Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

825 N.E. Multnomah, Suite 1500
Portland, Oregon 97232
(503) 813-5000

ORIGINAL

PACIFICORP
PACIFIC POWER UTAH POWER

PUBLIC

FILED
OFFICE OF THE
SECRETARY
2005 AUG 16 P 2:23
FEDERAL ENERGY
REGULATORY COMMISSION

August 15, 2005

Honorable Magalie R. Salas
Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, DC 20429

Re: PacifiCorp's Application for Amendment of License and Submission of Offer of Settlement to Remove the Cove Development and Reduce Minimum Flow Requirements in the Grace Bypassed Reach; Bear River Hydroelectric Project, No. 20 – 065

Dear Secretary Salas:

Enclosed for filing in the above-referenced proceeding are an original and fourteen (14) copies of PacifiCorp's Application for Amendment of License ("the Application") and Offer of Settlement to Remove the Cove Development and Reduce Minimum Flow Requirements in the Grace Bypassed Reach. As explained in detail in the Application and the Offer of Settlement, PacifiCorp is proposing to amend the license for the Bear River Hydroelectric Project ("the Project") to authorize the removal of the Cove development, and to reduce minimum flow requirements in the Grace bypassed reach. PacifiCorp, Federal and State resources agencies, the Shoshone-Bannock Tribes, and environmental organizations have found that the proposed license amendment, and the Offer of Settlement upon which it is based, are fair and reasonable, and in the public interest.

Pursuant to the Commission's regulations at 18 C.F.R. § 385.602, PacifiCorp is submitting a Settlement Agreement ("Agreement") and a separate Explanatory Statement that provides the rationale behind the measures contained in the Agreement. Nothing in the Explanatory Statement is intended to modify the terms of the Agreement. Any conflict between the language in the Agreement and the Explanatory Statement should be resolved in favor of the Agreement.

In accordance with Commission's regulations, any person wishing to comment on the Offer of Settlement must file such comments with the Secretary no later than 20 days after the filing of his Offer of Settlement. Through this letter, the PacifiCorp hereby provides notification to all participants that comments on the Agreement are due by September 9, 2005.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Please note that the Offer of Settlement includes a Cove development Removal Plan ("the Removal Plan") (Appendix B to Settlement Agreement) that contains "critical energy infrastructure information" ("CEII") as that term is defined under the Commission's regulations. See 18 C.F.R. § 388.112. An original and two copies of the CEII volume are enclosed and marked accordingly. PacifiCorp requests that the Removal Plan be treated as privileged and confidential, and withheld from public disclosure under the Commission's regulations.

The enclosed Removal Plan contains preliminary engineering and design information that will serve as the basis for updated Exhibits. PacifiCorp will, after consultation with Commission staff, file final updated Exhibits with the Commission upon completion of the Removal Plan.

Please contact Monte Garrett at 503-813-6629, if you have any questions regarding this filing.

Sincerely,

Therese Lamb
Managing Director, Hydro Relicensing and Compliance

Cc: Environmental Coordination Committee (Without CEII)
Service List (Without CEII)

Enclosures

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

PacifiCorp	)	Project No. 20-065
	)	
Application for Amendment of License and Submission of Offer of Settlement	)	Bear River Hydroelectric Project
	)	
	)	

APPLICATION OF PACIFICORP FOR AMENDMENT OF LICENSE AND SUBMISSION OF OFFER OF SETTLEMENT CONCERNING THE DECOMMISSIONING OF THE COVE DEVELOPMENT

Pursuant to Subpart L of Part 4 of the Commission's regulations, and Subpart F of the Commission's Rules of Practice and Procedure, PacifiCorp, licensee for the Bear River Hydroelectric Project No. 20 ("the Project") hereby applies to the Federal Energy Regulatory Commission ("the Commission") to amend the Project license to permit the removal of the Cove development and adjustment of minimum instream flow requirements in the Grace development's bypassed reach. The enclosed Offer of Settlement submitted by PacifiCorp under 18 C.F.R. § 385.602 contains the Company's proposed terms and conditions of the proposed License Amendment, and reflects a careful balancing of environmental and economic interests.

COMMUNICATIONS

Communications regarding this application should be addressed to the following individuals, whose names should be placed on the Commission's official service list for this proceeding:

Monte Garrett, Project Manager
PacifiCorp
1500 Lloyd Center Tower
825 NE Multnomah Street
Portland, OR 97232-2135
Telephone: (503) 813-6629

John Sample, Esq.
PacifiCorp
1500 Lloyd Center Tower
825 NE Multnomah Street
Portland, OR 97232-2135
Telephone: (503) 813-6629

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Facsimile: (503) 813-6633
E-mail: monte.garrett@pacificorp.com

Facsimile: (503) 813-6633
E-mail: john.sample@pacifiCorp.com

PURPOSE OF APPLICATION

The purpose of this application is to seek Commission authorization for PacifiCorp to remove the Cove development as described in the enclosed Offer of Settlement, and to adjust minimum instream flows in the Grace development bypassed reach as described in the Offer of Settlement. Removal of the Cove development in accordance with the terms of the Offer of Settlement will enhance environmental resources in the Project area, and reductions in Grace development bypassed reach minimum flows will partially offset the cost of Cove development removal.

BACKGROUND

The Project, located on the Bear River in Caribou and Franklin Counties, Idaho, was licensed by the Commission in 2003. Prior to license issuance, on August 28, 2002, PacifiCorp executed a comprehensive settlement agreement ("the Relicensing Settlement Agreement") with sixteen state and federal resource agencies, Indian Tribes, and non-governmental organizations (collectively, "the Parties")[1] to resolve all issues regarding relicensing of the Project and for the purpose of obtaining a new Project license ("New License") from the Commission.[2] On September 26, 2002, PacifiCorp filed the Relicensing Settlement Agreement with the Commission, along with an Explanatory

---

[1] Parties to the Relicensing Settlement Agreement and this Agreement include the United States Fish and Wildlife Service; United States Bureau of Land Management; United States National Park Service; United States Forest Service; Shoshone-Bannock Tribes; Idaho Department of Environmental Quality; Idaho Department of Fish and Game; Idaho Department of Parks and Recreation; Idaho Council of Trout Unlimited; Idaho Rivers United; Greater Yellowstone Coalition; American Whitewater; and other interveners.

[2] The history of the Bear River Hydroelectric Project licensing proceeding is discussed in the Explanatory Statement accompanying the August 28, 2002, Relicensing Settlement Agreement, and the

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Statement and proposed license articles. On December 22, 2003, the Commission issued a New License adopting in large part the Relicensing Settlement Agreement and incorporating its terms into license articles.

Section 3.1.2.6 of the Relicensing Settlement Agreement required PacifiCorp to conduct a feasibility study to evaluate methods to improve fish passage at Cove dam, with alternatives ranging from modification of existing facilities, to decommissioning of the Cove development. PacifiCorp complied with this requirement by providing the Parties with the Cove Feasibility Study on June 14, 2004. The Cove Feasibility Study assessed (1) the technical and economic feasibility of decommissioning and removing the Cove development; (2) interconnecting the Grace tailrace and Cove flume, and removing Cove dam; and (3) constructing a range of fish passage facilities to reduce the barrier effect of the current infrastructure.

On December 10, 2004, PacifiCorp, on behalf of the Environmental Coordinating Committee ("ECC"), submitted a letter to the Commission selecting Cove development decommissioning as the recommended alternative under Section 3.1.2.6 of the Relicensing Settlement Agreement. The Parties determined that Cove development decommissioning was consistent with the Parties' objectives for restoring river processes and improving water quality, while at the same time providing increased operational and economic certainty for PacifiCorp.

On July 20, 2005, the Parties executed a comprehensive settlement agreement to decommission the Cove development ("the Agreement"), attached as Attachment A to this Application for License Amendment. This Agreement proposes to modify certain

---

Commission's December 22, 2003, Order Approving Settlement Agreement and Issuing New License. See 105 FERC ¶ 62,207.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

provisions of the New License as described below. In reaching an agreement to decommission the Cove development, the Parties recognized the importance of clearly defining PacifiCorp's obligations to remove the Cove development, and providing contingencies to cease decommissioning in the event unforeseen permitting or other requirements materially alter the terms of the Cove development removal plan ("the Removal Plan"), attached as Appendix B to the Agreement.

DESCRIPTION OF PROPOSAL

Under the proposed License Amendment, PacifiCorp would remove the Cove development consistent with the terms and schedule contained in the Settlement Agreement and the Removal Plan. Under the proposal, PacifiCorp would deconstruct and remove portions of the Cove development, and adjust minimum flows in the Grace bypassed reach to compensate for deconstruction and removal costs. The principle elements of the Application for License Amendment are described generally below, and more specifically in the Agreement and Removal Plan.

I. Cove Development Deconstruction and Removal

The process of removing the Cove dam and associated facilities is scheduled to commence in July, 2006, and continue through November, 2006. Cove development decommissioning involves two types of actions - facility changes and operational changes. Further, the Removal Plan includes a sequence of steps to accomplish the work. Figure 2 of the Environmental Report, attached as Appendix C to the Agreement, depicts the main elements of the Removal Plan. While the following phases of decommissioning are currently scheduled for the period of July to November, 2006, demolition work in the Cove forebay area would be performed during October and

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

November when river flows are typically low in order to minimize sediment transport potential.

The initial phase of decommissioning would be dewatering the forebay. The forebay would be decanted or incrementally emptied via the existing intake structure. Flows would be spilled into the river channel immediately below the dam rather than continuing through the flume to the Cove Powerhouse. Power generation flows to the intake structure have maintained a channel through the forebay to the intake, and this channel would contain most of the flow during initial dewatering. Controlling the river flow in staged releases is intended to minimize sedimentation.

The second phase of work would be demolition of the Cove dam and relocation of sediment to form the new river channel. Once the forebay reached equilibrium (i.e., all free water had been drained), a cofferdam would be installed below the dam to divert the spilled flow away from the work area and provide a dry area for demolition activities. Initially, the dam's concrete wall would be "softened" using explosives to facilitate the removal process. Heavy mobile hydraulic equipment such as tracked excavators, bulldozers, dump trucks, and hydraulic hammers and shears would be used to break up concrete into smaller sizes suitable for handling. The concrete material would be either removed or buried on site. Any remaining concrete rubble would be excavated, and the area graded.

The third phase of decommissioning would be demolition and removal of the Cove intake steel superstructure, flume, and pressure box. Heavy equipment similar to that used in dam removal would be utilized to complete this phase. All concrete and rubble associated with demolition of the structures would be buried in designated

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

locations on site, where it would facilitate grading. The flume's remaining concrete, wood, and liner material would be buried in place within the flume footprint. All protruding metal would be cut-off flush with the ground's surface and removed from the site. Wetlands and drainages around the flume would be protected from damage and kept free from demolition and soil fill. All safety precautions including securing windows, interior hatches and passageways as well as removal of all petroleum products would be taken to ensure public safety.

The final phase of decommissioning includes revegetation of all disturbed areas, through hydro-seeding with an ECC-approved seed mix and willow slips. Temporary sediment control measures (e.g., silt fencing, membrane, and straw bales) installed before and during construction would be left in place until these areas were considered stable and vegetation established.

II. Minimum Flow Changes

Under the proposed License Amendment, Article 408(b) of the New License would be amended by (1) eliminating minimum flow requirements at the Cove development in view of facility decommissioning; and (2) reducing minimum flow levels in the Grace bypass to the lower of 63 cubic feet per second ("cfs") or inflow, in addition to current leakage from Grace Dam. Reducing minimum flow requirements in the Grace bypassed reach (about 6.6 miles of the Bear River channel) from 80 cfs to 63 cfs, plus leakage from the dam of about 2 cfs, would provide PacifiCorp with 17 cfs of additional flow for power generation at the Grace powerhouse that would partially offset the loss of Cove development generation. Proposed license articles, attached as Appendix A to the

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Agreement, provide suggested additions and revisions to existing Project license articles to accomplish Agreement implementation.

PacifiCorp proposes to decommission the Cove development as described in the Removal Plan, but believes the cost of such a measure would, on its own, be prohibitive. In view of these considerations, the Parties have agreed that the minimum flows in the Grace bypassed reach established in the new license (Article 408(b)) should be reduced from 80 cfs to 63 cfs in the event PacifiCorp decommissions the Cove development. The extra generation derived from the reduction would partially offset both the decommissioning costs and the power generation lost by taking the Cove development out of service.

APPROVAL OF THE APPLICATION AND THE OFFER OF SETTLEMENT IS IN THE PUBLIC INTEREST

I. Removal of the Cove Development Will Result In Environmental Benefits for Aquatic Resources Located in the Project Area

Removing the Cove development will result in the restoration of run-of-river flows in the Cove bypassed reach (about 1.7 miles of the Bear River channel below the dam site). Once the dam is removed, migratory fauna may colonize both the previously impounded area and upstream reaches. This movement would allow nutrient transport and increase the potential for genetic changes. The restoration of connectivity could also lead to the reduction of fauna that formerly occurred upstream from the impoundment. In addition, Cove dam removal would eliminate the need for a fish passage structure, thus precluding the potential of fish mortality or injury in passage mechanisms (i.e., fish ladders).

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Cove development decommissioning may result in the suspension and transport of sediments accumulated in the Cove dam forebay when the dam is removed. Measures contained in the Removal Plan will minimize the potential for sediment transport by: (1) slowly draining of the forebay, decanting the water off the top of the impoundment while leaving a majority of sediments as undisturbed as possible; (2) regrading remaining sediments "in the dry" using conventional equipment; (3) establishing a streambed and channel banks; and (4) stabilizing and revegetating disturbed areas as soon as possible after work is complete.

II. Removing the Cove Development and Reducing Minimum Flows In The Grace Bypassed Reach Will Provide Net Customer Benefits

As indicated in the Environmental Report, while the proposed decommissioning of the Cove development would result in a net loss of power generation at the Project, the need for power was a consideration in developing the proposal. The Project as a whole has historically produced 366,528 MWh/year (30-year net generation average). The Grace development has produced 148,353 MWh/year, and the Cove development 29,513 MWh/year. Elimination of the Cove development output would be partially offset by the addition of 17 cfs to the Grace powerhouse due to the reduced minimum flow requirement in the Grace bypassed reach included in the Proposed Action. This additional flow would result in approximately 4,721 MWh/year in generation by the Grace development.

In evaluating Cove development decommissioning and rehabilitation alternatives, PacifiCorp conducted a customer benefit analysis comparing Cove decommissioning with flume rehabilitation and resumed operation. To determine the value of the additional 17 cfs to be received at the Grace development under the decommissioning

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

proposal, PacifiCorp conducted an incremental analysis comparing the benefit of decommissioning and associated proposed additional flows to the Grace development over 30 years, assuming $3.2 million in estimated decommissioning costs. The results of the analysis indicated a net customer benefit as a result of decommissioning. In addition, this analysis indicated that the return on generation potential would be equivalent, on a total Project basis, to compensation for the estimated decommissioning costs.

III. Reducing Minimum Flows In The Grace Bypassed Reach Will Not Result in Significant Adverse Environment Impacts

PacifiCorp and the resource agencies have consulted over the potential environmental impacts associated with minimum flow reductions in the Grace bypassed reach. The Parties agree that while river substrate and spawning beds may be affected by decreased minimum flows in the Grace bypassed reach, a reduction in minimum flows from 80 cfs to 63 cfs in this reach will not significantly impact aquatic resources. As described in the Environmental Report, physical data collected from Black Canyon, a river reach located near the Project area, suggests that there should be an increase in good habitat in the Cove reach due to full flow conditions. Based upon the analysis contained in the Environmental Report, PacifiCorp believes that the environmental benefits associated with Cove development removal offset any potential environmental affects associated with minimum flow reductions in the Grace bypassed reach.

CONSULTATION

Pursuant to 18 C.F.R. §§ 4.38(a)(1) and 4.38(a)(7), and as discussed in Section 4 of the Environmental Report, PacifiCorp has consulted with the following agencies regarding this Application for License Amendment: Idaho Department of Fish and Game, Idaho Department of Environmental Quality, Idaho Department of Parks and

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Recreation, U.S. Fish and Wildlife Service, USDA-Forest Service, National Park Service, U.S. Bureau of Land Management, and the Shoshone-Bannock Tribes. The enclosed Settlement Agreement was developed in consultation with these parties, and incorporates applicable comments and requirements from these parties.

PacifiCorp has consulted with the Idaho Department of Environmental Quality regarding the State's certification of the proposed action under Section 401 of the Clean Water Act. Section 8 of the Agreement outlines the process whereby PacifiCorp will obtain 401 Certification, and Appendix D to the Agreement outlines draft 401 Certification Conditions for the proposed action.

On November 9, 2004, PacifiCorp met with Idaho Water Resources Board and discussed Cove development decommissioning with this State body. The minutes from this meeting are attached as Attachment C to this Application for License Amendment, and reflect the fact that the Board had no comments on the proposed action.

COMPLIANCE WITH STATE LAW

As described above, PacifiCorp has engaged in a process to obtain certification under Section 401 of the Clean Water Act for Cove development decommissioning. Section 8 of the Agreement outlines the process whereby PacifiCorp will obtain 401 Certification from the State for decommissioning actions.

Removal of Cove dam and related in-water construction activities will require the Company to obtain authorization from the U.S. Army Corp of Engineers ("the Corps") under Section 404 of the Clean Water Act. The State will issue a 401 Certification for this federal action which will also cover this Amendment. PacifiCorp has consulted with

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

the Corps regarding the proposed action, and anticipates filing an application for this permit shortly.

State law also may require a stream channel authorization permit for the decommissioning from the Idaho Department of Water Resources for any alteration of a stream channel. See Idaho Code § 42-3803 and Idaho Administrative Rules, at IDAPA § 37.03.07. State rules provide this permitting process will be conducted through a joint application process conducted in tandem with the Corps' 404 permitting process. Accordingly, PacifiCorp will pursue a State Stream Channel Alteration permit during the 404 permitting process. Finally, during construction activities, a NPDES general storm water permit issued by the United States Environmental Protection Agency will be required. Accordingly, PacifiCorp will obtain coverage under this Permit prior to commencing construction.

REVISION OF EXHIBITS

The enclosed Removal Plan contains preliminary engineering and design information that will serve as the basis for updated Exhibits. PacifiCorp will, after consultation with Commission staff, file final updated Exhibits with the Commission upon completion of the Removal Plan.

ATTACHMENTS

The following attachments are submitted herewith and are hereby made a part of this application:

Attachment A: July 20, 2005, Settlement Agreement Concerning the Cove Development (Appendix A, Proposed License Articles; Appendix B, Removal Plan; Appendix C, Environmental Report; Appendix D, Draft 401 Certification Conditions)

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Attachment B: Explanatory Statement for the July 20, 2005, Settlement Agreement Concerning the Cove Development

Attachment C: Summary of November 9, 2004, Meeting Minutes, Idaho Water Resources Board

CONCLUSION

For the foregoing reasons, PacifiCorp respectfully requests that the Commission approve the Application for License Amendment consistent with the terms and conditions of the enclosed Offer of Settlement.

DATED this 15th day of August, 2005.

