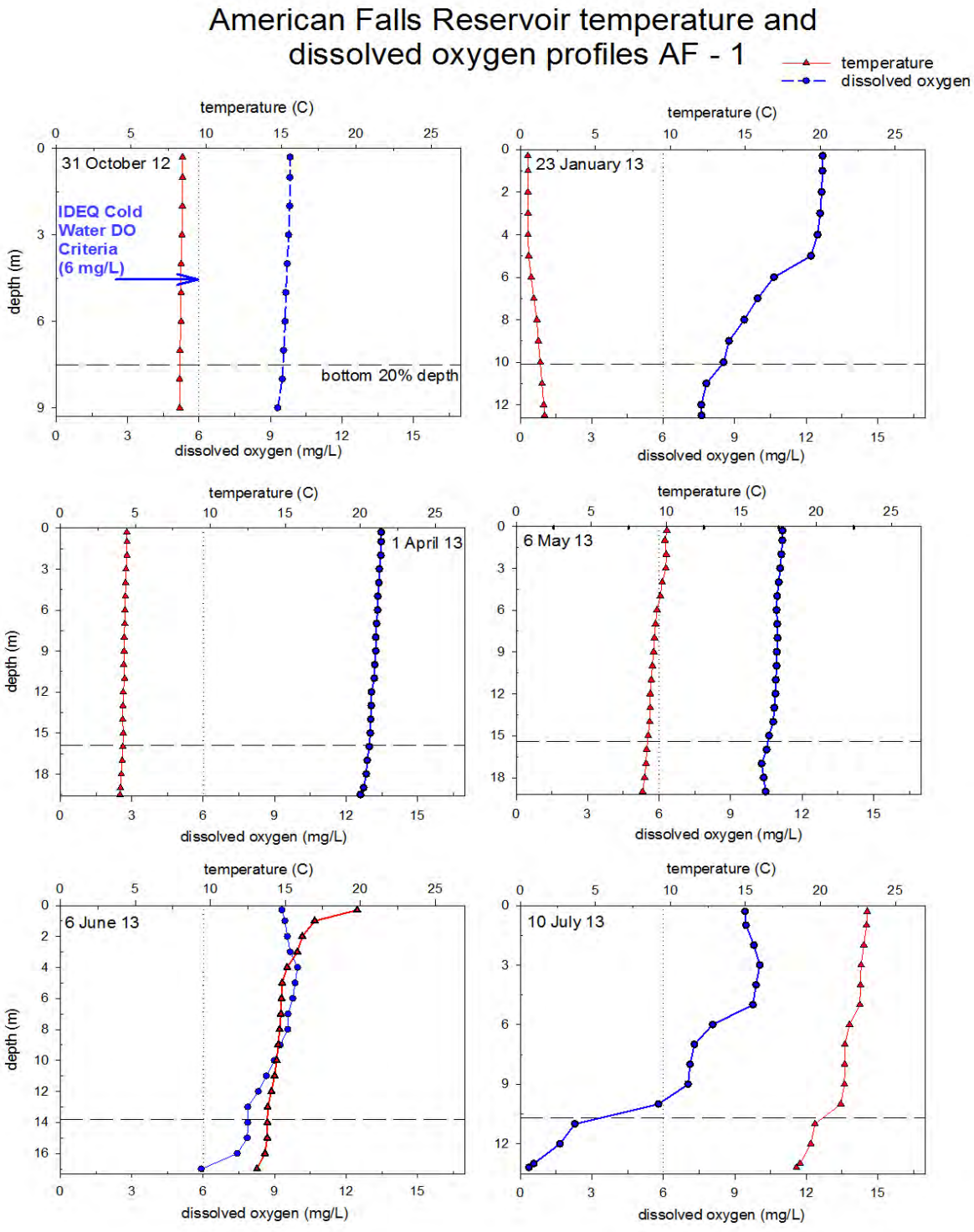


Figure 13
DEQ temperature and DO profiles at AF-1, October 31, 2012 to July 10, 2013

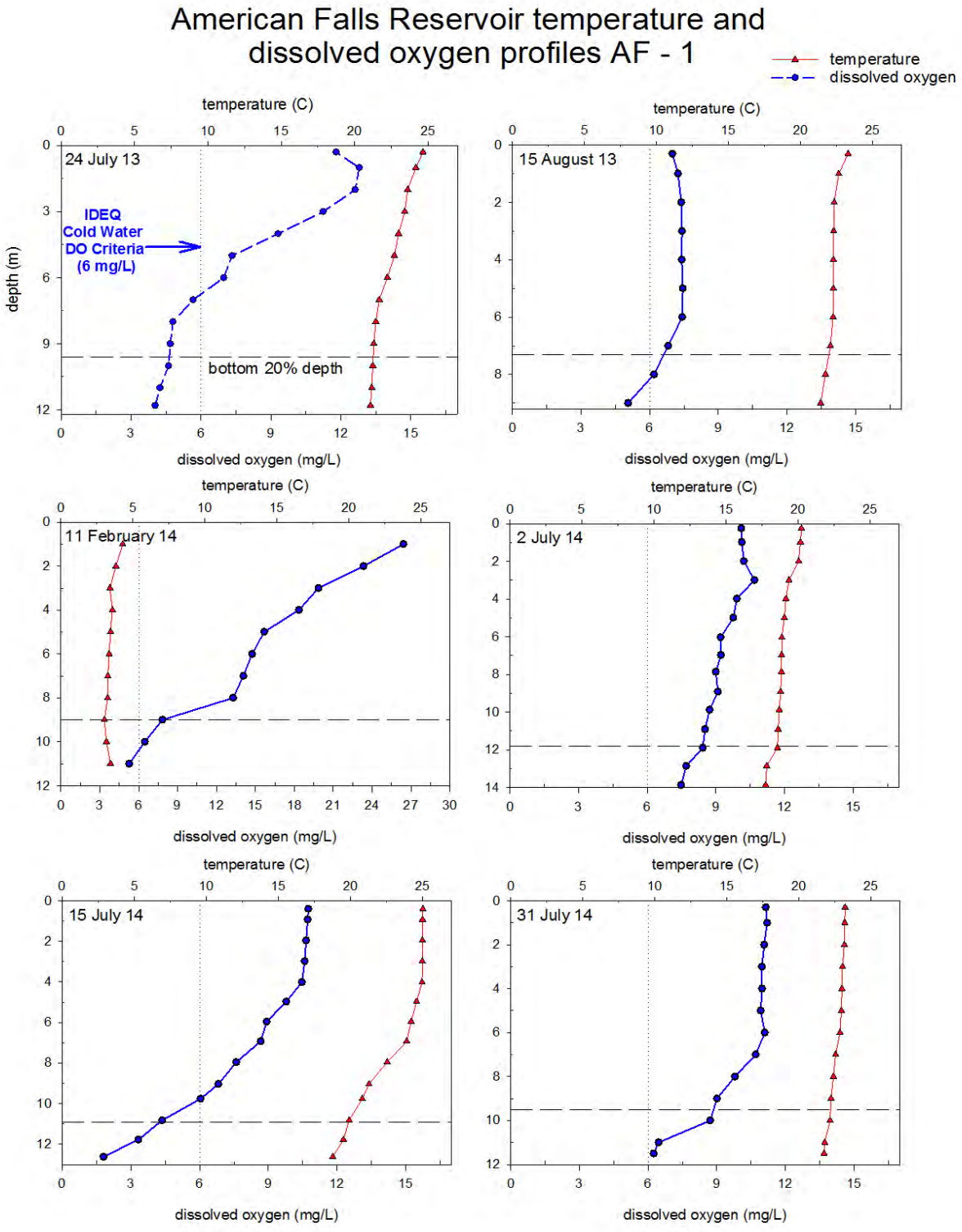


Figure 14
DEQ temperature and DO profiles at AF-1, July 24, 2013 to July 31, 2014

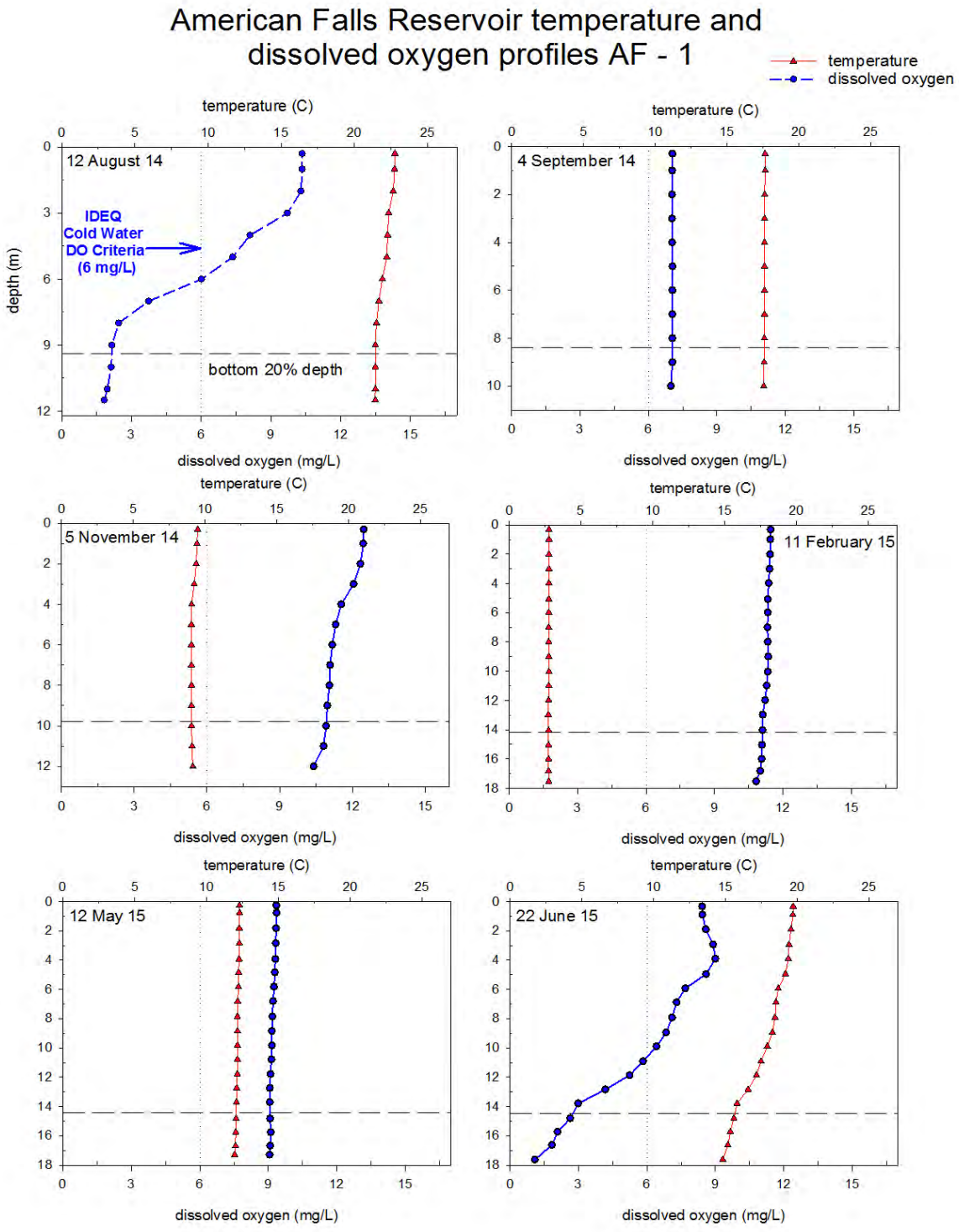


Figure 15
DEQ temperature and DO profiles at AF-1, August 12, 2014 to June 22, 2015

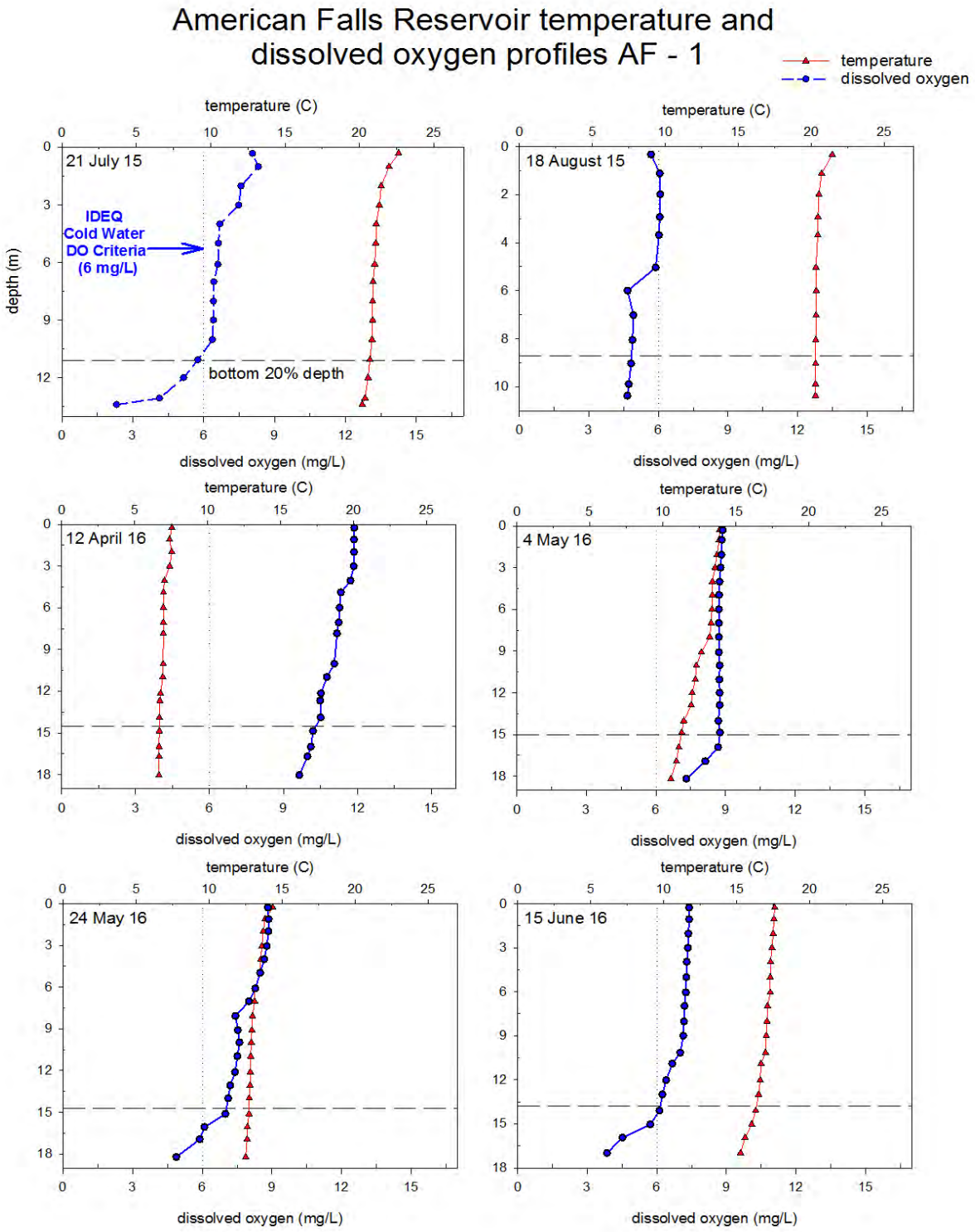


Figure 16
DEQ temperature and DO profiles at AF-1, July 21, 2015 to June 15, 2016

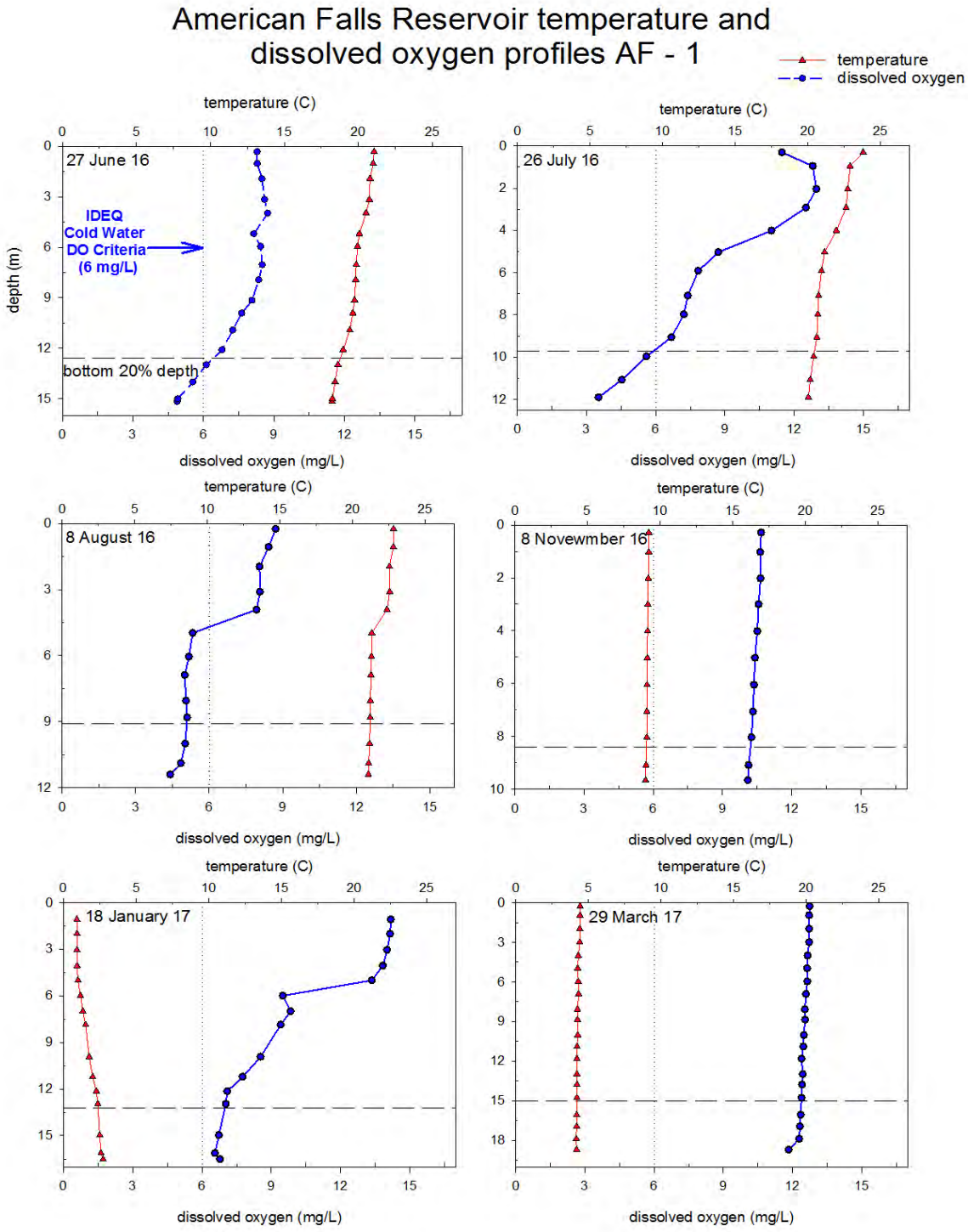


Figure 17
DEQ temperature and DO profiles at AF-1, June 27, 2016 to March 29, 2017

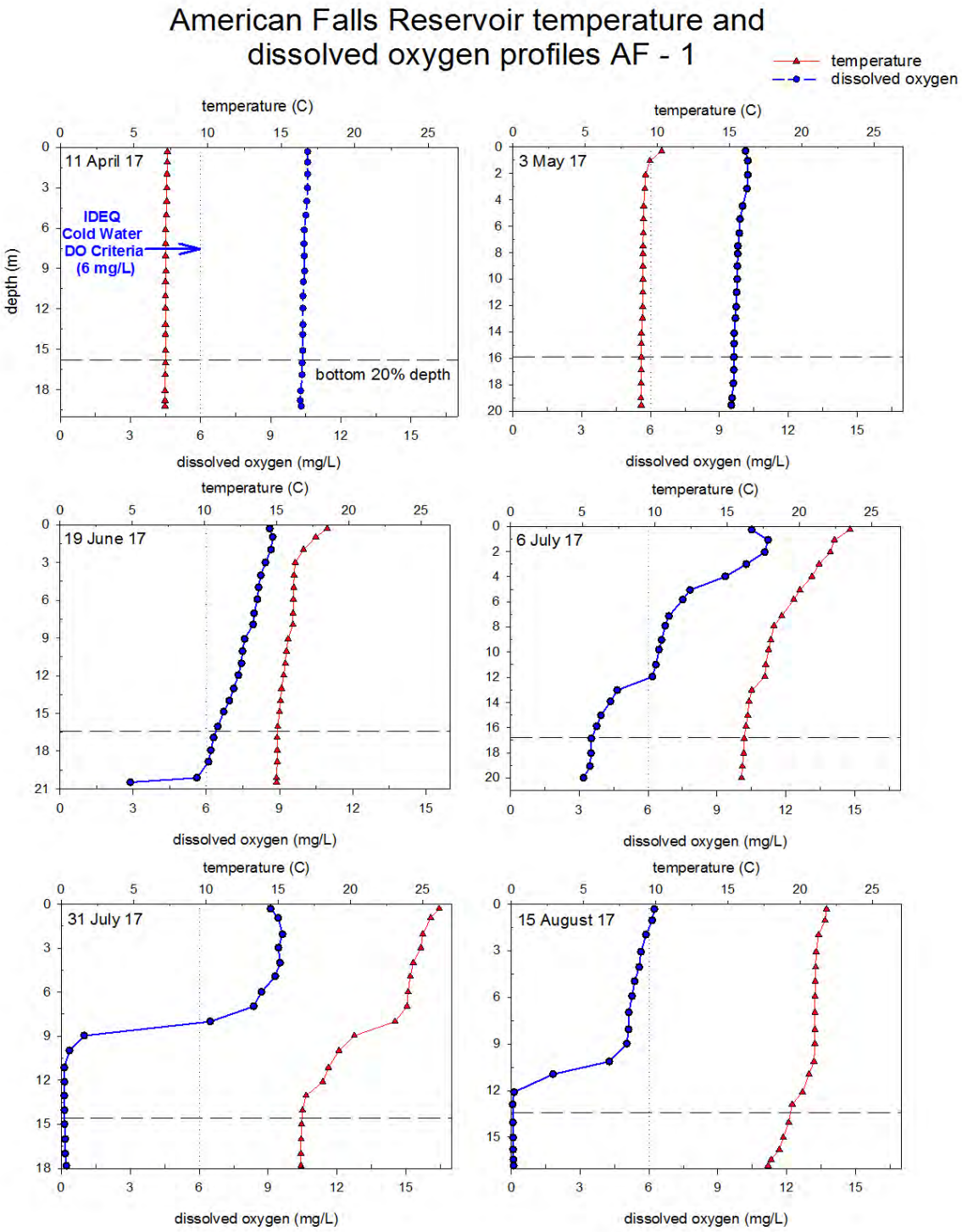


Figure 18
DEQ temperature and DO profiles at AF-1, April 11, 2017 to August 15, 2017

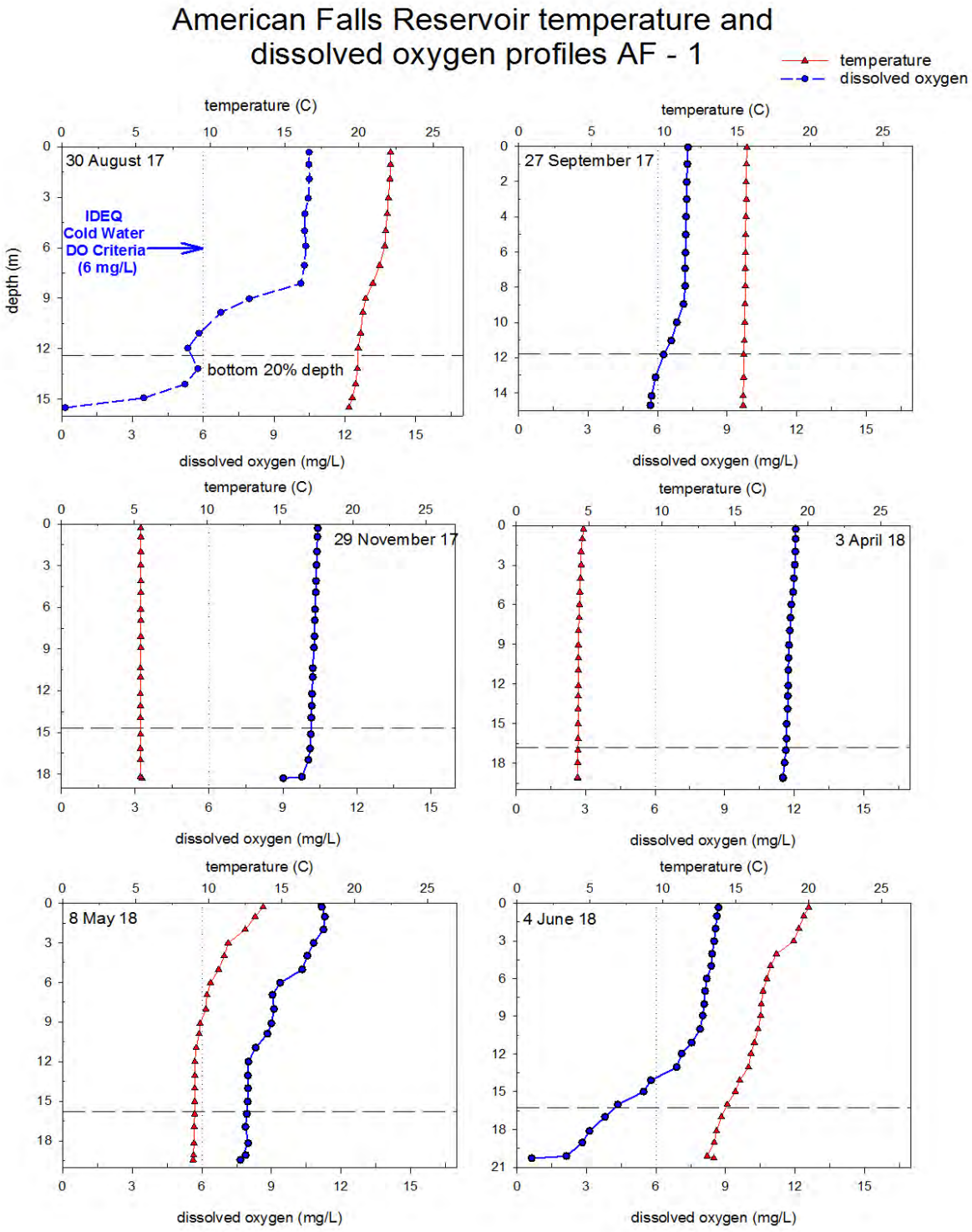


Figure 19
DEQ temperature and DO profiles at AF-1, August 30, 2017 to June 4, 2018

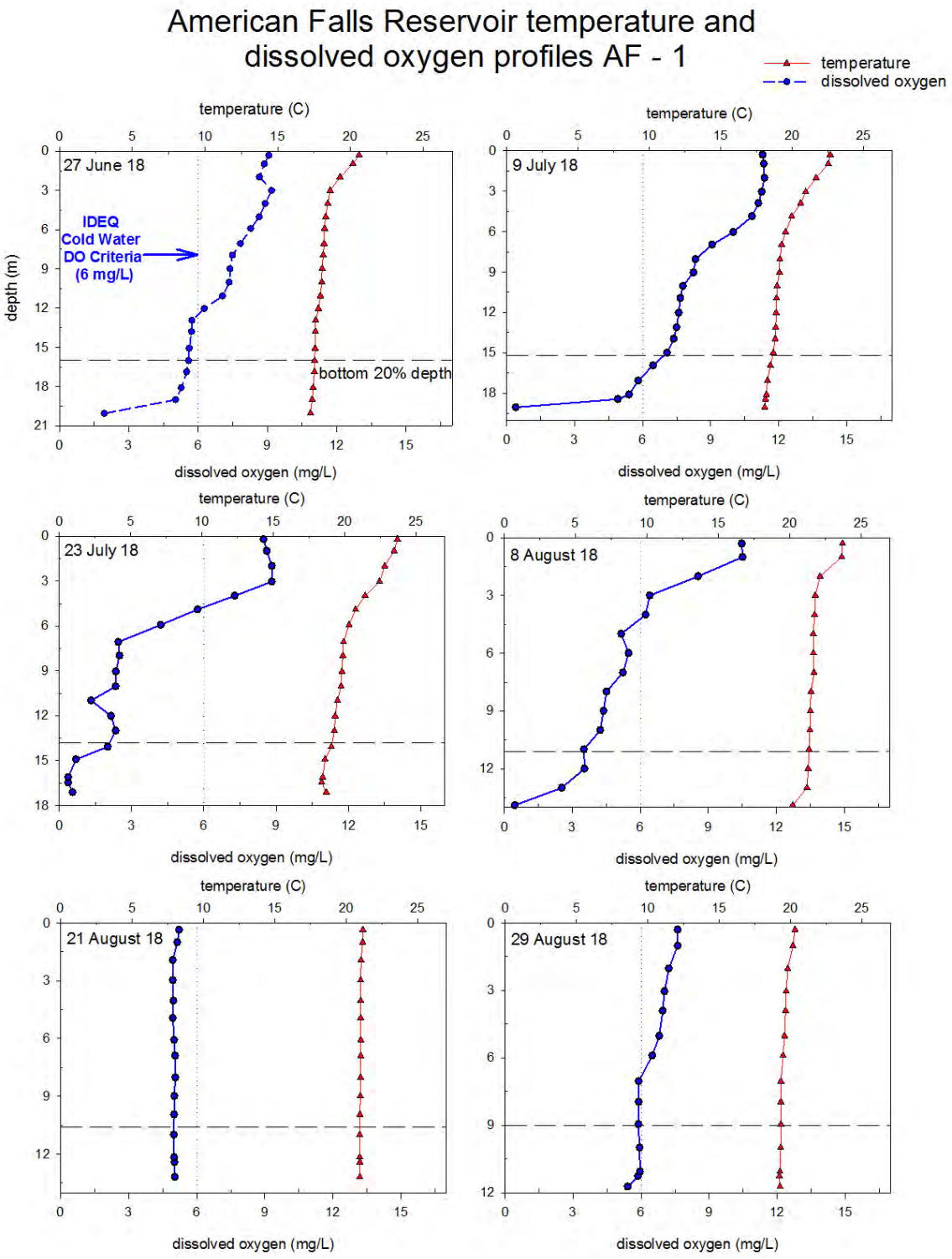


Figure 20
DEQ temperature and DO profiles at AF-1, June 27, 2018 to August 29, 2018

IPC has monitored 10-minute water temperature and DO in the Project tailrace since August 1, 1999. IPC switched DO sensor technology in 2013, which resulted in higher accuracy and less biofouling of the sensor. IPC has included DO and temperature data from 2013–2018 as measured at our compliance gage in the Snake River 150 yards downstream of the Project. Data indicate Idaho's water temperature criteria are frequently exceeded during July and August, likely a result of water temperature criteria exceedance in the Reservoir. DO levels mostly comply with applicable hydroelectric criteria, primarily a result of IPC's DO mitigation using atmospheric blowers and spill. IPC supplements low DO with the use of 2 blowers. One blower was upgraded in 2019 and the second is slated for upgrade in 2020. The new blowers are more efficient and expected to experience less operational issues. The third blower is available as a backup.

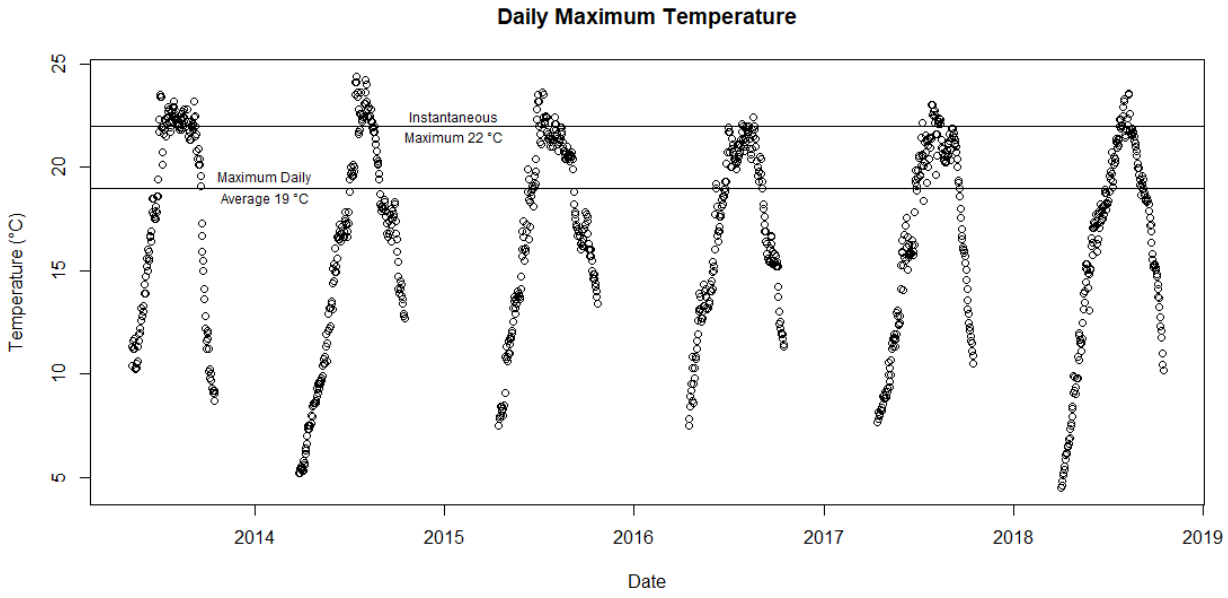


Figure 21
Daily maximum temperature in the Snake River below American Falls dam from 2013–2018

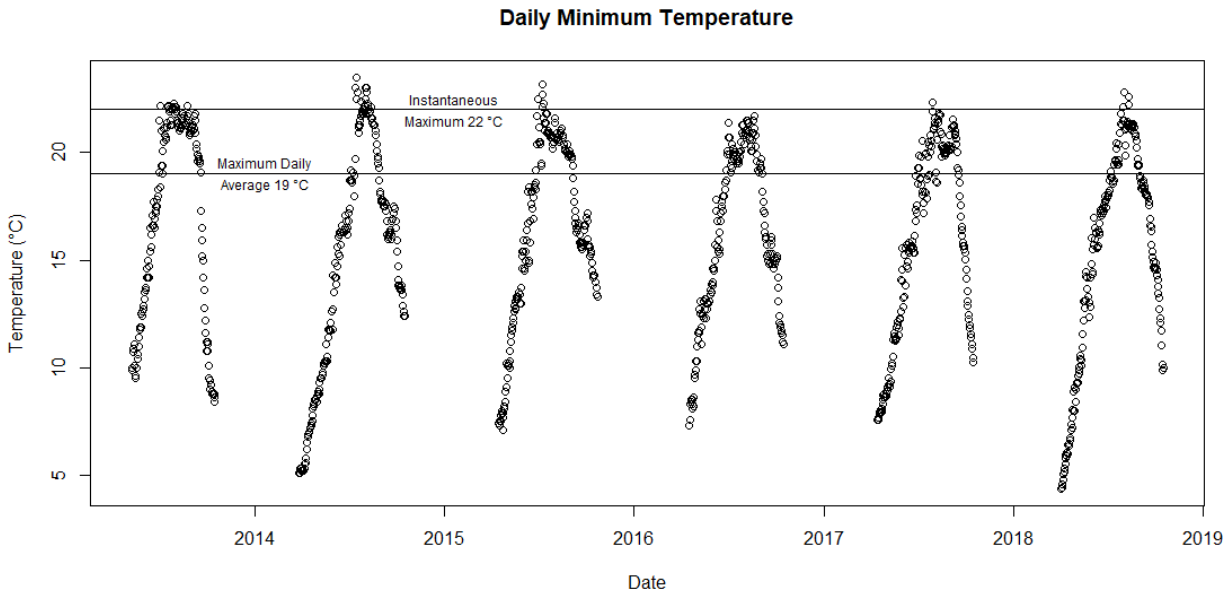


Figure 22
Daily minimum temperature in the Snake River below American Falls dam from 2013– 2018

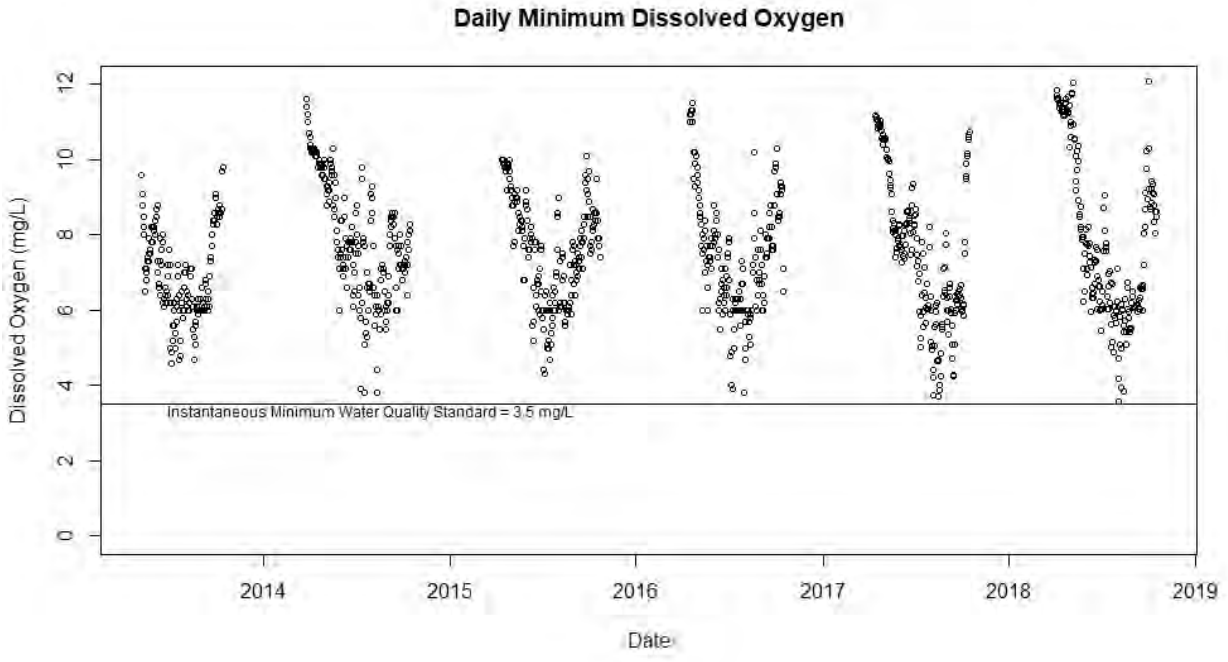


Figure 23
Daily minimum instantaneous DO levels in the Snake River below American Falls dam from 2013–2018

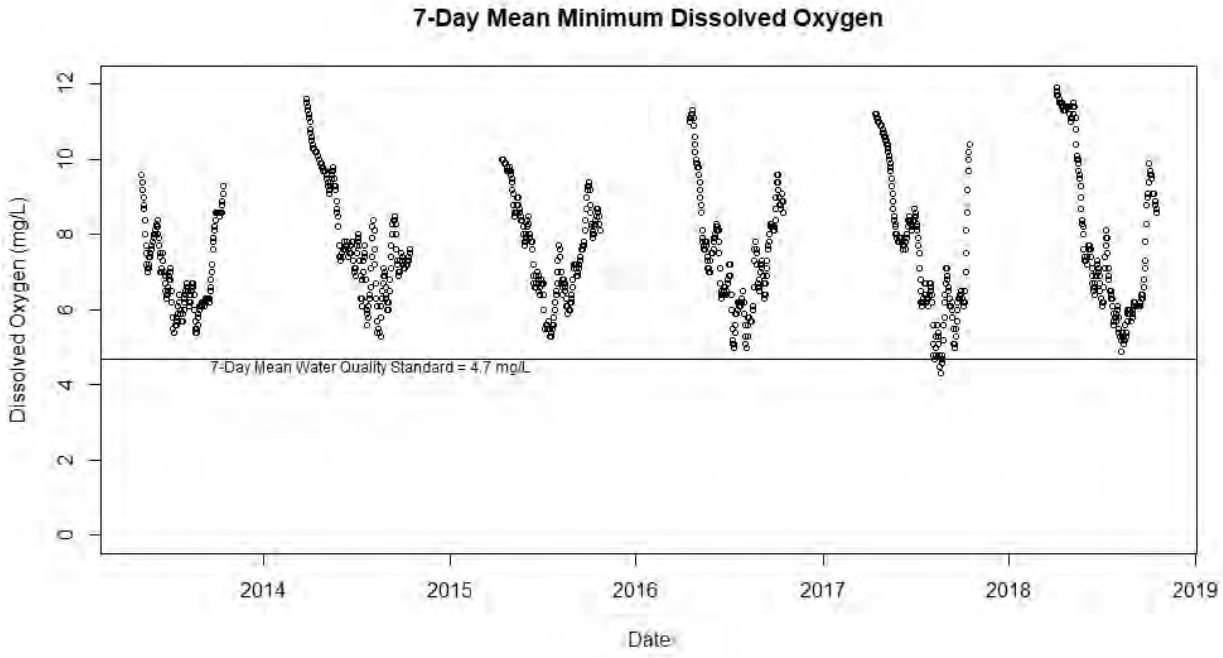


Figure 24
7-day mean minimum DO levels in the Snake River below American Falls Dam from 2013–2018

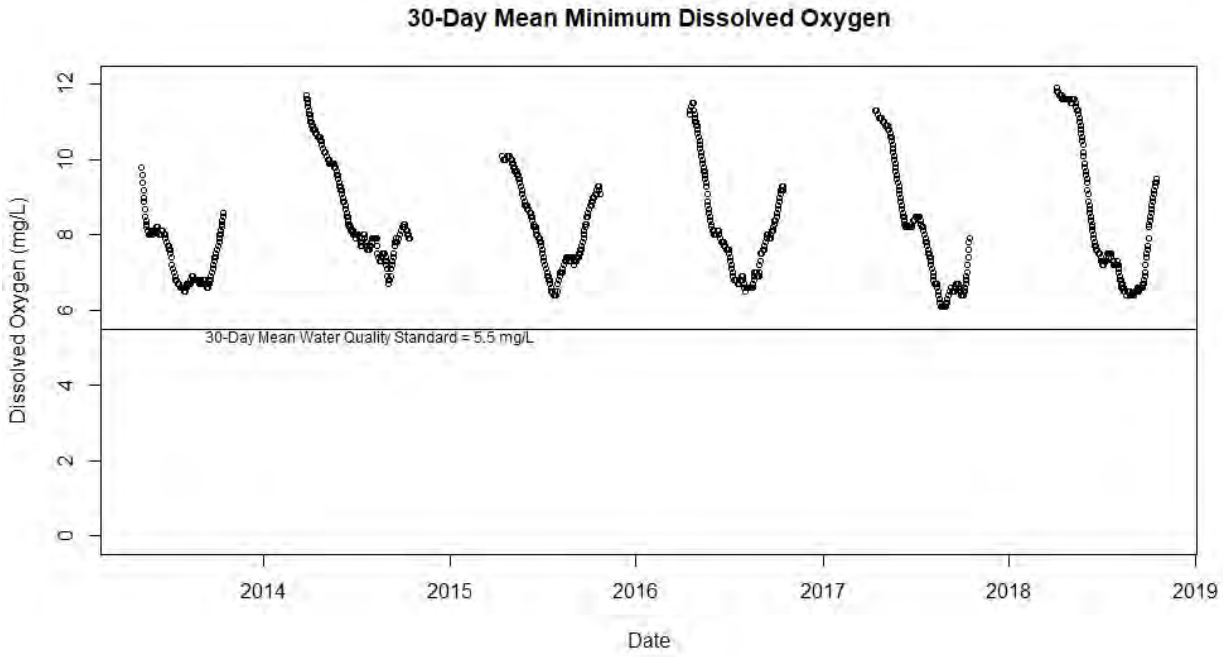


Figure 25
30-day mean minimum DO levels in the Snake River below American Falls Dam from 2013–2018

4.3.5.2 Physical and Chemical Parameters

IPC does not have any other data for other physical and chemical parameters in the Reservoir or the Snake River below the Dam. IDEQ has extensive nutrient and chlorophyll data for the Reservoir, a portion of which is included in figures 11–23. IDEQ also completed a 5-year-review of the Lake Walcott TDML for additional information (IDEQ 2019).

4.3.6 Lake and Reservoir Data

Reclamation owns the Dam and operates the Reservoir, as such Reclamation is the best resource for this information. However, based on publicly available information, at full pool American Falls Reservoir has about 100 miles of shoreline and roughly 1,700,00 MAF. The Reservoir has a reported surface area of 56,055 acres at a pool elevation of 4,354.5 ft. with an average depth of 50 feet. A retention time as short as 4 months has been reported.

4.4 Fish and Aquatic Resources

4.4.1 Existing Fish and Aquatic Communities (18 CFR § 5.6(d)(3)(iv))

The Reservoir and the Snake River below the Dam are popular fishing locations. An estimated 26,000 rainbow trout are harvested, and 125,000 fishing hours occur during years when water volume has been sufficient for a multiple age class population to accumulate (IDFG 2019). However, during consecutive drought years when the Reservoir is drained below normal conditions, the catch rate and fishing effort decreases (IDFG 2019).

The Reservoir is stocked twice a year, in early May and September, with both catchable and fingerling size rainbow trout. Trout grow 9 to 16-inches or more during the year following stocking. Most trout caught range in size from 1.5 to 3 pounds and the majority are of hatchery origin. Use of fingerlings stocked in the Reservoir and the river above the Reservoir was evaluated and found to be successful for developing a river and Reservoir fishery. In addition, a Smallmouth Bass fishery developed in the Reservoir during the 1995–2000 period. IDFG electrofishing surveys first documented numerous bass in multiple age classes in 1997. The first bass tournaments were held in 1999 and have been held annually since that time. Yellow Perch have been present in the Reservoir for decades. However, anglers rarely encounter large numbers of harvestable-sized perch. The Reservoir also contains an abundance of nongame fish, primarily Utah Sucker, Common Carp, and Utah Chub. Over 90% of fish caught in gillnets in the Reservoir are nongame fish (IDFG 2019).

The reach below the Dam to 6 miles downstream to Eagle Rock is a popular trout and Smallmouth Bass fishery. This section is noted for quality size trout, many of which are between 16 and 20 inches long. Most trout in this reach are hatchery stocked Rainbow Trout, but a small percent are Brown Trout and native Yellowstone Cutthroat Trout. A fishing rule of 6 trout, of which only 2 may be over 16-inches long, was implemented in 1998 to reduce harvest on large trout. Tables 16 and 17 provide a list of native and non-native fish species found in this reach.

Table 16
Native fish species between American Falls Dam and Eagle Rock

Common Name	Scientific Name
Mountain Whitefish	*Prosopium williamsoni*
Yellowstone Cutthroat Trout	*Oncorhynchus clarkia bouvieri*
Utah Chub	*Gila atraria*
Longnose Dace	*Rhinichthys cataractae*
Speckled Dace	*Rhinichthys osculus*
Redside Shiner	*Richardsonius balteatus*
Utah Sucker	*Catostomus ardens*
Bluehead Sucker	*Catostomus discobolus*
Mountain Sucker	*Catostomus platyrhynchus*
Mottled Sculpin	*Cottus bairdii*

Table 17
Non-native fish species between American Falls Dam and Eagle Rock

Common Name	Scientific Name
White Sturgeon	*Acipense transmontanus*
Rainbow Trout	*Oncorhynchus mykiss*
Brown Trout	*Salmo trutta*
Brook Trout	*Salvelinus fontinalis*
Common Carp	*Cyprinus carpio*
Brown Bullhead	*Ameiurus nebulosus*
Channel Catfish	*Ictalurus punctatus*
Green Sunfish	*Lepomis cyanellus*
Bluegill Sunfish	*Lepomis macrochirus*
Smallmouth Bass	*Micropterus dolomieu*
Largemouth Bass	*Micropterus salmoides*
Yellow Perch	*Perca flavescens*

Crappie, once present in fishable numbers in the Reservoir, have not been reported by anglers or fishery biologists in the past twenty years (IDFG 2019). Because of the impacted nature of this drainage, the abundance of nonnative fish, and the inability to successfully eradicate nonnatives and establish native fish, management priority for this drainage is focused on providing a quality fishing experience for both native and nonnative species (IDFG 2019).

Since 1990, IPC fish biologists have electrofished the Project's tailrace area every 5-years in both the spring and fall (Richter et al. 2020). During this time period Bluegill, Brown Trout, Common Carp, Crayfish, Cutthroat Trout, Mottled Sculpin, Mountain Whitefish, Peamouth, Rainbow Trout, Rainbow Trout x Cutthroat Trout, Redside Shiner, Smallmouth Bass, Speckled Dace, Utah Chub, Utah Sucker, White Sturgeon, and Yellow Perch have been sampled. The largest increase in percent catch was by yellow perch, while the largest decreases were in Redside shiner and Utah suckers.

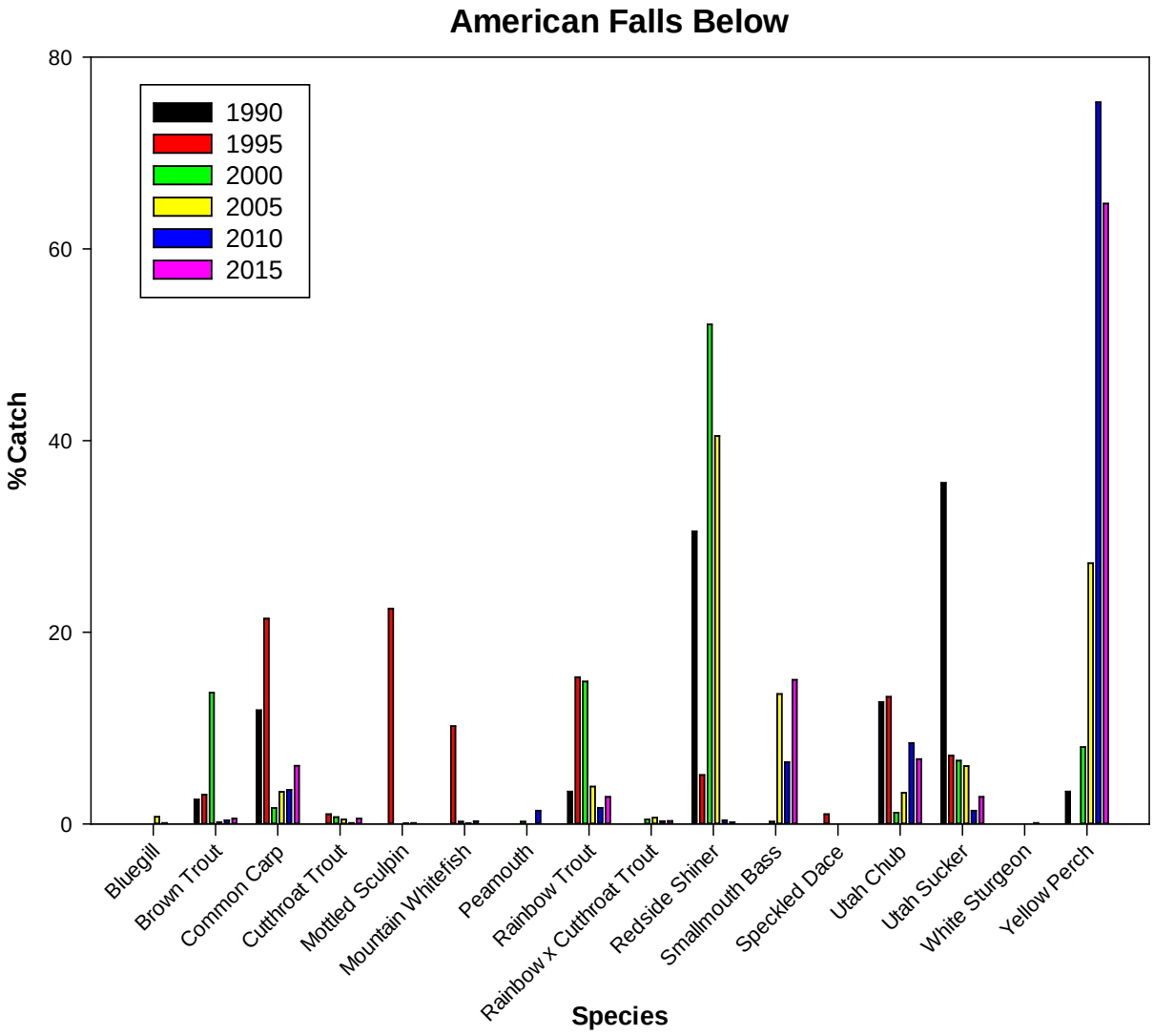


Figure 26
Percent catch by species during electrofishing surveys below American Falls dam in 1990, 1995, 2000, 2005, 2010 and 2015

Table 18
Idaho Power electrofishing catch by sample year below American Falls Dam project area. Total effort per years (Hours).

Species	Year					
	1990	1995	2000	2005	2010	2015
Bluegill				8	1	
Bridgelip Sucker	1					
Brown Trout	3	3	58	2	4	9
Common Carp	14	21	7	36	36	97
Crayfish				4		
Cutthroat Trout		1	3	5	1	9
Largescale Sucker	41			2	1	
Mottled Sculpin		22			1	1
Mountain Whitefish		10	1	1	3	
Peamouth			1		14	
Rainbow Trout	4	15	63	42	17	45
Rainbow Trout x Cutthroat Trout			2	7	3	5
Redside Shiner	36	5	221	436	4	3
Sculpin sp.				1		
Smallmouth Bass			1	146	65	240
Speckled Dace		1				
Utah Chub	15	13	5	35	85	108
Utah Sucker		7	28	63	13	45
White Sturgeon					1	1
Yellow Perch	4		34	293	759	1033
Grand Total	118	98	424	1081	1008	1596
Total Effort (Hours)	0.28	0.76	0.50	0.92	0.76	0.88

Table 19
Idaho Power electrofishing species Total Length (TL) (mm) by sample year for below American Falls Dam project area

Species	Year	# Fish	TL min	TL mean	TL max
Bluegill	1990				
	1995				
	2000				
	2005	8	113	163.8	177
	2010	1	170	170.0	170
	2015				
Brown Trout	1990	3	456	548.7	617
	1995	3	552	567.3	592
	2000	58	296	483.8	660

Species	Year	# Fish	TL min	TL mean	TL max
	2005	2	412	474.0	536
	2010	4	340	395.8	480
	2015	9	390	537.1	640
Common Carp	1990	14	490	655.9	745
	1995	1	85	85.0	85
	2000	7	665	724.9	787
	2005	36	54	156.4	710
	2010	36	45	347.3	800
	2015	97	61	198.5	755
Cutthroat Trout	1990				
	1995	1	496	496.0	496
	2000	3	460	500.3	565
	2005	5	405	460.4	550
	2010	1	485	485.0	485
	2015	10	470	512.1	575
Cutthroat X Rainbow Trout	1990				
	1995				
	2000	2	421	459.5	498
	2005	7	404	438.0	502
	2010	3	370	424.3	498
	2015	5	425	490.4	565
Mottled Sculpin	1990				
	1995	16	56	77.8	94
	2000				
	2005				
	2010	1	64	64.0	64
	2015	1	98	98.0	98
Mountain Whitefish	1990				
	1995	10	153	219.8	405
	2000	1	355	355.0	355
	2005	1	284	284.0	284
	2010	3	105	178.3	250
	2015				
Peamouth	1990				
	1995				
	2000	1	75	75.0	75
	2005				
	2010	14	63	91.5	105

Species	Year	# Fish	TL min	TL mean	TL max
	2015				
Rainbow trout - Hatchery	1990				
	1995				
	2000				
	2005	30	254	377.0	502
	2010	1	385	385.0	385
	2015	22	357	445.4	555
Rainbow trout - Unknown	1990	4	220	318.8	370
	1995	15	119	403.3	527
	2000	63	55	282.4	663
	2005	1	560	560.0	560
	2010				
	2015				
Rainbow trout - Wild	1990				
	1995				
	2000				
	2005	11	370	432.9	508
	2010	16	334	424.8	588
	2015	23	111	468.1	630
Redside Shiner	1990	36	38	74.1	105
	1995	5	77	89.0	96
	2000	221	46	69.3	134
	2005	222	40	73.0	115
	2010	4	83	87.3	91
	2015	3	80	85.7	89
Smallmouth Bass	1990				
	1995				
	2000	1	370	370.0	370
	2005	146	52	156.6	406
	2010	65	42	137.0	380
	2015	127	56	160.7	422
Speckled Dace	1990				
	1995	1	61	61.0	61
	2000				
	2005				
	2010				
	2015				
Utah Chub	1990	15	68	135.8	325

Species	Year	# Fish	TL min	TL mean	TL max
	1995	13	51	70.7	91
	2000	5	63	131.6	301
	2005	35	54	79.8	250
	2010	85	37	68.5	182
	2015	98	51	141.5	397
Utah Sucker	1990	41	72	440.5	540
	1995	7	506	540.0	597
	2000	28	71	431.4	630
	2005	65	234	471.8	789
	2010	14	535	820.8	1092
	2015	45	71	301.7	615
Yellow Perch	1990	4	68	75.8	87
	1995				
	2000	34	72	97.9	212
	2005	119	70	92.1	213
	2010	292	55	88.8	235
	2015	145	16	104.0	192

IDFG annually stocks over 588,450 rainbow trout (242,450 Spring and 346,000 Fall) in the reservoir (IDFG, March 2, 2019). Under a 1980 settlement agreement between IDFG and IPC, IPC agreed to stock an additional 8000 lbs. of rainbow trout (1 fish per pound) annually at the Sportsmen's Park access near Aberdeen, ID in early November.

IDFG reports that some of the trout stocked in the Reservoir annually leave the Reservoir to the Snake River below the Dam in mid to late summer due to a combination of high-water temperature, low dissolved oxygen and in some years, severe drawdown of the reservoir and associated high turbidity (IDFG 2019). Tagging studies show that downriver migration through the Dam begins when the reservoir drops to 30% of full pool or less (IDFG 2019). Flows less than 10% of mean annual flow cause severe degradation to fishery resources (IDFG 2019).

From the Dam downriver to Gifford Springs access area, the Smallmouth Bass fishery has greatly expanded between the years 2000 and 2006. Bass tournaments centered on the Massacre Rocks boat launch increased from 2 in 2000 to 10 in 2006, as bass anglers recognized the increasing opportunity to catch quality size Smallmouth Bass. However, boaters are not allowed in 19 of 44 miles between Lake Walcott Dam and the Dam and road access is very limited in this reach (IDFG 2019). The boat restrictions are due to a U.S. Fish and Wildlife Service rule within the Minidoka National Wildlife Refuge. In a June 2005 electrofishing survey, of the bass sampled in isolated areas of the reach closed to boats that were at least 7 inches long, 30% of these were also at least 17 inches long and ranged from 8 to 13 years in age (IDFG 2019). In the reach above Massacre Rocks State Park, where boating is allowed, no bass 17 inches or larger were sampled. Total annual mortality in the boat-closure reaches was 25%. In reaches where boats are allowed, total annual mortality was 45%. A 2006 telemetry study documented that

some of the large bass from the boat-closure reach seasonally migrate into areas accessible by boat anglers (IDFG 2019). Numerous anglers asked IDFG to decrease harvest of bass in the Massacre Rock access site to American Falls reach. Their concern was that with increasing fishing effort, quality of the bass population will decline. In response to those concerns and the measured harvest rates, a 2 bass (any size) limit was implemented from Gifford Springs upstream to the Dam in 2008 (IDFG 2019).