Respectfully submitted,
FOR PACIFICORP:

PacifiCorp
1500 Lloyd Center Tower
825 NE Multnomah Street
Portland, OR 97232-2135
Telephone:
Facsimile:
E-mail:

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Attachment A: July 20, 2005, Settlement Agreement Concerning the Cove Development (Appendix A, Proposed License Articles; Appendix B, Removal Plan; Appendix C, Environmental Report; Appendix D, Draft 401 Certification Conditions)

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Settlement Agreement
Concerning the Decommissioning of the Cove Development
Bear River Hydroelectric Project
FERC Project No. 20

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

SETTLEMENT AGREEMENT
CONCERNING THE DECOMMISSIONING OF THE COVE DEVELOPMENT
BEAR RIVER HYDROELECTRIC PROJECT
FERC PROJECT NO. 20
CARIBOU AND FRANKLIN COUNTIES, IDAHO

This Settlement Agreement concerning the decommissioning of the Cove development ("the Cove Settlement Agreement" or "the Agreement") is made as of July 20, 2005 ("the Effective Date") by and among PacifiCorp, an Oregon corporation; the United States Fish and Wildlife Service ("USFWS"); Bureau of Land Management ("BLM"); National Park Service ("NPS"); USDA Forest Service ("USFS"); Shoshone-Bannock Tribes ("Tribes"); Idaho Department of Environmental Quality ("IDEQ"); Idaho Department of Fish and Game ("IDFG"); Idaho Department of Parks and Recreation ("IDPR"); Idaho Council of Trout Unlimited ("ITU"); Idaho Rivers United ("IRU"); Greater Yellowstone Coalition ("GYC"); American Whitewater ("AW"); and other interveners who executed the Settlement Agreement concerning the Relicensing of the Bear River Hydroelectric Project dated August 28, 2002 ("the Relicensing Settlement Agreement"). The USFWS, BLM, NPS, USFS, IDEQ, IDFG and IDPR are also each a "Governmental Party" and are referred to collectively as the "Governmental Parties." The ITU, IRU, GYC and AW are each a "Non-Governmental Party" or "NGO," and are referred to collectively as the "NGOs." Collectively, the Governmental Parties, NGOs, and PacifiCorp are "Parties" to the Cove Settlement Agreement, each of whom individually is a "Party."

RECITALS

A. Section 3.1.2.6 of the Relicensing Settlement Agreement provides that (1) PacifiCorp shall conduct a feasibility study evaluating Decommissioning of the Cove development, other modifications that might provide fish passage at the Cove development, or creation of fish passage facilities at the Cove development (the "Cove Feasibility Study"); and (2) PacifiCorp shall deliver the Cove Feasibility Study to the Environmental Coordination Committee ("ECC") by the first anniversary of the New Licenses becoming final, as this term is defined in the Relicensing Settlement Agreement. PacifiCorp complied with this requirement by providing the ECC with the Cove Feasibility Study on June 14, 2004.

B. On December 10, 2004, the ECC submitted a letter to the Commission indicating its selection of Alternative No. 1 of the Cove Feasibility Study (Decommissioning of the Cove development), as the Parties' recommended alternative. The ECC indicated its intent to file with the Commission by April, 2005, an amendment to the Relicensing Settlement Agreement specifically defining actions required to implement Alternative No. 1. Further, PacifiCorp indicated its intent to file with the Commission an application for a license amendment to incorporate Decommissioning actions contemplated by Alternative No. 1.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

C. In reaching agreement to decommission the Cove development, the Parties have recognized the importance of defining PacifiCorp's obligations as expressed in Alternative No. 1 of the Cove Feasibility Study.

D. The Parties wish to enter into the Cove Settlement Agreement to set forth their mutual understandings about the terms and conditions for Decommissioning of the Cove development.

NOW, THEREFORE, in consideration of the mutual covenants set forth below, the Parties agree as follows:

1. Filing with the Commission. PacifiCorp hereby submits concurrently with this Settlement Agreement these license amendment materials, an explanatory statement, an Environmental Report, Project Removal Plan, and other documents necessary to support an application to the Commission to permanently amend the Bear River Hydroelectric Project License.

2. The Parties' Actions Upon Filing. No later than sixty (60) days from the Commission's public notice of receipt of the Settlement Agreement and request for comments, the Governmental Parties shall file with the Commission comments, terms, conditions, and prescriptions consistent with the requirements of the Cove Settlement Agreement.

3. Findings. The Parties hereby agree that the Cove Settlement Agreement is fair and reasonable, and in the public interest, in accordance with the Commission's Rules of Practice and Procedure. See 18 C.F.R. § 385.602. The Parties also hereby agree and conclude, based upon the record for this proceeding, that the Decommissioning Measures and Decommissioning Costs associated with this Settlement Agreement are necessary and have been, or will be, prudently incurred. All Parties shall support the terms of the Cove Settlement Agreement before the Commission. The Non-Governmental Parties shall support the terms of the Cove Settlement Agreement before public utility commissions, and other governmental entities with jurisdiction over the Bear River Hydroelectric Project. The Governmental Parties electing to participate in proceedings before public utility commissions and other governmental entities with jurisdiction over the Bear River Hydroelectric Project will either support, or not oppose, the terms of the Cove Settlement Agreement.

4. Definitions.

"Annual Report" means the report required by Article 401 of the Bear River Hydroelectric Project License.

"Bear River Hydroelectric Project" or "the Project" means the hydroelectric project consisting of the Soda Development, the Grace/Cove Development, and the Oneida Development, located on the Bear River in Caribou and Franklin Counties, Idaho, and licensed by the Federal Energy Regulatory Commission as Project No. 20.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

"Bear River Hydroelectric Project License" or "the Project License" means the license issued by the Commission on December 22, 2003, as amended, to PacifiCorp to operate the Bear River Hydroelectric Project (FERC No. 20). See 105 FERC ¶ 62,207.

"The Commission" means the Federal Energy Regulatory Commission.

"Cove Development" means a hydroelectric facility located on the Bear River, Idaho, consisting of a concrete dam, concrete and wood flume, steel penstock, and powerhouse, and licensed as part of the Bear River Hydroelectric Project License (FERC No. 20).

"Cove Development Decommissioning" or "Decommissioning" refers to PacifiCorp's disposition of the Cove development and associated facilities as outlined in Section 6, Appendix A (Proposed License Articles) and Appendix B (Project Removal Plan) of the Cove Settlement Agreement.

"Clean Water Act Certification" or "401 Certification" means issuance of certification by Idaho Department of Environmental Quality under Section 401(a) of the federal statute set forth at 33 U.S.C. §§ 1251-1387.

"Decommissioning Costs" means costs incurred by PacifiCorp associated with the implementation of Cove Development Decommissioning and related Decommissioning Measures incurred by PacifiCorp commencing on December 1, 2004, and thereafter. Such costs include costs associated with PacifiCorp's internal administrative process undertaken in connection with the implementation of Cove Development Decommissioning and related Decommissioning Measures (including PacifiCorp's costs for employees, consultants, and contractors *but excluding* costs associated with legal counsel or costs associated with the Environmental Coordinator's attendance of meetings), preparation of the environmental report and license amendment submittals, Cove Settlement Agreement, meetings to develop license amendment application, and costs associated with permitting, 401 Certification conditions, mitigation, design, deconstruction, construction, demolition, removal, contractor materials required to undertake this work, and implementation of Decommissioning Measures identified in the Project Removal Plan.

"Decommissioning Measures" refers to the measures set forth in the Proposed License Articles and Project Removal Plan (Appendices A and B).

"Environmental Report" means the document attached as Appendix C.

"License Amendment" means an order issued by the Commission amending the Bear River Hydroelectric Project License consistent with the Cove Settlement Agreement and the license amendment documents filed by PacifiCorp with the Commission.

"License Amendment becomes final" means that the Commission has issued a License

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

order for the Bear River Hydroelectric Project amending the existing Bear River Hydroelectric Project License, and all administrative and judicial appeals or petitions for rehearing or review relating to the License Amendment have been finally adjudicated or dismissed consistent with the Cove Settlement Agreement to PacifiCorp's satisfaction.

"Proposed License Articles" means proposed new and amended Bear River Hydroelectric Project License Articles attached as Appendix A.

"Project Removal Plan" means the plan attached as Appendix B.

"Relicensing Settlement Agreement" means the Settlement Agreement concerning the Relicensing of the Bear River Hydroelectric Projects dated August 28, 2002.

5. Section 3.2.1 of the Relicensing Settlement Agreement. Section 3.2.1 of the Relicensing Settlement Agreement is hereby superceded by (a) striking Section 3.2.1.a of the Relicensing Settlement Agreement and replacing with the following: "Grace bypass: the lower of 63 cfs or inflow, in addition to current leakage from Grace Dam"; and (b) striking Section 3.2.1.b of the Relicensing Settlement Agreement.

6. Cove Development Decommissioning. After the License Amendment becomes final, and after all required permits, authorizations, 401 certification conditions, and approvals for Cove Development Decommissioning consistent with the Cove Settlement Agreement are received by PacifiCorp and become final, PacifiCorp shall begin Cove Development Decommissioning as described in this Section. A complete description of Decommissioning Measures, including a project schedule, is contained in the Project Removal Plan, attached as Appendix B. If any provision of the Cove Settlement Agreement conflicts with the Project Removal Plan, the Project Removal Plan shall control.

6.1 Failure to Obtain License Amendment or Necessary Permits. In the event (a) the Commission declines, within a reasonable time frame, to issue a License Amendment, or (b) PacifiCorp is unable to obtain all other necessary permits and authorizations required for Cove Development Decommissioning consistent with the Cove Settlement Agreement before the date PacifiCorp must accept or reject the License Amendment, or any permit remains subject to administrative or judicial appeals or petitions for review that has not been finally adjudicated or dismissed to PacifiCorp's satisfaction consistent with the Cove Settlement Agreement before the date PacifiCorp must accept or reject the License Amendment, PacifiCorp may in its sole discretion reject the License Amendment or withdraw its application for License Amendment, discontinue work on Decommissioning Measures, and request the Commission issue an order permitting PacifiCorp to implement the terms of the Bear River Hydroelectric Project License issued on December 22, 2003, and the Relicensing Settlement Agreement, and implement the same; *provided, however,* that before permanently ceasing Cove Development Decommissioning, PacifiCorp shall provide notice to the Parties in accordance with Section 21 of this Agreement, and at any Party's request, meet with the ECC within ten (10 days) of such notice to discuss the basis for cessation. After providing notice under Section 21, PacifiCorp

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

may in its sole discretion reject the License Amendment, withdraw its application for License Amendment, withdraw from this Agreement, and discontinue work on Decommissioning Measures. In the event that PacifiCorp notifies the Parties and the Commission that it is discontinuing work on Decommissioning Measures under this Section 6.1, PacifiCorp shall promptly comply with Section 6.4.2 of this Agreement, and Article 408(b) of the Bear River Hydroelectric Project License as issued by the Commission on December 22, 2003, or as such license may be amended by the Commission in future proceedings. If PacifiCorp ceases Cove Development Decommissioning consistent with the terms of this Section 6.1, the ECC shall support PacifiCorp's cessation, and upon PacifiCorp's request, promptly file supporting comments with the Commission. In the event PacifiCorp ceases Cove Development Decommissioning consistent with the terms of this Section 6.1, neither the ECC nor the Parties, *either individually or collectively, will file with the Commission or other regulatory agencies* comments, terms, conditions or recommendations in support of new measures not contained in the Project Removal Plan where such new measures seek decommissioning of the Cove Project. This section does not prohibit the Parties from commenting on subsequent proposals from PacifiCorp regarding the Grace or Cove developments where such comments are consistent with the terms of the Relicensing Settlement Agreement.

6.2 New Measures Inconsistent with the Cove Settlement Agreement.

6.2.1 New Measures Prior to or During Deconstruction. In the event that (a) a License Amendment issued by the Commission, either initially or following conclusion of administrative or judicial review, includes measures in addition to those identified in the Project Removal Plan; (b) any final government permit, 401 Certification, authorization, or approval, either initially or following conclusion of administrative or judicial review or appeals, includes measures not identified in the Project Removal Plan or, with respect to the 401 Certification, measures inconsistent with Appendix D, (c) the Parties mutually agree to undertake additional measures not otherwise contained in the Project Removal Plan, or (d) PacifiCorp is required, due to circumstances beyond its reasonable, good faith control, to undertake additional measures not otherwise contained in the Project Removal Plan, then (i) PacifiCorp may provide notice of new required measures to the ECC pursuant to Section 21 of this Agreement; (ii) the ECC shall convene within ten (10) days of PacifiCorp's notice to discuss such new required measures; and (iii) the ECC shall, in good faith, discuss the options for entering into a mutually acceptable cost-sharing agreement to share the costs of these new measures within ten (10) days of PacifiCorp's notice. Neither PacifiCorp nor the ECC shall be required to enter into a cost-sharing agreement, except in such Party's sole discretion.

6.2.2 Failure to Enter Into Mutually Acceptable Cost-Sharing Agreement. In the event PacifiCorp and the ECC do not enter into a mutually acceptable cost-sharing agreement pursuant to Sections 6.2.1 within ten (10) days of the date that PacifiCorp provides notice to the ECC of additional required measures, PacifiCorp may in its sole discretion, as permitted by law, reject the License Amendment, withdraw its application for License Amendment, withdraw from this Agreement, discontinue work on Decommissioning Measures, and promptly comply with the Bear River Hydroelectric Project License and the

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Relicensing Settlement Agreement.

6.2.2.1 Cessation Prior to License Amendment Acceptance. In the event that PacifiCorp notifies the Parties and the Commission that it is discontinuing work on Decommissioning Measures under this Section 6.2.2 prior to accepting a License Amendment, PacifiCorp shall promptly comply with Section 6.4.2 of this Agreement, and Article 408(b) of the Bear River Hydroelectric Project License as issued by the Commission on December 22, 2003, or as such license may be amended by the Commission in future proceedings. If PacifiCorp ceases Cove Development Decommissioning consistent with the terms of this Section 6.2.2, and the ECC concurs in this cessation, the ECC shall support PacifiCorp's cessation, and upon PacifiCorp's request, promptly file supporting comments with the Commission. In the event PacifiCorp ceases Cove Development Decommissioning consistent with the terms of this Section 6.2.2, neither the ECC nor the Parties, either individually or collectively, will file with the Commission or other regulatory agencies comments, terms, conditions or recommendations in support of new measures not contained in the Project Removal Plan where such new measures seek decommissioning of the Cove development. This section does not prohibit the Parties from commenting on subsequent proposals from PacifiCorp regarding the Grace or Cove developments where such comments are consistent with the terms of the Relicensing Settlement Agreement.

6.2.2.2 Cessation After License Amendment Acceptance. In the event that (a) a License Amendment consistent with the Cove Settlement Agreement is issued and accepted by PacifiCorp; (b) PacifiCorp is required to undertake additional measures not otherwise contained in the Project Removal Plan or Appendix D; and (c) PacifiCorp and the ECC are unable to enter into a mutually acceptable cost-share agreement as provided in Section 6.2.2, PacifiCorp may, in its sole discretion, apply to the Commission for a further License Amendment to modify the Project Removal Plan. In the event PacifiCorp applies for a further License Amendment, and the ECC, by consensus, concurs with the terms of the proposed License Amendment, the ECC shall support PacifiCorp's proposed License Amendment, and upon PacifiCorp's request, promptly file supporting comments with the Commission. In the event PacifiCorp applies for a further License Amendment to modify the Project Removal Plan, and the ECC does not, by consensus, concur with the proposed License Amendment after exhaustion of the ECC decision-making process contained in Section 4.2 of the Relicensing Settlement Agreement, the ECC or any Party, either individually or collectively, may, at its discretion, file with the Commission or other regulatory agencies comments, terms, conditions or recommendations concerning and limited to such further proposed License Amendment. In no case shall compliance with the ECC decision-making process contained in Section 4.2 of the Relicensing Settlement Agreement prevent the timely filing of comments with the Commission.

6.3 Costs of Decommissioning. PacifiCorp shall bear Decommissioning Costs consistent with the requirements of this Settlement Agreement. A summary of cost accounting for the cost of Decommissioning Measures shall be included in PacifiCorp's Annual Report required pursuant to Article 401 of the Bear River Hydroelectric Project License.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

6.3.1 Calculation of Actual Decommissioning Costs to PacifiCorp. PacifiCorp shall provide an accounting of decommissioning costs in accordance with draft license Article 2 in Appendix A.

6.3.2 Cost-sharing. PacifiCorp, at its discretion, may seek cost-sharing agreements with third-party funding sources, including the Parties, to facilitate Cove Development Decommissioning. The Parties are not required to enter into cost-sharing agreements with PacifiCorp to facilitate Cove Development Decommissioning. Any funds from third parties obtained as part of cost-sharing shall not be considered Decommissioning Costs.

6.4 Minimum Flows in the Grace Bypass. Commencing upon the date the License Amendment becomes final, PacifiCorp shall permanently reduce the minimum bypass flow releases at the Grace development from a minimum bypass flow of 80 cfs or inflow, in addition to current leakage, to a minimum bypass flow of 63 cfs or inflow, whichever is less, in addition to current leakage. Minimum bypass flow releases at the Grace bypass shall remain at this level for the duration of the Bear River Hydroelectric Project license if Cove Development Decommissioning is completed as outlined in Section 6, Appendix A (Proposed License Articles) and Appendix B (Project Removal Plan) of this Agreement.

6.4.1 Amendment of Article 408(b). On December 10, 2004, PacifiCorp, on behalf of itself and the ECC, filed with the Commission an application to temporarily amend Article 408(b) of the Bear River Project license to provide for a minimum flow release of 63 cfs or inflow, whichever is less, in addition to current leakage from Grace dam, at the Grace bypass. On March 3, 2005, the Commission issued an Order approving PacifiCorp's application, and requiring PacifiCorp to implement the new minimum flow release upon the date of PacifiCorp's filing of an amendment application requesting approval to decommission the Cove development. In accordance with the Commission's March 3, 2005, Order, upon the date of PacifiCorp's filing of an amendment application requesting approval to decommission the Cove development, PacifiCorp shall provide for a minimum flow release of 63 cfs or inflow, whichever is less, in addition to current leakage from Grace dam, at the Grace bypass. Upon Commission acceptance of this Agreement and issuance of a License Amendment, PacifiCorp shall implement proposed license Article 408 as set forth in Appendix A.

6.4.2 Cessation of Decommissioning After Minimum Flow Reductions. In the event Cove Development Decommissioning ceases pursuant to Section 6 after Article 408 is temporarily amended as provided in Section 6.4.1, (a) PacifiCorp shall provide notice to the Commission of this event, and seek to vacate any temporary amendment of Article 408; (b) minimum bypass flow releases at the Grace Development shall revert to 80 cfs or inflow, plus current leakage; and (c) PacifiCorp shall refund to the ECC the value of any reduced minimum flow releases for the period from PacifiCorp's reduction of the minimum bypass flow in the Grace bypass to 63 cfs through cessation of Cove Development Decommissioning. No later than one hundred and twenty (120) days after cessation of Cove Development Decommissioning, PacifiCorp shall calculate the pro-rated value of any reduced

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

minimum bypass flow releases consistent with the provisions of Section 6.3.1, and refund this amount into a mitigation fund established by PacifiCorp for use by the ECC.