In the IDFG Fisheries Management Plan 2019–2024 (IDFG 2019), objectives and strategies for the area downstream of the Dam include the following:

- Objective: Maintain quality of the Smallmouth Bass fishery from Lake Walcott to American Falls Dam.
- Strategy: Monitor populations and work with Minidoka National Wildlife Refuge to increase boat fishing opportunities.
- Objective: Maintain quality Smallmouth Bass, trout, and White Sturgeon fishing from Eagle Rock to American Falls Dam.
- Strategy: Monitor and evaluate stocking programs and correlated angler success with flow conditions below American Falls Dam.
- Objective: Consider restoring a Crappie fishery in American Falls Reservoir.
- Strategy: Evaluate contemporary water management and stock Crappie if winter storage levels remain high and assessment of potential impacts to downriver fisheries are minimal.

4.4.2 IDFG and IPC American Falls Fish Compensation Agreement

Losses of rainbow trout attributed to habitat destruction, fish entrainment, and turbine mortality were identified as potential impacts in the Environmental Impact Statement (EIS) associated with the original Project license (United States Department of the Interior, Bureau of Reclamation 1974). To address the concern raised in the EIS, the American Falls Reservoir irrigation districts agreed to provide $875,000 to IDFG to mitigate for fish losses and habitat destruction. As part of this mitigation, IDFG was to provide for some or all of the following facilities: 1) three 400 ft. by 12 ft. by 3 ft. concrete raceways at the American Falls Hatchery owned and operated by IDFG, 2) acquisition, construction, and impoundment of an off-stream fishing area, 3) a fishing access bridge across the Snake River below the Dam, and 4) improved access to the river below the Project and upstream of Lake Walcott.

The sum of $575,000 was to be used for construction and $300,000 was to be used for operation and maintenance of the facilities (United States of America Federal Power Commission 1975). In addition, IPC was to coordinate with Reclamation, USFWS, and IDFG to conduct a 3-year study of fish entrainment and turbine mortality as identified under Article 45 of the FERC license.

In 1978, IPC contracted with Boise Environmental Science and Technology, Inc. (BEST) to estimate mortality of large rainbow trout (1.5 lb) passing through the turbines at the Project (BEST 1978). Limited data on large rainbow trout was available concerning turbine mortality. BEST consulted with the National Marine Fisheries Service (NMFS) because of NMFS's experience with similar studies being conducted on the Columbia River and developed a study design. However, the BEST study was unsuccessful. IPC in coordination with NMFS reevaluated the scope of the study and jointly participated in the development of a new turbine mortality study. However, in January 1980, John C. Coon, IDFG Fisheries Program Coordinator, in a letter to IPC, proposed a draft mitigation proposal entitled "American Falls Turbine Mortality Mitigation". Mr. Coon's concluded that based on a review of other evaluations that salmonid turbine mortalities ranged from 8 to 46% through Kaplan turbines with an average of 27%. Rather than conducting the turbine mortality study, IDFG suggested using a 30% mortality rate to losses of rainbow trout associated with turbine passage at the Project.

In November of 1980, a fish compensation agreement was entered into between IDFG and IPC that would eliminate all past, present and future requirements of Article 45 of the license. IDFG and IPC agreed to the following:

- IPC will annually place approximately 8,000 lbs. hatchery-reared rainbow trout into the Reservoir in mid-April.
- IPC agreed to contract with IDFG to perform a 2-year study of the released fish program.
- IPC agreed to pay IDFG $60,000 to complete the 2-year study.

The 2-year creel study was conducted by IDFG during 1981 and 1982 at the Reservoir and below the Dam. IDFG reported that larger rainbow trout were not returning to the creel below the Dam as well as in the previous years. IDFG suggested IPC release rainbow trout in the Snake River below the Dam instead of above the Dam but wanted a turbine mortality study completed first to confirm mortality levels. IDFG conducted a turbine mortality study in July of 1989 which concluded that 30% of the fish released into the penstock intake did not survive, consistent with their earlier estimate. IPC did not agree with the results of the IDFG study, and no further substantive changes were made to the program.

Creel surveys from opening day check stations below the Dam from 1995 to 2000 reported that the mean length (mm) of harvested trout ranged between 414 to 448 with a mean relative weight of 111% in 2000 (IDFG 2008). In this report, the best predictor of how well anglers will do is the discharge rate from the Dam. The higher the discharge rate, the better the fishing.

4.4.2 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). Because the Project is outside the historic range of all anadromous species on the Snake River, no EFH consultation is required.

4.4.3 Catadromous and Migratory Fish

There are not catadromous fish in Idaho or the Project area. Salmonid species present below the Dam including non-native rainbow trout and brown trout and native Yellowstone cutthroat trout often have migratory life histories associated with naturally reproducing populations and are capable of migrating long distances. However, with most of the fishery below the Dam supported by hatchery production, migrations are less important in terms of sustaining populations and may be limited to local seasonal migrations in response to water quality conditions or seeking specific habitats. Tagging studies demonstrate that hatchery rainbow trout in the Reservoir commonly migrate downstream in response to unfavorable Reservoir conditions.

4.4.4 Temporal and Spatial Distribution of Fish

The fishery resource below the Dam and Project is managed for recreational purposes. IDFG recognizes it is not possible to eradicate non-native species and establish native fish. The management priority is focused on providing a quality fishing experience for both native and introduced species (IDFG 2018, 290). Most trout in this reach are hatchery stocked Rainbow Trout, but a small percent are non-native Brown Trout (*Salmo trutta)* and native Yellowstone Cutthroat Trout (*Oncorhynchus clarki).* The non-native smallmouth bass fishery is managed by regulating harvest. Fish and fish population size is dependent on the amount of water retained in American Falls Reservoir (IDFG 2018, 290). With a fishery strongly influenced by water conditions and not reliant on natural production of native stocks, understanding fish population metrics including life stage composition, standing crop, age and growth data, spawning run time or rearing and feeding habitat are less important and not available, as these components relate more to ESA species or managed state-specific species of concern.

4.5 Wildlife and Botanical Resources (18 CFR § (d)(3)(v))

4.5.1 Avian Resources

A diverse avian population exists in the Project vicinity and many vagrant bird species have been reported to use this area along the Snake River. E-bird (eBird 2012) was queried to create a list of birds within the Project vicinity. Four E-Bird checklist locations were located within 800 m of the Project and included American Falls cemetery, fish hatchery, fish hatchery and Snake River, Dam and visitor center. The checklists of each of these locations was combined to create Table 20 which includes 200 bird species. Idaho state-listed species of greatest conservation need are marked with an asterisk (IDFG 2017).

Table 20
Birds associated with American Falls Project

Common Name	Scientific Name
Common Loon*	*Gavia immer*
Pacific Loon	*Gavia pacifica*
Yellow-billed Loon	*Gavia adamsii*

Common Name	Scientific Name
Western Grebe*	*Aechmophorus occidentalis*
Clark's Grebe*	*Aechmophorus clarkii*
Eared Grebe	*Podiceps nigricollis*
Pied-billed Grebe	*Podilymbus podiceps*
Red-necked Grebe	*Podiceps grisegena*
Horned Grebe	*Podiceps auritus*
American White Pelican*	*Pelecanus erythrorhynchos*
Double-crested Cormorant	*Phalacrocorax auritus*
Great Blue Heron	*Ardea herodias*
Black-crowned Night-Heron	*Nycticorax nycticorax*
Great Egret	*Ardea alba*
Snowy Egret	*Egretta thula*
Cattle Egret	*Bubulcus ibis*
White-faced Ibis*	*Plegadis chihi*
Trumpeter Swan	*Cygnus buccinator*
Tundra Swan	*Cygnus columbianus*
Canada Goose	*Branta canadensis*
Snow Goose	*Anser caerulescens*
Ross's Goose	*Anser rossii*
Mallard	*Anas platyrhynchos*
Northern Pintail	*Anas acuta*
American Wigeon	*Mareca americana*
Northern Shoveler	*Spatula clypeata*
Gadwall	*Mareca strepera*
Blue-winged Teal	*Spatula discors*
Cinnamon Teal	*Spatula cyanoptera*
Green-winged Teal	*Anas crecca*
Wood Duck	*Aix sponsa*
Redhead	*Aythya americana*
Canvasback	*Aythya valisineria*
Lesser Scaup	*Aythya affinis*
Greater Scaup	*Aythya marila*
Ring-necked Duck	*Aythya collaris*
Long-tailed Duck	*Clangula hyemalis*
Common Goldeneye	*Bucephala clangula*
Barrow's Goldeneye	*Bucephala islandica*
Bufflehead	*Bucephala albeola*
Ruddy Duck	*Oxyura jamaicensis*
Black Scoter	*Melanitta americana*
Surf Scoter	*Melanitta perspicillata*
White-winged Scoter	*Melanitta fusca*
Common Merganser	*Mergus merganser*
Hooded Merganser	*Lophodytes cucullatus*

Common Name	Scientific Name
Red-breasted Merganser	*Mergus serrator*
Turkey Vulture	*Cathartes aura*
Swainson's Hawk	*Buteo swainsoni*
Cooper's Hawk	*Accipiter cooperii*
Sharp-shinned Hawk	*Accipiter striatus*
Northern Harrier	*Circus hudsonius*
Rough-legged Hawk	*Buteo lagopus*
Red-tailed Hawk	*Buteo jamaicensis*
Ferruginous Hawk*	*Buteo lagopus*
Red-shouldered Hawk	*Buteo lineatus*
Golden Eagle*	*Aquila chrysaetos*
Bald Eagle	*Haliaeetus leucocephalus*
Osprey	*Pandion haliaetus*
Prairie Falcon	*Falco mexicanus*
Merlin	*Falco columbarius*
American Kestrel	*Falco sparverius*
California Quail	*Callipepla californica*
Gray Partridge	*Perdix*
Ring-necked Pheasant	*Phasianus colchicus*
Sandhill Crane*	*Antigone canadensis*
Virginia Rail	*Rallus limicola*
American Coot	*Fulica americana*
Killdeer	*Charadrius vociferus*
Black-bellied Plover	*Pluvialis squatarola*
Long-billed Curlew*	*Numenius americanus*
Spotted Sandpiper	*Actitis macularius*
Willet	*Tringa semipalmata*
Long-billed Dowitcher	*Limnodromus scolopaceus*
Greater Yellowlegs	*Tringa melanoleuca*
Black-necked Stilt	*Himantopus himantopus*
American Avocet	*Recurvirostra americana*
Least Sandpiper	*Calidris minutilla*
Western Sandpiper	*Calidris mauri*
Baird's Sandpiper	*Calidris bairdii*
Pectoral Sandpiper	*Calidris melanotos*
Sanderling	*Calidris alba*
Semipalmated Plover	*Calidris pusilla*
Solitary Sandpiper	*Gallinago solitaria*
Wilson's Phalarope	*Phalaropus tricolor*
Red-necked Phalarope	*Phalaropus lobatus*
Wilson's Snipe	*Gallinago delicata*
California Gull*	*Larus californicus*
Ring-billed Gull*	*Larus delawarensis*

Common Name	Scientific Name
Franklin's Gull*	*Larus pipixcan*
Bonaparte's Gull	*Larus philadelphia*
Herring Gull	*Larus argentatus*
Glaucous Gull	*Larus hyperboreus*
Iceland Gull	*Larus glaucoides*
Lesser Black-backed Gull	*Larus fuscus*
Little Gull	*Hydrocoloeus minutus*
Sabine's Gull	*Xema sabini*
Black-legged Kittiwake	*Rissa tridactyla*
Parasitic Jaeger	*Stercorarius parasiticus*
Caspian Tern*	*Sterna caspia*
Forster's Tern	*Sterna forsteri*
Black Tern*	*Chlidonias niger*
Arctic Tern	*Sterna paradisaea*
Common Tern	*Sterna hirundo*
Rock Dove	*Columba livia*
Mourning Dove	*Zenaida macroura*
Eurasian Collared-Dove	*Streptopelia decaocto*
Barn Owl	*Strix varia*
Great Horned Owl	*Bubo virginianus*
Barred Owl	*Strix varia*
Long-eared Owl	*Asio otus*
Black-chinned Hummingbird	*Archilochus alexandri*
Belted Kingfisher	*Ceryle alcyon*
Northern Flicker	*Colaptes auratus*
Hairy Woodpecker	*Picoides villosus*
Downy Woodpecker	*Picoides pubescens*
Eastern Kingbird	*Tyrannus tyrannus*
Western Kingbird	*Tyrannus verticalis*
Say's Phoebe	*Sayornis saya*
Hammond's Flycatcher	*Empidonax hammondii*
Western Wood-Pewee	*Contopus sordidulus*
Horned Lark	*Eremophila alpestris*
Gray Flycatcher	*Empidonax wrightii*
Scissor-tailed Flycatcher	*Tyrannus dominicensis*
Barn Swallow	*Hirundo rustica*
Tree Swallow	*Tachycineta bicolor*
Cliff Swallow	*Petrochelidon pyrrhonota*
Bank Swallow	*Riparia riparia*
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*
Violet-green Swallow	*Tachycineta thalassina*
Steller's Jay	*Cyanocitta stelleri*
Woodhouse's Scrub-Jay	***Aphelocoma woodhouseii***

Common Name	Scientific Name
Black-billed Magpie	*Pica hudsonia*
Common Raven	*Corvus corax*
American Crow	*Corvus brachyrhynchos*
Black-capped Chickadee	*Poecile atricapillus*
Mountain Chickadee	*Poecile gambeli*
Red-breasted Nuthatch	*Sitta canadensis*
White-breasted Nuthatch	*Sitta carolinensis*
Brown Creeper	*Certhia Americana*
House Wren	*Troglodytes aedon*
Canyon Wren	*Catherpes mexicanus*
Marsh Wren	*Cistothorus palustris*
Pacific Wren	*Troglodytes pacificus*
Gray Catbird	*Dumetella carolinensis*
American Robin	*Turdus migratorius*
Hermit Thrush	*Catharus guttatus*
Townsend's Solitaire	*Myadestes townsendi*
Mountain Bluebird	*Sialia currucoides*
Golden-crowned Kinglet	*Regulus satrapa*
Ruby-crowned Kinglet	*Regulus calendula*
Blue-gray Gnatcatcher	*Polioptila caerulea*
Bushtit	*Psaltriparus minimus*
American Pipit	*Anthus rubescens*
Bohemian Waxwing	*Bombycilla garrulus*
Cedar Waxwing	*Bombycilla cedrorum*
Northern Shrike	*Lanius excubitor*
European Starling	*Sturnus vulgaris*
Cassin's Vireo	*Vireo cassinii*
Warbling Vireo	*Vireo gilvus*
Orange-crowned Warbler	*Vermivora celata*
Nashville Warbler	*Vermivora ruficapilla*
Yellow Warbler	*Dendroica petechia*
Yellow-rumped Warbler	*Dendroica coronate*
Common Yellowthroat	*Geothlypis trichas*
Yellow-breasted Chat	*Icteria virens*
Wilson's Warbler	*Wilsonia pusilla*
MacGillivray's Warbler	*Oporornis tolmiei*
Northern Waterthrush	*Seiurus noveboracensis*
Western Tanager	*Piranga ludoviciana*
House Sparrow	*Passer domesticus*
Western Meadowlark	*Sturnella neglecta*
Yellow-headed Blackbird	*Xanthocephalus xanthocephalus*
Red-winged Blackbird	*Agelaius phoeniceus*

Common Name	Scientific Name
Brewer's Blackbird	*Euphagus cyanocephalus*
Brown-headed Cowbird	*Molothrus ater*
Bullock's Oriole	*Icterus galbula*
Black-headed Grosbeak	*Pheucticus melanocephalus*
Evening Grosbeak	*Coccothraustes vespertinus*
Lazuli Bunting	*Passerina amoena*
House Finch	*Carpodacus mexicanus*
Cassin's Finch	*Carpodacus cassinii*
Pine Siskin	*Carduelis pinus*
American Goldfinch	*Carduelis tristis*
Lesser Goldfinch	*Carduelis psaltria*
Spotted Towhee	*Pipilo maculatus*
Savannah Sparrow	*Passerculus sandwichensis*
Chipping Sparrow	*Spizella passerine*
White-crowned Sparrow	*Zonotrichia leucophrys*
Song Sparrow	*Melospiza melodia*
American Tree Sparrow	*Spizella arborea*
Lincoln's Sparrow	*Melospiza lincolnii*
White-throated Sparrow	*Zonotrichia albicollis*
Golden-crowned Sparrow	*Zonotrichia atricapilla*
Harris's Sparrow	*Zonotrichia querula*
Dark-eyed Junco	*Junco hyemalis*
Red Crossbill	*Loxia curvirostra*
Juniper Titmouse	*Baeolophus ridgwayi*
Lapland Longspur	*Calcarius lapponicus*
Snow Bunting	*Plectrophenax nivalis*

4.5.2 Terrestrial Wildlife

The Project is located within the town of American Falls and is surrounded by developments, residential and agricultural areas, and the Reservoir. There are minimal federally managed lands in the immediate vicinity of the Project, and these are managed by 3 separate Field Offices across 2 Bureau of Land Management Districts. The Pocatello and Upper Snake Field Offices of the Idaho Falls District manage federal lands to the north and east of the Project, respectively. The Burley Field Office of the Twin Falls District manages federal lands to the west–southwest of the Project. Additionally, the Bureau of Indian Affairs (BIA) manages land to the east and northeast of the Project.

Review of the USFWS Information for Planning and Consultation (IPaC) showed there are no non-avian terrestrial wildlife resources or designated habitat in the vicinity of the Project. State Wildlife Action Plan (SWAP) Species of Greatest Conservation Need (SGCN) and Bureau of Land Management (BLM) special status wildlife (SSW) lists by Field Office showed several species for this ecoregion and BLM districts. However, the prevalence of agricultural and urban

development immediately surrounding the Project does not provide quality habitat for these species. The distance from the Project to habitat that could sustain these species and anthropogenic barriers (city of American Falls and Interstate I-86) greatly limit the potential for use by any non-avian terrestrial wildlife. Additionally, the fragmented habitat located closer to the Project is unlikely to sustain resident populations of these species. Existing infrastructure has impacts that have been realized on a landscape and population level. While several documented occurrences are in the vicinity of the Project, it should be noted that nearly all of these are historical occurrences or records from people of unknown background and/or imprecise location data.

Table 21
SWAP SGCN Snake River basalts

Species	Habitat
Amphibian	
Western toad (*Anaxyrus boreas*)	Depressional wetlands; springs groundwater-dependent wetlands
northern leopard frog (*Lithobates pipiens*)	Depressional wetlands; springs groundwater-dependent wetlands
Mammals	
pygmy rabbit (Brachylagus idahoensis)	sagebrush steppe
Townsend's big-eared bat (Corynorhinus townsendii)	sagebrush steppe; lava flows caves and tubes
Silver-haired bat (Lasionycteris noctivagans)	riverine--riparian forests and shrubland
hoary bat (Lasiurus cinereus)	Sagebrush steppe
western small-footed myotis (Myotis ciliolabrum)	sagebrush steppe; lava flows caves tubes
little brown myotis (Myotis lucifugus)	sagebrush steppe; lava flows caves and tubes
Arachnids	
Cave obligate harvestman (*Speleomaster lexi*)	lava flows, caves/tubes
Cave obligate harvestman (*Speleomaster pecki*)	lava flows, caves/tubes
Cave Obligate mite (*Flabellorhagidia pecki*)	lava flows, caves/tubes
Terrestrial Gastropod	
Deseret mountainsnail (*Oreohelix peripherica*)	Springs and groundwater
Millipedes	
Idaho Lava tube millipede (*Idahona westcotti*)	Lava flows, caves/tubes
Insects	
Ant-like flower beetle (*Amblyderus owyhee*)	Sparsely vegetated dune scrub & grassland
metallic wood-boring beetle (*Agrilus pubifrons*)	sagebrush steppe
metallic wood-boring beetle (*Chrysobothris horningi*)	lava flows, caves/tubes
metallic wood-boring beetle (*Chrysobothris idahoensis*)	sagebrush steppe; lava flows caves/tubes
Idaho Dunes Tiger Beetle (*Cicindela arenicola*)	Sparsely vegetated dune scrub & grassland
Long-horned beetle (*Judolia gaurotoides*)	sagebrush steppe
blind cave leiodid beetle (*Glacicavicola bathysciodies*)	lava flows, caves/tubes
A Mayfly (*Parameletus columbiae*)	Riverine - Riparian forest & shrubland
A Miner Bee (*Calliopsis barri*)	Sparsely vegetated dune scrub & grassland
Hunt's bumble bee (*Bombus huntii*)	sagebrush steppe

Species	Habitat
Morrison's bumble bee (*Bombus morrisoni*)	sagebrush steppe
A yellow-masked bee (*Hylaeus lunicraterius*)	lava flows, caves/tubes
A leafcutting bee (*Ashmeadiella sculleni*)	Sparsely vegetated dune scrub & grassland
A mason Bee (*Hoplitis producta subgracilis*)	Sagebrush steppe
monarch (*Danaus plexippus*)	sagebrush steppe, sparsely vegetated dune scrub & grassland
Wiest's Primrose Sphinx (*Euproserpinus wiesti*)	Sparsely vegetated dune scrub & grassland
Idaho Point-headed grasshopper (*Acrolophitus pulchellus*)	sagebrush steppe
spur-throated grasshopper (*Melanoplus*)	sagebrush steppe
a caddisfly (*Glossosoma idaho*)	Riverine - Riparian forest & shrubland

Table 22
BLM SSW list 2015 (Pocatello FO, Upper Snake FO, and Burley FO)

Amphibians	
Common Name	**Scientific Name**
Western/boreal toad	Anaxyrus boreas
Northern leopard frog	Lithobates pipiens

Mammals	
Common Name	**Scientific Name**
Big brown bat	Eptesicus fuscus
Bighorn sheep	Ovis canadensis spp.
Canyon bat	Parastrellus Hesperus
Fisher	Martes pennant
Gray wolf	Canis lupus
Hoary bat	Lasiurus cinereus
Kit fox	Vulpes macrotis
Little brown myotis	Myotis lucifugus
Long-eared myotis	Myotis evotis
Long-legged myotis	Myotis Volans
Pallid bat	Antrozus pallidus
Piute ground squirrel	Urocitellus mollis
Pygmy rabbit	Brachylagus idahoensis
Silver-haired bat	Lasionycteris noctivagans
Spotted bat	Euderma maculatum
Townsend’s big-eared bat	Corynorhinus townsendii
Western small-footed myotis	Myotis ciliolabrum
Wolverine	Gulo gulo luscus
Yuma myotis	Myotis yumanensis

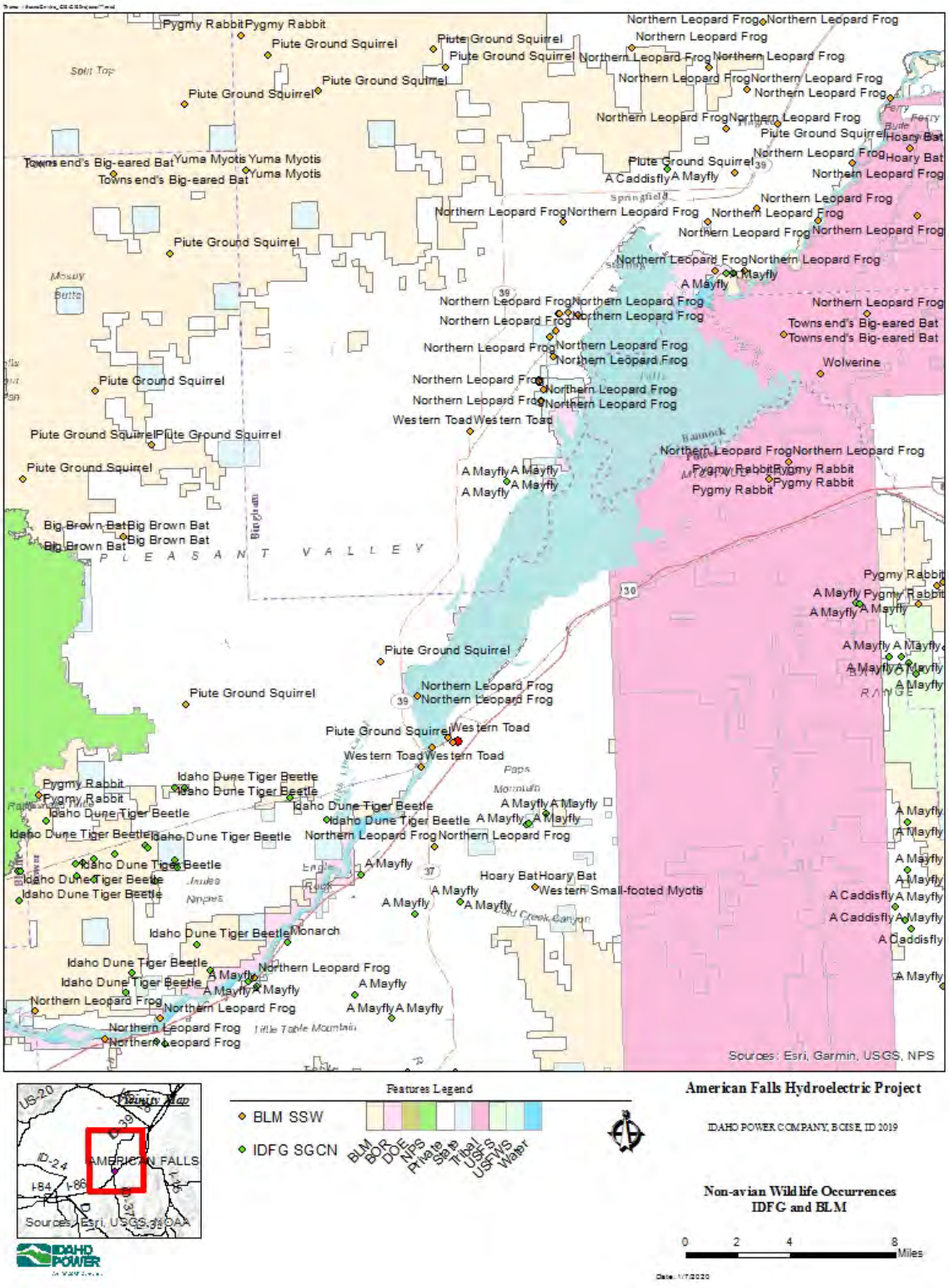


Figure 27
Non-Avian wildlife occurrences near American Falls

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

4.6.1 Vegetation Community

The vegetation community within the Project vicinity consists of a mix of degraded uplands, sparse riparian areas, agriculture, residential and industrial areas. Non-native vegetation predominates most upland areas while riparian areas contain a mix of native and non-native trees and shrubs, with an understory primarily composed of non-native herbaceous species. Native vegetation is found in steep areas and in areas with minimal use, usually because of access constraints. In these areas, basin big sagebrush (*Artemisia tridentata* ssp. *tridentata*) and rubber rabbitbrush (*Ericameria nauseosa*), both native shrubs, are found, but in general the understory is dominated by cheatgrass (*Bromus tectorum*)—an invasive annual grass. Residential areas, parks, parking lots, and a substation make up most IPC lands on the east side of the river. Non-IPC land in the Project boundary (near the Dam) are heavily vegetated but primarily with non-native shrubs and trees. A small amount of IPC-land is also leased for agriculture. Several IPC facilities associated with energy production are also present on IPC-lands and lands within the Project boundary. No vegetation generally exists in these areas (e.g., substations, parking areas).

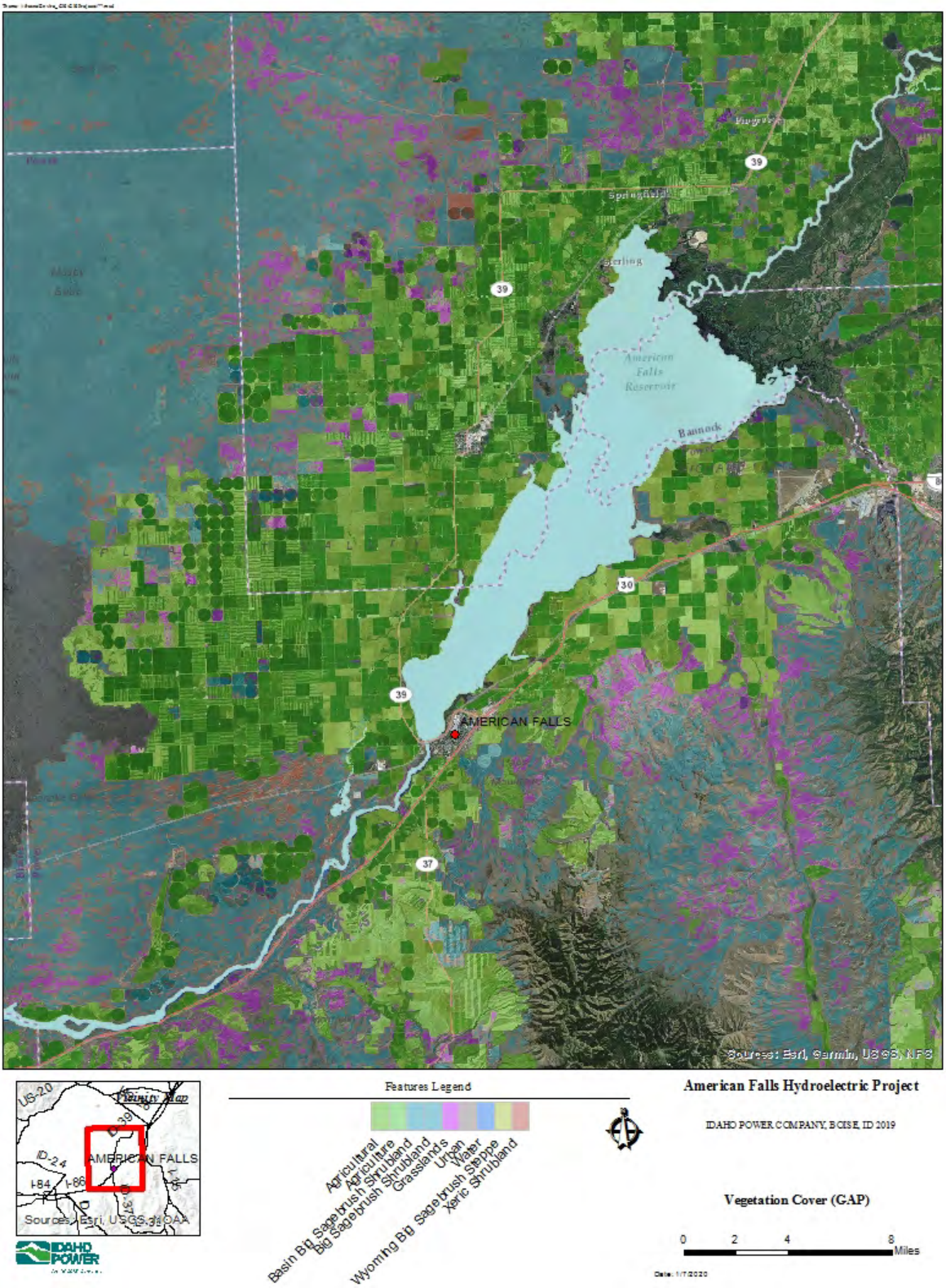


Figure 28
Vegetation cover near American Falls

4.6.2 Wetlands

The USFWS describes wetlands as "lands where saturation with water is the dominant factor determining the nature of substrate development and the types of plant and animal communities living in the substrate and on its surface" (USFWS 2016). The United States Federal Geographic Data Committee (FGDC) Wetlands Classification Standard (FGDC 2013) defines wetlands according to Cowardin et. al. (1979) below:

> …wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water…Wetlands must have 1 or more of the following 3 attributes: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year (Cowardin 1979).

The National Wetlands Inventory (USFWS 2016) maps 3 types of wetlands in the Project vicinity for a total of 16.9 acres. Twelve acres are classified as *Lake* (the portion of the Snake River included in the Project boundary), 3.05 acres are *Freshwater Emergent Wetland* and 1.83 acres are *Freshwater Forested/Shrub Wetland*. Areas near a man-made irrigation storage area make up 2.3 acres of the *Freshwater Emergent Wetland*s.

4.6.3 Littoral Habitat

Littoral zones are regions lying along the shore of a waterbody, generally extending from the high-water mark to areas that are permanently submerged under water. There are approximately 0.6 acres of Snake River shoreline within the Project boundary that is littoral habitat.

4.6.4 Riparian Habitat

The USFWS defines riparian areas as: "plant communities contiguous to and affected by surface and subsurface hydrologic features of perennial or intermittent lotic and lentic water bodies (rivers, stream, lakes, or drainage ways). Riparian areas are usually transitional between wetland and upland. Riparian areas have 1 or both of the following characteristics, 1) distinctly different vegetative species than adjacent areas and/or 2) Species similar to adjacent areas but exhibiting more vigorous or robust growth forms" (USFWS 2016).

Riparian areas at American Falls are not currently mapped in the NWI database. In the Project boundary a patchy distribution of deciduous-riparian exists near the shorelines of the Snake River. These areas are primarily dominated by non-native trees and shrubs (Funk 2016).

4.6.6 Noxious Weeds

The State of Idaho defines a noxious weed as "any plant having the potential to cause injury to public health, crops, livestock, land or other property; and which is designated as noxious by the

director" (Idaho Code title 22, Chapter 24). Currently there are 67 weed species and 4 plant genera designated by Idaho law (ISI 2019). In 2016, IPC observed 4 noxious weeds on IPC lands: Canada thistle (*Cirsium arvense*), poison hemlock (*Conium maculatum*), common reed (*Phragmites australis*), and houndstongue (*Cynoglossum officinale*) (Funk 2016). Flowering rush (*Butomus umbellatus*) is also known within the Reservoir system and nearby canals. The Idaho Department of Agriculture is leading an effort to control flowering rush in these areas (Morrison, pers comm).

Table 23
Wetland types found on IPC-lands and lands within the Project boundary

Wetland Type	Wetland Code	Acres	Description
Freshwater Emergent Wetland	PEM1B	0.76	**P=Palustrine:** all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 0.5 ppt. It also includes wetlands lacking such vegetation, but with all of the following 4 characteristics: 1) area less than 8 ha (20 acres); 2) active wave-formed or bedrock shoreline features lacking; 3) water depth in the deepest part of basin less than 2.5 m (8.2 ft.) at low water; and 4) salinity due to ocean-derived salts less than 0.5 ppt. **EM=Emergent:** erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. Dominated by perennial plants. **1**: dominated by species that normally remain standing at least until the beginning of the next growing season. **B**: seasonally saturated.
Freshwater Emergent Wetland	PEM1C	0.91	**P**= see above **EM**=see above 1=see above **C**=seasonally flooded
Freshwater Emergent Wetland	PEM1F	1.38	**P**= see above **EM**=see above 1=see above **F**=semi permanently flooded
Freshwater Forested/Shrub Wetland	PSS1B	1.83	**P**= see above **SS**=dominated by woody vegetation less than 6 m (20 feet) tall. **1**=woody trees or shrubs with relatively wide, flat leaves that are shed during cold or dry season **B**=seasonally saturated

Wetland Type	Wetland Code	Acres	Description
Lake	L1UBHh	12	**L**=**Lacustrine:**:wetlands and deepwater habitats with all of the following characteristics: 1) situated in a topographic depression or a dammed river channel; 2) lacking trees, shrubs, persistent emergents, and emergent mosses or lichens with 30% or greater areal coverage; and 3) total area of at least 8 hectares (ha) (20 acres). Similar wetlands and deepwater habitats totaling less than 8 ha are also included in the Lacustrine System if an active wave-formed or bedrock shoreline feature makes up all or part of the boundary, or if the water depth in the deepest part of the basin equals or exceeds 2.5 m (8.2 ft.) at low water. Lacustrine waters may be tidal or nontidal, but ocean-derived salinity is always less than 0.5 ppt. 1=**Limnetic**: all deepwater habitats (i.e., areas > 2.5 m [8.2 ft.] deep below low water) in the Lacustrine System. Many small Lacustrine Systems have no Limnetic Subsystem. **UB=**wetlands and deepwater habitats with at least 25% cover of particles smaller than stones (less than 6-7 cm), and a vegetative cover less than 30%. **H**=water covers the substrate throughout the year in all years. **h**=created or modified by a man-made barrier or dam that obstructs the inflow or outflow of water.

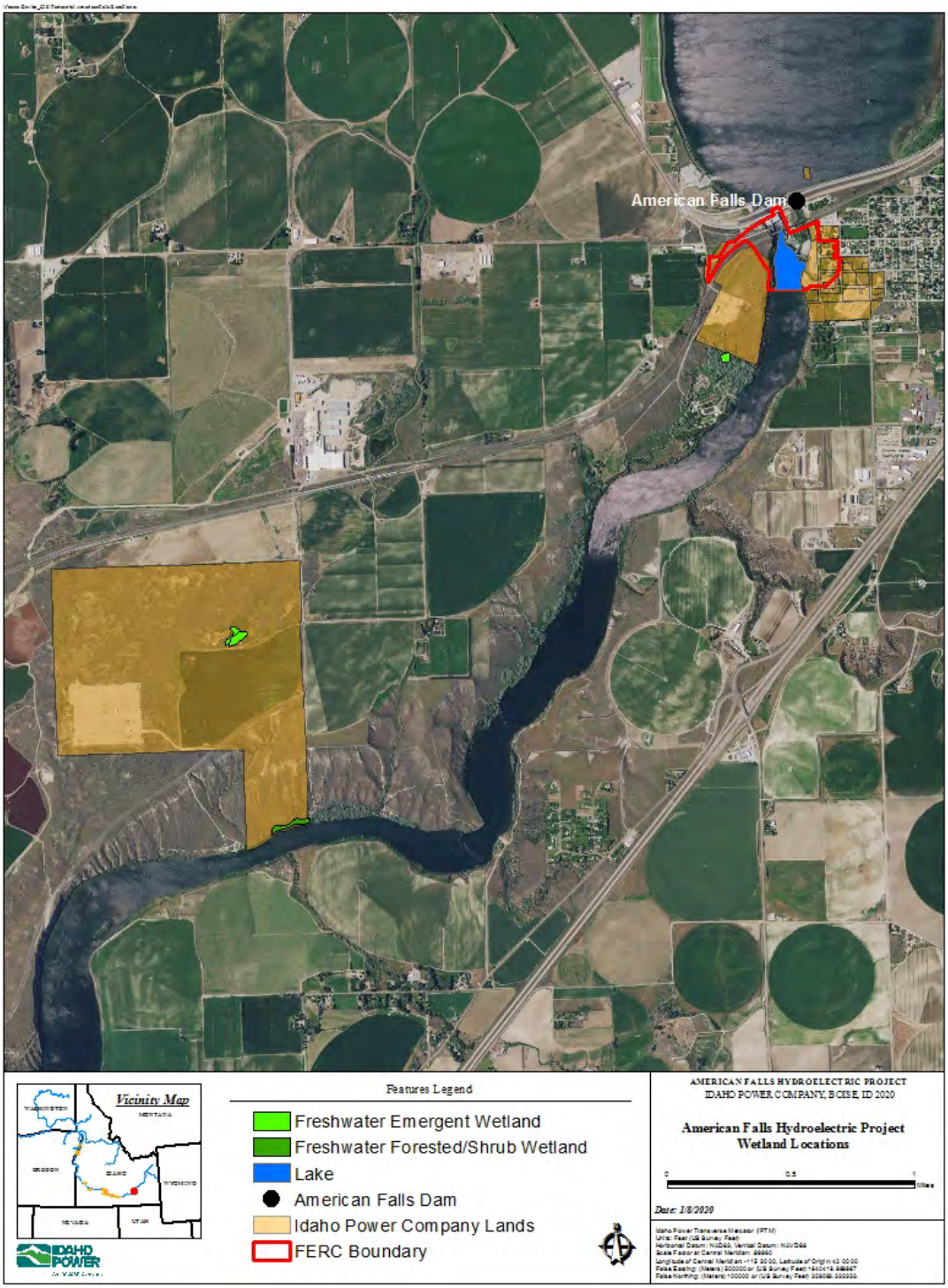


Figure 29
Wetlands within the vicinity of the Project. Wetland locations from the National Wetlands Inventory (USFWS 2016).

4.7 Rare, Threatened and Endangered Species (18 CFR § 5.6(d)(3)(vii))

IPC used the USFWS IPaC (IPaC 2019) system to identify any species listed as threatened or endangered under the Endangered Species Act (ESA) and critical habitat for any listed species that may exist in the Project vicinity. Similarly, IPC reviewed Idaho's listed bird, mammal, amphibian and reptile species of special concern. No ESA threatened or endangered species, or critical habitat occur on IPC land, within the Project boundary or within the vicinity of the Project (IPaC 2019, INHP 2019, Funk 2016).

Hatchery white sturgeon are present in the tailrace below the Project and in the Project boundary; however, white sturgeon are not federally listed throughout their range. In the U.S., white sturgeon are only listed in the Kootenai River. They are also listed within Canada's portion of the Columbia River, but not downstream on the U.S. side. White sturgeon have no federal protection in the Snake River and the sturgeon present below the Dam are not naturally occurring. These hatchery sturgeon have been periodically stocked above their historic natural barrier (i.e., Shoshone Falls) by IDFG to diversify exiting fisheries and provide for a popular and unique sportfishing opportunity (USBR 2019a). IDFG first released hatchery white sturgeon below the Dam in 1989 and is geographically isolated from wild Snake River populations and is presumed to be non-reproductive due to a lack of favorable spawning conditions (USBR 2019a). Due to the anthropogenic origin and non-reproductive, isolated characteristics of the population, hatchery white sturgeon in the Upper Snake are designated as Sportfish Populations to support the management of recreational fisheries by IDFG.

There are no known occurrences of ESA-listed snails in the Project vicinity. The nearest identified population occurs below Minidoka Dam (RM 675), which is 39 miles downstream of the Project. As mentioned in section 3.5.1., on June 17, 2019, FERC issued an Order amending several of IPC's FERC licenses, including the Project (FERC 2019c). The Order incorporated terms and conditions of a USFWS Biological Opinion (BiOp) that provides programmatic Endangered Species Act (ESA) coverage for 3 ESA-listed snails found in the Snake River, the Snake River Physa (*Physa natricina*), Bliss Rapids snail (*Taylorconcha serpenticola*), and Banbury Springs lanx (*Idaholanx fresti*), related to IPC's sturgeon and resident fisheries system-wide sampling program.

The biological assessment for this action concluded that IPC's fisheries sampling program will have no effect on any of the 3 ESA-listed snails in the free-flowing reach below the Dam because there is no documentation of these species occurring between river mile 708.0 and 714.7. This was further supported in the BiOp's Terms and Conditions, which are limited to 2 Snake River reaches, between King Hill and Bliss Dam, and between Bliss Reservoir and Lower Salmon Falls Dam. Both reaches are well outside the vicinity of the Project or any Project effects.

4.7.1 Identification of Habitat Requirements

This section is inapplicable because there are no rare, threatened, endangered, candidate, or special status species in the Project vicinity.

4.7.2 Endangered Species Outside the Vicinity of the Project

Recorded observations of Ute ladies'-tresses (*Spiranthes diluvialis*), a plant federally-listed as threatened, exist northwest of the Reservoir. Observations of this plant are approximately 20-air miles away from the Project boundary (IPaC 2019 and INHP 2019). Habitat for this plant is not found on IPC lands or lands within the project boundary.

The endangered Yellow-billed cuckoo (*Coccyzus americanus*) does have critical habitat designated along the Snake River above the Reservoir, but the Yellow-billed cuckoo's use of habitat in the Project vicinity is unlikely due to the lack of cottonwood gallery forest and would only be used during migration, if ever. Further, IPC does not own the Dam or operate the Reservoir, therefore the Project does not affect the critical habitat and any measures related to the Yellow-billed cuckoo's critical habitat would be out of the scope of this relicensing proceeding.

4.7.3 Birds of Conservation Concern

Seven Birds of Conservation Concern (BCC) (*Birds of Conservation Concern*) were listed on the IPaC website which may occur in the Project vicinity and are also protected under either the Migratory Bird Treaty Act (MBTA) or the Bald and Golden Eagle Protection Act (BGEPA). However, these birds are not ESA threatened or endangered species.

Table 24
MBTA or BGEPA bird species that may occur in the Project vicinity

Common Name	Scientific Name	Breeding Season
Bald Eagle	Haliaeetus leucocephalus	December 1 to August 31
Golden Eagle	Aquila chrysaetos	December 1 to August 31
Clark's Grebe	Aechmophorus clarkia	January 1 to December 31
Lesser Yellowlegs	Tringa flavipes	Breeds elsewhere
Long-billed Curlew	Numenius americanus	April 1 to July 31
Marbled Godwit	Limosa fedoa	Breeds elsewhere
Willet	Tringa semipalmata	April 20 to August 5

4.7.4 References to Known Biological Opinions, Status Reports, or Recovery Plans Pertaining to a Listed Species

There are no ESA listed species in the vicinity of the Project. However, as additional background, IPC provides the following list of biological opinions, status reviews, and species sampling in the region.

In 2019, USFWS issued a biological opinion for the Sturgeon and Resident Fisheries System-Wide Sampling Programmatic Agreement, as discussed in section 4.7.

In 2018, USFWS initiated a 5-year status review for 18 species in Hawaii, Oregon, Washington, Idaho, and Canada. (USFWS 2018).

In 2018, IPC sampled for Snake River physa at Trenner Park, just downstream of the Dam, to support a biological assessment for a construction project. No Snake River physa were found at this location (Stephenson et al. 2018).

A 2015 Biological Opinion issued to Reclamation for the potential effects to the Snake River physa from operation and maintenance of Reclamation facilities on the Snake River above Brownlee Reservoir. (USFWS 2015, Reclamation EA p. 40).

In 2014, USFWS initiated a 5-year status review for Snake River physa (USFWS 2014).

In 2005, USFWS issued a Biological Opinion for Reclamation's operations and maintenance in the Snake River basin above Brownlee Reservoir (USFWS 2005).

4.7.5 Extent and Location of any Federally-designated Critical Habitat, or Other Habitat for Listed Species in the Project Area

No federally-designated critical habitat exists in the vicinity of the Project.

4.7.6 Temporal and Spatial Distribution of the Listed Species Within the Project Vicinity

No ESA-listed species occur in the vicinity of the Project.

4.8 Recreation and Land Use within the Project Boundary (18 CFR § 5.6(d)(3)(viii))

4.8.1 Existing Recreational Sites and River Access

There are 4 developed recreational sites and river access areas located within the Project boundary. Three of the sites are operated by IPC, and 1 site is operated by Power County.

Popular recreational activities within the Project boundary include fishing, boating, picnicking, birding and general sightseeing.

Trenner Memorial Park

Trenner Park is a grassy, terraced development, with large trees and shrubs, offering shade and scenic views of the Snake River, powerhouse, Dam, and related facilities. It is approximately 0.5 acres and has picnic tables, underground irrigation, stone walls and chain link fencing abutting the river side for the public's safety. An anchored fishing dock system with a safety railing is connected to the bottom tier of the park. A large graveled parking area accommodates approximately 100 vehicles. From the parking area, a wide pathway leads to the park.

American Falls Park

American Falls Park consists of 2 areas, an 0.5-acre area and a 1.5-acre area. The park is a grassy, open area bordered by shrubs and juniper trees. Facilities include numerous picnic tables, potable water, a restroom and parking area. Recreationists can easily access Trenner Memorial Park from American Falls Park.

Power County Boat Ramp

The Power County Boat Ramp is operated by the county and is mostly a paved boat ramp area approximately 1.5 acres in size. The boat ramp area includes 26 parking spots for cars including 1 ADA parking spot and 30 parking spots suitable for vehicles with boat trailers. The boat ramp is 2 lanes wide and includes 2 boat docks (1 on each side of the ramp). An ADA fishing pier is connected to the lone ADA parking spot and another small fishing pier is located just downstream of the boat ramp. The boat ramp area also includes a double vault toilet, 2 covered picnic tables and a small gravel area for informal parking.

River and Fishing Access (Western Side of River)

The river and fishing access provides access along the river's west bank and the project tailrace below the powerhouse. Improvements include directional signage, a stairway with railing, chain link fencing and a foot trail to accommodate bank angling.

Figure 30
Recreation developments at American Falls hydropower facility

4.8.2 Current Recreational use of Project Lands and Waters Compared to Facility or Resource Capacity

IPC conducted roving recreational-use surveys at the Project twice in the last eleven years, in 2008 and between October 1, 2013 through September 30, 2014. Throughout each study period, IPC counted recreationists by location during randomly selected survey periods. To obtain information on recreational use on-site interviews with recreationists were conducted in addition to counts of people and vehicles. We based our surveys on methodologies suggested by Malvestuto et al., (1978), Malvestuto (1983), and Hoenig et al. (1993).

In 2008, 6 days per quarter were randomly selected to be sampled. In 2013–2014, IPC treated each 2-month time-period as a sampling block. Within each sampling block, we stratified days into weekend days (Saturday and Sunday) or weekdays.

For both study years we divided each sampling day into multiple distinct and equal sampling periods, based on day length. The time-period during which sampling was conducted each day was randomly selected, and each time period was assigned an equal probability of being selected.

The area was sampled as a circuit covering each side of the Project and start points were randomly chosen. Sampling direction left or right was randomly chosen by the flip of a coin. IPC selected random count times within each daily sampling period. At that count time, survey clerks conducted a complete count of recreationists. As survey clerks progressed through the circuit, they recorded the number of recreationists and recreation-related vehicles and equipment. They recorded these data by observed activity and location. Survey clerks conducted interviews with recreationists during the time that was not used to conduct counts by continuing in the same random direction and interviewing each recreationist encountered. Survey clerks recorded information collected during interviews into Android tablets. This information included the interview time and date, present activity, time of arrival, estimated time of leaving, group size, and number of vehicles.

Results from both study years show angling to be the predominant activity at the project. Observed recreation activities from both sampling years (2008 and 2014) are shown below.

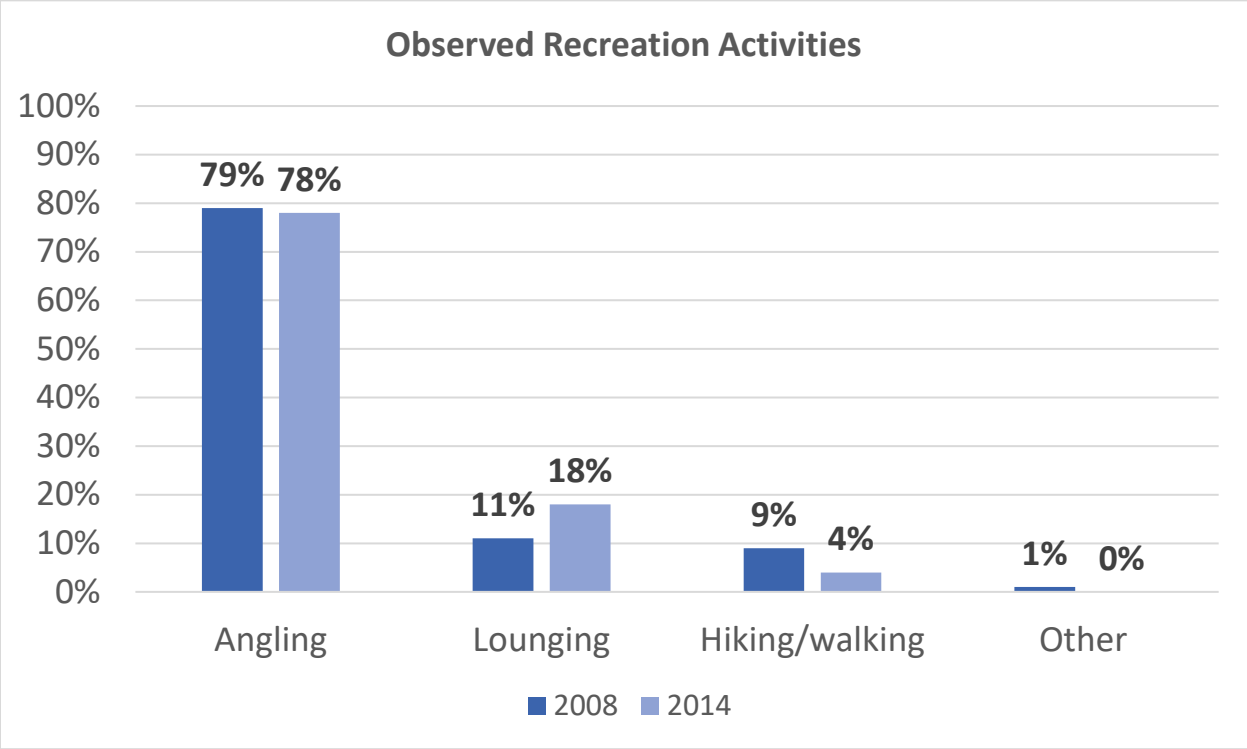


Figure 31
Observed recreation activities at American Falls hydroelectric facility

Most of the recreation use observed in 2008 and 2014 occurred at the Power County boat ramp area and on the Snake River. Because all Snake River recreation use required the boat ramp to access the river, the 2 areas have been combined in the chart below which shows where recreation use was observed.

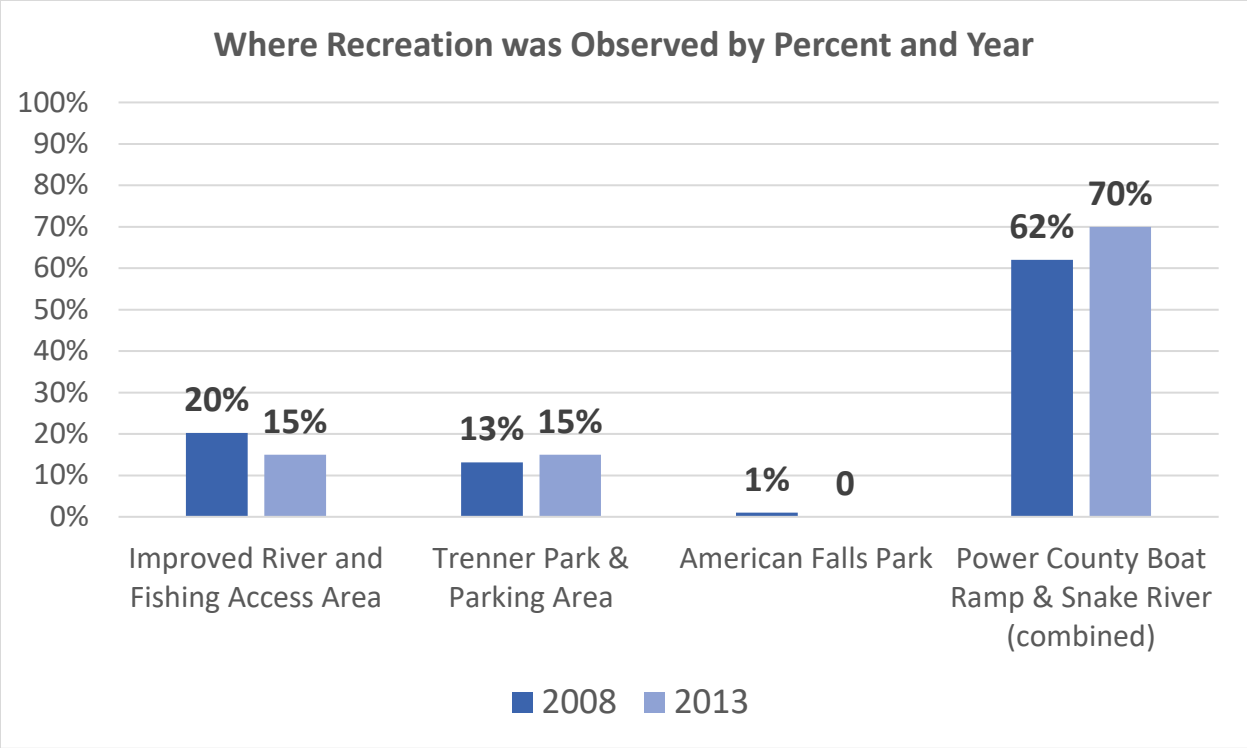


Figure 32
Recreation use by location at American Falls hydroelectric facility

Most of the recreation use recorded by IPC occurred between the last Saturday of Memorial Day weekend and October 15. This is also the season when trout and bass may be kept. The remainder of the year (October 16 through the Friday before Memorial Day weekend) is catch and release only with no bait allowed.

To better understand recreation use trends at the Power County boat ramp, IPC installed a temporary traffic counter in the spring of 2016. The popularity of use during the angling season is significant and mirrors our sampling efforts. Figure 33 shows the amount of use for each Saturday in May. The final Saturday of May (May 28, 2016) is also the first day of the fishing season. Figure 34 shows the weekly vehicle count at the boat ramp from early March through late June.