6.5 Selection of Consultants and Contractors. PacifiCorp shall select and retain all consultants and contractors required to facilitate Cove Development Decommissioning and to perform Decommissioning Measures. Consultants and contractors shall serve at the discretion of PacifiCorp. PacifiCorp shall coordinate and supervise all consultants and contractors. PacifiCorp may, in its sole discretion, reject any proposal or bid for consultant or contractor services for any reason, and such rejection shall not constitute a breach of the Cove Settlement Agreement.

6.5.1 Failure to Obtain Contractor Bids Consistent with Settlement Agreement. In the event PacifiCorp is unable to obtain acceptable contractor bids required for Cove Development Decommissioning consistent with this Agreement before the date PacifiCorp must accept or reject the License Amendment, PacifiCorp may in its sole discretion, as permitted by law, reject the License Amendment or withdraw its application for License Amendment, discontinue work on Decommissioning Measures, withdraw from this Agreement, and resume implementation of the existing Bear River Hydroelectric Project License and the Relicensing Settlement Agreement in accordance with Section 6.1 of this Agreement.

6.6 Recycling Byproducts. PacifiCorp may in its sole discretion recycle or otherwise dispose of concrete, wood, and metal byproducts associated with the Cove Project. PacifiCorp shall retain the economic benefit from any recycled byproducts.

7. Dispute Resolution.

7.1 General. Except to the extent that the Commission or other agency with jurisdiction over Cove Development Decommissioning has a procedure that precludes implementation of Sections 7.1 through 7.3, and except as provided in Section 6 of this Agreement, disputes regarding this Agreement shall be the subject of a nonbinding alternative dispute resolution ("ADR") procedure among the Parties, as stated in Sections 7.1 through 7.3 (the "ADR Procedures"). Each Party shall cooperate in good faith to promptly schedule, attend, and participate in the ADR Procedures. The parties agree to devote such time, resources, and attention to the ADR Procedures as are needed to attempt to resolve the dispute at the earliest time possible. Each Party shall implement promptly all final agreements reached, consistent with its applicable statutory and regulatory responsibilities. Nothing in Sections 7.1 through 7.3 is intended or shall be construed to affect or limit the authority of the Commission, the Governmental Parties, or other agencies with jurisdiction over the Cove Development Decommissioning to resolve a dispute brought before it in accord with its own procedure and applicable law, or to alter the statute of limitations or other requirements for administrative or judicial review of action of Governmental Parties.

7.2 ADR Procedures. Except as provided in Section 6 of this Agreement, prior to permanently ceasing Cove Development Decommissioning, PacifiCorp shall provide

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

notice to the Parties in accordance with Section 21 of this Agreement. Notification in accordance with Section 21, when effective, shall constitute actual knowledge. Service of process on a Party's registered agent shall also constitute actual knowledge. At a minimum and in any dispute subject to these ADR Procedures, the Parties shall hold one informal meeting within ten (10) days after notice to attempt to resolve the disputed issue(s). If the informal meeting fails to resolve the dispute, the Parties may attempt to resolve the dispute using a neutral mediator jointly selected within ten (10) days after notice by a Party that the informal meeting did not resolve the dispute. If mediation is initiated, the mediator shall mediate the dispute during the next thirty (30) days after her/his selection. Any of these time periods may be reasonably extended or shortened by agreement of the Parties, or as necessary to conform to the procedure of an agency or court with jurisdiction over the dispute. Unless otherwise agreed among the Parties, each Party shall bear its costs for its own participation in the ADR Procedures and jointly share the costs of any neutral mediator.

7.3 Enforcement of Agreement After Dispute Resolution. Subject to the provisions of Section 19, any Party may seek specific performance of this Agreement by any other Party, in a court of competent jurisdiction after compliance with the ADR Procedures. No party shall be liable in damages for any breach of this Agreement, any performance or failure to perform a mandatory or discretionary obligation imposed by this Agreement, or any other cause of action arising from this Agreement, except that a Party may seek specific performance to secure payment of money as provided in this Agreement or monetary penalties under applicable law. Nothing in Sections 7.1 through 7.3 is intended or shall be construed to affect or limit the jurisdiction of any agency or court as established under applicable law.

8. Water Quality Certification. The License Amendment and other necessary federal permits associated with Cove Development Decommissioning, including the issuance of a dredge and fill permit by the United States Army Corps of Engineers pursuant to Section 404 of the Clean Water Act ("CWA"), must include a water quality certification or waiver by the state water quality certifying agency pursuant to the CWA ("401 Certification"). IDEQ is the state certifying agency authorized to issue 401 Certification based upon Section 401 of the CWA. For purposes of the Cove Settlement Agreement, "401 Certification" refers to certification of (or waiver for) the License Amendment and any necessary federal permits, including a Section 404 permit, necessary to carry out the Cove Development Decommissioning. Section 401(d) of the CWA provides that state certification shall become a required condition on any federal license or permit that is issued that results in a discharge. Public notice and an opportunity for public comment is provided before IDEQ issues a final 401 Certification. As of the Effective Date, these prerequisites have not been satisfied, and no 401 Certification has been issued for the License Amendment and any necessary 404 Permit. IDEQ intends that its 401 Certification conditions shall address the License Amendment and any Section 404 Permit and be consistent with the terms contained in Appendix D [401 agreement] to the maximum extent practicable and subject to IDEQ's consideration of public comment. Any inconsistency shall be handled in accordance with Section 6 of this Agreement. PacifiCorp and IDEQ agree that nothing herein invalidates or modifies the previous 401 Certification of the Bear River Projects issued by IDEQ on June 23, 2003, except as specified in Section 6.4. Nothing herein shall be

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

construed as limiting in any way IDEQ's exercise of its 401 Certification authority or predetermining the outcome of such proceeding.

9. Representations Regarding Consistency and Compliance with Statutory Obligations. PacifiCorp's ability to manipulate reservoir levels and provide flows at the Projects is restricted by and subject to historic practices, water rights and flood control responsibilities that are memorialized in water contracts, water agreements, and judicial decrees and opinions. Agreements to supply irrigation water from Bear Lake are referred to in this Agreement as "Water Contracts." In addition, the Bear River Compact, as amended and ratified by Wyoming, Idaho and Utah and ratified by Congress ("Interstate Compact"), restricts PacifiCorp from releasing water from Bear Lake except to satisfy the irrigation contracts when the lake is below an irrigation reserve. The October 5, 1999 Agreement Regarding the Bear River System and the April 18, 2000 Operations Agreement for PacifiCorp's Bear River System, both among Wyoming, Idaho, Utah and PacifiCorp, further formalize historic operations on Bear River and Bear Lake, restricting PacifiCorp's ability to interfere with other water rights by its operation of the Projects ("Water Agreements"). In addition to the aforementioned restrictions, any manipulation of flows at the Projects is subject to flood control measures that PacifiCorp must undertake to avoid possible liability for downstream flooding ("Flood Control Responsibilities"). The Parties agree that in no event shall this Agreement require PacifiCorp to breach or take any action inconsistent with its water rights, Water Contracts, Judicial Decrees, the Interstate Compact, or Water Agreements described herein, or to in any way impinge upon PacifiCorp's Flood Control Responsibilities. Relevant Water Contracts, Water Agreements and Judicial Decrees are listed in Appendix C in the Relicensing Settlement Agreement. If the minimum bypass flows are inconsistent with the requirements of Section 6.4 of this Agreement, a Party may raise a claim under Section 5.6 of the Relicensing Settlement Agreement, which is hereby incorporated by reference, that PacifiCorp did not reasonably act to prevent or mitigate that inconsistency. For greater clarity, if instream flows are less than the stated amounts in Section 5 of this Agreement notwithstanding that a Party believes the flows are available, that Party may initiate dispute resolution under Section 5.6 of the Relicensing Settlement Agreement. In addition to dispute resolution among the Parties, any Party may commence a proceeding at the Commission seeking to enforce the minimum bypass flows provided in this Agreement.

Nothing in this Agreement shall authorize any action inconsistent with the Water Contracts, Judicial Decrees, the Interstate Compact, Water Agreements or Flood Control Responsibilities that would result in the release of water from Bear Lake, or the use of PacifiCorp's water rights in Bear Lake, for the purposes of this Agreement.

10. Disposition of Water Right. Consistent with the other terms and conditions of this Agreement, PacifiCorp shall use reasonable efforts to utilize its water right associated with the Cove Development for the beneficial uses associated with instream flows, and shall cooperate with the Settlement Parties in securing an approved change or transfer application or other similar approvals necessary for accomplishing said purposes.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

11. Representations Regarding Consistency and Compliance with Statutory Obligations. By entering into this Agreement, the Governmental Parties represent that they believe their statutory and other legal obligations are, or can be, met through implementation of this Agreement. Nothing in this Agreement shall be construed to limit any government agency with jurisdiction directly related to the License Amendment from complying with its obligations under applicable laws and regulations or from considering public comments received in any environmental review or regulatory process related to the Project in accordance with this Agreement. This Agreement shall not be interpreted to predetermine the outcome of any environmental or administrative review or appeal process.

12. Conditions Precedent and Conditions Subsequent. The Parties' respective obligations to perform this Agreement are subject to conditions precedent and conditions subsequent, as more fully set forth in Sections 2 and 6 above.

13. Paragraph Titles for Convenience Only. The titles for the paragraphs of this Agreement are used for convenience and reference of organization, and shall not be used to modify, explain, or interpret any of the provisions of the Cove Settlement Agreement or the intentions of the Parties.

14. Limitations. This Agreement establishes no principle or precedent with regard to any issue addressed in this Agreement or with regard to any Party's participation in any other pending or future licensing proceeding. Further, no Party to this Agreement shall be deemed to have approved, accepted, agreed to, or otherwise consented to any operation, management, valuation, or other principle underlying any of the matters covered by this Agreement, except as expressly provided in this Agreement. By entering into this Agreement, no Party shall be deemed to have made any admission or waived any contention of fact or law that it did make or could have made in the License Amendment proceeding. This Agreement shall not be offered in evidence or cited as precedent by any Party to this Agreement in any administrative or judicial litigation, arbitration, or other adjudicative proceeding, except in a proceeding to establish the existence of or to enforce or implement this Agreement. This Section 14 shall survive any termination of this Agreement.

15. No Third-Party Beneficiaries. Without limiting the applicability of rights granted to the public pursuant to applicable law, this Agreement shall not create any right or interest in the public, or any member of the public, as a third-party beneficiary of this Agreement and shall not authorize any non-Party to maintain a suit at law or equity pursuant to this Agreement. The duties, obligations, and responsibilities of the Parties with respect to third parties shall remain as imposed under applicable law.

16. Availability of Funds. Implementation of this Agreement for a Party that is a federal agency is subject to the requirements of the Anti-Deficiency Act, 31 U.S.C. §§ 1341-1519, and the availability of appropriated funds. Nothing in this Agreement is intended or shall be construed to require the obligation, appropriation, or expenditure of any money from the U.S. Treasury. The Parties acknowledge that the Governmental Parties that are federal agencies shall

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

not be required under this Agreement to expend any federal agency's appropriated funds unless and until an authorized official of each such agency affirmatively acts to commit such expenditures, as evidenced in writing. Implementation of this Agreement by Governmental Parties that are state agencies is subject to the availability of appropriated funds. Nothing in this Agreement is intended or shall be construed to require the obligation, appropriation, or expenditure of any money from the Treasury of the State of Idaho. The Parties acknowledge that the Governmental Parties that are state agencies shall not be required under this Agreement to expend any appropriated funds unless and until an authorized official of each such agency affirmatively acts to commit such expenditures, as evidenced in writing.

17. Successors and Assigns. This Agreement shall apply to and be binding on the Parties and their successors and approved assigns. Upon completion of a succession or assignment, the initial Party shall no longer be a Party to this Agreement, but shall remain secondarily liable for the performance of the assignee. No change in ownership of the Project or transfer of the existing or amended Project License by PacifiCorp shall in any way modify or otherwise affect any other Party's interests, rights, responsibilities, or obligations under this Agreement. Unless prohibited by applicable law, PacifiCorp shall provide in any transaction for a change in ownership of the Project or transfer of the existing or amended Project License that such new owner or owners shall be bound by and shall assume the rights and obligations of this Agreement upon completion of the change of ownership and approval by the Commission of the license transfer or transfers. A transferring or assigning Party shall provide notice to the other Parties at least sixty (60) days prior to completing such transfer or assignment.

18. Failure to Perform Due to Force Majeure. No Party shall be liable to any other Party for breach of this Agreement as a result of a failure to perform or for delay in performance of any provision of this Agreement if such performance is delayed or prevented by force majeure. The term "force majeure" means any cause reasonably beyond the affected Party's control, whether unforeseen, foreseen, foreseeable, or unforeseeable, and without the fault or negligence of the affected Party. Force majeure may include, but is not limited to, natural events, labor or civil disruption, breakdown or failure of Project works resulting from events beyond PacifiCorp's control, orders of any court or agency having jurisdiction of the Party's actions, delay in the License Amendment becoming final, or delay in issuance of any required permit. Increased cost for the performance of any Decommissioning Measures or change in market conditions for the sale of electricity shall not be deemed to constitute force majeure, provided that PacifiCorp shall not be obligated to perform measures in excess of the commitments specified in this Agreement. The Party whose performance is affected by force majeure shall notify the other Parties in writing within seven days after becoming aware of any event that such affected Party contends constitutes force majeure. Such notice shall identify the event causing the delay or anticipated delay, estimate the anticipated length of delay, state the measures taken or to be taken to minimize the delay, and estimate the timetable for implementation of the measures. The affected Party shall make all reasonable efforts to promptly resume performance of this Agreement and, when able, to resume performance of its obligations and give the other Parties written notice to that effect.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

19. Governing Law. The License Amendment and any other terms of this Agreement over which a federal or state agency has jurisdiction shall be governed, construed, and enforced in accordance with the statutory and regulatory authorities of such agency. This Agreement shall otherwise be governed and construed under the laws of the state of Idaho ("the State"). By executing this Agreement, no federal agency is consenting to the jurisdiction of a state court unless such jurisdiction otherwise exists. By executing this Agreement, no state agency or officer is consenting to the jurisdiction of a federal court unless such jurisdiction otherwise exists nor shall this Agreement be construed as a waiver of the State's immunity to suit under the Eleventh Amendment of the United States Constitution. All activities undertaken pursuant to this Agreement shall be in compliance with all applicable law.

20. Reference to Statutes or Regulations. Any reference in this Agreement to any federal or state statute or regulation shall be deemed to be a reference to such statute or regulation or successor statute or regulation in existence as of the date of the action.

21. Notice. Any notice required by this Agreement shall be written. It shall be sent by both first-class mail and by either facsimile or electronic mail to all Parties still in existence and shall be filed with the Commission. For the purpose of this Agreement, a notice shall be effective five (5) days after the date on which it is mailed or otherwise distributed. For the purpose of notice, the list of authorized representatives of the Parties as of the Effective Date is attached as Appendix B to the Relicensing Settlement Agreement. The Parties shall provide notice of any change in the authorized representatives designated in Appendix B Relicensing Settlement Agreement, and PacifiCorp's Environmental Coordinator shall maintain the current distribution list of such representatives.

22. Elected Officials Not to Benefit. No member of or delegate to Congress or the Idaho State Legislature shall be entitled to any share or part of this Settlement Agreement or to any benefit that may arise from it.

23. No Partnership. Except as otherwise expressly set forth herein, this Agreement does not, and shall not be deemed to, make any Party the agent for or partner of any other Party.

24. Withdrawal from Agreement.

24.1 Withdrawal of a Party from Agreement. A Party may withdraw from this Agreement only as expressly provided in this Section 24 and in Section 6.

24.2 Method of Withdrawal. A Party may exercise its right to withdraw from this Agreement by providing ten (10) days advance notice, except as provided in Section 6.

24.3 Continuity After Withdrawal. The withdrawal of a Party does not terminate this Agreement for the remaining Parties. However, if any Party that is a member of the ECC withdraws from this Agreement, any other Party may elect to withdraw without further dispute resolution procedures, after providing notice, within thirty (30) days of the withdrawal of

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

the other Party. If a Party withdraws from this Agreement, the withdrawing Party shall not be bound by any term contained in this Agreement, except as provided in Section 14.

25. Termination. This Agreement may be terminated by mutual agreement of the Parties, by withdrawal of all Parties, or upon withdrawal of PacifiCorp.

26. Manner of Funding. Funds to be provided by PacifiCorp shall remain in PacifiCorp's control until individual Decommissioning Measures are implemented. PacifiCorp shall pay for individual Decommissioning Measures as they are implemented, in accordance with the designated implementation schedules, and at the direction of the ECC.

27. Parties Bound. The Parties shall be bound by this Agreement for the term of the Project License unless this Agreement is sooner terminated as provided in Section 25, except that if a Party withdraws as allowed by this Agreement, that Party shall not be bound following such withdrawal, except as provided in Section 14.

28. Decommissioning Measures Omitted from License Amendment. If the License Amendment issued by the Commission either initially or following conclusion of appeals, fails to include any Decommissioning Measures included in this Agreement, the Parties agree that they shall petition the Commission for rehearing with the goal of having such measures included. If, after any rehearing and judicial review, the License does not contain all of the measures stated in Appendix B because of a determination that the Commission does not have jurisdiction to adopt or enforce the omitted measures, the Parties agree that they shall be bound by the entire Agreement, including the omitted measures, provided the License Amendment contains those measures stated in Appendix B over which the Commission determines it does have jurisdiction and the License Amendment is otherwise consistent with this Agreement. The Parties shall be entitled to enforce the omitted measures in any state or federal court with jurisdiction.

29. Change in Terms and Conditions During License Term. If (a) any Party changes its Final Terms and Conditions applicable to PacifiCorp, (b) except as provided in Appendix D [401 agreement], any Governmental Party changes certifications or permits under its own legal authorities that affect the Projects, or (c) any Party petitions the Commission to change the terms of the Project License or Project boundary, then any Party may give notice that it believes such action or petition is inconsistent with this Agreement and may commence ADR Procedures under Section 7 of this Agreement. A Party may also seek rehearing or appeal of such action as provided in Sections 33 and 34 below. If, after conclusion of ADR Procedures and after completion or abandonment of appeals, the inconsistent condition sought by a Party is imposed by the Commission or any other party, and is inconsistent with this Agreement, any Party may withdraw from this Agreement.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

30. PacifiCorp Fails To Perform License Terms. If PacifiCorp fails to perform any of the provisions of this Agreement included in the Project License and is not excused by force majeure, a Party may give PacifiCorp notice and an opportunity to cure within 30 days of such notice. If PacifiCorp fails to cure the problem within that period, or if such failure is not curable within 30 days and PacifiCorp has not commenced a cure within that period and diligently completed such cure, any Party who objects to such failure to perform may give notice to the other Parties and commence ADR Procedures. In addition, the aggrieved Party or Parties may petition the Commission to enforce such provision and, if unsuccessful, seek rehearing or appeal or, if and as appropriate, the remedies of mandamus or specific performance. The Parties reserve any remedies under applicable law to enforce the Decommissioning Measures contained in this Agreement but not enforced by the Commission. If, after all remedies at the Commission are exhausted, the Commission does not enforce the provision and PacifiCorp fails to perform the provision, any Party may withdraw from this Agreement.