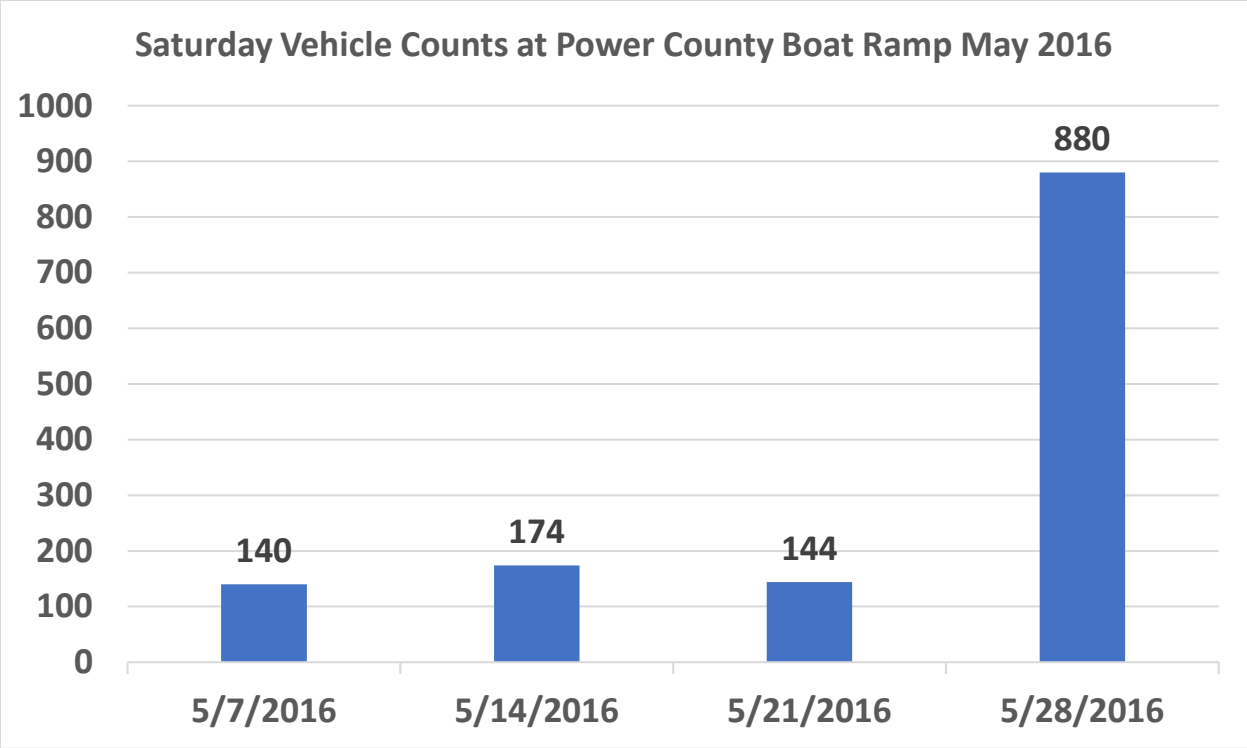


Figure 33
Saturday vehicle counts at Power County boat ramp—May 2016

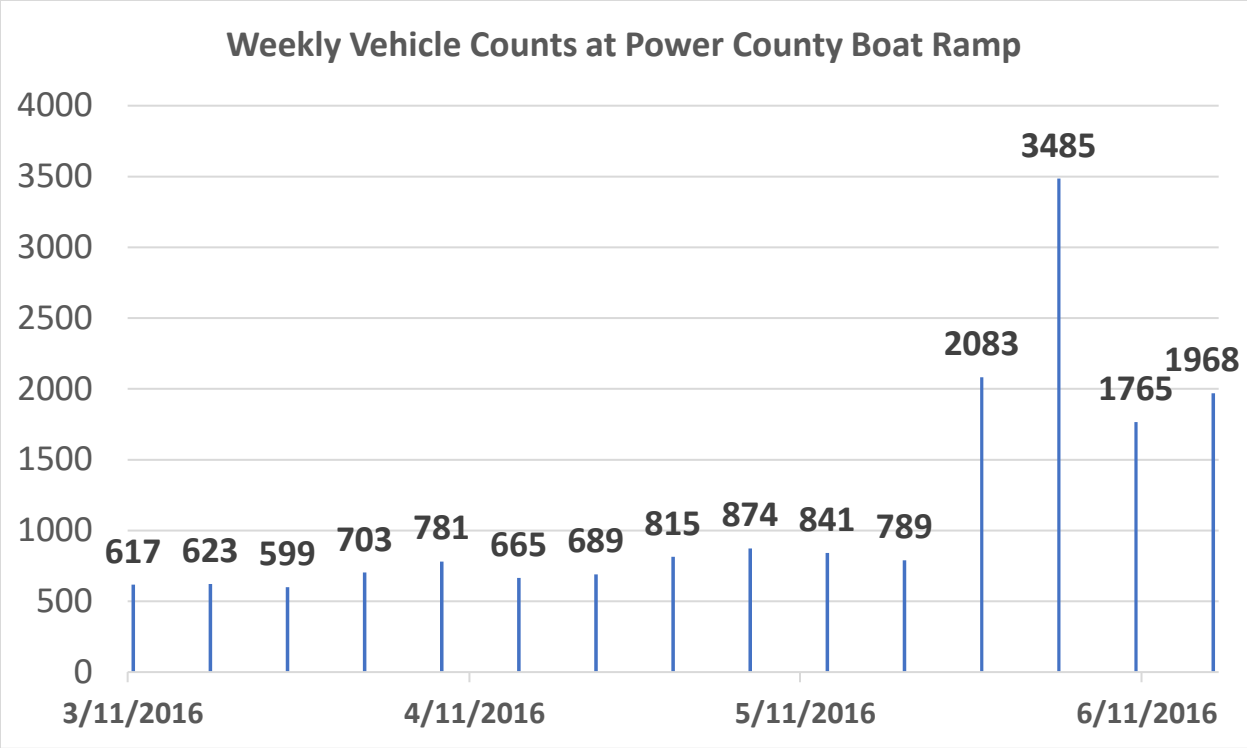


Figure 34
Weekly vehicle counts at Power County boat ramp, March—June 2016

4.8.3 Other Recreation Considerations

The PAD requires discussion on several other recreational considerations, which is provided here based on the limited amount of information required.

Existing Shoreline Buffer zones within the Project boundary.

There are no shoreline buffer zones in the Project boundary.

Current and future recreation needs identified in current State Comprehensive Outdoor Recreation Plans, other applicable plans on file with the Commission, or other relevant local, state, or regional conservation and recreation plans.

IPC believes the Project is meeting the recreation needs outlined in Idaho's Statewide Comprehensive Outdoor Recreation Plan.

If the potential applicant is an existing licensee, its current shoreline management plan or policy, if any.

The Project does not have a shoreline management plan or policy. Reclamation owns and operates the Dam and controls Reservoir operations.

Whether the Project is located within or adjacent to a river segment that is designated as part of, or under study for inclusion in, the National Wild and Scenic River System, or state-protected river segment.

No portion of the Snake River above or below the Project is designated or under study for inclusion in the National Wild and Scenic River System (www.rivers.gov/idaho.php). Similarly, there are no state-protected river segments within or adjacent to the Project.

Whether any project lands are under study for inclusion in the National Trails System or designated as, or under study for inclusion as, a Wilderness Area.

No Project lands are under study for inclusion in the National Trails System (NTS) or designated or under study for inclusion as a Wilderness Area. However, the Oregon National Trail is within the vicinity of the Project or partially within the Project boundary. The Oregon Trail National Park Service website lists American Falls as a "place to go" along the Trail (See generally, National Park Service, The Oregon National Historic Trail Interactive Map!).

Any regionally or nationally important recreation areas in the project vicinity.

There are no regionally or nationally important recreation areas in the vicinity of the Project.

Any non-recreational land use and management within the project boundary.

There are no non-recreational land-use or management activities within the Project boundary.

Any recreational and non-recreational land use and management adjacent to the project boundary.

There are no recreational and non-recreational land use or management adjacent to the Project boundary.

4.9 Aesthetic Resources (18 CFR § 5.6(d)(3)(ix))

The Reservoir provides recreational opportunities and Reclamation is primarily responsible for operating and maintaining recreational access points to enjoy fishing, boating, and sightseeing, among other opportunities. Idaho State Highway 39 (SH-39) crosses the Dam and provides views of the Reservoir, Project, and the Snake River downstream of the Dam.

Figure 35–40 provide photos of the Dam, Project, Reservoir, and surrounding area. The lands immediately surrounding these features include the city of American Falls and generally flat agricultural lands. Development along the Reservoir shoreline is minimal providing for a generally natural aesthetic.

Figure 35
View of American Falls Dam looking Southeast and the Snake River downstream of the Project

Figure 36
View of American Falls Dam looking east

Figure 37
American Falls Dam, Project, and SH-39

Figure 38
American Falls Dam, Project, recreation facilities, and substation

Figure 39
American Falls Dam, Project, City of American Falls, and reservoir shoreline looking northeast

Figure 40
American Falls Dam, Project, reservoir and shoreline looking north

4.10 Cultural Resources (18 CFR § 5.6(d)(3)(x))

4.10.1 Cultural and Historic Resources Within the Project Boundary

The area within the Project boundary has previously been surveyed for archaeological resources, and some of the historic built resources in the area have been inventoried and documented. Therefore, the Project's archaeological, cultural, and historic built resources are generally well understood, but a comprehensive survey of built resources within the Project boundary has not been completed.

A review of the existing data indicates that there is a portion of 1 previously recorded archeological site, and 7 previously recorded historic built resources, such as buildings, structures, and canals, located within the Project boundary.

The single previously recorded archaeological site (10PR793) located partially within the Project boundary is a multicomponent site comprised of a sparse scatter of prehistoric artifacts and the remnants of a historic farm. It was tested by IPC in 2016 (Valentine et al. 2016). Based on the test results the site was determined to not be eligible for the National Register of Historic Places (NRHP), with SHPO concurrence (Morton 2016).

The previously documented built resources within the Project boundary consist primarily of the remnants of historic hydroelectric facilities that are no longer functional. Five of the resources are the remains of decommissioned powerhouses, diversions structures, or ancillary hydroelectric facilities (Kimball and Baker 2011). One resource is the route of the Oregon Short Line/Union Pacific Railroad, and 1 resource is a historic irrigation canal.

The decommissioned American Falls Island Powerhouse (IHSI #77-1587/NRHP #76000680), is listed on the NRHP. The power plant was constructed in 1901 and housed 2 open-pit, twin horizontal turbines connected to two 500 kW, 3-phase, alternating current generators. It operated continuously until it was taken out of service in 1923. The current site includes a two-story stone masonry powerhouse, and remains of the intake structure and turbine pits. Most of the equipment was removed in the 1920s after the facility was taken out of service.

Four of the other previously documented built resources are remnants of the cluster of historic hydroelectric facilities formerly located at the falls that are no longer operational. These sites include the remains of two powerhouses, a diversion structure, and a park constructed adjacent to one of the powerhouses as part of an expansion of the hydroelectric project. All 4 of these sites have been determined to be not eligible for the NRHP (Pengilly 2011).

Two of these resources consist of the remnants of the American Falls West Shore Power Plant (IHSI #77-17115) and the East Shore Power Plant (#77-17115). Both historic power plants were taken out of service decades ago and the powerhouses were demolished. The East Shore Plant (IHSI #77-17115/NRHP 76000680) was listed on the NRHP in 1976, but the plant was demolished in 1977, with the exception of a short segment of concrete wall from the forebay (Kimball and Baker 2011).

The third resource is the remains of the historic horseshoe dam (IHSI #77-17113) which originally supplied water to the East Shore Power Plant and was taken out of service at the same time as the East Shore Plant and was partially demolished. The fourth hydroelectric-related site is Trenner Park (IHSI #77-17114), a constructed landscape consisting of 3 terraces built around a pre-existing rock outcrop on the east bank of the Snake River (Kimball and Baker 2011). The park was constructed in 1927 in conjunction with the final phase of the expansion of the East Shore Power Plant. Rocky debris and fill from plant construction was terraced using large stone masonry walls which were built abutting the west side of the powerhouse, creating a park that was made available to the public. When the East Shore Plant was demolished in 1977 the park was slightly reconfigured and continues to serve as a recreation facility. It was determined to be not eligible for the NRHP in 2011 (Pengilly 2011).

The Union Pacific (UP) Railroad (originally the route of the Oregon Short Line Railroad) (IHSI #77-17111) also passes through the Project boundary. The segment of the historic railroad within the Project boundary has not been documented or formally evaluated, but the route of the railroad is well documented elsewhere in southern Idaho and has been determined eligible for the NRHP. Associated with the rail line passing through the Project boundary is a bridge that carries the Union Pacific Railroad over the river. The bridge has not been formally recorded or evaluated as a resource separate from the rail line. The first bridge at the location was constructed in 1883, and was replaced twice, once in 1911, and again in 1927, when a new higher bridge was built to accommodate the construction of the original dam by Reclamation.

The bridge was raised and modified again in the 1970s when the Dam was replaced. Due to the numerous changes over the years which have affected its integrity, the bridge is probably not individually eligible for the NRHP but may be a contributing element to the railroad as an eligible resource.

The final documented built resource located partially within the Project boundary is a short segment of the East Main Canal (IHSI #77-17096) which is no longer in service. When the canal was recorded in 2005 it was recommended as not eligible for the NRHP, but the SHPO did not concur with the recommendation, citing insufficient information for full evaluation (ASI site form June 2, 2005).

Table 25
Cultural and historic resources within the Project boundary

	Total	NRHP Eligible	NRHP Ineligible	NRHP Listed	Unevaluated
Archeological Sites	1	0	1	0	0
Built Resources	7	1	4	1	1

4.10.2 Potential Cultural and Historic Resources Within the Project Boundary

Other unrecorded built resources are known to exist in the Project boundary, including portions of an operator's village that once supported the historic East Shore Power Plant. The village has never been fully documented or evaluated as a historic resource, but 3 operator's cottages and 1 warehouse are present that date between 1923 and 1956. There is also 1 warehouse in the area constructed in 1962. All these buildings are still currently owned by IPC and remain in use. It is unlikely that these resources associated with the village would be NRHP-eligible given the fact that the majority were constructed to support the development and expansion of the East Side Plant, which was demolished in 1977. Lacking the associated powerplant, most of the ancillary structures are not likely to be individually eligible for the NRHP.

The presumed route of the Oregon Trail (10PR813) may pass through the Project boundary on the east side of the Snake River in the vicinity of the town of American Falls; however, the exact route where the trail was located in the area of the town of American Falls is not known and no visible remnants or traces are visible within the Project boundary (Hutchison and Jones 1993). The route of the trail was known from historic records to follow down the east side of the Snake River in this area, and visible segments have been documented about 3 miles northeast of American Falls. The nature of the actual route of the trail at any given location was dictated by the physical characteristics of landform and topography, and in some places, it was simply a broad travel route rather than a specific linear location that left any visible physical traces. Accordingly, latent archaeological evidence of the trail route varies from area to area depending on the nature of the underlying sediments, local topography, and the degree to which travel was constrained to a restricted route, all of which determined whether visible ruts and traces were left behind or not. There is no way to know exactly where the route was located in the Project area as

modern and historic developments have altered the landscape removing any evidence of the trail location if it ever existed in the area. Elsewhere in the county the Oregon Trail has been listed on the NRHP (NRHP #73000688/74002296).

Finally, the Project's powerhouse went on-line in 1978 and will reach the minimum 50-year age requirement to potentially qualify as a historic resource in 2028.

4.10.3 Cultural and Historic Resources in the Vicinity of the Project

A desktop analysis was completed of cultural and historical resources located within a half mile of the Project boundary. In this half mile perimeter there are 8 archaeological sites, 14 built resources, and 1 historic trail currently listed in SHPO data. One of the sites (10PR19/IHSI #77-17081) includes both prehistoric and historic materials, including the remains of the original town of American Falls which was submerged with the construction of the original dam between 1925-1927. The town and most of the buildings were relocated. The foundations and other remains from the original town were listed on the NRHP in 2002. Also located within the exterior perimeter of the old townsite is the remains of the Oneida Milling and Elevator Company Grain Elevator (IHSI #77-13744/NRHP #93000380), which has been listed individually on the NRHP. Exhibit C includes a map of the cultural and historic resources currently identified in the vicinity of the Project but contains sensitive information and is being filed separately with the Commission.

One of the built resources currently listed in SHPO records, the original 1925-1927 Reclamation dam (IHSI #77-323) has been mostly demolished. The North Alternate of the Oregon Trail (10PR352) is thought to have run down the west side of the river near the Project, but the nearest actual visible remnants of that alternate are about 4.6 miles southwest of the Project boundary. SHPO records indicate that visible manifestations of the main trail route were once apparent on the east side of the river about 0.3 miles south of the Project boundary. Portions of the trail in Power County were nominated to the NRHP in 1973 (NRHP #73000688), and the boundary of the listing was increased in 1974 (NRHP #74002296).

The American Falls Archaeological District ([District], NRHP #99000804) is located about 4.5 miles downstream of the Project boundary. The District was listed on the NRHP on July 1, 1999, for its archaeological resources, but it is also an area that Native Americans have identified as culturally important. The district includes 180 sites, the majority of which are pre-Euromerican contact period Native American sites, but the district also includes some historic period sites.

Table 26
Cultural and historic resources within a half mile of the Project

	Total	NRHP Eligible	NRHP Ineligible	NRHP Listed	Unevaluated
Archeological Sites	8	0	3	1	4
Built Resources	14	0	5	2	7
National Historic Trails	1	0	0	1	0

4.10.4 Existing Discovery Measures

4.10.4.1 Previous Research, Surveys and Inventories

The Project's original license application in 1973 relied upon a substantial amount of existing archaeological and historic resources data developed by the National Park Service (NPS), Reclamation, and Idaho State University (ISU), among others. This existing data provides critical information supporting the current effort to relicense the Project. The NPS contracted with ISU to evaluate the historic and archaeological resources potentially affected by the construction of the replacement dam (Swanson 1963). Based on the ISU study, the NPS concluded that the construction of the replacement dam would not impact any historic resources.

In 1991, Reclamation contracted a major study of historic, archaeological and paleontological resources in the American Falls Reservoir impoundment area and downstream of the Dam to the headwaters of Lake Walcott. The study included both a Class I background study of existing resource data, and a Class III intensive level pedestrian survey. The study area included Reclamation, BLM, and private lands in the vicinity of the perimeter of the Reservoir (excluding the portion of the Reservoir within the boundaries of the Fort Hall Indian Reservation), and all Reclamation managed lands along the Snake River below the Dam for more than 20 miles (Bruder et al. 1999). The research was done to support the development of a new Resource Management Plan (RMP) for Reclamation managed lands in the area. The project also included efforts to engage the Shoshone-Bannock Tribes of the Fort Hall Reservation to identify cultural resources of importance to the Tribes, including potential historic properties of religious and cultural significance to Indian Tribes (HPRCSITs). Reclamation's intensive RMP process provides relatively current and reliable data about the cultural resources in the vicinity of the Project.

Reclamation's RMP combined with other smaller studies conducted in the area by IPC and other entities provide sufficient existing data to identify and define existing archaeological and cultural resources.

4.10.4.2 Subsurface Testing Activities

Subsurface testing of a single archaeological site (10PR793) partially located within the Project boundary was conducted by IPC in April 2016 (Valentine et al. 2016). The site was originally recorded in 1997 by contractors doing a cultural resource survey of IPC's Line 951 transmission line. The site was described as a large (850 m by 500 m), but somewhat dispersed lithic scatter with only a single diagnostic tool. The site was tentatively recommended as eligible for the NRHP under criterion D, but the researchers recommended additional study to conclusively determine eligibility. A very small portion of the northern end of the site intrudes into the Project boundary. Following the 2016 testing, the SHPO concurred with the recommendation by IPC that the site lacked integrity and was not eligible for the NRHP (Morton 2016).

Site 10PR959 is a relatively small (125 m by 73 m) sparse lithic scatter located immediately outside the Project boundary on the east side of the river. The site was identified and tested in

2013 by archeologists working under contract to Rocky Mountain Power, who has a transmission line located in the area (Carambelas and Mullins 2014). The testing report recommended that the site was not eligible for the NRHP due to the shallowness of the soils and what was reported as a lack of intact cultural deposits. The SHPO disagreed and requested continued monitoring of the site and currently considered to be eligible for the NRHP.

Table 27
Cultural and historic resources currently identified in the vicinity of the American Falls hydroelectric project

Site Number	Date/Cultural Affiliation	Site Type/Description	NRHP Eligibility	Comments	Relationship to FERC Project Area
10PR19	Prehistoric/Historic	Lithic scatter, historic townsite, railroad bed, possible cemetery	Listed on NRHP	Mostly submerged in American Falls Reservoir	Out of FERC boundary
10PR165	Prehistoric	Small lithic scatter	Unknown	Likely destroyed	Out of FERC boundary
10PR173	Unknown	No Data	Unknown	No data on file	Out of FERC boundary
10PR352	Historic	Oregon Trail—North Alternate	Eligible		Out of FERC boundary
10PR452	Prehistoric	Lithic scatter	Unevaluated	Area is heavily disturbed	In FERC boundary
10PR456	Prehistoric	Lithic scatter	Unevaluated	Heavily disturbed	Out of FERC boundary
10PR638	Prehistoric	Four flake isolate	Not Eligible		Out of FERC boundary
10PR793	Prehistoric/Historic	Large lithic scatter Remnants of historic farm	Not Eligible	Tested by IPC in 2016. SHPO concurrence on eligibility on 10/3/2016	Partially within FERC boundary
10PR802	Prehistoric	Isolated biface fragment	Not Eligible		Out of FERC boundary
10PR813	Historic	Oregon Trail	Eligible	Presumptive location created by SHPO from BLM Immigrant Trails of Idaho	Presumed route crosses through FERC boundary. No actual physical evidence in project area

Site Number	Date/Cultural Affiliation	Site Type/Description	NRHP Eligibility	Comments	Relationship to FERC Project Area
10PR959	Prehistoric	Lithic and groundstone scatter	Eligible	Tested in 2013, 2014	Out of FERC boundary
77-137	Historic	Danilson Ferry	Unknown	Exact location unknown. SHPO plot derived historic sources	Unknown
77-323	Historic	Original 1927 BOR Dam	Not Eligible	Removed in 1977-1978 and rebuilt	No longer extant
77-832	Unknown	No Data	Unknown	No data on file	Out of FERC boundary
77-1587	Historic	American Falls Island Plant (Listed on NRHP as East Shore Plants)	Listed	Listed on NRHP 10/29/1976 Listing combined the East Shore Plant and the Island Plant	In FERC boundary
77-13744	Historic	Oneida Milling and Elevator Company Grain Elevator	Listed on NRHP		Out of FERC boundary
77-17072	Historic	Residence Charles Suits House	Unknown		Out of FERC boundary
77-17073	Historic	Residence Charlotte Thornton House	Unknown		Out of FERC boundary
77-17074	Historic	Blacksmith Shop	Unknown		Out of FERC boundary
77-17075	Historic	Residence Margaret Henrich House	Unknown		Out of FERC boundary
77-17076	Historic	Residence Eugene Campbell House	Unknown		Out of FERC boundary
77-17077	Historic	Residence William Phillips House	Unknown		Out of FERC boundary

Site Number	Date/Cultural Affiliation	Site Type/Description	NRHP Eligibility	Comments	Relationship to FERC Project Area
77-17078	Historic	Residence Jack Stanturf House	Unknown		Out of FERC boundary
77-17079	Historic	Residence Robyn Schmett House	Unknown		Out of FERC boundary
77-17080	Historic	Residence Jesus Castillo House	Unknown		Out of FERC boundary
77-17081	Historic	American Falls Old Townsite	Listed on NRHP	Inundated	Out of FERC boundary
77-17096	Historic	East Main Canal	Undetermined	No longer in use. Very deteriorated condition	Small section passes through the FERC boundary
77-17113	Historic	American Falls Horseshoe Dam	Not Eligible	Mostly demolished in 1977	In FERC boundary
77-17114	Historic	Trenner Park	Not Eligible	SHPO concurrence on eligibility on 8/24/2011.	In FERC boundary
77-17115	Historic	American Falls East Shore Plant	Not Eligible	Plant demolished in 1978. Only small remnants remain	In FERC boundary
77-17117	Historic	American Falls West Shore Plant	Not Eligible	Plant demolished in 1920s or 1930s (?). Only small remnants remain	In FERC boundary
77-17111	Historic	Union Pacific Railroad (Oregon Short Line Railroad)	Eligible		In FERC boundary
	Historic	Union Pacific Railroad Bridge over the Snake River at American Falls	Unknown	Original bridge was raised in	In FERC boundary

4.10.5 Native American Properties

A discussion of Native American tribes and properties can be found in section 4.12.

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

Reclamation's FEA provides existing and recent socio-economic conditions in the vicinity of the Project. As described by Reclamation, the socioeconomic character of an area includes its population and economic activity. Socioeconomic changes may occur when a project directly or indirectly changes any of these elements. Therefore, this section discusses socioeconomic resources within the human environment, particularly population and economic activity that could be affected by the Project. Population is described in terms of the size, rate of growth, and distribution of people who live and work in the area. Economic activity is described in terms of employment distribution, personal income, and business growth (USBR 2019a., 61).

4.11.1 Population

The population of Power County, Idaho, is estimated at 7,600 according to U.S. Census Bureau (Census Bureau) 2017 estimates (USBR 2019a). This is an approximately 2.8% decrease from 2010, when the population was 7,817 residents. In comparison, the nationwide population growth rate has averaged just over 0.7% per year in the last decade (USBR 2019b). In terms of population, Power County ranks 33rd largest of the 44 counties in Idaho. The City of American Falls is the county seat and largest city in Power County with a reported population of 4,457 (USBR 2019a., 61–62).

4.11.2 Economic Activity

The Idaho Department of Labor (IDL) reported a 2.6% unemployment rate in Power County in 2018, compared to 2.7% unemployment statewide and 2.5% unemployment on the combined southeastern region of the state in 2018 (IDL 2018). Unemployment has generally remained consistent in Power County since 2012. Employment in Power County is largely dependent on agriculture and related manufacturing. The Reservoir is considered one of the best boating and fishing lakes in the state, offering marinas, beaches, and excellent trout fishing opportunities with the potential to draw tourists to American Falls. Similarly, the area below the Dam is popular recreational fishery.

Per capita income for the State of Idaho is lower than the national average, and income in Power County has consistently remained lower than statewide averages. In 2017, the average per capita income in Power County was $36,969, while the average per capita income was $41,828 statewide and $51,640 nationwide. Per capita incomes in Power County averaged 92% of those in Idaho over the last 10 years and were, on average, 73% of the per capita income nationwide over the same 10-year time span (IDL 2018, USBR 2019a., 62).

IPC is not proposing any significant changes to the Project and therefore no significant cumulative effects to local demographics or employment and income trends are expected to

occur as a result of the Project being relicensed. General operations and maintenance work planned at the Project, such as plant modernization, may have a small socioeconomic effect. Plant modernization could result in a positive effect to the local economy through contracting, the need for specialized labor, and resulting trickle effect on the local economy, such as recreation, lodging, meals and other entertainment. Cumulatively however, these effects would be temporary and insignificant gains to the local area.

4.12 Tribal Resources (18 CFR § 5.6(d)(3)(xii))

The headquarters for the Fort Hall Indian Reservation of the Shoshone-Bannock Tribes is located about 28 miles from the Project. The nearest portion of the reservation lies 5.5 miles due east of the Project. The northern and northeast portions of the Reservoir include portions of the reservation. However, as Reclamations owns the Dam and operates the Reservoir, the Project does not affect the reservation.

The Shoshone-Bannock Tribes intervened in the Project's original licensing proceeding, but the Commission granted intervention based solely on the Tribes status "as a spaceholder in the Reservoir above American Falls Dam and as a landowner in the general area" of the Project. The Commission stated:

> the proposed hydroelectric project includes only clearly defined areas downstream of the Replacement Dam and does not include the dam or the reservoir. Our records further indicate that no tribal lands are included within the boundaries of the proposed hydroelectric project and, thus, no basis exists for assessing annual charges for such use.

Finally, the Commission stated that IPC "has no control over the water releases at the Replacement Dam, nor can it affect Tribes' storage rights in the reservoir. In short, it is our opinion that Project No. 2736 will not affect tribal lands by its operation under the terms of the license issued herein" (FPC 1975).

The Fort Hall Reservation was created by Executive Order on June 14, 1867, and the Tribes signed the Fort Bridger Treaty 1 year later on July 3, 1868. The reservation is named for the native peoples referred to today as the Shoshone-Bannock Tribes, which includes members of several historically distinct groups, including the eastern and western bands of the Northern Shoshone, the Bannock or Northern Paiute bands, the Lemhis, and some Western Shoshone. There is currently no data available to IPC pertaining to any specific resources within the vicinity of the Project which might have cultural or religious significance to the Shoshone-Bannock Tribes. However, the Tribes are on record dating back to the 1970s, when the new Dam was built, asserting a strong connection to cultural resources in the area of the Reservoir and the river downstream of the dam. Reclamation made an effort to engage the Tribes during their studies in the 1990s with the objective of more clearly identifying specific resources in the area with special significance to the Tribes, but no published data is available documenting the results of those efforts.

There is currently no other data available to IPC indicating the Project affects Indian tribes, tribal lands, or interests.

5. PRELIMINARY ISSUES AND STUDIES LIST (18 CFR § 5.6(d)(4)

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. IPC proposes to continue operating the Project in the same manner as specified in the original 1975 license and we are not proposing any changes to the Project's current license conditions or mitigation requirements and that these would continue to apply under the new license. Therefore, the Project will not result in any new adverse impacts on environmental resources. IPC believes there is sufficient existing information to assess resource concerns, but recognizes additional analysis may be warranted for DO, recreation, and historic resources.

5.1 River Basin Description

IPC believes the river basin discussion included in Section 4.1 is sufficient and no additional analysis or studies are proposed.

5.2 Geology and Soils

IPC is not proposing any changes at the Project and it will continue to operate based on available flows from Reclamation's operation of the Dam and Reservoir. Therefore, the Project will not affect shoreline erosion, geology, or soils. IPC believes existing information is adequate to assess this resource area and is not proposing any studies specific to geology and soils.

5.3 Water Resources

IPC is not proposing any changes at the Project and it will continue to operate based on available flows from Reclamation's operation of the Dam and Reservoir. The Project's operations over the term of the current license has not resulted in any non-compliance water quality events. However, IPC anticipates the need to evaluate DO through depth in the tailrace of the Project up to the downstream compliance location. IPC looks forward to Stakeholders' responses related to DO and IPC will consult with Stakeholders to address any potential additional information needs related to DO.

5.4 Fish and Aquatic Resources

IPC is not proposing any changes at the Project and it will continue to operate based on available flows from Reclamation's operation of the Dam and Reservoir. The Project's effects on the fisheries resource is being met through the Fish Compensation Agreement with IDFG and IPC is not proposing any additional measures or studies specific to fish and aquatic resources.

5.5 Wildlife and Botanical Resources

IPC is not proposing any changes at the Project and it will continue to operate based on available flows from Reclamation's operation of the Dam and Reservoir. Avian, terrestrial, and botanical resources in the vicinity of the Project are established and well-known and the Project's continued operation will not result in any new effects. Therefore, IPC is not proposing any studies specific to wildlife and botanical resources.

5.6 Wetlands, Riparian, and Littoral Habitat

IPC is not proposing any changes at the Project and it will continue to operate based on available flows from Reclamation's operation of the Dam and Reservoir. Any wetlands, riparian, and littoral habitat are documented and have become established since the Project was originally licensed. Therefore, IPC is not proposing any studies specific to wetlands, riparian and littoral habitat.

5.7 Rare, Threatened, and Endangered Species

IPC is not proposing any changes at the Project and it will continue to operate based on available flows from Reclamation's operation of the Dam and Reservoir. No rare, threatened, or endangered species occur in the vicinity of the Project. Project operations are not anticipated to adversely affect the avian species protected under MBTA and BGEPA. Therefore, IPC is not proposing any studies specific to rare, threatened, and endangered species.

5.8 Recreation and Land Use

IPC is not proposing any changes at the Project and it will continue to operate based on available flows from Reclamation's operation of the Dam and Reservoir. IPC recognizes that the Project is a popular recreational resource, especially for its angling opportunities. In anticipation of the Project's relicensing IPC installed traffic counters at the Power County Boat Ramp and River Fishing Access locations between May 15 through November 6, 2019. IPC plans to conduct similar traffic monitoring during the same period in 2020. IPC anticipates the need to analyze this data and potentially the development of a creel exit survey and an up-to-date inventory and condition of existing Project recreation areas. This information may be useful in examining use patterns and future recreational facility needs. IPC looks forward to Stakeholders' responses related to recreation at the Project and IPC will consult with Stakeholders to address any potential additional information needs related to recreation.

5.9 Aesthetic Resources

IPC believes the aesthetic resources discussion included in Section 4.9 is sufficient and no additional analysis or studies are proposed.

5.10 Cultural Resources

IPC is not proposing any changes at the Project and it will continue to operate based on available flows from Reclamation's operation of the Dam and Reservoir. The archaeological, cultural, and historic built resources within the Project boundary are generally well documented, as well as cultural resources in the vicinity of the Project. However, IPC anticipates the need to conduct some additional documentation, such as a Class I literature review to identify any new historic properties which may have been recently recorded in the Project boundary, and an inventory of historic built resources to complete Idaho Historic Site Inventory (IHSI) documentation of previously unrecorded buildings and structures.

5.11 Socio-economic Resources

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

5.12 Tribal Resource

IPC believes the Tribal discussion included in Section 4.12 is sufficient and no additional analysis or studies are proposed.

6. COMPREHENSIVE PLANS

Pursuant to 18 CFR 5.6(d)(4)(iii and iv), IPC has reviewed the December 2019 FERC List of Comprehensive Plans (https://www.ferc.gov/industries/hydropower/gen-info/licensing/complan.pdf) applicable to Idaho and adopted by FERC under Section 10(a)(2)(A) of the 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 or waterways;
- 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 or waterways 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 or waterways; 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 or waterways in relation to these resources. The description of the

significant resources in the area should contain the following elements. The plan should also contain an examination of how the different uses will promote the overall public interest:

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 49 state and federal comprehensive plans for Idaho. Of these, 11 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. Forest Service. 1991. Snake River final activity/operations plan. Department of the Interior, Idaho Falls, Idaho. Department of Agriculture, Idaho Falls, Idaho. February 1991.

2) Idaho Department of Water Quality. 2018. Water Quality Standards. Boise, Idaho.

3) Idaho Department of Fish and Game. 2005. Idaho comprehensive wildlife conservation strategy. Boise, Idaho. September 2005.

4) Idaho Department of Fish and Game. 2007. Management plan for the conservation of Bonneville cutthroat trout in Idaho. Boise, Idaho. November 2007.

5) Idaho Department of Fish and Game. 2007. Management plan for the conservation of Yellowstone cutthroat trout in Idaho. Boise, Idaho. April 2007

6) Idaho Department of Fish and Game. 2008. Management plan for the conservation of Snake River white sturgeon in Idaho. Boise, Idaho. September 2008.

7) Idaho Department of Fish and Game. 2013. Fisheries management plan, 2013- 2018. Boise, Idaho. 2013.

8) Idaho Department of Parks and Recreation. 2018. Idaho Statewide Comprehensive Outdoor Recreation Plan 2018-2022. Boise, Idaho.

9) Idaho Water Resource Board. 1992. Comprehensive state water plan: Henry's Fork Basin. Boise, Idaho. December 1992.

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

11) 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.

7. SUMMARY OF CONTACTS

During the development of the PAD IPC conducted voluntary in-person or conference call pre-PAD consultation meetings with the entities listed below. In these meetings, IPC explained 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 significant controversies were raised during these meetings. IPC also contacted the Shoshone–Bannock Tribes to schedule a similar meeting but was unable to schedule a meeting before filing the PAD.

Table 28
Pre-PAD consultation meetings—summary of contacts

Entity	Date	Stakeholder Participants
U.S. Fish and Wildlife Service	October 31, 2019	David Hopper, Greg Burack, Erin Kenison
Idaho Department of Environmental Quality	January 8, 2020	Mary Anne Nelson, Lynn Van Avery, Sean Woodhead
Power County, Idaho	January 8, 2020	Commissioners Ronald Funk, William Lasley, and Delane Anderson
City of American Falls	January 9, 2020	Mayor Marc Beitia
Idaho Department of Fish and Game	January 15, 2020	Joe Kozfkay, Becky Johnson, Carson Watkins
Idaho Water Users Association, Federal Instream Flow Coalition	January 22, 2020	Members of the Federal Instream Flow Coalition
U.S. Bureau of Reclamation	January 23, 2020	Ryan Newman, Nicole Carson, Brian Stenson, Jeremy Dalling, Ryan Bliss
Idaho Department of Parks and Recreation	February 5, 2020	Anna Canning
Idaho State Historic Preservation Office	February 7, 2020	Lindsay Johansson, Ashley Brown, Chris Shaver

8. REFERENCES

Section 1.

[FERC] Federal Energy Regulatory Commission. 2019a. Federal Energy Regulatory Commission Office of Energy Projects, Washington, D.C. 20426. List of Comprehensive Plans, December 2019. Available from: https://ferc.gov/industries/hydropower/gen-info/licensing/complan.pdf.

[FPC] Federal Power Commission. 1975. *Idaho Power Co*. Order Issuing Major License (Uncontested) and Permitting Withdrawal of Intervention, 53 FPC 1017.

FPC. 1977. The Commission was created through the Department of Energy Organization Act on October 1, 1977. At that time the FPC, the Commission's predecessor, was abolished and the Commission inherited most of the FPC's regulatory mission. Available from: https://www.ferc.gov/about/strat-docs/fy14-budg.pdf.

[USBR] United States Bureau of Reclamation. 2020. [Internet]. [cited 2020 Feb. 10]. Projects and Facilities, American Falls Dam. Available from: https://www.usbr.gov/projects/index.php?id=24.

USBR. 2019a. Environmental Assessment: Maintenance and Rehabilitation of Spillway and Dam Structures at American Falls Facility. Minidoka Project, Power County, Idaho. Pg. 13. Available from: https://www.usbr.gov/pn/programs/ea/idaho/americanfalls/finalea.pdf.

Section 2.

FERC. 2017a. Notice of License Expiration and Request for Information Regarding Process Selection Letter from Vince Yearick, Director, Division of Hydropower Licensing, FERC.

FERC. 2017b. Report on the Pilot Two-Year Hydroelectric Licensing Process for Non-Powered Dams and Closed Loop Pumped Storage Projects and Recommendations Pursuant to Section 6 of the Hydropower Regulatory Efficiency Act of 2013. Pg. 34. Available from: https://www.ferc.gov/legal/staff-reports/2017/final-2-year-process.pdf.

FERC. 2019b. Hydroelectric Licensing Regulations Under the America's Water Infrastructure Act of 2018, Order No. 858, 167 FERC ¶ 61,050.

USBR. 2019a. Environmental Assessment: Maintenance and Rehabilitation of Spillway and Dam Structures at American Falls Facility. Minidoka Project, Power County, Idaho. Pg. 9, 40. Available from: https://www.usbr.gov/pn/programs/ea/idaho/americanfalls/finalea.pdf.

USBR. 2019b. Finding of No Significant Impact (FONSI), Final Environmental Assessment (FEA), Maintenance and Rehabilitation and Spillway and Dam Structures at American Falls Dam, Minidoka Project, Power County, Idaho. U.S. Department of the Interior Bureau of Reclamation Pacific Northwest Region Snake River Area Office PN FONSI # 19-4. Page 2, 6. Available from: https://www.usbr.gov/pn/programs/ea/idaho/americanfalls/finalea.pdf.

Section 3.

USBR. 1995. American Falls Resource Management Plan. Bureau of Reclamation Pacific Northwest Region, Boise, Idaho and Snake River Office Minidoka Project, April 1995. Page 2-2.

[IPC] Idaho Power Company. 1979. License article 50 was added to the existing license in 1979. 6 FERC ¶ 62,096.

FERC. 2019c. Order Amending Licenses to Incorporate Biological Opinion Terms and Conditions. 167 FERC ¶ 62,178.

USBR. 2019a. Environmental Assessment: Maintenance and Rehabilitation of Spillway and Dam Structures at American Falls Facility. Minidoka Project, Power County, Idaho. Pg. 3, 14. Available from: https://www.usbr.gov/pn/programs/ea/idaho/americanfalls/finalea.pdf.

Section 4.

Abril-Hernandez, J.M., R. Perianez, J. E. O'Conner and D. Garcia-Castellanos. 2018. *Computational Fluid Dhynamics Simulations of the Late Pleistocene Lake Bonneville Flood. Journal of Hydrology.* vol. 561, pp. 1-15.

Anders, M. H., D. W. Rodgers, S. R. Hemming, J. Saltzman, V. J. DiVenere, J. T. Hagstrum, G. F. Embree and R. C. Walter. 2014. *A Fixed Sublithospheric Source for the Late Neogene Track of the Yellowstone Hotspot: Implications of the Heise and Picabo Volcanic Fields. Journal of Geophysical Research: Solid Earth.* vol. 119, pp. 2871-2906.

Anders, M. H., J. W. Geissman, L. A. Piety and J. T. Sullivan 1989. *Parabolic Distribution of Circum Eastern Snake River Plain Seismicity and Latest Quaternay Faulting: Migratory Pattern and Association with the Yellowstone Hotspot. Journal of Geophysical Research,* vol. 94, no. 6, pp. 1589-1621.

Armstrong, F. C., and S. S. Sriel. 1965. *Tectonic Development of Idaho-Wyoming Thrust Belt. American Association of Petroleum Geologists Bulletin,* vol. 49, no. 11, pp. 1847-1866.

[BEST] Boise Environmental Science and Technology, Inc. July 1978. Report American Falls Dam Fish Passage Study Design. 46pp.

Biggerstaff, H. W., and C. L. McGrath. 1980 *Soil Survey of Power Country Area, Idaho*. U.S. Department of Agriculture, Washington, DC.

Bruder, J.S., S.K. Bauer, D.L. Douglas, S.E. Laine, and G.R. Woodall. 1999. American Falls Cultural and Paleontological Resource Inventory on the Snake River Plain. Intermountain Cultural Resources Services Research Paper No. 1, Dames and Moore, Phoenix, AZ.

Carambelas, K., and D. Mullins. 2014. Rocky Mountain Power LiDAR D001 Wheelon-American Falls Existing Access Road and New Structure 707B. Logan Simpson, Salt Lake City, UT.

Carr, W. J., and D. E. Trimble. 1963. *Geology of the American Falls Quadrangle, Idaho.* U.S. Geological Survey, Washington, DC.

Clarke G, W. Matthews and R. Pack. 1984. *Outburst Floods from Glacial Lake Missoula. Quaternary Research,* vol. 22, no. 3, pp. 289-299.

Cowardin, L. M., V. Carter, F.C. Golet. and E. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Fish and Wildlife Service Pub. FWS/OBS-79/31, Washington, DC.

eBird. 2012. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available from: https://ebird.org/home. Accessed: March 12, 2019.

[FGDC] Federal Geographic Data Committee. 2013. Classification of wetlands and deepwater habitats of the United States. FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, D.C.

FPC. 1975. Idaho Power Co. Order Issuing Major License (Uncontested) and Permitting Withdrawal of Intervention, 53 FPC 1017. P. 2-3.

Funk, S. 2016. A general special-status plant survey on Idaho Power lands near American Falls Power Plant. Boise, ID: Idaho Power Company. 9 p.

[FWS]

Garabedian, S. P. 1992. Hydrology and Digital Simulation of the Regional Aquifer System, Eastern Snake River Plain, Idaho. U.S. Geological Survey, Washington, DC.

Hoenig, J. M., D. S. Robson, C. M. Jones, and K. H. Pollock. 1993. Scheduling counts in the instantaneous and progressive methods for estimating sportfishing effort. North American Journal of Fisheries Management 13(4):723–736.

Hutchison, D. J., and L.R. Jones. 1993. Emigrant Trails of Southern Idaho. Bureau of Land Management and Idaho State Historical Society, Boise, Idaho.

Idaho Code title 22, Chapter 24. Available from: https://legislature.idaho.gov/statutesrules/idstat/title22/

[IDAPA] *Idaho Administrative Procedures Act* 58.01.02 n.d.

[IDEQ] Idaho Department of Environmental Quality. 2012. American Falls Subbasin Total Maximum Daily Load Plan: Subbasin Assessment and Loading Analysis. Pocatello, ID.

IDEQ. 2018. *Idaho's 2016 Integrated Report.* Available from: https://www.deq.idaho.gov/media/60182296/idaho-integrated-report-2016.pdf.

IDEQ. 2019. *Lake Walcott Subbasin Assessment and Total Maximum Daily Load*. October 2019. State of Idaho Department of Environmental Quality. Available from: https://www.deq.idaho.gov/media/60183404/lake-walcott-sba-assessment-tmdls-five-year-review-0919.pdf. Accessed on: October 2019.

[IDFG] Idaho Department of Fish and Game. 2008. Federal Aid in Fish Restoration. 2000 Annual Performance Report. Program F-71-R-25. Cal Groen, Director. Regional Fisheries Management Investigations Southeast Region (Subproject I-F, II-F, III-F) Boise, ID. Available from: https://collaboration.idfg.idaho.gov/FisheriesTechnicalReports/Mgt08-116Scully2000%20Regional%20Fisheries%20Management%20Investigations%20Southeast%20Region.pdf.

IDFG. 2017. Idaho Department of Fish and Game. 2017. State Wildlife Action Plan. Prepared for U.S. Fish and Wildlife Service, Region 1, Office of Migratory Birds & State Programs, Wildlife & Sport Fish Restoration. January 2017.

IDFG. 2019. Fisheries Management Plan 2019 –2024, Boise. Pg. 290. Available from: https://idfg.idaho.gov/sites/default/files/2019-2024-idaho-fisheries-management-plan-original.pdf?update10-2019.

IDFG. Historical Stocking Records Database. March, 2, 2019 Boise, ID. Available from: https://idfg.idaho.gov/ifwis/fishingPlanner/stocking/?region=5&body=2.

[INHP] Idaho Natural Heritage Program. 2019. Element occurrence record database and species rankings. Idaho Department of Fish and Game. Boise, ID: Idaho Natural Heritage Program.

[IPaC] Information for Planning and Consultation. 2019. Available from: https://ecos.fws.gov/ipac/. Accessed on March 21, 2019.

[ISI] Invasive Species of Idaho. 2019. Noxious weeds. Available from: http://invasivespecies.idaho.gov/plants. Accessed on March 28, 2019.

Kjelstrom, L. C. 1988. *Estimates of Gains and Losses for Reservoirs on the Snake River from Blackfoot to Milner, Idaho, for Selected Periods, 1912 to 1983*. U.S. Geological Survey, Boise, ID.

Kimball, V., and S. Baker. 2011. *Cultural Resources Survey for Trenner Memorial Park Renovations, American Falls Hydroelectric Project, Power County, Idaho*. Idaho Power Company Cultural Resources Project Report 11-17. Idaho Power Company, Boise, ID.

Lewis, R. S., P. K. Link, L. R. Stanford and S. P. Long. 2012.*Geologic Map of Idaho.* Idaho Geological Survey, Moscow, ID.

Low, W. H., and W. H. Mullins. 1990. *Reconnaissance Investigation of Water Quality, Bottom Sediment, and Biota Associated with Irrigation Drainage in the American Falls Reservoir Area, Idaho, 1988-89.* U.S. Geology Survey, Boise, ID.

Malvestuto, S. P. 1983. Sampling the recreational fishery. In: Fisheries techniques. Transactions of the American Fisheries Society, eds. L. Nielsen and D. Johnson, 397–417. Bethesda, MD.

Malvestuto, S. P., W. D. Davies, and W. L. Shelton. 1978. An evaluation of the roving creel survey with nonuniform probability sampling. Transactions of the American Fisheries Society 107:255–262.

McDole, R. E. 1977. *Soil Survey of Fort Hall Area, Idaho*. U.S. Department of Agriculture, Washington, DC.

Morrison, C., Idaho Department of Agriculture, pers. comm.

Morton, E. 2016. Letter from Ethan Morton, Idaho State Historic Preservation Office to David Valentine, Idaho Power Company, 3 October 2016.

Natural Resources Conservation Service. 2006. *American Falls—17040206. 8 Digit Hydrologic Unit Profile.* NRCS. Boise, ID.

O'Conner, J. E., and V. Baker. 1992. *Magnitudes and Implications of Peak Discharges from Glacial Lake Missoula. Hydrology and Water Resources*, vol. 104, no. 3, pp. 267-279.

Oviatt, C.G. and Shroder, J. F. 2016. *Lake Bonneville: A Scientific Update*. *Developments in Earth Surface Processes 20*, pp 1–659. ISBN 978-0-444-63590-7.

Pappani, K., C. Firth, T. Bennett and S. Smith. 2014. American Falls Subbasin (17040206) Total Maximum Daily Load Implementation Plan for Agriculture. Idaho State Soil and Water Conservation Commission, Boise, ID.

Pengilly, S. 2011. Letter from Susan Pengilly, Idaho State Historic Preservation Office to Shane Baker, Idaho Power Company, 24 August 2011.

Phillips, W. M., T. M. Rittenour and G. Hoffmann. 2009. *OSL chronology of late Pleistocene glacial outwash and loess deposits near Idaho Falls, Idaho.* in *Geological Society of America - Rocky Mountain Section*, Rapid City, SD.

Pierce, K. L., J. M. Licciardi, J. M. Good and C. Jaworowski, 2018. *Pleistocene Glaciation of the Jackson Hole Area, Wyoming.* U.S. Geological Survey, Reston, Virginia.

Richter, T.J., J. E. Anderson, M. M. Mcleod, B. Reingold and J. A. Chandler. 2020. DRAFT. Summary Report of Snake River Fish Community: American Falls Dam to Hells Canyon Dam. Idaho Power Company, Boise, ID. page 75.

Scott, W. E., K. L. Pierce, J. P. Bradbury and R. M. Forester. 1982. *Revised Quaternary Stratigraphy and Chronology in the American Falls Area, Southeastern Idaho. Cenozoic Geology of Idaho: Idaho Bureau of Mines and Geology Bulletin. 26,* pp. 581-595.

Stephenson, M., B. Bean and D. Bates. 2018. *2018 Endangered Species Act* Section 10 Report. Idaho Power Company Boise ID. 284 pp.

Swanson, E.H. 1963. *The American Falls Reservoir: A Report to the National Park Service Concerning Archaeological and Other Scientific Resources Within and About the American Falls Reservoir*. Idaho State University, Pocatello.

Trimble, D.E. 1976. Geology of Michaud and Pocatello Quadrangles, Bannock and Power Counties, Idaho. U.S. Geological Survey, Washington, DC.

United States Department of the Interior, Bureau of Reclamation. 1974. Environmental Impact Statement. American Falls Dam Replacement and Powerplant. Minidoka Project, Idaho. 64pp. Idaho Power Company. 1974. Environmental Impact Statement. American Falls Power Plant. Project No. 2736–Idaho 85pp.

United States of America Federal Power Commission. Issued March 31, 1975. Before Commissioners: John N. Nassikas, Chairman: William L. Springer, and Don S. Smith. Idaho Power Company. Project No. 2736. Order Issuing Major License (unconstructed) and Permitting Withdrawal of Intervention.

USBR. 1995. American Falls Resource Management Plan. Bureau of Reclamation Pacific Northwest Region, Boise, Idaho and Snake River Office Minidoka Project, April 1995. P. 1-1, USBR. 2019b. Finding of No Significant Impact (FONSI), Final Environmental Assessment (FEA), Maintenance and Rehabilitation and Spillway and Dam Structures at American Falls Dam, Minidoka Project, Power County, Idaho. U.S. Department of the Interior Bureau of Reclamation Pacific Northwest Region Snake River Area Office PN FONSI # 19-4. P. 1, Available from: https://www.usbr.gov/pn/programs/ea/idaho/americanfalls/finalea.pdf.

USBR. 2019a. Environmental Assessment: Maintenance and Rehabilitation of Spillway and Dam Structures at American Falls Facility. Minidoka Project, Power County, Idaho. P. 13, 40, Available from: https://www.usbr.gov/pn/programs/ea/idaho/americanfalls/finalea.pdf.

[USFWS] U.S. Fish and Wildlife service. 2005. 2005 Biological Opinion for Bureau of Reclamation: Operations and Maintenance in the Snake River Basin above Brownlee Reservoir. Available from: https://www.fws.gov/idaho/documents/BOs/05_F_0532_BORUpperSnake.pdf. Accessed March 2019.

USFWS. 2014. 5-Year Status Review for Snake River physa (*Physa (Haitia) natricina*). U.S. Fish and Wildlife Service, Region 1, Idaho Fish and Wildlife Office, Boise, ID. 45 pp.

[USFWS]. 2015. 2015 Biological Opinion for Bureau of Reclamation: Operations and Maintenance in the Snake River Basin above Brownlee Reservoir. Available from: https://www.fws.gov/idaho/documents/BOs/15_F_0111_BORSnakeRiverBasinaboveBrownleeReservoir.pdf Accessed March 2019.

USFWS. 2016. National Wetlands Inventory (NWI). Version 2. Available from: https://www.fws.gov/wetlands/. Accessed on March 25, 2019.

USFWS. *Birds of Conservation Concern*. Available from: https://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php.

USFWS. 2018. Endangered and threatened wildlife and plants; initiation of 5-year status reviews for 18 species in Hawaii, Oregon, Washington, Idaho, and Canada. Federal Register 83(14): 3014-3015.

Valentine, D., O. Bielmann, V. Kimball, and C. Hogin. 2016. *Archaeological Testing at 10PR793 for the American Falls Buried Fiber Optic Line, Power County, Idaho*. Idaho Power Company Cultural Resources Project Report 16-16. Idaho Power Company, Boise, ID.

Section 6.

Available from: https://www.ferc.gov/industries/hydropower/gen-info/licensing/complan.pdf

Exhibit A
American Falls original license

5

UNITED STATES OF AMERICA
FEDERAL POWER COMMISSION

Before Commissioners: John N. Nassikas, Chairman;
William L. Springer, and Don S. Smith.

Idaho Power Company) Project No. 2736

ORDER ISSUING MAJOR LICENSE (UNCONSTRUCTED) AND
PERMITTING WITHDRAWAL OF INTERVENTION

(Issued March 31, 1975)

On September 25, 1973, Idaho Power Company (Applicant) of Boise, Idaho, filed application for major license under Section 4(e) of the Federal Power Act (Act), 16 U.S.C. §797(e), to authorize the construction, operation and maintenance of the proposed American Falls Project No. 2736, which will be located at the U.S. Department of the Interior, Bureau of Reclamation (Reclamation), American Falls Replacement Dam on the Snake River. The application was revised or supplemented on February 1 and 6, March 18, April 16, June 3, July 15 and 31, August 9 and 26, September 30, October 31, and November 15, 1974.

Notice of the application was issued December 5, 1973, with a return date for protests or petitions to intervene of January 28, 1974. As hereinafter discussed, four petitions to intervene were received and granted by the Commission, and the Idaho Public Utilities Commission filed Notice of Intervention under the Commission's Rules of Practice and Procedure, 18 C.F.R. §1.8(a)(1). Notice was published in the Federal Register on December 14, 1973, 38 Fed. Reg. 34496.

The American Falls Powerplant will have a total installed (nameplate) capacity of 92.4 mW. The power plant and appurtenant facilities will be located near the City of American Falls, Power County, Idaho, about 25 miles southwest of Pocatello, Idaho. The project will affect lands and navigable waters of the United States and a Government dam.

The project will consist of (1) three 18-foot steel-lined penstocks extending approximately 240 feet downstream to the centerline of project turbines from a connection with similar penstocks and intake works to be constructed as part of the Government dam; (2) reinforced concrete powerhouse containing

three adjustable-blade turbines each rated 42,000 hp at 88-foot net head connected to three vertical-shaft, semi-outdoor type generators each rated 34.2 mVA (30.8 mW at 0.9 p.f.), a 175-ton gantry crane, and other related electrical and mechanical equipment; (3) switchyard upstream from the powerhouse containing one three-phase transformer rated apporximately 125 mVA, 13.8/138 kV, with circuit breakers and disconnect switches; (4) 138-kV steel-pole transmission line extending approximately 2,100 feet along the right bank and across the Snake River to the 138-kV switchyard of the existing American Falls development of the Applicant; (5) tailrace; (6) recreational facilities consisting of a public parking area, three small landscaped parks with picnic tables, a potable water supply and sanitary facilities, a public access area on the west bank of the Snake River to accommodate bank fishing, and boat launching facilities; and (7) appurtenant facilities. The power will be used for public utility purposes.

The Honorable Cecil D. Andrus, Governor of the State of Idaho, petitioned to intervene in support of the application on January 28, 1974, stating that the water and power needs of all of Idaho's citizens would be best satisfied by the early issuance of a license. We granted intervention by order dated February 8, 1974.

The American Fall Reservoir District's (District) petition in support of application was filed January 25, 1974. Its stated interest was in the expeditious granting of a license.

The Idaho Fish and Game Commission (IFG) filed its petition on January 28, 1974, in order to be heard and report recommendations regarding the effect Project No. 2736 may have upon fish and wildlife resources. On September 3, 1974, IFG made motion to withdraw its intervention, as it was of the opinion that the July 2, 1974, agreement between itself and District, herein noted, provides satisfactory mitigation of potential adverse fisheries impact from the project. We herein grant IFG's motion.

The Idaho Public Utilities Commission (IPUC) filed its Notice of Intervention on January 10, 1974. By letter dated August 16, 1974, IPUC stated its unqualified support for the project, urging us to expeditiously issue the license herein. By our order dated February 20, 1974, we granted the petitions to intervene filed by the District and IFG.

On June 12, 1974, we allowed an intervention on the timely filed petition of the Shoshone-Bannock Tribes (Tribes) of the Fort Hall Indian Reservation, Idaho. The Tribes

alleged that there are tribal lands within the boundary of Project No. 2736, and that they are entitled to receive a reasonable annual charge for the use thereof under §10(e) of the Act. Applicant filed an answer on March 1, 1974, and stated that no tribal lands are encompassed within project boundaries.

We invited Interior to comment on the petition by the Tribes by letter dated February 21, 1974. By letter dated May 21, 1974, the Associate Solicitor for the Division of Indian Affairs stated his opinion that the operation of the American Falls Replacement Dam and Reservoir "affects the Fort Hall Indian Reservation."

We granted intervention to Tribes solely because of its status as a spaceholder in the Reservoir above American Falls Dam and as a landowner in the general area of Project No. 2736. In so doing, we specifically said that annual charges should be exacted only if Indian tribal lands are within the boundaries of the hydroelectric project subject to our jurisdiction. See 16 U.S.C. §§796(2); 797(e); 803(e). The proposed hydroelectric project includes only clearly defined areas downstream of the Replacement Dam, and does not include the dam or the reservoir. Our records further indicate that no tribal lands are included within the boundaries of the proposed hydroelectric project and, thus, no basis exists for assessing annual charges for such use.

Additionally, we note that Applicant has no control over the water releases at the Replacement Dam, nor can it affect Tribes' storage rights in the reservoir. In short, it is our opinion that Project No. 2736 will not affect tribal lands by its operation under the terms of the license issued herein.

By letter dated November 15, 1974, Applicant transmitted a copy of the Water Quality Certification issued by the State of Idaho pursuant to Section 401 of the Federal Water Pollution Control Act Amendments of 1972 (Amendments of 1972), 33 U.S.C. §1341. The Certification dated November 13, 1974, was issued upon certain conditions provided for herein to insure maintenance of water quality in the Snake River. By letter dated November 26, 1974, the Commission's Secretary transmitted the certification to the U.S. Environmental Protection Agency (EPA) pursuant to EPA's Regulations, 40 C.F.R. §123.11(b)(1974).

On the matter of water quality, two further permits are involved in the licensing of this project. By letter dated October 31, 1974, Applicant transmitted a National Pollutant Discharge Elimination System (NPDES) discharge permit under Section 402 of the Amendments of 1972, 33 U.S.C. §1342, by EPA

Region X, for the City of American Falls' municipal treatment plant's discharge into the Snake River. Under Article 4 of the license Applicant will submit "as-built" drawings of the project, which will show any major structures in the project area, including the above-mentioned treatment plant and the location of the discharge into the Snake River.

By letter dated February 11, 1975, Applicant transmitted a NPDES discharge permit issued by EPA Region X for a wastewater discharge from the project works. The permit became effective on March 6, 1975. Pursuant to Article 4 of the license, Applicant will also submit "as-built" information on this wastewater discharge into the Snake River.