31. PacifiCorp Fails To Perform Covenants of This Agreement Not Included in the License Amendment. If PacifiCorp fails to perform any of its obligations under this Agreement that are not included as terms in the License Amendment any Party may give PacifiCorp notice of the failure and an opportunity to cure within 30 days of such notice. If PacifiCorp fails to cure the problem within that period, or if such failure is not curable within 30 days and PacifiCorp has not commenced a cure within that period and diligently completed such cure, the Party may seek specific performance of this Agreement. If PacifiCorp's performance of the obligation is not obtained and if PacifiCorp's failure is inconsistent with the terms of this Agreement, the aggrieved Party may withdraw from this Agreement. The Parties reserve any remedies under applicable law to enforce the Decommissioning Measures contained in this Agreement.

32. Action by Third Party. If, during the terms of the Project License, a third party successfully petitions the Commission or obtains a court order modifying Decommissioning Measures in a manner that is inconsistent with this Agreement, then any Party who objects to such order may give notice to the other Parties and commence ADR Procedures to determine whether such inconsistency can be mitigated by agreement of the Parties. In addition, the aggrieved Party or Parties may seek rehearing or appeal of such order. If, after pursuit of the dispute resolution procedures or other proceedings, the order complained of remains in effect, or as modified is still inconsistent with this Agreement, any Party may withdraw from this Agreement.

33. Review of Commission Actions. Any Party may petition the Commission for rehearing and may seek judicial review of any Commission act or omission, at or subsequent to the License Amendment becoming final, that is inconsistent with this Agreement. The ADR Procedures do not preclude any Party from timely filing for and pursuing rehearing under 18 C.F.R. § 385.713(b), or judicial review, of the inconsistent action. However, the Parties shall follow the ADR Procedures to the extent reasonably practicable while such appeal of an inconsistency is pursued. Nothing in this section shall prevent PacifiCorp from exercising its rights to reject the License Amendment, withdraw its application for License Amendment, withdraw from this Agreement, and discontinue work on Decommissioning Measures as

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

provided in Section 6. If a Party has filed for rehearing or judicial review of any inconsistent action and the Parties subsequently agree unanimously to modify this Agreement to conform to the inconsistent action, the filing Party or Parties shall withdraw the appeal, or recommend such withdrawal, as appropriate.

34. Review of Other Agency Actions. To the extent provided by applicable law, PacifiCorp or other Party may seek administrative rehearing and judicial review of any action by a Governmental Party inconsistent with this Agreement. The dispute resolution ADR Procedures do not preclude any Party from timely filing and pursuing an appeal under the respective Governmental Parties' applicable rules, or seeking judicial review, of any such action that is inconsistent with this Agreement, or any other final condition that relates to subjects not resolved by this Agreement. However, the Parties shall follow ADR Procedures to the extent reasonably practicable while any such appeal of an inconsistency is pursued. If a Party has filed for administrative rehearing or judicial review of any inconsistent action and the Parties subsequently agree to modify this Agreement to conform to the inconsistent action, the filing Party or Parties shall withdraw the appeal, or recommend such withdrawal, as appropriate.

35. New ESA Listing. Should any species which may be affected by the Project be listed as threatened or endangered during the terms of the Project License, including any annual licenses issued in accordance with this Agreement, PacifiCorp shall consult with the Commission to determine how to proceed. USFWS or NMFS may, if necessary to comply with their mandates under the Endangered Species Act (ESA), 16 U.S.C. §§ 1531 *et seq.*, with respect to a newly listed species, petition the Commission to reopen the License. Should consultation under ESA Section 7 be required and result in the imposition of measures which are inconsistent with the terms of the Project License, License Amendment, or this Agreement, the effect of such inconsistency on this Agreement shall be resolved in accordance with Section 7 of this Agreement. Nothing in this section in any way alters USFWS' authorities or responsibilities under the ESA.

36. Cooperation Among Parties. The Parties shall cooperate in the performance of this Agreement and compliance with related license articles. Among other things, the Parties shall cooperate in implementing the Decommissioning Measures, conducting studies, performing monitoring, and conducting all other activities related to the implementation of this Agreement.

36.1 Responsibility for Costs. PacifiCorp shall pay for the cost of actions required of PacifiCorp by this Agreement and by the License Amendment. PacifiCorp shall have no obligation to reimburse or otherwise pay any other Party for its assistance, participation, or cooperation in any activities pursuant to this Agreement, the License Amendment, or the Project License.

36.2 PacifiCorp Solely Responsible for Operations of Projects. By entering into this Agreement, none of the Parties, except for PacifiCorp, have accepted any legal liability or responsibility for the operation of the Project.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

37. Reopener, Modification, Review, or Amendment.

37.1 Reopener or Modification. During the terms of the Project License, except as provided in this Agreement, the Parties may not seek to modify or add to the ADR procedures or other obligations of PacifiCorp or seek to amend the Project License pursuant to standard Federal Power Act license reopener provisions, except: (A) as required by statutes enacted or amended after the date of the final order issuing the License Amendment; or (B) if significant new information not known or understood as of the date of issuance of the Project License reasonably demonstrates that the Agreement does not continue to satisfy PacifiCorp's obligations under any subsequently enacted or amended statute. If a Party seeks to modify, amend or add to the Project License or the License Amendment under requirement of such new statutes, the acting Party shall provide PacifiCorp at least ninety (90) days' notice to consider the Party's position. A Party shall not be required to comply with this ninety (90)-day-notice provision if it believes an emergency situation exists, or if required to meet its responsibilities under statutes or regulations enacted or amended after the date of the final order issuing the Project License. If a Party modifies or adds to the Decommissioning Measures or other obligations of PacifiCorp or succeeds in amending the Project License pursuant to this Section 37, the other Parties may object and respond in accordance with Section 7 above.

37.2 Amendment of Agreement. This Agreement may be amended at any time during the terms of the License with the unanimous agreement of all Parties. Any amendment of this Agreement shall be in writing and executed by all Parties. As appropriate, the Parties shall submit a statement to the Commission in support of the amendment.

38. Signatory Authority. Each signatory to the Cove Settlement Agreement certifies that he or she is authorized to execute the Cove Settlement Agreement and to legally bind the Party he or she represents, and that such Party shall be fully bound by the terms hereof upon such signature without any further act, approval, or authorization by such Party.

39. Counterpart Signatures. The Cove Settlement Agreement may be executed in any number of counterparts, and each executed counterpart shall have the same force and effect as an original instrument as if all the signatory Parties to all of the counterparts had signed the same instrument. Any signature page of the Cove Settlement Agreement may be detached from any counterpart of the Cove Settlement Agreement without impairing the legal effect of any signatures, and may be attached to another counterpart of the Cove Settlement Agreement identical in form having attached to it one or more signature pages.

40. Entire Agreement. The Cove Settlement Agreement, including the attached Appendices (which are incorporated by this reference), sets forth the entire agreement and process of the Parties with regard to all Decommissioning Measures relating to the Bear River Hydropower Project. Except as expressly amended or superceded by the previous sections of this Agreement, the Relicensing Settlement Agreement remains in full force and effect as executed on August 28, 2002.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

PacifiCorp:

Therese Lamb 7/20/05
Therese Lamb date
Managing Director, Regulatory Compliance

United States Fish and Wildlife Service:

Gary L Burton 7/20/05
Gary Burton date
Deputy Field Supervisor

United States Bureau of Land Management:

Joe Kraayenbrink 7/20/05
Joe Kraayenbrink date
Idaho Falls District Manager

Idaho Department of Parks and Recreation:

Bob Meinen 7/20/05
Robert Meinen date
Director

USDA Forest Service:

Wes Stambo 7/20/05
Wes Stambo date
Acting Forest Supervisor

Shoshone-Bannock Tribes:

Vice Ch 07/29/05
for Blaine Edmo date
Chairman, Fort Hall Business Council

Idaho Department of Environmental Quality:

20 Jul 05
Tom Hardesty date
Director

American Whitewater:

7/20/05
Thomas O'Keefe date
Director

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Idaho Rivers United:

William Sedivy 7/20/05
William Sedivy date
Executive Director

Idaho Council of Trout Unlimited:

for 7/20/05
Troy Tvrdy date
President

Greater Yellowstone Coalition:

7/20/05
Marv Hoyt date
Idaho Representative

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Idaho Rivers United:

_____ _____
William Sedivy date
Executive Director

Idaho Council of Trout Unlimited:

_____ _____
Troy Tvrdy date
President

Greater Yellowstone Coalition:

_____ _____
Marv Hoyt date
Idaho Representative

Idaho Department of Fish and Game:

Steven M. Huffaker 7/15/05
Director

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

SETTLEMENT AGREEMENT
CONCERNING THE DECOMMISSIONING OF THE COVE DEVELOPMENT
BEAR RIVER HYDROELECTRIC PROJECT
FERC PROJECT NO. 20
CARIBOU AND FRANKLIN COUNTIES, IDAHO

United States National Park Service:

7/28/05

Jon Jarvis
Regional Director

date

Seattle-3267284.1 0058815-00085

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Appendix A

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Proposed License Articles Concerning Cove Development Decommissioning

Article 1. The Licensee shall implement the Project Removal Plan attached as Appendix B to the [Date] Cove Development Decommissioning Settlement Agreement.

Article 2. Within one hundred and twenty days (120) days from completion of Cove Development Decommissioning, the Licensee shall file with the Commission a report detailing Decommissioning Costs as that term is defined in the Cove Development Decommissioning Settlement Agreement. If Decommissioning Costs are less than $2.5 million net present value ("NPV") (in 2005 dollars), the Licensee shall provide additional mitigation funds in an amount equal to the difference between $2.5 million NPV and calculated Decommissioning Costs ("Remaining Decommissioning Funds"). Within ninety (90) days from the Commission's acceptance of the Licensee's report, the Licensee shall provide Remaining Decommissioning Funds for use by the ECC. Funds not expended in a given calendar year may be carried over for use in the succeeding year. Carried over funds shall bear interest but shall not further escalate. Upon expenditure, one half of the accrued interest shall belong to the Licensee, and one half of the interest shall be available for mitigation under this Article. Any funds not expended by the end of the License term shall not be available for any other purposes.

Article 408. The Licensee shall maintain continuous minimum bypass flows from the project developments as follows:

(a) below the Soda dam: a year-round minimum bypass flow of 150 cfs, or inflow in the Soda reservoir, whichever is less;

(b) Grace bypass reach: a year-round minimum bypass flow of 63 cfs or inflow, whichever is less, in addition to current leakage from Grace dam, provided however that during the period of Cove dam deconstruction, this continuous minimum flow requirement may be suspended or reduced as set forth in the Project Removal Plan attached as Appendix B to the Cove Settlement Agreement;

(c) Oneida reach below the powerhouse: a year-round minimum flow of 250 cfs or inflow whichever is less, in addition to current leakage from Oneida dam.

The licensee shall continue to provide the minimum flows described in paragraphs (a) and (c) above and shall begin providing the minimum flows described in paragraph (b) above immediately upon issuance of this license amendment, and shall continue through the license term. The licensee shall maintain reservoir levels in accordance with historic practices, water rights and flood control responsibilities that are memorialized in water contracts and agreements, an interstate compact and its subsequent amendments, and judicial decrees and opinions.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

The licensee may suspend the flows described in this article on a temporary basis to facilitate regular maintenance or emergency repairs, or for equipment failures or unforeseen hydrologic events beyond the licensee's control. The licensee shall consult with the ECC regarding when to schedule and how to conduct regular maintenance, and shall consult with the ECC, to the extent practicable, in emergency situations. The licensee shall implement regular maintenance routines including drawdown and project shutdown activities so that aquatic resources, including fish spawning and rearing, are protected to the maximum extent practicable. The licensee shall minimize the number of such project maintenance shutdowns, drawdowns, and spillway tests and shall attempt to schedule such activities at times that shall not interfere with trout spawning or harm incubating trout eggs. If project operations or the minimum flows are modified in accordance with this article, the licensee shall notify the Commission as soon as possible, but not later than 10 days after each such incident, and shall provide the reason for the modified operation.

Nothing in this article shall require the licensee to violate its obligations under, or permit or require any action inconsistent with, the water contracts and agreements, interstate compact, judicial decrees, state water rights, and flood control responsibilities described in Section 5.10 and Appendix C of the August 28, 2002, Settlement Agreement, or in Section 9 of the [Date] Cove Development Decommissioning Settlement Agreement.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

CONTAINS CEII – DO NOT RELEASE

Appendix B

(Submitted separately)

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Appendix C

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

PacifiCorp
Bear River Hydroelectric Project
FERC No. 20

Environmental Report
Cove Development Decommissioning

Prepared for:

PacifiCorp
Portland, Oregon

Prepared by:

Cirrus Ecological Solutions, LC
Logan, Utah

June 30, 2005

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

TABLE OF CONTENTS

TABLE OF CONTENTS i
List of Tables ..... *ii*
List of Figures ..... *ii*

1. APPLICATION 1

1.1 APPLICANT'S NAME 1
1.2 TYPE 1
1.3 PROJECT SIZE AND LOCATION 1
1.4 FEDERAL LANDS OCCUPANCY 2

2. PURPOSE AND NEED 2

2.1 BACKGROUND 2
2.2 PURPOSE OF AND NEED FOR ACTION 4
2.3 NEED FOR POWER 5

3. PROPOSED ACTION AND ALTERNATIVES 5

3.1 PROPOSED ACTION 5
3.1.1 Facility Changes *6*
3.1.2 Operational Changes *8*
3.1.3 Mitigation Measures *9*
3.2 ACTION ALTERNATIVES 9
3.2.1 Grace-Cove Interconnect Canal Alternative *9*
3.2.2 Mitigation Measures *10*
3.2.3 Fish Passage Alternative *10*
3.2.4 No-Action Alternative *11*
3.3 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED STUDY 11
3.4 SUMMARY AND COMPARISON OF IMPACTS 11

4. CONSULTATION AND COMPLIANCE 17

4.1 CONSULTATION 17
4.1.1 Scoping *17*
4.1.2 Interventions *17*
4.1.3 Comments on the Application *18*
4.2 COMPLIANCE 21
4.2.1 Clean Water Act *21*
4.2.2 Federal Power Act *23*
4.2.3 Endangered Species Act *24*
4.2.4 National Historic Preservation Act *24*

5. ENVIRONMENTAL ANALYSIS 26

5.1 WATER QUANTITY AND QUALITY 26
5.1.1 Affected Environment *27*
5.1.2 Environmental Consequences *33*
5.2 FISHERIES AND AQUATIC RESOURCES 42
5.2.1 Affected Environment *43*
5.2.2 Environmental Consequences *45*
5.3 WETLAND/RIPARIAN RESOURCES 52
5.3.1 Affected Environment *53*

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

5.3.2 Environmental Consequences *54*
5.4 VEGETATION RESOURCES 57
5.4.1 Affected Environment *58*
5.4.2 Environmental Consequences *58*
5.5 WILDLIFE RESOURCES 59
5.5.1 Affected Environment *59*
5.5.2 Environmental Consequences *61*
5.6 AESTHETIC RESOURCES 65
5.6.1 Affected Environment *66*
5.6.2 Environmental Consequences *66*
5.7 SAFETY ISSUES 67
5.7.1 Affected Environment *67*
5.7.2 Environmental Consequences *68*
5.8 RECREATION AND LAND USES 69
5.8.1 Affected Environment *69*
5.8.2 Environmental Consequences *71*
5.9 SOCIOECONOMIC ISSUES 75
5.9.1 Affected Environment *75*
5.9.2 Environmental Consequences *77*
5.10 CULTURAL RESOURCES 79
5.10.1 Affected Environment *79*
5.10.2 Environmental Consequences *80*

6. LIST OF PREPARERS 82

7. REFERENCES 83

LIST OF TABLES

Table 1. Summary and comparison of impacts. 12
Table 2. Monthly average flows in the Project area (1981-2004) 28
Table 3. Measurements of Total Suspended Solids (sediment) and Total Phosphorus at selected sites on the Bear River between Soda dam and Oneida Reservoir 32
Table 4. Metals analytical results of four sediment samples collected from the Cove forebay floor during March 2005. 32
Table 5. Flow characterization by alternative. 37
Table 6. Summary and overall rating of functions and values of Cove Development Decommissioning based on the *Montana Wetland Assessment Method*. . 55
Table 7. Bird species observed by PacifiCorp in the vicinity of Grace/Cove Hydroelectric Project in 1997.[1] 64

LIST OF FIGURES

Figure 1. 3
Figure 2. 7

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

1. APPLICATION

1.1 APPLICANT'S NAME

PacifiCorp, a subsidiary of Scottish Power, doing business as Utah Power.

1.2 TYPE

Amendment of Federal Energy Regulatory Commission (FERC) license for the Bear River Hydroelectric System (Project No. 20) to authorize decommissioning of the Cove Development and reduction in minimum flows in the bypassed reach of the Grace Development (see proposed amendment language in Appendix A in the Cove Settlement Agreement; PacifiCorp 2005a).

1.3 PROJECT SIZE AND LOCATION

The Bear River basin is a 7,600-square mile watershed located in three states encompassing approximately 3,300 square miles in Utah, 2,700 square miles in Idaho, and 1,500 square miles in Wyoming. The headwaters are in the Uinta Mountains of Utah. The Bear River follows a circuitous 500-mile route, crossing the Utah-Wyoming state line three times before flowing into Idaho, then turning south and returning to Utah and ultimately flowing into the Great Salt Lake, less than 100 miles from its headwaters.

The watershed includes arable and non-arable lands situated in the valleys and up to the ridgelines along the main stem of the river and its tributaries. Elevations range from 4,200 feet in these arable valleys up to 13,000-foot peaks in the upper reaches of the watershed, where glacially carved cirque basins serve as catchment areas for precipitation varying annually from 10 to 65 inches.

Bear Lake, a natural lake that also provides important off-stream storage for use by irrigators in the Bear River watershed, is located about 60 miles upstream from the Cove Development in Bear Lake County, Idaho, extending into northern Utah. The lake is 19 miles long, 7.5 miles wide and has a surface area of 110 square miles. The drainage area of the Cove Development is approximately 4,200 square miles.

The drainage area is mostly rural, including areas of forest, mountains, valleys and open rangelands, with widely dispersed homes, farms and ranches, and small towns. Agriculture accounts for most water use in the Bear River basin. Surface and ground water are used to irrigate over 60,000 acres of cropland.

The Bear River Hydroelectric Project as a whole, comprises the Soda, Grace-Cove, and Oneida Developments, and has an installed power generation capacity of 84.5 MW. The Grace-Cove Developments, operating in concert, have an installed capacity of 40.5 MW. The Cove Development has an installed capacity of 7.5 MW.