This is not the only application for license for an American Falls project to have been before this Commission. There currently exists at American Falls a 27.5mW power facility owned by Idaho Power Company which was a part of application for major license in Project No. 2258, filed February 13, 1959. By letter dated December 16, 1969, the United States Department of the Interior (Interior) requested that we hold in abeyance the issuance of the license in Project No. 2258 until the problems arising out of the contemplated replacement of the American Falls Dam had been resolved. As such problems have been disposed of pursuant to the Act of December 28, 1973, we issued a license for the American Falls Project No. 2258 on March 31, 1975.

The existing American Falls Dam was constructed by Reclamation in 1927 as part of the Minidoka Reclamation Project. Within a short time an alkali/aggregate reaction took place in the dam, leading to abnormalities, cracking, and general deterioration over the years. At present, Reclamation has reduced the storage in the reservoir behind the dam to approximately 2/3 capacity for safety purposes.

The Act of December 28, 1973, 87 Stat. 704, in pertinent part authorizes the Secretary of the Interior (Secretary) to enter into agreements with the American Falls Reservoir District (District) authorizing the District to finance and construct a Replacement Dam at American Falls, title to which will pass to Reclamation upon its substantial completion. The Act of December 28, 1973, deems the Replacement Dam to be a Government dam, as defined in Section 3(10) of the Federal Power Act. 16 U.S.C. §796(10).

Pursuant to the 1973 Act the District, as constructing agency, may execute contracts with an appropriate non-Federal entity for use of the falling water leaving the dam for power

generation, which contract shall provide for a monetary return to the District to defray the cost of construction of the Replacement Dam. District may also contract with a non-Federal entity to coordinate construction of the hydroelectric facilities and the Replacement Dam, such facilities being the subject of this order.

Reclamation developed a Draft Environmental Impact Statement (DEIS) on the American Falls Dam Replacement Program to accompany the legislative process which led to the enactment of the Act of December 28, 1973. The DEIS was made available to the Council on Environmental Quality (CEQ) and a wide range of agencies, organizations, and individuals on May 17, 1973. Pursuant to §2.81 and §4.41 of the Commissions Rules, 18 C.F.R. §2.81 and §4.41, Applicant submitted its Exhibit W (environmental report). Reclamation and Commission Staff coordinated their independent analyses of the environmental impacts of the Replacement Dam Program, considered and reviewed comments received on the DEIS, and developed a Final Environmental Impact Statement (FEIS), designated as INT FES 74-60, which was made available to CEQ and the public on November 13, 1974. As Reclamation and Staff agreed that the major impacts of the Program would be attributable to the Replacement Dam itself, Reclamation served as lead agency for the FEIS, as suggested in CEQ's guidelines, 40 C.F.R. §1500.7(b) (1974). Staff contributed assistance with respect to this Commission's area of jurisdiction and expertise.

On the basis of the information in the FEIS and other data on file with the Commission, we believe that the beneficial effects to be derived from Project No. 2736 outweigh the adverse effects upon the environment. We discuss hereinafter the relevant environmental impacts which we have considered pursuant to Section 102(2)(c) of the National Environmental Policy Act of 1969, 42 U.S.C. §4432 (2)(c).

Construction of the Replacement Dam and power plant will result in the loss of a 14-acre forebay located between the existing powerhouse and dam. This area provides an important and substantial fishery for rainbow trout entering the forebay from the upstream reservoir. In 1971 alone the fishery provided fishermen with about 37,500 recreation hours and a take of 13,700 fish. The forebay fishery is a prime element in the lives of many local citizens, serving as a source of food, a recreation opportunity, and a social gathering place.

The area of the tailwater at the existing powerhouse provides a good sport fishery also. Without adequate oxygenation of water passing through the proposed penstocks, these fish would continue downstream in search of sufficient DO levels.

Through an agreement dated July 2, 1974, the District will provide the Idaho Fish and Game Commission (IFG) with $875,000 as mitigation for the loss of the forebay and the associated fishery. Of that sum, $575,000 will be for construction and $300,000 for operation and maintenance of facilities provided. Through the above agreement, IFG will provide for some or all of the following facilities:

a. Three 400' x 12' x 3' concrete raceways at the American Falls Hatchery owned and operated by IFG.

b. Acquisition, construction, and impoundment of an off-stream fishing area.

c. A fishing access bridge across the Snake River below American Falls Dam.

d. Improved access to the river below the project area and upstream of Lake Walcott.

While we recognize that the loss of the forebay will have a deleterious effect upon fishery resources, we believe that the agreement and the conditions required herein will substantially mitigate this loss.

During the summer months, diversion through the powerhouse of all or nearly all of the water passing the dam would result in a decrease in the quality of water in the Snake River downstream. During these warmer months, dissolved oxygen concentration in the storage reservoir would often fall below acceptable levels for fish. Under current operations, releases through the dam into the forebay result in extensive agitation and reoxygenation of the water prior to passage downstream. Elimination of the forebay and forebay releases of water would result in the direct passage of water from the reservoir through the proposed penstocks and turbines to the river downstream with little or no opportunity for improving oxygen conditions. When oxygen levels are low (3 to 4 mg/liter or lower) in the reservoir, water released into the river downstream via the powerhouse would not meet Idaho water quality standards for dissolved oxygen content (6 mg/liter or 90% saturation, whichev is greater). By letter dated July 1, 1974, the Idaho Departmen of Environmental and Community Services requested approval by

EPA of a variance to State water quality standards in the stretch of the Snake River between American Falls and downstream Lake Walcott whereby the 90% saturation requirement would be waived.

In order to meet Idaho's water quality standards for oxygen, the District will construct, maintain, and operate an oxygen injection system directly into the dam penstocks. As a part of this system the District will also construct, maintain, and operate a water quality monitoring system downstream of the dam and powerhouse. In addition, the District will test two other oxygen injection systems: (1) an injection by coarse bubble diffusers upstream of the penstocks, and (2) upstream injection by fine bubble diffusers. Based on the test results, either of the above alternate systems may replace the direct penstock injection systems or serve as a backup or supplementary system if needed. Whatever the system or systems employed, the oxygen injection rate will be controlled through the oxygen monitoring system to satisfy State water quality requirements and to ensure efficient system operation. We believe that any potential water quality problem attributable to the Replacement Dam Program would be adequately provided for by this system. By Article 46 we are requiring Applicant to cooperate in the installation, maintenance and operation of the system, and to assure that procedures exist so that Reclamation and the Idaho Department of Health and Welfare (IDHW) will be immediately notified if water quality drops below the approved State standard so that appropriate action may be taken to restore water quality.

Nearly all of the fish moving downstream from the reservoir after construction of the new dam and powerhouse will pass through the turbines. The mortality rate of these fish will be higher than it is for fish under the present situation. Estimates provided by the Applicant predict that smaller fish (12 inches or less) will experience approximately 5 to 10 percent mortality. Larger fish will encounter, however, a somewhat higher mortality rate on passage through the turbines. More than likely turbine mortality rates will be directly related to fish size, although absolute values cannot be determined without testing under actual conditions.

As the Applicant does not propose mitigation for fish losses resulting from turbine mortality, and since the impact could be substantial, we are requiring the Applicant to file for Commission approval plans for a 3-year turbine mortality study to commence after the new dam and powerhouse have been constructed and are fully operational. The Applicant will prepare the research plan in cooperation with appropriate State and Federal fishery agencies. We believe that by this approach we can best address the potential concerns which are not at this time adequately quantifiable.

During construction of the project works, turbidity from suspended solids will increase in the Snake River downstream. In addition to rendering the river less appealing from an aesthetic point of view, the suspended solids will tend to settle out and interfere with and reduce the production of food-chain aquatic organisms. Both impacts should be short-term and minor in nature.

Construction activities will require a maximum force of approximately 500 workers during the peak construction period lasting about two years. Some of these workers will come from the local area; the rest will move to this area and remain only temporarily. It would be expected that a portion of the workers' payrolls would be spent in surrounding towns and cities. The population increase will also be accompanied by needs for temporary housing, temporary increase on the existing educational facilities, additional water supplies, and increased load on the City of American Falls' (City) sewage treatment facilities and other services. Completion of construction activities will also result in a period of social and economic readjustment for the community.

The City has a 400,000-gallon-per-day secondary sewage treatment plant which discharges into the Snake River downstream from the existing power plant. This facility has an adequate capacity to handle the temporary increased load due to the influx of construction workers. Flows in the river downstream from the sewage outfall may be of poorer quality during construction due to possible reduced releases from the reservoir. However, reduced flows in the river are not expected at times critical to the fishery resources downstream. As herein noted, this plant has received a §402 permit under the Amendments of 1972, 33 U.S.C. §1342.

Several alternatives to the Replacement Dam Program were considered: leave the existing dam without change; replace the existing dam without a powerhouse; repair the existing dam; enlarge the dam and the reservoir; and develop storage at other sites. These were considered as alternatives to the program which Congress approved by its Act of December 28, 1973. We have also considered power source alternatives to the proposed project: exotic, other hydroelectric, nuclear, gas turbines, combined cycle, coal-fired steam, and geothermal.

Our review of the alternative sources of power production convinces us that they are less attractive than the proposed project. The adverse environmental impacts of such alternatives would include noise, visual impacts, emissions, and increased

heat rejection. In addition, the operation of alternative thermal power sources would deplete even further the Nation's critically short fossil-fuel supplies.

At the same time that we attempt to make the most efficient use of our non-depleting hydroelectric resources consistent with environmental protection, it is our opinion that electrical energy conservation practices are desirable and should be promoted vigorously. Though conservation cannot eliminate growth in energy demand and the need to expand electric generating capacity, such a program could effect a significant reduction in the need for new generating capacity over the next decade.

By letters dated May 17, 1974, the Secretary of the Commission requested comments pursuant to Section 4(e) of the Act and other relevant statutes from appropriate Federal, State and local agencies on the application for license. The comments received are discussed below.

The U.S. Department of the Interior (Interior) in letters dated September 5 and October 17, 1974, commented on the application and other supplemental information. Interior said that the license application provided that all falling water from the Replacement Dam would be used for hydroelectric generation purposes. Applicant's response dated September 25, 1974, acknowledged that under certain conditions it would not receive all falling water. We note that if the water quality monitoring program provided for in Article 46 herein shows substandard dissolved oxygen levels, Reclamation will be informed of the condition so that the powerplant may be bypassed. If Applicant defaults in any of its falling water payments, the powerplant will be bypassed. Further, Applicant will not receive releases when interruptions occur for inspections, maintenance, repair and emergency conditions at the Replacement Dam. In short, the United States is not obligated to operate the Replacement Dam in a manner to have water in the Replacement Dam at elevations for power generation or to operate to increase head for power generation. The Applicant noted still further that load and machinery capacities as well as the amount and timing of water releases for irrigation, flood control and other purposes would be limiting factors to the amount of water Applicant receives for hydroelectric generation.

Interior expressed concern that the application did not adequately recognize the major adverse environmental impacts of the proposed project: (1) the destruction of the existing forebay and its associated fishery without adequate mitigation;

(2) the degradation of water quality in the reach from American Falls Dam to Lake Walcott and its effect on the tailrace fishery, and (3) the fish mortality resulting from passage through the new turbines. These were also the chief concerns of the Idaho Wildlife Federation in its letter dated January 22, 1974.

Interior recommended that Applicant revise its exhibits to indicate (1) means to measure fish losses, (2) assignment of mitigation responsibility, and (3) the plan for mitigation. Additionally, inclusion of the standard stream gaging articles in any issued license was requested.

We concur with the specific recommendations above. By Article 40 we are requiring Applicant to continue consultation and cooperation with appropriate environmental agencies for the protection and development of the natural resources of the project area. By Article 45 Applicant shall submit for our approval a plan for a 3-year research study of fish mortality through the turbines, and at termination of the study recommend changes to alleviate the mortality problem. By Article 46 we require of Applicant consultation and cooperation with Reclamation and District in the installation, maintenance and operation of a dissolved oxygen and temperature monitoring system in the Snake River downstream from the project tailrace. Article 10 is the requested stream gaging article.

In addition, these requests have been partially satisfied through an agreement between District and Applicant dated August 21, 1973, setting forth that environmental costs related to the Replacement Dam and power plant are District's and a July 2, 1974, agreement between District and Idaho Fish and Game Commission, which establishes a mitigation plan and funding therefor. We are thus satisfied that sufficient measures have been taken to protect the resources involved.

Interior further recommended that recreation site No. 5, consisting of an existing gravel boat ramp, parking area, and access road, be included within the project boundary. Applicant's revised Exhibit R, filed July 15, 1974, which is approved in part by the terms of this license, includes this site within the project boundary. By Article 42 we are requiring Applicant to comply with Interior's recommendation that public access be provided from the new powerhouse access road, under the railroad bridge, to the west river bank.

Interior also recommended that a scenic overlook should be constructed above the Replacement Dam near the right abutment, to be operated and maintained by Reclamation. While we agree

that the recommendation may have merit, we do not believe that such a development outside the project should be the Applicant's responsibility and are not, therefore, requiring its development.

Interior noted that the area of the project may be of some historical significance. By Article 44 we require Applicant to coordinate with appropriate agencies to develop plans and procedures to protect and enhance historical values within the project boundary, including the Old Island Powerhouse.

Under Section 7 of the Act of December 28, 1973, $400,000 is authorized for construction of specific facilities for public recreation and fish and wildlife enhancement. Interior noted that Applicant's Exhibit R said that some of these funds would be available for enhancement in the tailrace area, whereas Interior's position is that the public funds will not be available for Applicant's use. We agree with the latter interpretation of the Act of December 28, 1973, and have specifically deleted all references to such funds in the Exhibit R we approve hereinafter.

Interior also recommended that the following articles requested for the existing Project No. 2258 be included in the license for Project No. 2736:

(a) The Project shall be operated in such manner as will not conflict with the future depletion in flow of the waters of Snake River and its tributaries, or prevent or interfere with the future upstream diversion and use of such water above the backwater created by the project for the irrigation of lands and other beneficial consumptive uses in the Snake River watershed.

(b) The Licensee shall not make any claims under the authority of this license against the United States or other parties claiming through the United States for any damages resulting from any future reduction in the flow of the waters of the Snake River and its tributaries for the irrigation of lands or other beneficial purposes.

Even though the Applicant would agree to insertion of the provision contemplated by Interior in (a) above, we consider it unnecessary from a practical standpoint and do not require its inclusion. The use of falling water releases for power generation is so thoroughly under the control of Reclamation

in its releases for irrigation and other purposes of the Minidoka Project that the Applicant would have no opportunity to operate the project in a manner to conflict with future depletion or diversion of the water of the Snake River. The use of the resource is a non-depleting one and under the Act of December 28, 1973, and related contracts, the operation of the hydroelectric facility shall not impair the efficiency of the Replacement Dam Program to serve the other purposes of the Minidoka Project.

While the Applicant did not address (b) above in its comments, we note that the recommendation is similar to Section 4.7 of the unexecuted Falling Water contract. Section 4.7 provides that:

> No liability shall accrue against the United States or any of its officers, agents, or employees, or against the Constructing Agency, for damage, direct or indirect, arising by reason of shortages in the quantity of water available through the Existing Dam or Replacement Dam or interruptions in water releases resulting from drought, inaccuracy in distribution, hostile diversion, prior or superior claims, accident to or failure of the Existing Dam or the Replacement Dam, whether or not attributable to negligence of the officers, agents or employees of the United States or the Constructing Agency, or other causes of whatsoever kind.

However, to adequately protect the Government from liability for water shortage or interruption, and in the absence of an executed agreement among the parties to that effect, Article 35 includes Interior's recommendations subject to the clarification that the license, as such, shall not be interpreted as affording greater rights to Licensee than it might otherwise have. See, Utah Power & Light Company, Project No. 2420, 41 F.P.C. 175 (1969).

Interior commented that the 138-kV transmission line from the powerplant to the switchyard traverses directly over a congested recreational area, and suggested that the line be relocated or modified to insure that it does not present a hazard. By Article 38 we require Applicant to complete, within one year, a study addressing the need for alternative alignment or clearance for the transmission line. By Article 39 we require Applicant in the design, construction and maintenance of the project works, including transmission lines, to follow the Commission's Guidelines relating to protection of certain values in the design and location of rights-of-way and transmission facilities, 18 C.F.R. §2.13 (1974).

Applicant in Exhibits C, D, and E of its application stated that a June 15, 1923, contract (Contract) between Applicant and Reclamation, entitled a "Contract...Relative to Power Rights at American Falls, Idaho.", will continue in effect without change. Interior commented that it is anticipated that some changes would be made to said contract.

We note that Article 36 of the Contract provides that its execution shall not be construed as waiving any authority, jurisdiction or control which this Commission may have over Applicant at American Falls, nor could it, of course. Likewise, we would expect that any changes negotiated to the Contract will not be inconsistent with terms of this order or any applicable administrative or statutory requirements.

The U.S. Army, Corps of Engineers (Corps) by letter dated July 18, 1974, reported that the project is not in conflict with any existing or proposed Corps projects, and that the plans of project structures are satisfactory from the standpoint of navigation interest. According to the Corps, the project will have no adverse effect on flood control on the Snake River.

The Corps recommended that any license issued should require the Applicant to consult prior to construction with the Corps' District Engineer Walla Walla District, concerning Department of Army permit requirements. We have adopted that recommendation in Article 37.

By letter dated July 26, 1974, the U.S. Environmental Protection Agency (EPA), requested that certain conditions relating to water quality be incorporated into the license. EPA recommended that the Applicant provide and operate facilities approved by the Idaho Department of Health and Welfare (IDHW) and EPA for reoxygenation of waters released from the project to meet established water quality standards, to monitor the quality of project releases, and to notify Reclamation when water quality falls below standard so that the project will be bypassed until such time as water quality standards are met.

Applicant responded by letter dated September 25, 1974, that EPA's recommendations are provided for in the overall contractual scheme discussed heretofore. In addition, the §401 certification requested by EPA and Article 46 responds to EPA's concerns. While we recognize that the chief responsibility for reoxygenation of the water passed downstream is that of the District's under the proposed contracts, we are requiring of Applicant that it consult and coordinate with interested parties and agencies to insure adequate water quality in the Snake River.

We have provided in Article 46 a framework for consultation and cooperation to insure maintenance of water quality at the project. Particulars such as those required under the §401 permit can be addressed within this format. Good faith consultation with interested agencies may reveal that more stringent requirements are desirable. In such a case, Article 46 provides a mechanism by which the natural resources involved will be protected.

The U.S. Department of Agriculture-Forest Service reported by letters dated July 25 and August 29, 1974, that this project would not affect National Forest land or resources, nor would it conflict with any project of which the Service is aware which should be or has been constructed by the United States.

The Department of Transportation-United States Coast Guard reported by letters dated July 23 and September 9, 1974, that it has no comments to offer nor any objection to the application.

Department of Commerce-National Marine Fisheries Service commented by letter dated June 28, 1974, that the project would have no direct effects on marine, estuarine, anadromous or inland commercial fisheries.

By letters dated May 31 and August 13, 1974, the U.S. Department of Health, Education and Welfare (HEW) said that it would be glad to comment on any draft environmental impact statement that the Commission might develop for this project. As we previously noted, Staff contributed to Reclamation's Final Environmental Statement on the American Falls Dam Replacement and Powerplant, which was made available to CEQ and the public on November 13, 1974, designated as INT-FES 74-60. */ Entities from whom comments were requested on that draft included HEW, but it did not choose to comment thereon.

The Chairman of the Pacific Northwest River Basins Commission reported by letter dated July 23, 1974, that the licensing of the project would be consistent with that Commission's approved comprehensive Columbia-North Pacific Framework Plan and that no significant historical or cultural assets are known to be involved in any environmental impacts.

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*/ Reclamation had previously developed and circulated a draft statement on the proposed legislation which became the Act of December 28, 1973.

The Idaho Department of Water Resources stated in letters dated July 18 and August 23, 1974, that inclusion of the project plant as part of the American Falls Dam Replacement Program is consistent with the objectives of the State Water Plan, and that it is in the public interest to support construction of the proposed power plant.

In a letter dated May 31, 1974, the Idaho Parks and Recreation Department (IPRD) stated that it supported any proposal which would result in early replacement of the dam. This support was qualified pending Idaho Fish and Game Commission (IFG) accepting a plan to mitigate the loss of the forebay fishery and approval of the project's impact on water quality by IDHW. As developed herein, we believe that their concerns have been satisfied. By further letter dated September 5, 1974, IPRD expressed its satisfaction that the public interest for recreation at the project is being fulfilled.

The Advisory Council on Historic Preservation suggested in a letter dated June 21, 1974, that the Environmental Impact Statement give evidence of contact with the Idaho Historic Preservation Officer and contain a copy of his comments on the effects of the project on historical, cultural, archaeological and architectural resources. Reclamation's Final Environmental Statement adopts both of these recommendations.

We have also received comments dated June 27, 1974, from the Idaho State Preservation Officer. He suggested that the 1902 power plant building would be an excellent interpretive center for Reclamation and noted that American Falls itself has long been of historic interest as a fur trade and Oregon Trail landmark.

We have consulted the National Register of Historical Places through February 4, 1975, and find no listed sites that would be affected by the project. By Article 44, however, we require Applicant to coordinate with Reclamation and the State Historic Preservation Officer for the future protection and enhancement of any historic resources within the project boundary.

The Idaho Department of Agriculture recommended by letter dated August 13, 1974, that the Exhibit R be approved and expressed the desire to see the entire rebuilding project implemented as soon as possible. With certain deletions noted herein we are approving the Exhibit R.

In a letter dated July 23, 1974, the State of Idaho, Division of Budget, Policy Planning and Coordination offered no comment on the application.

We believe that the licensing of American Falls Project No. 2736 best meets the standard of §10(a) of the Act, 16 U.S.C. §803(a). That section requires that a project approved shall "be best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce, for the improvement and utilization of waterpower development, and for other beneficial public uses, including recreational purposes...."

Utilization of added head from the Replacement Dam through additional units will increase power capacity of the existing site from 27.5 mW to 92.4 mW. This increase reflects a fuller development of the waterpower potential of the project than previously attained. Releases from storage for irrigation purposes will also occur at times of Applicant's greatest need to serve the area's electric loads, principal of which are pumping loads of irrigators. Better use will be made of recreational attributes of the area. Adequate mitigation measures have been provided for any adverse effects of the overall project, particularly in terms of the loss of the forebay fishery, potential turbine fish mortality, and water quality concerns.

The value of increased generation and its contribution to system reliability is great. Applicant is a member of the Western Systems Coordinating Council (WSCC), in addition to having its own interconnected system. In these times of increasing need for reliable power, the addition of this potential is necessary. Of course, the energy source is of a non-depleting nature, which contributes to its efficacy in terms of conservation of natural resources.

Further, we have evaluated the cost and benefits of this project in comparison with those of alternative thermal generating sources, which would require the utilization of supplies from diminishing sources of fossil fuels. We are persuaded, as indicated previously, that no better alternative exists to the licensing of this project, and that the action we take today best serves the public interest.

Our records show that Applicant is financially qualified to undertake the development of this project. We conclude that the project structures as proposed in the application would be safe and adequate if constructed in accordance with sound engineering practice.

Among the several contracts contemplated under the Act of December 28, 1973, is the unexecuted Falling Water Contract between the District and the Applicant, subject to the approval of the Secretary of the Interior to insure that the contract will not impair the efficiency of the dam to serve the other purposes of the Federal Minidoka project. In essence, the proposed Falling Water Contract provides for the Applicant to retire District bonds in the amount of $19,550,000 plus interest as payment for the use of "falling water" to help defray the cost of the Replacement Dam. Additional construction costs of over $19 million are proposed to be borne by spaceholders in the reservoir and, in certain instances, by the Government.

Apart from this obligation, it is also proposed that Applicant will also make supplemental falling water payments in the event that any of the spaceholders are in default of payment of their obligations. Applicant would assume under the contract the obligation to pay 33% of the operation and maintenance costs of the Replacement Dam. The proposed contract would provide for the use of standard Commission accounting procedures, and would terminate upon expiration of this license.

The proposed Falling Water contract also contemplates the possibility that the District may be required to issue Interim Notes in order to meet the construction schedule for the Replacement Dam and Reservoir. In such an event, the Applicant under the proposed contract would execute a guaranty agreement to the purchasers of such Interim Notes, upon approval by the appropriate regulatory agencies, among others. This licensing order shall not be construed as giving any approval required of the Commission under the Act, including Section 204 (16 U.S.C. §824c(a)), for such an issuance.

Pursuant to Section 10(e) of the Federal Power Act, 16 U.S.C. §803(e), we are required to fix a reasonable annual charge for the use of a Government dam, subject to readjustment by the Commission at the end of twenty years after the project is available for service and at periods of not less than ten years thereafter upon notice and opportunity for hearing. The Applicant's obligation to pay for falling water in accordance with the terms of the proposed Falling Water Contract is in essence payment for benefits received from the Government's American Falls Replacement Dam. At 1974 costs, the forty annual payments of principal and interest spread over fifty years of the license would require an estimated annual payment of $1,506,765 for falling water. In addition, the Applicant's payment of one-third of the annual operation and maintenance expenses of the Replacement Dam is estimated to average $10,000 annually and is in the nature of further annual charges. In light of the substantial nature of the proposed payments to be made by the Applicant toward the construction, maintenance and operation of the Replacement Dam we believe Applicant would in essence be paying an annual charge for the use of a Government dam within the meaning of Section 10(e) of the Act. However, we will defer our determination of reasonable annual charges until we can review, in light of any revised costs, the financial obligations assumed by the Applicant. Copies

of executed contracts and other documents relating to such financial obligations are to be promptly filed with the Commission under Article 36 of this license.

We believe that the record relative to the instant application has been fully developed and considered by this Commission. The facts have been fully developed in Reclamation's DEIS and comments thereon, as set out in the Final Environmental Impact Statement, public staff meetings, pleadings and other data on file with the Commission. Therefore, we do not believe that a trial-type hearing will contribute any new and relevant information and conclude that it is not in the public interest to hold such a hearing in this proceeding.

We conclude on the basis of the record before us that a power license should be issued to the Applicant for a term of fifty years effective on the first day of the month in which this order is issued.

Applicant filed several exhibits as part of its application. Exhibit J, General Map of the Project Area, and Exhibit K, Detail Maps of the Project Area, substantially conform to the Regulations and are approved as part of this license for Project No. 2736, subject to the provisions of Article 4, whereby Applicant will submit "as-built" Exhibits upon completion of construction or at such time as the Commission may require.

Of the 11 sheets filed as part of Exhibit L, General Design Drawings, we have included FPC No's 2736-18 through 22 as hereinafter described in this license. The remaining sheets were of an informational nature only and are not relevant to the design of the project.

Exhibit M, General Description and Specifications of Equipment is approved only as to those parts which describe part of the licensed project itself. Paragraph "1. Intake" was submitted for informational purposes only and equipment described therein is not a part of Project No. 2736 but rather of the Replacement Dam.

The revised Exhibit R filed July 15, 1974, is approved and made part of this license with the exception of portions of the text relating to expenditures of public funds authorized under the Act of December 28, 1973. Exhibit S is also approved. While we recognized previously that the primary responsibility for mitigation of any adverse environmental impacts from the Replacement Dam Program rests with District, we are requiring Applicant to consult and cooperate with appropriate agencies to help insure that the natural resources involved are protected. In this regard we note but do not include in the license the July 2, 1974, agreement between District and IFG, which Applicant filed as part of Exhibit R.

No conflicting applications are before the Commission at this time. We note that the license issued March 20, 1975, in Project No. 2258 is for the existing American Falls project.

One of the provisions of that order requires Applicant to make application to surrender Project No. 2258 when its generation is rendered inoperable by a more comprehensive hydroelectric development at American Falls.

Finally, Applicant noted in its Exhibits C, D, and E that application would be made to the Idaho State Department of Water Administration for a change in the point of diversion of the water at American Falls, to obtain permits for any additional water used, to construct project works in the river channel, and to remove certain of the existing facilities.

The Commission finds:

(1) The American Falls Powerplant Project No. 2736 would affect lands of the United States and the United States Department of the Interior Bureau of Reclamation American Falls Replacement Dam and would be located on a navigable waterway of the United States.

(2) Applicant is a corporation organized under the laws of the State of Maine and is authorized to do business in the State of Idaho.

(3) Public notice of the filing of the application for major license was given on December 5, 1973. Notice of intervention was filed by the Idaho Public Utilities Commission pursuant to section 1.8(d)(1) of this Commission's Rules of Practice and Procedure. Interventions were granted based on petitions filed by the Governor of Idaho, Honorable Cecil D. Andrus; Idaho Fish and Game Commission; American Falls Reservoir District; and the Shoshone-Bannock Tribes of the Fort Hall Indian Reservation, Idaho.

(4) Intervenor Idaho Fish and Game Commission should be permitted to withdraw its petition to intervene.

(5) A trial-type hearing is neither warranted nor in the public interest, as the record before this Commission is sufficient for decision.

(6) No conflicting application is before the Commission.

(7) Subject to the terms and conditions hereinafter imposed, the project does not adversely affect a Government dam, nor will the issuance of a license therefor, as hereinafter provided, affect the development of any water resources for public purposes which should be undertaken by the United States.

(8) Subject to the terms and conditions hereinafter imposed, the project will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce, for the improvement and utilization of waterpower development, and for other beneficial public uses, including recreational purposes.

(9) The estimated cost of developing the project compared to the estimated cost of developing suitable alternative sources of power is reasonable.

(10) The installed horsepower capacity of the project hereinafter authorized for the purpose of computing the capacity component of the administrative annual charge is 123,000 horsepower, and the amount of annual charges based on such capacity to be paid under the license for the project for the cost of administration of Part I of the Act is reasonable.