The Cove Development is located on the Bear River south of Grace, Idaho. The project area occupies 66 acres located between the Grace tailrace upstream and the downstream Cove tailrace. The facilities include: (1) a 26.5-foot-high and 141-foot-long concrete dam containing a 10-acre (60-acre-foot) forebay; (2) an 88-foot-wide intake structure containing five 12-foot-wide openings, fitted with vertical bar screens, a transition section to rectangular flume, and tainter

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

gate just upstream of the flume, measuring 20 feet by 14.5 feet; (3) a 6,125-foot-long conveyance flume consisting of a 425-foot-long concrete section and a 5,700-foot-long wooden flume section; (4) a 550-foot-long steel penstock; and (5) a 28.5- by-46-foot powerhouse containing a single Francis turbine; (6) an unlined open-channel tailrace; (7) a substation containing step-up transformers, located adjacent to the powerhouse; and (8) a 46-kV transmission line to the Grace substation and to the Cove West substation.

The Proposed Action would: remove all of the Cove Development facilities except for the powerhouse building, substation and transmission lines; and reduce minimum flow releases from Grace dam to the Grace bypassed (Black Canyon) reach of the Bear River. Figure 1 shows the project area, including the area potentially disturbed by removal of facilities (about 66 acres), the Cove bypassed reach (about 1.4 miles), and the Grace bypassed reach (about 6.6 miles).

1.4 Federal Lands Occupancy

Both the Grace and Cove bypassed reaches pass through sections of BLM-administered land. However, no Federal land falls within the zone potentially disturbed by removal of facilities.

2. PURPOSE AND NEED

2.1 Background

In September 1999, PacifiCorp filed license applications for the Soda, Grace-Cove and Oneida Hydroelectric Projects, (FERC Project Nos. 20, 2401, and 472), and the FERC initiated the environmental analyses for relicensing the projects, pursuant to the Federal Power Act (FPA) and the U.S. Department of Energy (DOE) Organization Act. PacifiCorp and stakeholders signed a comprehensive settlement agreement (Bear River Settlement Agreement; PacifiCorp 2003) in August 2003, resolving all issues pertaining to relicensing.

An environmental impact statement (Bear River EIS; FERC 2003a) addressing PacifiCorp's proposal was completed in April 2003, and the FERC issued a 30-year operational license (Project license) for the Bear River Project (FERC Project No. 20), consolidating the three previous licenses, in December 2003.

The Bear River Settlement Agreement (Section 4) and the Project license (Article 402) called for establishment of an Environmental Coordination Committee (ECC) comprised of stakeholder representatives. The group is a consulted entity in the development of various adaptive management and monitoring plans. It has a pivotal role in the administration of post-licensing activities, including the development and implementation of long-term measures to protect and enhance aquatic resources in the project area.

The Bear River Settlement Agreement (Sections 3.1, 3.2, and 3.3) and the new license (Articles 403[f], 404, 405, and 406) went on to identify various types of fish protection and enhancement measures, specifically for the Bonneville cutthroat trout (BCT), an Idaho species of concern. Among these was an assessment of ways to improve fish passage at Cove dam, with alternatives ranging from modification of existing facilities to decommissioning of the development.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

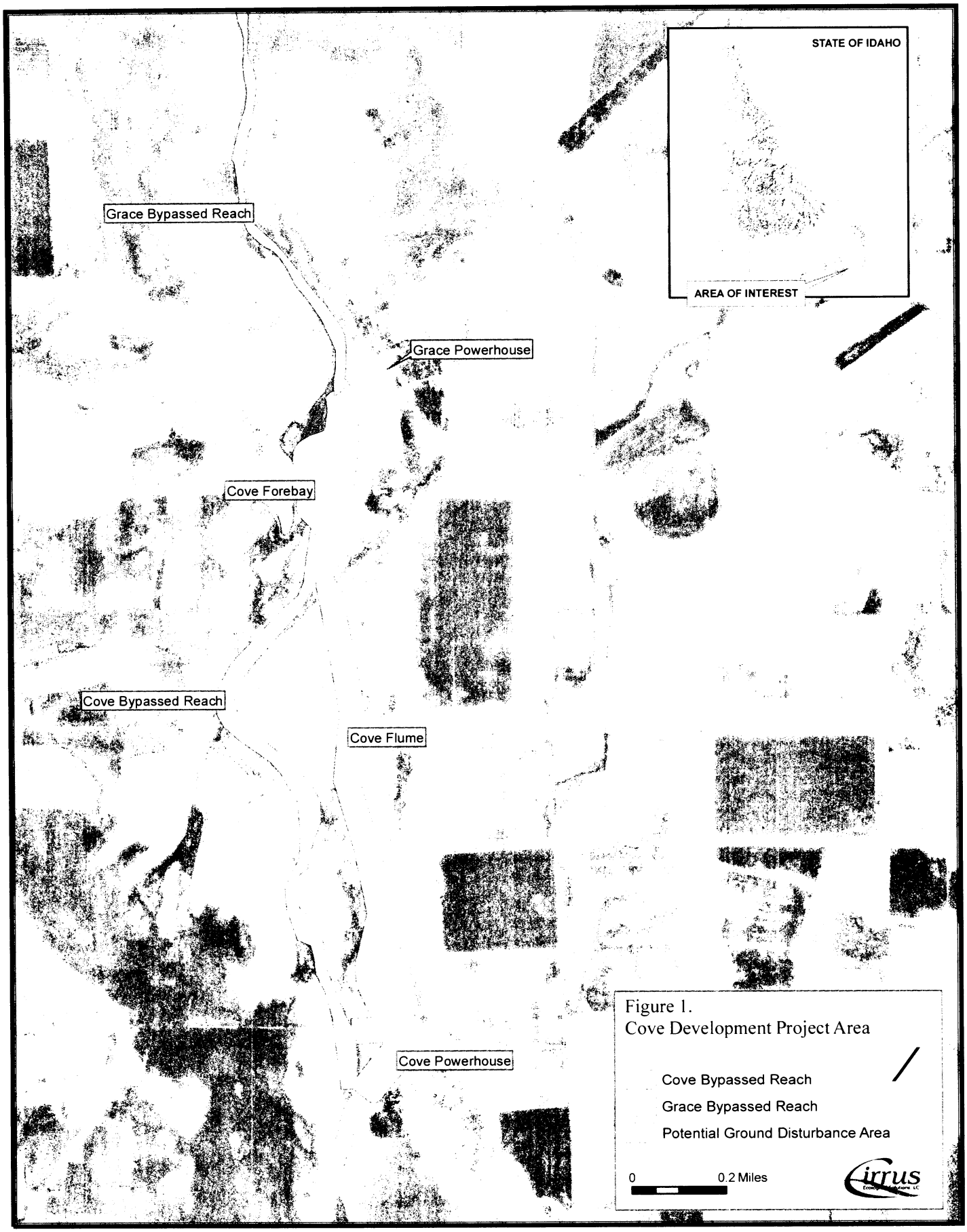

Figure 1.
Cove Development Project Area

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Implementing this license stipulation, PacifiCorp conducted the required assessment. The *Cove Feasibility Study* (Black and Veatch 2004) was completed June 14, 2004. It assessed the technical and economic feasibility of the following options: decommissioning and removing the Cove Development; interconnecting the Grace tailrace and Cove flume and then removing the dam; and constructing a range of fish passage facilities to reduce the barrier effect of the current infrastructure.

As indicated by the feasibility study, cost was a consideration in selection of an alternative. PacifiCorp indicated their willingness to decommission and remove the development – the most desirable option in terms of fish passage and habitat values – but felt that the cost was prohibitive. Through negotiations with the ECC, it was agreed that the minimum flows for the Grace bypassed reach established in the new license (Article 408[b]) would be reduced from 80 cfs to 63 cfs if PacifiCorp decommissioned Cove. This would provide PacifiCorp with an additional 17 cfs with which to generate power at the Grace Development. The extra generation derived would partially offset both the decommissioning costs (through additional revenues to PacifiCorp) and the power generation lost by taking Cove out of service. With these stipulations in place, PacifiCorp and the ECC formally proposed decommissioning and removal of the Cove Development in a filing with the FERC in December 2004.

The Bear River EIS provides a current assessment of the effects of operating the Bear River Hydroelectric Project, including Cove Development. It documents the overall context for the proposed Cove decommissioning and provides substantial information related to this analysis. As a result, this report is tiered to the Bear River EIS and incorporates the EIS by reference.

2.2 Purpose of and Need for Action

The purpose of the Proposed Action is to meet the intent of the Bear River Settlement Agreement and the Project license regarding enhancement of fish passage and other aquatic habitat parameters at the site of the Cove Development. As discussed above (Section 2.1), substantial efforts have been made to determine how this purpose can best be accomplished. The *Cove Feasibility Study* analyzed three options: (1) decommissioning the Cove Development; (2) modifying the Cove Development that would provide fish passage; and, (3) the creation of fish passage facilities at the Cove Development.

In December 2004, the ECC submitted to the FERC their selection of decommissioning as the recommended alternative, and thus the Proposed Action in this analysis. It was determined that decommissioning was consistent with priorities for restoration of river processes and connectivity as well as with efforts to improve water quality and aquatic habitat (Articles 405 and 413). Specific criteria considered in this decision included the relative costs of the three options and their long-term benefits in terms of:

- River connectivity and flow maintenance.
- Riparian health.
- Water quality.
- Bonneville cutthroat trout population viability.
- Hydrology.

The needs to be met in accomplishing this purpose are to:

- Alter the facilities and operations of the Grace and Cove Developments as necessary to enhance aquatic resources of the Bear River.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

- Amend the FERC license for the Grace and Cove Developments as necessary to accommodate the decommissioning process.

- Comply with all regulatory requirements associated with decommissioning the Cove Development.

2.3 Need for Power

Although the proposed decommissioning of the Cove Development would result in a net loss of power generation, the need for power was a consideration in developing the proposal. The Bear River Hydroelectric Project as a whole has historically produced 366,528 MWh/year (30-year net generation average). The Grace Development has produced 148,353 MWh/year, and the Cove Development 29,513 MWh/year. Elimination of the Cove Development output would be partially offset by the addition of 17 cfs to the Grace powerhouse due to the reduced minimum flow requirement in the Grace bypassed reach included in the Proposed Action. This additional flow would result in approximately 4,721 MWh/year in generation by the Grace Development. This would equate to a net loss in system production of 24,792 MWh/year, or 6.7 percent.

Article 306 of the new license required the rehabilitation of the Cove flume prior to resuming operation of the development, which has been out of service since March 2003. Prior to proposing the Cove Development decommissioning, PacifiCorp conducted a customer benefit analysis comparing Cove decommissioning with flume rehabilitation and resumed operation. To determine the value of the additional 17 cfs to be received at the Grace Development under the decommissioning proposal, an incremental analysis compared the benefit of the additional flows to the Grace Development over 30 years with the $3.2 million in estimated decommissioning costs. The results of the analysis indicated a net customer benefit from decommissioning. In addition, the analysis indicated that the return on generation potential would be equivalent, on a total Bear River Project basis, to compensation for the estimated decommissioning costs (PacifiCorp 2005b).

3. PROPOSED ACTION AND ALTERNATIVES

The Proposed Action (Section 3.1) and action alternatives (Section 3.2) addressed in this analysis are based on the alternatives assessed in detail in the *Cove Feasibility Study* (Black and Veatch 2004). Some revision has occurred based on further analysis and discussion among PacifiCorp, the ECC, and the engineering firm involved in the process, as discussed in Section 3.1 below. The No-Action Alternative (Section 3.3) is defined, in accordance with NEPA and the CEQ regulations regarding its implementation (40 CFR 1500 – 1508) as not undertaking the Proposed Action or an action alternative. The alternatives considered but not carried into detailed analysis (Section 3.4) include those considered in a similar manner in the Bear River EIS.

3.1 Proposed Action

Following the decision to propose decommissioning of the Cove Development, PacifiCorp and the ECC began discussions of how decommissioning, and specifically dam removal, would be accomplished. The primary concern was minimizing the transport of the sediments accumulated in the forebay when the dam was removed. The engineering firm that completed the feasibility study was retained to address this issue and develop a responsive, detailed removal plan. Black and Veatch identified and assessed a number of options in consultation with PacifiCorp and the

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

ECC. The final result was documented in the Removal Plan (Appendix B in the Cove Settlement Agreement) and summarized in Section 3.1.1 below. The Removal Plan is intended to minimize the potential for sediment transport by: (1) slowly draining of the forebay, decanting the water off the top of the impoundment while leaving a majority of sediments as undisturbed as possible; (2) regrading remaining sediments "in the dry" using conventional equipment; (3) establishing a streambed and channel banks; and (4) stabilizing and revegetating disturbed areas as soon as possible after work is complete.

The process of removing the dam and associated facilities is slated to begin in July 2006 and continue through November 2006. Demolition services would be contracted through a competitive bidding process administered by PacifiCorp. The Removal Plan includes a sequence of steps to accomplish the work. The Proposed Action involves two types of actions, facility changes and operational changes. Each of these actions is described below. Figure 2 depicts the main elements of the Removal Plan.

3.1.1 Facility Changes

The facilities comprising the Cove Development and their disposition under the Proposed Action are described below. The following provides an overview of the proposed facility changes including forebay dewatering, demolition and removal of the Cove dam, intake structures, and flume, and decommissioning the Cove powerhouse. The specific details are included in the Removal Plan.

All facility changes would take place within the 66-acre zone of potential disturbance shown in Figure 1. While the following phases of decommissioning are currently scheduled for the period of July to November 2006, demolition work in the Cove forebay area would be performed during October and November when river flows are typically low in order to minimize sediment transport potential.

The initial phase of decommissioning would be dewatering the forebay. The forebay would be decanted or incrementally emptied via the existing intake structure. Flows would be spilled into the river channel immediately below the dam rather than continuing through the flume to the Cove Powerhouse. Power generation flows to the intake structure have maintained a channel through the forebay to the intake, and this channel would contain most of the flow during initial dewatering. Controlling the river flow in staged releases is intended to minimize sedimentation.

The second phase of work would be demolition of the Cove dam and relocation of sediment to form the new river channel. Once the forebay reached equilibrium (i.e., all free water had been drained), a cofferdam would be installed below the dam to divert the spilled flow away from the work area and provide a dry area for demolition activities. Initially, the dam's concrete wall would be "softened" using explosives to facilitate the removal process. Heavy mobile hydraulic equipment such as tracked excavators, bulldozers, dump trucks, and hydraulic hammers and shears would be used to break up concrete into smaller sizes suitable for handling. The concrete material would be either removed or buried on site. Any remaining concrete rubble would be excavated, and the area graded.

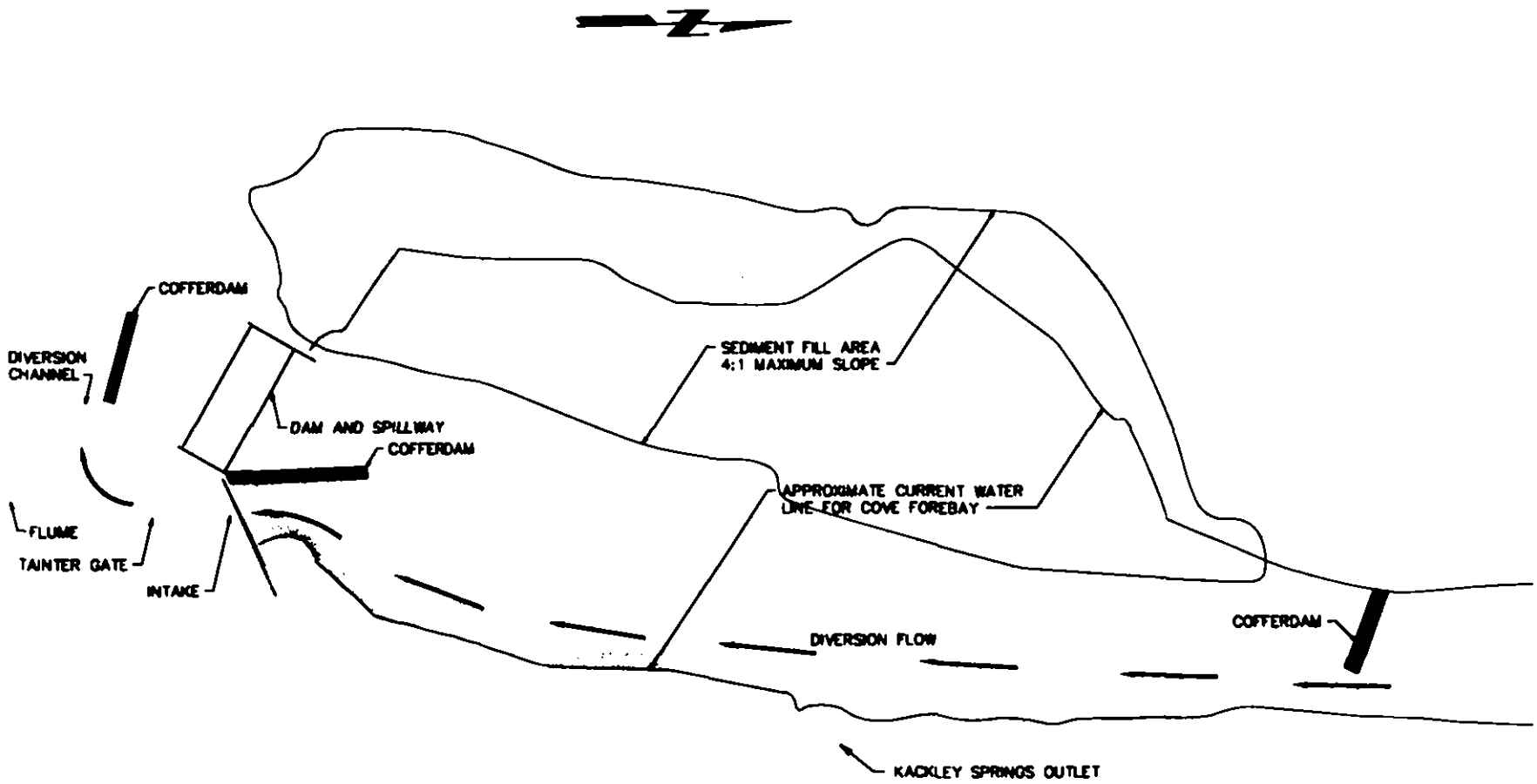

Figure 2 Main elements of the Removal Plan

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

During this phase, two cofferdams or berms would be constructed to direct all flows entering the forebay area into the eastern channel and hence through the intake structure and into the river channel below the dam. One cofferdam would extend from the western bank of the upper forebay, below the Grace tailrace. The other would extend north from the Cove intake structure. Sediments from the exposed western portion of the forebay bed could then be excavated in the dry and be deposited and graded on the adjacent, western bank using dragline or track hoe equipment. Alternatively, the sediments from the forebay could be used to cover the demolished flume, thereby minimizing disturbance to an established, deep-rooted shrub community on the steep western bank slopes. Temporary slope protection (e.g., turf matting) would be installed on the graded slope, and silt fencing would be constructed at the toe of the slope. A silt barrier would be staked along the edge of the sediment exposed on the eastern side of the forebay. This operation would establish the western portion of the new river channel.

At this point, the cofferdam at the head of the forebay would be shifted to block the eastern channel, allowing flows to shift to the new channel. This would leave the eastern part of the forebay dry. Similar to the process completed in the western portion, sediment would be pulled back to the eastern bank, regraded, and stabilized. A permanent security fence would be placed around the remaining east dam abutment, ensuring public safety.

The third phase of decommissioning would be demolition and removal of the Cove intake steel superstructure, flume, and pressure box. Heavy equipment similar to that used in dam removal would be utilized to complete this phase. All concrete and rubble associated with demolition of the structures would be buried in designated locations on site, where it would facilitate grading. The flume's remaining concrete, wood, and liner material would be buried in place within the flume footprint. All protruding metal would be cut-off flush with the ground's surface and removed from the site. Wetlands and drainages around the flume would be protected from damage and kept free from demolition and soil fill.

Decommissioning the Cove powerhouse would conclude facilities' modifications. The powerhouse building would remain intact. All safety precautions including securing windows, interior hatches and passageways as well as removal of all petroleum products would be taken to ensure public safety.

The final phase of decommissioning would be revegetation of all disturbed areas, through hydroseeding with an ECC approved seed mix and willow slips. Temporary sediment control measures (e.g., silt fencing, membrane, and straw bales) installed before and during construction would be left in place until these areas were considered stable and vegetation established (Black and Veatch 2005).

3.1.2 Operational Changes

Dam removal would restore run-of-river flows to the Cove bypassed reach (about 1.4 miles of the Bear River channel below the dam site; see Figure 1). This action also proposes to reduce minimum flow requirements for the Grace bypassed reach (about 6.6 miles of the Bear River channel; see Figure 1) from 80 cfs to 63 cfs, plus leakage from the dam of about 2 cfs. This would provide PacifiCorp 17 cfs of additional flow for power generation at the Grace powerhouse that would partially offset the loss of Cove Development generation.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

3.1.3 Mitigation Measures

Consultation with the various agencies with regulatory authority over the decommissioning project (see Section 4.2 below) generated a number of conditions and requirements intended to mitigate potential adverse environmental effects of the decommissioning project. These are discussed under the following headings. This analysis identified several other mitigation measures, which are also discussed below, after the agency requirements.

3.1.3.1 Water Quality

The consultation process for Section 401 of the Clean Water Act is described below (Section 4.2.1.2). This process identified specific conditions required by the Idaho Department of Environmental Quality (IDEQ) prior to issuance of a 401 Water Quality Certificate. These conditions will mitigate potential water quality impacts.

This analysis indicated the need for the following mitigation measures. Appropriate steps will be taken to insure that the erosion control materials called for in the Removal Plan (e.g., silt fences, sediment barriers, turf reinforcement mats, and erosion control mats) meet the necessary specifications and are properly installed. A qualified erosion-control specialist will determine the necessary specifications, instruct contractor personnel on proper installation techniques, and inspect the final installation.

3.1.3.2 Wetlands

This analysis indicated the need for the following mitigation measures. Prior to any efforts to remove or repair the Cove flume, jurisdictional wetlands along the flume corridor will be delineated with pin flags. No dredge or fill material will be discharged into the delineated areas. Where appropriate, silt fencing will be erected to prevent upland soil and debris from falling into delineated wetlands.

3.1.3.3 Livestock Grazing

This analysis indicated the need for the following mitigation measure. Once the flume is removed, a fence will be constructed along the flume alignment to preclude cattle from grazing down into the riparian area and/or mixing with cattle from the other side of the river. This measure is consistent with requirements of Project license Article 426.

3.1.3.4 Cultural Resources

Impacts on cultural resources would be mitigated through specific measures and protocols described in detail in the *Historic Properties Management Plan for PacifiCorp's Bear River Hydroelectric Project* Section 6.8 (SWCA 2005).

3.2 Action Alternatives

3.2.1 Grace-Cove Interconnect Canal Alternative

This alternative would channel water directly from the Grace tailrace to the Cove intake, making the Cove dam superfluous to the system and allowing its removal. Since the hydraulic capacity of the Grace powerhouse is 267 cfs less than that of the Cove powerhouse, a weir across the Bear River would be constructed to divert up to this amount from the river to the Interconnect Canal to allow maximum generation at the Cove powerhouse.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

The Interconnect Canal Alternative would result in connectivity of the Bear River through the current Cove impoundment area and improved fish passage while retaining the power generation capacity of the Cove Development. PacifiCorp would remove the Cove dam, construct a canal connecting the Grace tailrace and the Cove intake, and rehabilitate the Cove flume for continued power generation operations. The Cove dam would be removed prior to canal construction to allow for a dry construction site and to minimize sediment transport. A temporary cofferdam would be constructed along the canal alignment to prevent normal river flows from entering the canal construction area. A diversion weir would be constructed across the river to allow passage of the licensed instream flows and for diversion of the remaining flows for power generation. A fish ladder would also be constructed to allow passage of upstream migrant fish past the weir. Fish screens would be placed on the intake structure to avoid impingement of fingerling and migrant trout. Finally, a spillway with a 200-foot-long concrete weir would be constructed to divert water from the Grace tailrace to the Bear River in the case of a Cove powerhouse outage.

This alternative would employ comparable equipment as well as similar construction, grading, and removal methods to those used under the Proposed Action. All construction would require appropriate erosion control and sedimentation prevention measures.

3.2.2 Mitigation Measures

Mitigation requirements under this alternative would be the same as under the Proposed Action (Section 3.1.3), as applicable.

3.2.3 Fish Passage Alternative

This alternative includes modifications of various elements of the Cove Development to improve fish passage through the existing system. A fish ladder at the Cove dam, intake fish screens, and tailrace barriers at Cove and at Grace would be constructed to facilitate upstream passage of fish and to protect fingerlings. The Cove flume would be rehabilitated, and this alternative would retain power generation operations at the Cove Development.

A vertical-slot-type fish ladder would be constructed at the Cove dam to facilitate fish passage, providing 21 to 26 feet of lift in 0.75-foot steps. A ladder is currently present but is inoperable and would be removed. Ladder design would reflect the licensed instream flows in the Cove bypassed reach.

Fish screens would be placed at two locations in the Cove intake structure to keep fish from entering the flume. The fish screens would meet criteria accepted by the IDFG for fingerling trout. Because of its proximity to the Cove forebay, the screen would be considered exclusionary (i.e. no fish bypass system required).

Additionally, a barrier would be constructed at the confluence of the Grace tailrace with the Bear River/Cove forebay to prevent fish from entering the tailrace. A temporary, embankment type cofferdam would be required to facilitate construction of the barrier adjacent to the Bear River. An access road would also be provided to allow operation and maintenance personnel to service the tailrace barrier structure. An additional 270-foot-long tailrace barrier would be constructed at the confluence of the Cove tailrace with the Bear River. This would prevent fish migration up the tailrace allowing for continued upstream migration.

None of the existing Cove facilities would be removed under this alternative. Similar construction and erosion control measures would be employed under this alternative as are utilized under the Proposed Action.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

3.2.3.1 Mitigation Measures

Mitigation requirements under this alternative would be the same as under the Proposed Action (Section 3.1.3), as applicable.

3.2.4 No-Action Alternative

Under the No-Action Alternative, PacifiCorp would leave the Cove Development in place, commissioned as it currently is, with the same facilities and operating parameters. The Cove flume would be rehabilitated in accordance with the Project license and the development would resume operation with the current facility configuration and operating regime.

The planned renovation of the Cove flume would consist of repairing its concrete frames or ribs (900+ ribs total to be either repaired or replaced), followed by the replacement of the wood box structure with new wood members, and spraying the flume's interior with a impermeable membrane liner. The construction methods and equipment used would be those used with the Proposed Action.

3.2.4.1 Mitigation Measures

Mitigation requirements under this alternative would be the same as under the Proposed Action (Section 3.1.3), as applicable.

3.3 Alternatives Considered but Eliminated from Detailed Study

PacifiCorp considered two additional alternatives to the Proposed Action that were dismissed from further consideration because they did not meet the project's purpose and need. These included:

- Uncontrolled demolition of the Cove dam and its facilities.

This alternative was dismissed from further consideration because it would not include measures to prevent or control sediment and possible contaminant transport into the lower Bear River reaches.

- Federal take-over of the Cove Development.

Federal takeover and operation was determined not to be a reasonable alternative because it would require Congressional approval, and there is no evidence to indicate that Federal takeover should be recommended to Congress. No party has suggested Federal takeover would be appropriate, and no Federal agency has expressed an interest in operating the project.

3.4 Summary and Comparison of Impacts

The analysis documented in Section 5 of this report indicates that implementation of the Proposed Action or the alternatives addressed in detail would have no significant environmental impact. The impacts of the Proposed Action and alternatives are summarized and compared in Table 1.

Table 1. Summary and comparison of impacts.

	Proposed Action	Interconnect Canal Alternative	Fish Passage Alternative	No-Action Alternative
Water Quantity and Quality	• Run-of-river flows returned to the Cove bypassed reach. • Initial sediment transport from newly created channel in Cove forebay, limited to sand remaining in new channel bed after grading. • Transport of bedload and suspended material restored to Cove bypassed reach with run-of-river flows. • Magnitude of sediment loads transported from Cove forebay decreasing with time and distance downstream. • Up to 3,600 yd^3 of sediment material transported downstream during dam removal. Coarse particles deposited nearer to the dam could resuspend during higher spring runoffs. • Some gravel and cobble material from new channel transported downstream as bedload during high-flow events. • Short-term increase in turbidity levels during removal of Cove dam. • Up to 66,600 kg of Total P adsorbed to sediment transported downstream. • Mercury and selenium adsorbed to sediment transported downstream.	• Bear River reconnected through the Cove bypassed reach, but flows much lower than under Proposed Action. • Initial sediment transport from newly created channel in Cove forebay, limited to sand remaining in new channel bed after grading. • Transport of bedload and suspended material restored to Cove bypassed reach to some degree with reconnected flows. • Magnitude of sediment loads transported from Cove forebay decreasing with time and distance downstream. • Up to 3,600 yd^3 of sediment material transported downstream during dam removal. Coarse particles deposited nearer to the dam could resuspend during higher spring runoffs. • Some gravel and cobble material from new channel transported downstream as bedload during high-flow events. • Short-term increase in turbidity levels produced during removal of Cove dam. • Up to 66,600 kg of Total P adsorbed to sediment transported downstream. • Mercury and selenium adsorbed to sediment transported downstream of Cove dam.	• Existing flow patterns remain in Cove bypassed reach. • No transport of sediment loads associated with dam removal. • No added transport of bedload and suspended material. • Temporary sediment loads and increase in turbidity to downstream reaches during construction of cofferdam and fish ladder below Cove dam. • No transport of mercury and selenium to downstream reaches as a result of dam removal.	• Existing flow patterns remain in Cove bypass reach. • No transport of sediment loads associated with dam removal. • No added transport of bedload and suspended material. • No transport of mercury and selenium to downstream reaches as a result of dam removal.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

	Proposed Action	Interconnect Canal Alternative	Fish Passage Alternative	No-Action Alternative
Water Quantity and Quality (cont'd)		• Disturbance to the channel bottom near diversion weir would produce limited sediment loading to downstream river segments.		
Fisheries and Aquatic Resources	• Enhanced fish passage. • Habitat improvement in the Cove bypassed reach. • Enhanced potential trout spawning areas and aquatic invertebrate production in former forebay and Cove bypassed reach. • Temporary increase in downstream sediment loads causing suffocation and abrasion of various biota and habitats. • Potential minor reduction in fauna in the Grace bypassed reach due to decreased minimum flows. • Potential increase in genetic diversity. • Enhanced cold-water species migration in the Cove bypassed reach due to potential temperature improvements. • Improved access to the downstream reaches for native fishes. • Increased potential for upstream colonization by non-native species. • Limitation on native species due to increased upstream mobility of predatory, warm and cool-water fishes.	• Enhanced fish passage, limited by minimum flows. • Enhanced potential trout spawning areas and aquatic invertebrate production in former forebay. • Temporary increase in downstream sediment loads causing suffocation and abrasion of various biota and habitats. • Increased potential for fish mortality or injury due to ladder and screens. • Potential limits on BCT spawning and upstream BCT migration due to structures and elevated water temperatures. • Improved access to the downstream reaches for native fishes. • Increased potential for upstream colonization by non-native species. • Limitation on native species due to increased upstream mobility of predatory, warm and cool-water fishes.	• Enhanced fish passage, limited by barriers and minimum flows. • Reduced potential for migration and spawning of BCT and other cold-water species due to continued elevated water temperatures. • Further aggradation (raising of the streambed) upstream of the dam. • Potential limitation on future BCT restoration efforts due to stress and mortality caused by ladders and screens. • Continued reduction of the abundance and diversity of aquatic invertebrates. • Increased potential for upstream colonization by non-native species. • Limitation on native species due to increased upstream mobility of predatory, warm/cool-water fishes.	• All fish passage effectively blocked by dam. • Further aggradation (raising of the streambed) upstream of the dam. • Limited sediments available to organisms downstream. • Continued reduction of the abundance and diversity of aquatic invertebrates. • Blocked upstream movement of predatory, cool/warm-water species.
	Proposed Action	**Interconnect Canal Alternative**	**Fish Passage Alternative**	**No-Action Alternative**

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Wetland and Riparian Resources	• Wetland functions and values enhanced in the Cove forebay and bypassed reach. • Wetland and riparian and vegetation along the Cove bypassed reach improved.	• Wetland functions and values enhanced in the Cove forebay. • Wetland and riparian vegetation along the Cove bypassed reach unchanged.	• Wetland functions and values unchanged. • Wetland and riparian vegetation along the Cove bypassed reach unchanged.	• Wetland functions and values unchanged. • Wetland and riparian vegetation along the Cove bypassed reach unchanged.
Vegetation Resources	• The greatest area disturbed and susceptible to colonization by noxious weeds. • The greatest need for effective revegetation and weed control.	• Smaller area disturbed and susceptible to colonization by noxious weeds. • Substantial need for effective revegetation and weed control.	• Of action alternatives, the least area disturbed and susceptible to colonization by noxious weeds. • Of actions least need for effective revegetation and weed control.	• Only the flume corridor disturbed and susceptible to colonization by noxious weeds. • No additional need for effective revegetation and weed control.
Wildlife Resources	• Decreased use of the area by migrating waterfowl due to elimination of the Cove forebay. Alternative nesting and foraging habitat available in the area. • Discontinued use of the project area by water birds requiring open water, such as cormorants, pelicans, and grebes. • Habitat requirements of local shorebird species met, but mudflat around forebay no longer available to transient shorebirds. • No effect on passerines or neotropical migratory birds using adjacent marshes and riparian areas due to dam and forebay removal. • Some benefit to bird species using the Cove bypassed reach due to increased flows. • Short-term noise disturbance due to construction, demolition, and rehabilitation activities in the forebay and flume areas.	• Decreased use of the area by migrating waterfowl due to elimination of the Cove forebay. Alternative nesting and foraging habitat available in the area. • Discontinued use of the project area by water birds requiring open water, such as cormorants, pelicans, and grebes. • Habitat requirements of local shorebird species met, but mudflat around forebay no longer available to transient shorebirds. • No effect on passerines or neotropical migratory birds using adjacent marshes and riparian areas due to dam and forebay removal. • More short-term noise disturbance due to construction, demolition, and rehabilitation activities in the forebay area than under the Proposed Action; similar disturbance in flume area due to repairs.	• None of the potential impacts on waterfowl, shorebirds, or other water birds. All current habitats remain available. • Less short-term noise disturbance due to construction, demolition, and rehabilitation activities in the forebay area than under the Proposed Action and Interconnect Canal Alternative; similar disturbance in flume area.	• None of the potential impacts on waterfowl, shorebirds, or other water birds. All current habitats remain available. • No short-term noise disturbance due to construction, demolition, and rehabilitation activities in the forebay area; similar disturbance in flume area.
	Proposed Action	**Interconnect Canal Alternative**	**Fish Passage Alternative**	**No-Action Alternative**

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Aesthetic Resources	• Temporary construction-related impacts on visual quality. • Return the project area to a more natural, pre-development appearance. • Remove most visual evidence of historic past.	• Temporary construction-related impacts on visual quality. • More natural appearance of forebay and dam area; otherwise historic development retained as dominant visual theme. • More evidence of historic past retained (as compared with Proposed Action)..	• Temporary construction-related impacts on visual quality. • Historic development retained as dominant visual theme.	• Temporary construction-related impacts on visual quality. • Historic development retained as dominant visual theme.
Safety Issues	• With safety practices included in the Removal Plan and PacifiCorp policies, no significant safety risk associated with construction/demolition activities or the Cove powerhouse.	• With safety practices included in PacifiCorp policies, no significant safety risk associated with construction/demolition activities or the interconnect canal.	• With safety practices included in PacifiCorp policies, no significant safety risk associated with construction activities or added fish passage facilities.	• With safety practices included in PacifiCorp policies, no significant safety risk associated with flume repair activities.
Recreation and Land Uses	• New recreational boating opportunity created in the Cove bypassed reach. • Temporary access limitation during dam removal. • Wade-fishing at the mouth of Black Canyon easier due to decreased minimum flows. • New angling opportunities created in the Cove bypassed reach. • Increased fishing opportunities in new channel and Grace bypassed reach due to improved fish passage. • Potentially decreased cold-water fishing opportunity due to upstream movement of predatory fish species. • Loss of still-water fishing opportunity in forebay.	• Temporary access limitation during dam removal and canal construction and flume repair. • Continued cattle exclusion from the Cove bypassed reach's riparian area with flume in place.	• Temporary access limitation during construction of fish passage improvements and flume repair. • Continued cattle exclusion from the Cove bypassed reach's riparian area with flume in place.	• Temporary access limitation during flume repair. • Continued cattle exclusion from the Cove bypassed reach's riparian area with flume in place.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

	Proposed Action	Interconnect Canal Alternative	Fish Passage Alternative	No-Action Alternative
Socio-economic Issues	• Creation of short-term employment opportunities during construction, rehabilitation, and maintenance. • Potential minor reduction in long-term employment levels for the Bear River Hydroelectric Project as a whole. • Potential increase or decrease in PacifiCorp's tax contribution to the County due to different property valuation system.	• Creation of short-term employment opportunities during construction, rehabilitation, and maintenance. • No change in PacifiCorp's tax contribution to the County.	• Creation of short-term employment opportunities during construction, rehabilitation, and maintenance. • No change in PacifiCorp's tax contribution to the County.	• Creation of short-term employment opportunities during flume repair and maintenance. • No change in PacifiCorp's tax contribution to the County.
Cultural Resources	• Integrity of the historical hydroelectric district and future eligibility of the individual buildings and structures for the National Register affected. • Historical landscape and identity of Grace affected. • Potential disturbance of archaeological sites and artifacts during excavation.	• Integrity of the historical hydroelectric district and future eligibility of the individual buildings and structures for the National Register affected to a lesser degree than the Proposed Action. • Historical landscape and identity of Grace affected to a lesser degree than the Proposed Action. • Potential disturbance of archaeological sites and artifacts during excavation.	• Integrity of the historical hydroelectric district and future eligibility of the individual buildings and structures for the National Register affected to a lesser degree than the Proposed Action and Interconnect Canal Alternative. • Historical landscape and identity of Grace affected to a lesser degree than the Proposed Action and Interconnect Canal Alternative. • Potential disturbance of archaeological sites and artifacts during excavation.	