(11) The amount of annual charges to be paid under the license for recompensing the United States for the use, occupancy, and enjoyment of its lands is reasonable, as hereinafter fixed and specified.

(12) It is appropriate in the administration of the Federal Power Act to defer the question of reasonable annual charges to be assessed for the use of a Government dam.

(13) The plans of the structures affecting navigation have been approved by the Corps of Engineers.

(14) The term of the license hereinafter authorized is reasonable.

(15) The Exhibits designated and described in paragraph (B) below conform to the Commission's Rules and Regulations and should be approved as part of the license for the project.

(16) The Applicant has demonstrated satisfactory evidence that it has the necessary financial capabilities to undertake the development and operation of the project.

(17) Federal development of this project has been precluded by the Act of December 28, 1973.

The Commission orders:

(A) This license is hereby issued to Idaho Power Company (hereinafter Licensee) under the Federal Power Act for a fifty year period commencing the first day of the month in which this order is issued, for the construction, operation and maintenance of the American Falls Project No. 2736, located on the Snake River, in Power County, Idaho, and which occupies lands of the United States, will utilize water from and affect the American Falls Replacement Dam of the United States Department of the Interior Bureau of Reclamation, and further would affect navigable waters of the United States, subject to the terms and conditions of the Federal Power Act, which is incorporated herein by reference as part of this license, and subject to such rules and regulations as the Commission has issued or prescribed under the provisions of the Act.

(B) The American Falls Project No. 2736, consists of:

(i) all lands constituting the project area and enclosed by the project boundary, the limits of which are otherwise defined, and/or interests in such lands necessary or appropriate for the purposes of the project, whether such lands or interests therein are owned or held by the Licensee or the United States; such project area and project boundary being shown and described by certain exhibits which form part of the application for license which are designated and described as follows:

Exhibit	FPC No.	Showing
Exhibit J, Sheet 1 of 1	2736-32	General Map
Exhibit K, Sheet 1 of 2	2736-27	Detail Map
Exhibit K, Sheet 2 of 2	2736-28	Detail Map

(ii) project works consisting of: (1) three 18-ft. steel-lined penstocks extending approximately 240 ft. downstream from a connection with similar penstocks and intake works to be constructed as part of the Government's American Falls Replacement Dam to the centerline of project turbines; (2) a reinforced concrete powerhouse containing three adjustable-blade turbines each rated 42,000 hp at 88-ft. net head connected to three vertical-shaft, semi-outdoor type generators each rated 34.2 mVA (30.8 mW at 0.9 p.f.), a 175-ton gantry crane, and other related electrical and mechanical equipment; (3) a switchyard upstream from the powerhouse containing one three-phase transformer rated approximately 125 mVA, 13.8/138

kV, with circuit breakers and disconnect switches; (4) a 138-kV steel-pole transmission line extending approximately 2,100 ft. along the right bank and across the Snake River to the 138-kV switchyard of the existing American Falls Project No. 2258 of the Idaho Power Company; (5) a tailrace; (6) recreation facilities consisting of a public parking area, three small landscaped parks with picnic tables, a potable water supply and sanitary facilities, a public access area on the West bank of the Snake River to accommodate bank fishing, and boat launching facilities; and (7) appurtenant facilities: -- the location, nature and character of which are more specifically shown and described by the exhibits hereinbefore cited and by certain other exhibits which also form part of the application for license and which are designated and described as follows:

Exhibit L	FPC No	Showing
Sheet 1 of 10	2736-18	Project Layout-Plan & Section
Sheet 2 of 10	2736-19	Powerhouse General Arrangement-Top Deck & Generator Floor
Sheet 3 of 10	2736-20	Powerhouse General Arrangement-Turbine Floor & Inspection Gallery
Sheet 4 of 10	2736-21	Powerhouse General Arrangement-Transverse Sections
Sheet 5 of 10	2736-22	Powerhouse General Arrangement-Longitudial Section

Exhibit M: Consisting of three typewritten pages, filed February 6, 1974, entitled "General Description and Specification of Equipment", except for paragraph "1" on page 1.

Exhibit R (revised): Filed July 15, 1974 and consisting of:

(1) seven typewritten pages of text, except for the second paragraph on page 1 and the third full paragraph on page 5 thereof, and

(2) one map Exhibit R, page 1 of 1 (revised) (FPC No. 2736-29) entitled "Location Map - Recreational Facilities," insofar as it describes existing and proposed recreation sites.

Exhibit S (revised): Filed March 18, 1974, and consisting of five typewritten pages of text.

(iii) all of the structures, fixtures, equipment or facilities used or useful in the maintenance and operation of the project and located on the project area, and such other property as may be used or useful in connection with the project or any part thereof, whether located on or off the project area, if and to the extent that the inclusion of such property as part of the project is approved or acquiesced in by the Commission; together with all riparian or other rights, the use or possession of which is necessary or appropriate in the maintenance or operation of the project.

(C) This license is also subject to the following terms and conditions set forth herein as articles:

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

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

Article 3. The project works shall be constructed in substantial conformity with the approved exhibits referred to in Article 2 herein or as changed in accordance with the provisions of said article. Except when emergency shall require for the protection of navigation, life, health, or property, there shall not be made without prior approval of the Commission any substantial alteration or addition not in conformity with the approved plans to any dam or other project works under the license or any substantial use of project lands and waters not authorized herein; and any emergency alteration, addition, or use so made shall thereafter be subject to such modification and change as the Commission may direct. Minor changes in uses of project land and waters or in the project works or

divergence from such approved exhibits may be made if such changes will not result in decrease in efficiency, in material increase in cost, in an adverse environmental impact, or in impairment of the general scheme of development; but any of such minor changes made without the prior approval of the Commission, which in its judgment have produced or will produce any of such results, shall be subject to such alteration as the Commission may direct.

Article 4. Upon the completion of the project, or at such other time as the Commission may direct, the Licensee shall submit to the Commission for approval revised exhibits insofar as necessary to show any divergence from or variations in the project area and project boundary as finally located or in the project works as actually constructed when compared with the area and boundary shown and the works described in the license or in the exhibits approved by the Commission, together with a statement in writing setting forth the reasons which in the opinion of the Licensee necessitated or justified variations in or divergence from the approved exhibits. Such revised exhibits shall, if and when approved by the Commission, be made a part of the license under the provisions of Article 2 hereof.

Article 5. The construction, operation, and maintenance of the project and any work incidental to additions or alterations shall be subject to the inspection and supervision of the Regional Engineer, Federal Power Commission, in the region wherein the project is located, or of such other officer or agent as the Commission may designate, who shall be the authorized representative of the Commission for such purposes. The Licensee shall cooperate fully with said representative and shall furnish him a detailed program of inspection by the Licensee that will provide for an adequate and qualified inspection force for construction of the project and for any subsequent alterations to the project. Construction of the project works or any feature or alteration thereof shall not be initiated until the program of inspection for the project works or any such feature thereof has been approved by said representative. The Licensee shall also furnish to said representative such further information as he may require concerning the construction, operation, and maintenance of the project, and of any alteration thereof, and shall notify him of the date upon which work will begin, as far in advance thereof as said representative may reasonably specify, and shall notify him promptly in writing of any suspension of work for

a period of more than one week, and of its resumption and completion. The Licensee shall allow him and other officers or employees of the United States, showing proper credentials, free and unrestricted access to, through and across the project lands and project works in the performance of their official duties. The Licensee shall comply with such rules and regulations of general or special applicablility as the Commission may from time to time prescribe for the protection of life, health, or property.

Article 6. The Licensee within five years from date of issuance of the license shall acquire title in fee or the right to use in perpetuity all lands, other than lands of the United States, necessary or appropriate for the construction, maintenance and operation of the project. The Licensee, its successors and assigns shall, during the period of the license, retain the possession of all project property covered by the license as issued or as later amended, including the project area, the project works, and all franchises, easements, water rights, and rights of occupancy and use; and none of such properties shall be voluntarily sold, leased, transferred, abandoned, or otherwise disposed of without the prior written approval of the Commission, except that the Licensee may lease or otherwise dispose of interests in project lands or property without specific written approval of the Commission pursuant to the then current regulations of the Commission. The provisions of this article are not intended to prevent the abandonment or the retirement from service of structures, equipment, or other project works in connection with replacements thereof when they become obsolete, inadequate, or inefficient for further service due to wear and tear; and mortgage or trust deed or judicial sales made thereunder, or tax sales, shall not be deemed voluntary transfers within the meaning of this article.

Article 7. In the event the project is taken over by the United States upon the termination of the license, as provided in Section 14 of the Act, or is transferred to a new license or to a non-power licensee under the provisions of Section 15 of the Act, the Licensee, its successors and assigns will be responsible for and will make good any defect of title to or of right of occupancy and use in any of such project property which is necessary or appropriate or valuable and serviceable in the maintenance and operation of the project, and will pay and discharge, or will

assume responsibility for payment and discharge, of all liens or incumbrances upon the project or project property created by the Licensee or created or incurred after the issuance of the license: Provided, That the provisions of this article are not intended to require the Licensee, for the purpose of transferring the project to the United States or to a new Licensee, to acquire any different title to or right of occupancy and use in any of such project property than was necessary to acquire for its own purposes as Licensee.

Article 8. The actual legitimate original cost of the project, and of any addition thereto or betterment thereof, shall be determined by the Commission in accordance with the Act and the Commission's Rules and Regulations thereunder.

Article 9. After the first 20 years of operation of the project under the license, six percent per annum shall be the specified rate of return on the net investment in the project for determining surplus earnings of the project for the establishment and maintenance of amortization reserves, pursuant to Section 10(d) of the Act; one-half of the project surplus earnings, if any, accumulated after the first 20 years of operation under the license, in excess of six percent per annum on the net investment, shall be set aside in a project amortization reserve account as of the end of each fiscal year: Provided, that, if and to the extent that there is a deficiency of project earnings below six percent per annum for any fiscal year or years after the first 20 years of operation under the license, the amount of such deficiency shall be deducted from the amount of any surplus earnings accumulated thereafter until absorbed, and one-half of the remaining surplus earnings, if any, thus cumulatively computed, shall be set aside in the project amortization reserve account; and the amounts thus established in the project amortization reserve account shall be maintained therein until further order of the Commission.

Article 10. For the purpose of determining the stage and flow of the stream or streams on which the project is located, the amount of water held in and withdrawn from storage, and the effective head on the turbines, the Licensee shall install and thereafter maintain such gages and stream-gaging stations as the Commission may deem necessary and best adapted to the requirements; and shall provide for the required readings of such gages and for

the adequate rating of such stations. The Licensee shall also install and maintain standard meters adequate for the determination of the amount of electric energy generated by said project works. The number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, shall at all times be satisfactory to the Commission and may be altered from time to time if necessary to secure adequate determinations, but such alteration shall not be made except with the approval of the Commission or upon the specific direction of the Commission. The installation of gages, the ratings of said stream or streams, and the determination of the flow thereof, shall be under the supervision of, or in cooperation with, the District Engineer of the United States Geological Survey having charge of stream-gaging operations in the region of said project, and the Licensee shall advance to the United States Geological Survey the amount of funds estimated to be necessary for such supervision or cooperation for such periods as may be mutually agreed upon. The Licensee shall keep accurate and sufficient record of the foregoing determinations to the satisfaction of the Commission, and shall make return of such records annually at such time and in such form as the Commission may prescribe.

Article 11. The Licensee shall install additional capacity or make other changes in the project as directed by the Commission to the extent that it is economically sound and in the public interest to do so, after notice and opportunity for hearing.

Article 12 The Licensee shall, after notice and opportunity for hearing, coordinate the operation of the project, electrically and hydraulically, with such other projects or power systems and in such manner as the Commission may direct in the interest of power and other beneficial public uses of water resources, and on such conditions concerning the equitable sharing of benefits by the Licensee as the Commission may order.

Article 13. Whenever the Licensee is directly benefited by the construction work of another licensee, a permittee, or of the United States of a storage reservoir or other headwater improvements, the Licensee shall reimburse the owner of the headwater improvement for such part of the annual charges for interest, maintenance, and depreciation thereof as the Commission shall determine to be equitable, and shall pay to the United States the cost of making such determination as fixed by the Commission. For benefits provided by a storage reservoir or

other headwater improvements of the United States the Licensee shall pay to the Commission the amounts for which it is billed from time to time for such headwater benefits and for the costs of making the determinations pursuant to the then current Commission Regulations under the Federal Power Act.

Article 14. The United States specifically retains and safeguards the right to use water in such amount, to be determined by the Secretary of the Army, as may be necessary for the purposes of navigation on the navigable waterway affected; and the operations of the Licensee, so far as they affect the use, storage and discharge from storage of waters affected by the license, shall at all times be controlled by such reasonable rules and regulations as the Secretary of the Army may prescribe in the interest of navigation, and as the Commission may prescribe for the protection of life, health, and property, and in the interest of the fullest practicable conservation and utilization of such waters for power purposes and for other beneficial public uses, including recreational purposes, and the Licensee shall release water from the project reservoir at such rate in cubic feet per second, or such volume in acre-feet per specified period of time, as the Secretary of the Army may prescribe in the interest of navigation, or as the Commission may prescribe for the other purposes hereinbefore mentioned.

Article 15. On the application of any person, association, corporation, Federal agency, State or municipality, the Licensee shall, after notice and opportunity for hearing, permit such reasonable use of its project properties, including works, lands and water rights, or parts thereof, as may be ordered by the Commission in the interest of comprehensive development of the waterway or waterways involved and the conservation and utilization of water resources of the region, for water supply, or for the purpose of steam-electric, irrigation, industrial, municipal or similar uses. The Licensee shall receive reasonable compensation, at least full reimbursement for any damages or expenses which the joint use causes him to incur, for use of its reservoir or other project properties or parts thereof for such purposes, any such compensation to be fixed by the Commission either by approval of an agreement between the Licensee and the party or parties benefiting or after notice and opportunity for hearing. Applications shall contain information in sufficient detail to afford a full understanding of the proposed use, including satisfactory evidence that the applicant possesses necessary

water rights pursuant to applicable State law, or a showing of cause why such evidence cannot be concurrently submitted, and a statement as to the relationship of the proposed use to any State or municipal plans or orders which may have been adopted with respect to the use of such waters.

Article 16. In the construction or maintenance of the project works, the Licensee shall place and maintain suitable structures and devices to reduce to a reasonable degree the liability of contact between its transmission lines and telegraph, telephone and other signal wires or power transmission lines constructed prior to its transmission lines and not owned by the Licensee, and shall also place and maintain suitable structures and devices to reduce to a reasonable degree the liability of any structures or wires falling or obstructing traffic or endangering life. None of the provisions of this article are intended to relieve the Licensee from any responsibility or requirement which may be imposed by other lawful authority for avoiding or eliminating inductive interference.

Article 17. The Licensee shall, for the conservation and development of fish and wildlife resources, construct, maintain, and operate, or arrange for the construction, maintenance and operation of such reasonable facilities and comply with such reasonable modifications of the project structures and operation as may be ordered by the Commission upon its own motion or upon the recommendation of the Secretary of the Interior or the fish and wildlife agency or agencies of any State in which the project or a part thereof is located, after notice and opportunity for hearing.

Article 18. Whenever the United States shall desire, in connection with the project, to construct fish and wildlife facilities or to improve the existing fish and wildlife facilities at its own expense, the Licensee shall permit the United States or its designated agency to use, free of cost, such of Licensee's lands and interest in lands, reservoirs, waterways and project works as may be reasonably required to complete such facilities or such improvements thereof. In addition, after notice and opportunity for hearing, the Licensee shall modify the project operation as may be reasonably prescribed by the Commission in order to permit the maintenance and operation of the fish and wildlife facilities constructed or improved by the United States under the provisions of this article.

This article shall not be interpreted to place any obligation on the United States to construct or improve fish and wildlife facilities or to relieve the Licensee of any obligation under this license.

Article 19. The Licensee shall construct, maintain and operate, or shall arrange for the construction, maintenance and operation of such reasonable recreational facilities, including modifications thereto, such as access roads, wharves, launching ramps, beaches, picnic and camping areas, sanitary facilities and utilities, giving consideration to the needs of the physically handicapped, and shall comply with such reasonable modifications of the project as may be prescribed hereafter by the Commission during the term of this license upon its own motion or upon the recommendation of the Secretary of the Interior or other interested Federal and State agencies, after notice and opportunity for hearing.

Article 20. So far as is consistent with proper operation of the project, the Licensee shall allow the public free access, to a reasonable extent, to project waters and adjacent project lands owned by the Licensee for the purpose of full public utilization of such lands and waters for navigation and for outdoor recreational purposes, including fishing and hunting: Provided, That the Licensee may reserve from public access, such portions of the project waters, adjacent lands, and project facilities as may be necessary for the protection of life, health, and property.

Article 21. The Licensee shall be responsible for and shall take reasonable measures to prevent soil erosion on lands adjacent to the stream(s) and to prevent stream siltation or other forms of water or air pollution resulting from construction, operation or maintenance of the project. The Commission upon request, or upon its own motion, may order the Licensee to take such measures as the Commission may find to be necessary for these purposes, after notice and opportunity for hearing.

Article 22. Licensee shall dispose of all temporary structures, unused timber, brush, refuse, or other unneeded material resulting from the clearing of lands or from the maintenance or alteration of the project works. Disposal of the material shall be done with due diligence and to the satisfaction of the authorized representative of the Commission and in accordance with appropriate Federal, State, and local laws and regulations.

Article 23. Insofar as any material is dredged or excavated in the prosecution of any work authorized under the license, or in the maintenance of the project, such material shall be removed and deposited in such a manner as to reasonably preserve the project environmental values and so as not to interfere with traffic, both land and water. Dredging and filling in a navigable water of the United States will also be done to the satisfaction of the District Engineer, Department of the Army, in charge of the locality.

Article 24. Whenever the United States shall desire to construct, complete, or improve navigation facilities in connection with the project, the Licensee shall convey to the United States, free of cost, such of its lands and its rights-of-way and such right of passage through its dams or other structures, and permit such control of pools as may be required to complete and maintain such navigation facilities.

Article 25. The operation of any navigation facilities which may be constructed as a part of or in connection with any dam or diversion structure constituting a part of the project works shall at all times be controlled by such reasonable rules and regulations in the interest of navigation, including the control of the level of the pool caused by such dam or diversion structure, as may be made from time to time by the Secretary of the Army.

Article 26. The Licensee shall furnish free of cost to the United States power for the operation and maintenance of navigation facilities in the vicinity of the project at the voltage and frequency required by such facilities and at a point adjacent thereto whether said facilities are constructed by the Licensee or by the United States.

Article 27. The Licensee shall for the protection of navigation, construct, maintain and operate at its own expense such lights and other signals on fixed structures in or over navigable waters of the United States as may be directed by the Secretary of the Department in which the Coast Guard is operating.

Article 28. The Licensee shall be liable for injury to, or destruction of, any buildings, bridges, roads, trails, lands, or other property of the United States, occasioned by the construction, maintenance, or operation of the project works or of the works appurtenant or accessory thereto under the license. Arrangements to meet such

liability, either by compensation for such injury or destruction, or by reconstruction or repair of damaged property, or otherwise, shall be made with the appropriate department or agency of the United States.

Article 29. The Licensee shall allow any agency of the United States, without charge, to construct or permit to be constructed on, through, and across those project lands which are lands of the United States such conduits, chutes, ditches, railroads, roads, trails, telephone and power lines, and other means of transportation and communication not inconsistent with the enjoyment of said lands by the Licensee for the purposes of the license. This license shall not be construed as conferring upon the Licensee any right of use, occupancy, or enjoyment of the lands of the United States other than for the construction, operation, and maintenance of the project as stated in the license.

Article 30. In the construction and maintenance of the project, the location and standards of roads and trails on lands of the United States and other uses of lands of the United States, including the location and condition of quarries, borrow pits, and spoil disposal areas, shall be subject to the approval of the department or agency of the United States having supervision over the lands involved.

Article 31. The Licensee shall make provision, or shall bear the reasonable cost, as determined by the agency of the United States affected, of making provision for avoiding inductive interference between any project transmission line or other project facility constructed, operated, or maintained under the license, and any radio installation, telephone line, or other communication facility installed or constructed before or after construction of such project transmission line or other project facility and owned, operated, or used by such agency of the United States in administering the lands under its jurisdiction.

Article 32. The Licensee shall cooperate with the United States in the disposal by the United States of mineral and vegetative materials, under the Act of July 31, 1947, 61 Stat. 681, as amended (30 U.S.C. §601, et seq.) from lands of the United States occupied by the project or any part thereof: Provided, That such disposal has been authorized by the Commission and that it does not unreasonably interfere with the occupancy of such lands by the

Licensee for the purposes of the license: Provided further, That, in the event of disagreement, any question of unreasonable interference shall be determined by the Commission after notice and opportunity for hearing.

Article 33. If the Licensee shall cause or suffer essential project property to be removed or destroyed or to become unfit for use, without adequate replacement, or shall abandon or discontinue good faith operation of the project or refuse or neglect to comply with the terms of license and the lawful orders of the Commission mailed to the record address of the Licensee or its agent, the Commission will deem it to be the intent of the Licensee to surrender the license. The Commission, after notice and opportunity for hearing, may require the Licensee to remove any or all structures, equipment and power lines within the project boundary and take any such other action necessary to restore the project stream(s), lands, and facilities remaining within the project boundary to a condition satisfactory to the United States agency having jurisdiction over its lands or the Commission's authorized representative, as appropriate, or provide for the continued operation and maintenance of non-power facilities and fulfill such other obligations under the license as the Commission may prescribe. The Commission, in its discretion, may also terminate the license.

Article 34. The right of the Licensee and of its transferees and successors to use or occupy waters, over which the United States has jurisdiction, or lands of the United States under the license, for the purpose of maintaining the project works or otherwise, shall absolutely cease at the end of the license period, unless Licensee has obtained a new license pursuant to the then existing laws and regulations, or an annual license under the terms and conditions of this license.

Article 35. This license shall not be construed as affecting in any way any claim the licensee may have concerning its water rights acquired pursuant to State law. Those rights, not this license, shall govern any claim the licensee may advance against the United States or other parties claiming through the United States for any damages resulting from any future depletion in the flow of the waters of the Snake River and its tributaries for the irrigation of lands or other beneficial consumptive uses.

Article 36. Licensee shall promptly file for Commission information copies of all executed contracts

and other documents relating to any financial obligations assumed by it with respect to the American Falls Replacement Dam and Reservoir.

Article 37. During the planning and design period prior to construction of the project, the Licensee shall consult with the District Engineer, Corps of Engineers, Walla Walla District, concerning the Department of the Army permit requirements.

Article 38. Licensee shall within 1 year from the effective date of this license: (1) complete a study, in consultation with appropriate Federal, State and local agencies, to determine the need, if any, of an alternative alignment and/or clearance for the 138-kV transmission line extending from the powerhouse to the American Falls switchyard necessary for the safety and protection of persons using the reservoir for navigational and recreational purposes, and (2) file a revised Exhibit F and submit for Commission approval revised Exhibits J, K, M, and L, reflecting any change in alignment or clearance of the 138-kV transmission line, in conformance with the Commission's rules and regulations.

Article 39. Licensee shall in the design, construction and maintenance of the project works, including transmission lines, follow the Commission's "Guidelines for the Protection of Natural, Historic, Scenic and Recreational values in the Design and Location of Rights-of-Way and Transmission Facilities" of Commission Order No. 414 and other recognized engineering and landscaping practices as may be needed to protect and preserve the environmental values of the project.

Article 40. The Licensee shall, during the development and operation of the project, continue to consult and cooperate with the U.S. Fish and Wildlife Service, U.S. Environmental Protection Agency, Idaho Department of Fish and Game, Idaho Department of Water Resources, and other appropriate environmental agencies for the protection and development of the natural resources of the project area.

Article 41. The Licensee shall, to the satisfaction of the Commission's authorized representative, install and operate such signs, lights, sirens or other devices

below the powerhouse to warn the public of fluctuations in flow from the project, as may be reasonably needed to protect the public in its recreational use of project lands and waters.

Article 42. The Licensee shall, in cooperation with the U.S. Department of the Interior, State and local agencies, construct, maintain and operate, or arrange for the construction, maintenance and operation thereof, a parking area along the access road to the powerhouse; a foot trail to provide public access, extending from this road, under the railroad bridge, to the west riverbank tailrace area; and a boat dock (Development 6) adjacent to the existing park (Development 1, as shown on the Exhibit R drawing FPC No. 2763-29).

Article 43. Licensee shall consult and cooperate with the Idaho Department of Health and Welfare and comply with State and local regulations in planning and providing for the collection, storage, and disposal of solid wastes generated through public access and use of project lands and waters, and, within one year after issuance of this license, shall file with the Commission a solid waste management plan which has been approved by the Idaho Department of Health and Welfare. This plan shall provide: (a) the location of solid waste receptacles to be provided at public areas, picnicking areas, and boat access areas; (b) schedules of collection for the above receptacles; (c) provisions for including in the subject plan any public use areas as they may be developed; and (d) disposal sites and methods of disposal.

Article 44. The Licensee shall cooperate with the U.S. Department of the Interior's Bureau of Reclamation and the Office of the Idaho State Historic Preservation Officer: (1) in developing plans or procedures for the protection, during and after project construction, of any historic resources identified as being within the project boundaries including the Old Island Powerhouse, and (2) in developing and executing plans for the improvement of such structures in the interest of recreation, education, and historic preservation, including the provision of public access to such resources.

Article 45. The Licensee, within 1 year of the date of issuance of the license and following consultation and cooperation with the U.S. Department of the Interior's Bureau of Reclamation and Fish and Wildlife Service, and

the Idaho Department of Fish and Game, shall prepare and submit for Commission approval plans for a comprehensive, 3-year research study devised to determine the mortality rate of fish passed downstream via the turbines. The Licensee shall file annual progress reports with the Commission and at the termination of the study, shall file with the Commission a final report to include recommendations for any changes in project structures or operations as indicated desirable from the study, or the need for any continuation of the study.

Article 46. The Licensee, following consultation with appropriate Federal and State water quality agencies, shall cooperate with the Bureau of Reclamation and the American Falls Reservoir District in the installation, maintenance, and the continuous operation of a dissolved oxygen and temperature monitoring system in the Snake River immediately downstream from the project tailrace. Licensee will insure that procedures exist whereby water releases from the Replacement Dam will bypass the project when the D.O. levels as measured by the system fail to meet the approved State standards. The Licensee shall maintain records of the data gathered and shall file with the State Health and Welfare and Fish and Game Departments and the Commission annual summaries, or summaries for other intervals when requested, reporting observed daily minimum, maximum, and average dissolved oxygen concentrations and temperatures, and any actions taken when the D.O. levels were below the approved State Standard.

Article 47. The Licensee shall commence construction of the project within two years from the effective date of the license and shall thereafter in good faith and with due diligence prosecute such construction, and shall complete construction of such project works within four years from the effective date of the license.

Article 48. The Licensee shall pay the following annual charges, effective as of the first day of the month in which this license is issued:

(i) For the purpose of reimbursing the United States for the cost of administration of Part I of the Act, a reasonable annual charge as determined by the Commission in accordance with the provisions of its regulations, in effect from time to time. The authorized installed capacity for such purposes is 123,000 horsepower; and

(ii) For the purpose of recompensing the United States for the use, occupancy, and enjoyment of 10.31 acres of its lands, $24.74, or such amount as may be determined from time to time pursuant to the Commission's Regulations; and

(iii) For the purpose of recompensing the United States for the use, occupancy, and enjoyment of the American Falls Replacement Dam, an amount to be hereafter determined by the Commission. Upon receipt from the Licensee of the executed contracts, as provided for in Article 36 herein, the Commission will determine the amount of reasonable annual charges to be paid by Licensee for the purpose of recompensing the United States for the use, occupancy, and enjoyment of the American Falls Replacement Dam.

Article 49. The terms and conditions expressly set forth in the license shall not be construed as impairing any terms and conditions of the Federal Power Act which are not expressly set forth herein.

(D) The Exhibits designated and described in Paragraph (B) above are hereby approved and made a part of the license to the extent heretofore noted.

(E) Intervenor Idaho Fish and Game Commission is hereby permitted to withdraw its petition to intervene.

(F) This order shall become final 30 days from the date of its issuance unless application for rehearing shall be filed as provided in Section 313(a) of the Act, and failure to file such an application shall constitute acceptance of this license. In acknowledgment of the acceptance of this license it shall be signed for the Licensee and returned to the Commission within 60 days from the date of issuance of this order.

By the Commission.

(S E A L)

Kenneth F. Plumb

Kenneth F. Plumb,
Secretary.

IN TESTIMONY of its acknowledgment of acceptance of all of the provisions, terms and conditions of this license, Idaho Power Company, this 25th day of April, 1975, has caused its corporate name to be signed hereto by JAMES E BRUCE, its President, and its Corporate Seal to be affixed hereto and attested by PAUL L JAUREGUI, its Secretary, pursuant to a resolution of its Board of Directors duly adopted on the 10th day of April, 1975, a certified copy of the record which is attached hereto.

Idaho Power Company

By James E Bruce
President

Attest:

Paul L Jauregui
Secretary

(Executed in Quadruplicate)

Exhibit B
American Falls single-line diagram

Exhibit B contains information about the transmission and distribution of energy, therefore, pursuant to 18 CFR § 388.113, IPC is filing Exhibit B separately as CEII.

Exhibit C
Cultural and historic resources currently identified in the vicinity of the American Falls hydroelectric project

Exhibit C contains sensitive information related to archaeological and historic resources, therefore, pursuant to 18 CFR § 388.112(b), IPC is filing Exhibit C separately as privileged material.