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

4. CONSULTATION AND COMPLIANCE

Consultation with relevant regulatory agencies and with the public is a key aspect of Federal environmental review requirements. Further, a number of Federal and state laws bear on projects of this nature and require consultation. This section outlines the agency and public consultation activities undertaken in the course of this project and the efforts to comply with applicable Federal and state regulations.

4.1 CONSULTATION

4.1.1 SCOPING

Scoping is the process of soliciting input from other agencies and the public to determine the range of actions, alternatives, and impacts to be considered in an environmental review document (40 CFR 1508.25). While no formal scoping meeting has been undertaken specifically for the proposed decommissioning of the Cove Development, active public and agency participation has been a hallmark of the recently completed relicensing process and subsequent project implementation. As a result, environmental issues and concerns associated with the proposal have been solicited and are well documented. Relevant agency and public involvement activities are outlined below, and the identified issues and concerns are listed in Section 4.1.3.

A formal scoping process was initiated by the FERC for relicensing the Bear River Hydroelectric Project, as described in the Bear River EIS. Scoping identified concerns regarding impacts on the following resources: (1) water use and quality, (2) aquatic resources, (3) terrestrial resources, (4) land use and aesthetic resources, (5) recreational resources, and (6) cultural resources. The EIS provides detailed discussion of these issues and is incorporated by reference in this report.

As discussed earlier in this report (Section 2.1) and below (Section 4.1.2), the ECC has been the central forum for involvement by agencies and other stakeholder organizations in implementation of the Bear River Hydroelectric Project. This group brings together all signatories to the Bear River Settlement Agreement, which resolved all environmental issues associated with that project. As the Cove Development was relicensed under that project, the issues tackled by the agencies and organizations comprising the ECC during and after the relicensing process remain relevant to the current proposal for the decommissioning of the Cove Development. ECC meetings are conducted monthly and are open to the public. A record of ECC meetings, documents and related subject material are published on the PacifiCorp website (http://www.pacificorp.com/Article/Article43498.html).

In March 2005, the ECC initiated three public informational meetings in Montpelier, Soda Springs, and Preston, Idaho, to inform area citizens regarding implementation of the Bear River Hydroelectric Project, including the proposed decommissioning the Cove Development. These meetings provided another opportunity for public input on implementation plans, including Cove decommissioning. Overall, the public's response has been mixed regarding decommissioning the Cove Development, although the public agency response has been supportive.

4.1.2 INTERVENTIONS

As this report was prepared, the FERC had not circulated PacifiCorp's application for agency and public comment, so there has been no formal comment or interventions. However, the ECC comprises the interveners in the preceding Bear River Hydroelectric Project. As called for in the

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Bear River Settlement Agreement (Section 4) and the new license (Article 402) this group plays a consultative role in post-licensing implementation activities, including monitoring and adaptive management planning. "Most uniquely, these activities include directing long-term changes for environmental protection and enhancement measures" (Project license, para. 17). The proposed decommissioning of the Cove Development is one of these enhancement activities, and the ECC has had – and will retain – an active role in planning and implementing the decommissioning project. As a result, their role is appropriately noted here. The ECC comprises the following agencies and organizations:

- PacifiCorp.
- U.S. Fish and Wildlife Service (FWS).
- U.S. Bureau of Land Management (BLM).
- National Park Service (NPS).
- USDA Forest Service (FS).
- Shoshone-Bannock Tribes (Tribes).
- Idaho Department of Environmental Quality (IDEQ).
- Idaho Department of Fish and Game (IDFG).
- Idaho Department of Parks and Recreation (IDPR).
- Idaho Council of Trout Unlimited (ITU).
- Idaho Rivers United (IRU).
- Greater Yellowstone Coalition (GYC).
- American Whitewater (AW).

4.1.3 Comments on the Application

As noted above, PacifiCorp's application had not been circulated for comment by the FERC at the time this report was prepared. However, environmental issues and concerns associated with the proposed decommissioning of the Cove Development have been solicited and documented through the consultation processes outlined above (Section 4.1) and through ECC deliberations. Issues that guided the analysis documented in this report (Section 5) are listed below, followed by issues considered but not carried into detailed analysis for the reasons provided (Section 4.1.3.2).

4.1.3.1 Issues Analyzed in Detail

Water Quantity and Quality

- Would flows in the Grace and Cove bypassed reaches be affected?
- Would dam removal or other facility modifications affect sediment loading and water quality in downstream reaches?

Fisheries and Aquatic Resources

- Would the aquatic ecosystem be affected by modification of facilities or flows?
- Would BCT restoration efforts be affected?
- Would native fish species other than the BCT be affected?

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

- Would the upstream dispersal of walleye and smallmouth bass be affected?

Wetland/Riparian Resources

- Would wetlands and riparian communities be affected by modification of facilities or flows?

Vegetation Resources

- Would the modifications to the Cove facilities influence the establishment of noxious weed species?

Wildlife Resources

- Would neotropical migratory birds and other passerine and non-passerine birds and their habitats be affected?
- Would waterfowl and shorebird use of the Cove forebay be affected?

Aesthetic Resources

- Would dam removal or other facilities modifications affect the visual quality and natural setting of the project area?

Safety

- Would the public's safety be affected by decommissioning the Cove Development?

Recreation and Land Uses

- Would recreational boating opportunities be affected?
- Would fishing opportunities and fishing access be affected?
- Would livestock grazing management be affected?

Socioeconomic Issues

- Would decommissioning the Cove Development affect employment in the project area?
- Would decommissioning the Cove Development alter the county's tax base?

Cultural Resources

- Would historic, Native American, or paleontological values be impacted by modification of the facilities?

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

4.1.3.2 Issues Considered but Not Analyzed in Detail

Water Rights

- Would water rights be affected by decommissioning or modifying facilities of Cove?

This issue was considered but not carried into detailed analysis because the Proposed Action and the alternatives would not affect water rights. None of the actions would alter the amount of water in the Bear River leaving the project area, as no consumptive use or other actions that would affect water quantity are proposed. The reduction in the minimum flow requirement under the Proposed Action (i.e., from 80 to 63 cfs) would affect only the Grace bypassed reach. The only diversion in the bypassed reach is the Gentile Valley irrigation canal. Since the canal company's water right is matched or exceeded by flows accumulating naturally through the bypassed reach, the reduction in minimum flow releases would not reduce the company's ability to meet their water right. Timing of flows would not be notably affected because the storage capacity of the Cove forebay is minimal (average residence time in the forebay is only about 1 hour). Storage rights would not be affected because no one other than PacifiCorp holds storage rights in the Cove forebay.

Threatened and Endangered Species

- Would threatened or endangered species be affected by facilities modifications?

The FWS has documented the presence of bald eagles *(Haliaeetus leucocephalus)*, the possible occurrence of gray wolf *(Canis lupis;* an experimental, nonessential population) and one listed plant species, Ute ladies' tresses *(Spiranthes diluvialis)* in Caribou County, Idaho. Surveys documented in the Bear River EIS concluded that the wildlife species are generally transient individuals in the project area, and that the plant does not occur in the project area. (FWS 2005a.)

Surveys for bald eagles were conducted in February 1997 by PacifiCorp to document use of the entire Bear River Hydroelectric Project area during the winter migratory season. Two bald eagles were documented in the Soda Project area: one adult bald eagle was observed on May 22, 1997, and a single juvenile eagle was observed multiple times during spring surveys. PacifiCorp also conducted a search of the bald eagle database through the USGS Biological Resources Division. The query revealed records of bald eagles for the Soda dam from 1980 to 1995. Population numbers ranged from 46 in 1991 to 1 in 1980 and 1984. There have been observations of two pairs of nesting bald eagles near the Soda dam (PacifiCorp 2005d). There are no dense populations of bald eagles in the project area. There are occasional sightings during the winter months, but the area is not considered significant nesting habitat (FWS 2005b).

It has been determined that the gray wolf may travel through and around the project area but that no established packs or known den or rendezvous sites are presently documented in the lower Bear River sub-basin (FERC 2003a), specifically the Cove Development project area.

Field surveys for the Ute ladies' tresses were conducted in 1997, but no populations were located in the Bear River drainage (FERC 2003a).

The Bear River Project EIS concluded that current and proposed project operations would not affect any Federally listed or candidate species. For purposes of this analysis, the FWS has confirmed that this conclusion holds (see Section 4.1.3.2).

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Wild and Scenic Rivers

- Would decommissioning of the Cove Development affect the potential for designation of the Cove bypassed reach as a Wild and Scenic River?

The BLM administers a tract of land adjacent to the Cove project boundary located northwest of the Cove powerplant. Approximately 0.3 river miles of the Cove bypassed reach pass through the parcel which the BLM found to be eligible for Wild and Scenic River designation, based on recreational, geologic and hydrologic characteristics. The BLM has since conducted a feasibility study to determine if the reach could be classified under the Wild and Scenic Rivers Act. Until the BLM's *Pocatello Field Office Resource Management Plan* is finalized, it has been tentatively recommended that the reach is not suitable for Wild and Scenic River designation (BLM 2005).

Power Generation

- Would decommissioning the Cove Development affect overall power generation capacity of the Bear River Hydroelectric Project?

As noted in Section 2.3, PacifiCorp conducted a customer benefit analysis comparing the benefits of the additional 17 cfs flow to the Grace powerhouse under the Proposed Action to the costs of repairing the Cove flume as part of the No-Action Alternative. The net loss in electrical production by the Bear River Hydroelectric Project due to Cove decommissioning would be 6.7 percent. However, over 30 years, the additional power generation from Grace powerhouse would generate revenue that would compensate for the $3.2 million estimated cost of decommissioning the Cove Development. Therefore, the Proposed Action would result in a net customer benefit.

4.2 COMPLIANCE

FERC regulations (18 CFR 4.38 and 16.8) require consultation with cooperating agencies and other entities to ensure that any action agency does not jeopardize the continued existence of listed species or critical habitats, water quality standards, wetlands, and/or cultural resources within the project area. Several of the agencies charged with protection of these resources, as well as other stakeholders, were actively involved in the relicensing process and, following issuance of the new license, were formally organized as the ECC (see Sections 2.1 and 4.1.2 above). Consultation on some issues involved agencies not formally part of the ECC, including the U.S. Army Corps of Engineers (COE) and the Idaho State Historic Preservation Officer (ISHPO). Consultation specific to the Clean Water Act, the Federal Power Act, the Endangered Species Act, and the National Historic Preservation Act with ECC members and other agencies is discussed below.

4.2.1 CLEAN WATER ACT

The Clean Water Act (CWA) is a 1977 amendment to the Federal Water Pollution Control Act of 1972, which set the basic structure for regulating discharges of pollutants to waters of the U.S. The CWA is administered by Environmental Protection Agency (EPA), but some permitting, administrative, and enforcement aspects of the law are delegated to other Federal and state agencies under various programs.

Two sections of the CWA are pertinent to the proposed decommissioning of the Cove Development, Section 404 and Section 401. In addition, states are provided under the CWA joint authority with Federal agencies to enforce and regulate water quality standards and permitting.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Idaho's Stream Channel Protection Act provides the legal authority to ensure that stream alteration activities do not violate Idaho water quality standards.

Compliance with CWA Sections 401 and 404 and with Idaho's Stream Channel Protection Act is discussed below.

4.2.1.1 CWA Section 404

Section 404 of the CWA establishes a program to regulate the discharge of dredged and fill material into waters of the U.S., including wetlands. Such discharges are not permitted if the nation's waters would be significantly degraded or if feasible alternatives exist that are less damaging to the aquatic environment. The EPA and the COE share jurisdiction over the permit program. Individual or Nationwide Permits (NWP) may be issued only when applicants have demonstrated that the activity is in the public interest, that no practicable alternative is available, that wetlands would be protected to the maximum extent possible, and that water quality would not be significantly impaired (see Section 4.2.1.2 below).

The NWP system was established to streamline the permitting process for minor activities that have been determined programmatically, on a nationwide basis, to comply with the criteria noted above. In regard to the Cove decommissioning, the COE has stated their intent to issue a NWP No. 27, for wetland and riparian restoration and creation activities. This decision is based on the project's stated purpose and need (Section 2.2) to enhance aquatic resources, particularly by reconnecting the Bear River through the Cove bypassed channel.

The COE imposed two conditions on their issuance of the NWP No. 27. First, a functional assessment of the project's impacts on the affected reach of the Bear River was required to demonstrate that the anticipated wetland and riparian enhancement would in fact occur. The functional analysis was completed, as discussed in Section 5.3. Second, water quality certification under Section 401 of the CWA was required (see Section 4.2.1.2 below). With these conditions met, it is anticipated that the COE would issue a NWP No. 27 for the proposed decommissioning of the Cove Development. With that permit in place, the project would comply with CWA Section 404.

4.2.1.2 CWA Section 401

Any activity that requires a Federal permit or license under the CWA, including a Section 404 dredge and fill permit or a FERC hydroelectric license, requires a CWA Section 401 water quality certification. This certification states that the activity would not cause a violation of state water quality standards. The IDEQ uses the authority granted to them under Section 401 to manage activities that impact their water resources. IDEQ can waive the certification (either expressly or by taking no action), deny the certification, grant the certification, or grant the certification with conditions. Any conditions associated with the certification become conditions of the license or permit.

A 401 certification in Idaho also ensures that an activity complies with water quality improvement plans (Total Maximum Daily Load Study; TMDL) developed for affected water bodies and that the activity does not adversely impact 303(d) listed streams (streams that already do not meet water quality standards). While 401 certification is typically considered a given when an NWP dredge and fill permit is issued, Idaho requires individual 401 certification if the waterbody in question is on the 303(d) list.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

The Bear River in the reach affected by the proposed Cove decommissioning is included on the Idaho 2004 303(d) list as impaired for phosphorous (P) and total suspended solids (TSS). A draft TMDL was completed for this reach in January 2005. As a result, IDEQ has required individual 401 certification for the Cove decommissioning project. Certification will be subject to conditions established by IDEQ and made part of FERC's requirements for amendment of the license for the Bear River Hydroelectric Project. Based on the certification and adherence to the IDEQ conditions, the project would conform to CWA Section 401.

4.2.1.3 State of Idaho Stream Channel Protection Act

The Stream Channel Protection Act (Title 42, Chapter 38, Idaho Code), requires a permit for any type of alteration work done inside the ordinary high-water marks of a continuously flowing stream to protect fish and wildlife habitat, aquatic life and water quality, recreation, and aesthetic values.

Following consultation with the Idaho Department of Water Resources (IDWR), it was determined that a stream alteration permit would be required to remove the dam. A Joint Stream Channel Alteration Permit application would be submitted initiating the IDWR and the COE 404 permitting process.

4.2.1.4 State Easements

A permit or easement may be required by the Idaho Department of Lands (IDL) prior to obtaining a Stream Channel Alteration Permit for decommissioning work conducted on submerged, state-owned lands (Idaho Code Title 58, Chapters 1 and 6, and Article IX, Sections 7 and 8). The State of Idaho had not originally required an easement for the construction of the Cove Development and has not initiated proceedings to determine ownership of the bed and banks of the Bear River. Unless a determination is made that the state owns the riverbed beneath those portions of the proposed project constructed below the ordinary high water mark, IDL will not require a permit or easement.

4.2.2 Federal Power Act

The FPA provides for Federal development and regulation of water power and resources, authorizing the FERC to issue licenses for hydroelectric projects, including dams, reservoirs, and other projects to develop and improve navigation or to develop and use power.

The FPA requires that licenses contain certain conditions to adequately protect, mitigate and enhance fish and wildlife resources including spawning grounds and habitat, as well as beneficial public uses, including irrigation, flood control, water supply, and recreation.

Sections 18, 4(e), 10(j), and 30(a) of the FPA are relevant to the Proposed Action and specifically refer to fishways, potential impacts to Federal lands, and the coordination of resource agencies to enhance and protect fish and wildlife resources.

4.2.2.1 FPA Section 18

FPA Section 18 of the FPA states that FERC "shall require the construction, maintenance, and operation and maintenance by a licensee at its own expense of such fishways as may be prescribed by the Secretary of Interior or the Secretary of Commerce, as appropriate," and provides the Secretary of the Interior the authority to prescribe fishways at FERC-licensed projects or specific conditions related to fish passage facilities at hydropower projects. The U.S. Department of Interior has reserved its authority to require the construction of fish passage facilities (Section 18 of the Project license, Para. 30).

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

4.2.2.2 FPA Section 4(e)

FPA Section 4(e) establishes that FERC must give "equal consideration" to developmental and non-developmental values in its licensing decisions on a reservation only if it finds that the license would not interfere or be inconsistent with the purpose for which such reservation was created or acquired. Section 3(2) of the FPA defines reservations as including lands and interests in lands owned by the U.S. Federal land-administering agencies having authority under Section 4(e) to require "mandatory conditions" for projects located on Federal reservations under their jurisdiction.

There are no Federal reservations in the Cove Development project area.

4.2.2.3 FPA Section 10(j)

FPA Section 10(j) requires FERC to consider resource agency recommendations pursuant to the Fish and Wildlife Coordination Act to protect, mitigate damages to, and enhance fish and wildlife resources. It requires the FERC to include license conditions based on recommendations provided by the Federal and state fish and wildlife agencies.

As described in this document, the state and Federal fish and wildlife agencies with authority to recommend terms and conditions under Section 10(j) are signatories of the comprehensive Bear River Settlement Agreement. These agencies agree that their final recommendations would be consistent with the relevant provisions of the settlement (FERC 2003a).

4.2.3 Endangered Species Act

The Endangered Species Act of 1973 (ESA) provides for the conservation of ecosystems upon which threatened and endangered species of fish, wildlife, and plants depend, both through Federal action and by encouraging the establishment of state programs. Under the ESA, the FWS must be consulted if a proposed action may adversely affect or jeopardize the continued existence of a threatened or endangered species. Such consultation is also required under the CWA Section 404(b)(1) guidelines.

4.2.3.1 ESA Section 7

Under Section 7(a)(2) of the ESA, Federal agencies are required to consult with the FWS, as appropriate, to ensure that any Federal action is not likely to jeopardize the continued existence of any threatened or endangered species, or adversely modify critical habitat designated for those species. The potential occurrence of threatened and endangered species is detailed in Section 4.1.3.2. Based on this assessment, coupled with FWS participation in the ECC, the Proposed Action would not adversely impact any Federally listed species or critical habitat, and no further consultation is necessary.

4.2.4 National Historic Preservation Act

The National Historic Preservation Act (NHPA) is the primary Federal legislation for the protection of historic resources. Section 106 of the NHPA requires Federal agencies to take into account the effects of their undertakings, including permitting and licensing, on historic properties and to afford the Advisory Council on Historic Preservation (Advisory Council) a reasonable opportunity to comment. "Historic Properties" are defined as any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register of Historic Places (NRHP).

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

4.2.4.1 NHPA Section 106

NHPA Section 106 requires the development of a management plan to avoid or mitigate adverse effects on historic properties. The Section 106 review process consists of four steps: (1) identification and evaluation of historic properties; (2) assessment of effects of the undertaking; (3) consultation to resolve adverse effects; and, (4) comment by the Advisory Council. The NHPA also provides for consultation with any Indian Tribe that attaches religious or cultural significance to an historic property that may be affected by a project.

During development of the management plan, the applicant should consult with the FERC, the Shoshone-Bannock Tribes, the Advisory Council, the ISHPO, and any other consulting party that may be involved in the licensing process. In some cases, the management plan would be implemented by execution of a programmatic agreement signed by the FERC, Advisory Council, ISHPO, and other consulting parties.

PacifiCorp has completed the *Historic Properties Management Plan for PacifiCorp's Bear River Hydroelectric Project* (HPMP; SWCA 2005), in consultation with the ISHPO, BLM, and the Shoshone-Bannock Tribes, identifying historic and traditional cultural sites within the Grace-Cove Developments, and submitted the HPMP to the FERC. The HPMP is consistent with the FERC's "Guidelines for the Development of Historic Property Management Plans for FERC Hydroelectric Projects," issued in May 2002, and the NHPA implementing regulations (36 CFR Part 800, effective January 11, 2001; FERC 2003a). The HPMP defines and describes the manner in which the historic properties would be protected, explains how effects on these properties would be mitigated over the term of the new license, and demonstrates how the project complies with the NHPA and its implementing regulations. The HPMP includes provisions for informational exhibits or similar interpretive programs about the important history of hydroelectric production in the area.

Determination of the level and nature of mitigation for impacts to the historical Cove Development was made in consultation with the ISHPO. PacifiCorp will continue to consult with the ISHPO through implementation and will afford the ISHPO the opportunity to review and approve all mitigation materials prior to their finalization. Because PacifiCorp's plan for mitigation of impacts to the Cove Development includes documentation to the level of the Historical American Engineering Record (HAER) program, the National Park Service's HAER Program office in Washington, D.C., will be consulted prior to and throughout the documentation process to ensure adherence with the strict archival requirements of the program. Consistent with Section 3.5 of the Bear River Settlement Agreement, PacifiCorp intends to ensure that the cultural resources inventories it has conducted are sufficient to comply with the NHPA and its implementing regulations.

Since the components of the Grace-Cove Development are highly visible throughout the community of Grace and form a significant visual component of the community's historical landscape, removal of Cove's historic properties will include consultation with other interested parties, such as the Grace local government and the residents of Grace.

Other laws, such as the American Indian Religious Freedom Act or the Native American Graves Protection and Repatriation Act, may also apply if sacred areas or burials of Indian tribes are identified. These and other cultural resources with religious or cultural significance to a Native American Tribe can be considered as historic properties and addressed through the Section 106 process if they meet the criteria for eligibility.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

5. ENVIRONMENTAL ANALYSIS

This section assesses the effects of the Proposed Action and alternatives (described in Section 2) on the environmental issues listed in Section 4.1.3.1. Discussion under each issue begins with a description of the affected environment, then addresses and contrasts the direct and indirect effects of the Proposed Action and alternatives. In cases where more than one issue falls under a given resource heading, the issues are discussed sequentially in the description of the affected environment and under each alternative in the environmental consequences section. Discussion of the environmental consequences includes recommendations for mitigation to protect and enhance these resources.

Discussion of environmental effects under each resource discipline below concludes with an assessment of the cumulative effects of the Proposed Action and alternatives. The geographic scope of the cumulative effects assessment may vary for some resources and issues, but in general it is the project area. The main cumulative action affecting the project area is implementation of the Bear River Hydroelectric Project, specifically any Project license articles that bear on the project area but have not yet been implemented. As a result, while other geographic areas and other actions factor into the cumulative effects analysis, discussion generally centers on implementation of Project license articles that bear on a given resource of concern in this analysis.

5.1 WATER QUANTITY AND QUALITY

The following water quantity and quality issues were determined to require detailed analysis in this report (Section 4.1.3):

- *Would flows in the Grace and Cove bypassed reaches be affected?*

  Flows in the Bear River are heavily managed for irrigation and power generation purposes. Prior to implementation of the new Project license, the two bypassed reaches of the Bear River located in the project area had maintained minimal flows or been completely dewatered at certain times of the year. Under the Proposed Action, the Cove dam would be removed and run-of-river flows restored to the lower bypassed reach. The minimum flow requirement for the Grace bypassed reach established by the Project license would also be reduced under the Proposed Action.

- *Would dam removal or other facility modifications affect sediment loading and water quality in downstream reaches?*

  For close to a century, sediments transported from upper reaches of the Bear River have accumulated in the Cove forebay. Removing the dam and restoring the original stream channel could release trapped sediments to downstream reaches during a limited time period. Sediment in the Cove forebay could contain pollutants adsorbed to sediment particles that, if released, would further degrade water quality in downstream reaches. Acceptable levels of contaminants are based on State of Idaho standards associated with water quality (IDAPA 58.01.02) and sediment (IDEQ 2004). Temporary or long-term releases of contaminants due to the project could violate water quality standards in downstream reaches and be a factor in prolonged impairment.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

5.1.1 AFFECTED ENVIRONMENT

5.1.1.1 Flow

Flows entering the Grace forebay and eventually Cove forebay are ultimately dependent upon upstream releases from Alexander Reservoir which are subsequently influenced by irrigation demand, maintenance activities, winter operations, and electrical demand. Annual precipitation levels recorded in the Bear River Basin influence the volume and timing of water released during any given year by upstream storage reservoirs and dams including Alexander Reservoir (Soda dam) and even further upstream at Bear Lake (Stewart dam). After water is released from Soda dam, two irrigation diversions, owned by the Last Chance Canal Company, can divert up to 658 cfs for irrigation purposes before the Bear River enters the Grace forebay (FERC 2003a).

Annual inflow rates to the Grace forebay range from 324 cfs to 1,924 cfs, and average annual inflow is approximately 710 cfs (FERC 2003a). Annual inflow to the Cove forebay can be determined from a combination of monitoring data and estimates of dam leakage, spring discharge, and irrigation diversion amounts that occur along the Grace bypassed reach. A summary of average monthly flows is provided below in Table 2. Although the annual hydrograph at each of the locations shown in Table 2 represent a pattern typical of river basins in the western U.S., monthly flow rates vary widely among years. This variation is represented by the standard deviations shown for each month, which in many instances exceed the average monthly flow rate. Variation among years is the result of annual precipitation amounts, irrigation demand, and longer-term drought cycles.

Average monthly flows in the Grace flowline range from 312 cfs to 720 cfs with the highest flows occurring May through August. Flows in the Bear River below the Grace forebay are substantially altered by diversions that deliver water to the Gentile Valley Irrigation Co., Grace flowline, and the Cove flume. The Gentile Valley canal diversion can remove up to 35 cfs April 20 – Oct 1 of each water year (Peterson 2005). The maximum diversion capacities of the Grace flowline and Cove flume are 960 cfs and 1,227 cfs, respectively.

Flows in the Grace bypassed reach are the result of the minimum flow requirement, leakage at Grace dam, and discharge from five major springs in the bypassed reach. When Cove is operating, flows in the Cove bypassed reach are the result of the minimum flow requirement and leakage from Cove dam. However, since March 2003 flows at the lower end of the Cove bypassed have been equivalent to inflow into Cove forebay and discharge from three major springs. Overflow at the Grace and Cove dams generally occurs when forebay inflows exceed the amounts diverted to the Grace flowline or Cove flume. Flow diverted for power generation purposes generally includes all available water up to the design capacity of each structure. An assessment of flow duration curves for the Grace and Cove diversions indicates that inflows to the Grace forebay and Cove forebay exceed the design capacities of these structures 30 percent and 15 percent of the time, respectively (Black and Veatch 2004).

Table 2. Monthly average flows in the Project area (1981-2004). Bold text indicates minimum or maximum flow values for a particular segment of the Project area. Shaded rows indicate timing of the irrigation season when water is diverted to the Gentile Valley canal (May through September).

	Grace flowline		Grace bypassed reach				Inflow to Cove forebay		Cove flume	
			Upstream end		Downstream end					
Month	**Avg. (cfs)**	**SD (cfs)**	**Avg. (cfs)**	**SD (cfs)**	**Min (cfs)**	**Max (cfs)**	**Min (cfs)**	**Max (cfs)**	**Avg. (cfs)**	**SD (cfs)**
January	313	310	**78**	181	**108**	**138**	**426**	**459**	355	372
February	**312**	299	90	213	120	150	437	470	358	357
March	461	303	160	327	190	220	656	689	478	396
April	451	319	208	356	238	268	694	727	489	417
May	529	310	232	459	262	292	762	795	575	404
June	579	256	**347**	694	**377**	**407**	926	959	575	345
July	**720**	239	231	451	261	291	**951**	**984**	**753**	382
August	688	222	159	275	189	219	847	880	705	324
September	435	327	157	293	187	217	592	625	377	378
October	317	372	194	373	224	254	546	579	**328**	421
November	338	348	215	414	245	275	588	621	362	451
December	322	317	115	257	145	175	472	505	332	388
Annual monthly average	455	302	182	358	212	242	658	691	474	386

Note:
Grace flowline: Values calculated from monthly averages of daily power generation at Grace powerhouse and known efficiency of turbine.
Grace bypassed reach: Flow values at upstream end were measured at USGS Gage 10080000 – Bear River below Grace dam and include flows resulting from leakage at Grace dam. Leakage from Grace dam is assumed to contribute an average flow of 10 cfs. Flow values at the downstream end of the Grace bypassed reach represent flow above the Gentile Valley canal diversion and include flow contributions of 30 – 60 cfs from spring discharge in this reach.
Inflow to Cove forebay: Values shown represent the sum of discharge from the Grace flowline, flow at the downstream end of Grace bypassed reach, and discharge from Kackley Springs (5 – 8 cfs), minus 35 cfs diverted to the Gentile Valley canal during May through September (e.g. January min. inflow: 313 + 108 + 5 = 426 cfs, July max inflow: 720 + 291 – 35 + 8 = 984 cfs).
Cove flume: Flow values calculated from monthly averages of daily power generation at Cove powerhouse and known efficiency of turbine.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

As a result of the recent FERC relicensing effort, minimum flow releases from Grace dam and Cove dam have been implemented. These measures provide additional flow to the bypassed reaches when water is available in excess of irrigation demands. Article 408 of the Project license mandates that minimum flows released from Grace dam will not drop below 80 cfs or inflow, whichever is less, along with current estimated leakage from the Grace dam (2 cfs; FERC 2003a). Minimum flow releases for Cove dam include 10 cfs or inflow, whichever is less, from October through March, and 35 cfs or inflow from April through September (FERC 2003a).

5.1.1.2 Water Quality

The most comprehensive water quality study completed to date in the project area is detailed in the *Bear River/Malad Subbasin Assessment and Total Maximum Daily Load Plan* (ERI 2005). This study was completed as a result of indications that the Bear River from Soda dam down to Oneida Reservoir were water-quality limited and not fully supporting coldwater aquatic life, primary contact recreation, and other beneficial uses. Waterbodies in this condition were included on the Idaho 2002/2003 303(d) list (IDEQ 2003). When this condition occurs, a water quality assessment must be completed to determine what pollutant is causing impairment, the source of pollution, and the capacity of the waterbody to assimilate pollutant loads while maintaining water quality standards. This type of assessment is referred to as a TMDL study.

Results of the TMDL indicated that the Bear River from Soda dam to Oneida Reservoir was not impaired for Total Suspended Solids (sediment) although existing loads approached the assimilative capacity of this reach during the summer season (ERI 2005). Sediment standards recommended in the TMDL during the runoff season are 80 mg/l for river segments above receiving water bodies (reservoirs) and 60 mg/l for all other river segments. The sediment standard for the remainder of the year is 60 mg/l and 35 mg/l, respectively. Average sediment measurements collected from the Bear River between Soda dam and Oneida Reservoir ranged from 4 mg/l to 48 mg/l (Table 3). Peak sediment concentrations were measured during periods of upper basin runoff which typically occur during the late spring or early summer, when the mid-to-high elevation snowpack begins to melt. As mentioned previously, flows in this segment of the Bear River are highly regulated which serves to moderate peaks in flow and sediment that occur during spring snowmelt. Sediment loading from unregulated tributary streams to the Bear River between Soda dam and Oneida Reservoir likely contribute a significant portion of the sediment load during upper basin runoff. Additional sources of sediment include agriculture, livestock grazing, urban activities, ramping practices associated with power production and streambank erosion (ERI 2005). In general, sediment loading in the mainstem Bear River channel from Bear Lake to below Oneida Reservoir is believed to be reduced by the presence of reservoirs along this reach.

Measurement of Total Phosphorus (Total P) in water samples collected from the Bear River between Soda dam and Oneida Reservoir consistently exceeded levels recommended by IDEQ (Table 3). The state recommended standard for Total P is 0.05 mg/l for river segments above a receiving water body and 0.075 mg/l for all other river segments (IDAPA 58.01.02). The TMDL assessment indicated that existing Total P loads delivered to Oneida Reservoir must be reduced from a minimum of 7 kg/day (winter season) up to a maximum of 142 kg/day (late spring-early summer season). Total P loads exceeding the assimilative capacity determined in the TMDL could contribute to excessive algae growth, low dissolved oxygen levels, and eutrophication of Oneida Reservoir.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

5.1.1.3 Sediment

Measurements of Bear River channel substrate in the Black Canyon area have recently been taken by the IDEQ (Mladenka and Van Every 2004). A total of 34 sites were surveyed to determine potential salmonid spawning habitat between Grace dam and the footbridge upstream from the Grace power plant. Eleven of the 34 sites had zero percent embeddedness, indicating a low potential for depth fines. No visual observations of turbidity were made during measurements of substrate depth, further indicating that little or no depth fines have been deposited along this reach. At present, IDEQ believes that the Bear River channel downstream from the Cove dam appears to be "sediment starved" or exhibits a very low level of sediment deposition (Van Every 2005). Low sediment-substrate conditions in the Bear River channel below Grace dam and Cove dam are likely the result of flow diversions and settling that occurs in the forebay of each facility.

Sediment sampling completed in March 2005 in the Cove forebay indicated shallow sediment accumulations ranging from 0.33 feet to 5 feet. Sediment depths were measured at 10 locations in the Cove forebay. At six of the measurement sites, sediment depths were less than 1 foot while sediment at three other sites measured between 1 and 2 feet deep. Sediment at one location near the east shoreline measured approximately 5 feet deep. Sediment samples were collected at four of the 10 measurement locations on the forebay using a geoprobe that was pushed into the floor of the forebay until consolidated rock was encountered. These samples indicated the sediment was comprised of structureless, loose, fine to medium sand, dark brown in color and fully saturated (Kleinfelder 2005). Geotechnical testing performed on sediment samples indicated that sediment in the Cove forebay is primarily a non-plastic silty sand with high moisture contents ranging from 79 to 115 percent (Kleinfelder 2005). The potential exists for additional coarse material, such as large gravel or cobble, to be present below this sand layer that could not be penetrated by the geoprobe.

Contour intervals of the Cove forebay floor were mapped in March 2005. Bathymetric profiles indicate the steepest gradients are located parallel to the east shoreline of the forebay. This slope is likely a submerged terrace that confined the Bear River as it flowed out of Black Canyon, prior to construction of the Cove dam. The vertical difference between the Bear River channel as it enters the forebay and the lowest elevation of the forebay floor is approximately 15 feet.

5.1.1.4 Total Phosphorus

Chemical testing of four sediment samples collected from the floor of the Cove forebay during March 2005 indicated the presence of phosphorus adsorbed to sediment particles. Results of these tests are included below in Table 4. Measurements of Total P from sediment samples indicated concentrations ranging from 8,000 mg/kg to 14,000 mg/kg. Soil phosphorus in the Bear River Basin originates from both anthropogenic and natural sources. Man-made sources of Total P between Soda dam and Oneida Reservoir include tributary inflow from Densmore, Smith, Alder, Whiskey, Burton, and Trout creeks as well as the Grace wastewater treatment plant. Other possible pollutant sources include agriculture, livestock grazing, and urban activities (ERI 2005). Total P concentrations in soils normally range from 200 – 5,000 mg/kg (Kuo 1996), and concentrations in sediments accumulated in the Cove forebay would be expected to be higher than those found in soils in the surrounding area. However, most Total P (estimates range from 80 – 98 percent) is chemically or physically bound up and thus not soluble or biologically active. In this aqueous environment, the percentage of P that is bound up is likely at the high end of the range.

Measurements of Total P taken from surface water samples collected by IDEQ during routine stream monitoring include both particulate and dissolved forms of phosphorus. Contributions of

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

particulate phosphorus to Total P measurements can result from sediment that is temporarily suspended in solution, particularly for fine-textured material such as silt-clay or clay soils. Silty-sand or sand texture soils settle out of suspension much more quickly in comparison, and maintain a lower potential to contribute particulate phosphorus to Total P concentrations.

5.1.1.5 Contaminants

Four sediment samples were taken from the Cove forebay and analyzed for metals, pesticides, and polychlorinated biphenyls (PCBs). Results of concentrations of mercury and selenium are compared with the Idaho Initial Default Target Levels (IIDTLs) of the *Idaho Risk Evaluation Manual* (IDEQ 2004)(Table 4). Measured concentrations of mercury ranged from less than 0.079 mg/kg to 0.19 mg/kg. Two of the four sediment samples had measured mercury concentrations that exceeded the IIDTL standard of 0.005 mg/kg; however, the mean sample concentration of 0.12 mg/kg was less than the National Oceanic and Atmospheric Administration effects range low (ERL) of 0.15 mg/kg (Long et al. 1995). Concentrations of selenium measured from the four sediment samples ranged from 1.7 to 3.0 mg/kg, including three samples which exceeded the IIDTL standard of 2.03 mg/kg; however, the mean sample concentration of 2.4 mg/kg is near the 95% confidence limit (2.3 mg/kg) of background samples for the area-wide selenium investigation (Idaho Mining Assoc. 1999) conducted in the region. IIDTL standards are risk-based target levels and represent the lowest target levels for soil and groundwater associated with residential conditions (IDEQ 2004).

Natural background levels of selenium in the western U.S. are found primarily in marine sediment deposits. Average concentrations of selenium in surficial soils have been measured from < 0.01 mg/kg to 0.3 mg/kg in southeastern Idaho and up to 1.4 mg/kg in the western U.S. (Shacklette and Boerngen 1984). Thus the concentrations in Cove sediments are somewhat higher than normal in western U.S. soils. Selenium is known to be highly mobile and found in biologically available forms throughout arid regions with alkaline soils. Anthropogenic sources of selenium in the western U.S. stem primarily from drain tile systems that move remove salt-laden groundwater from beneath irrigated lands. Under certain conditions, selenium can move through the food chain and bioaccumulate in aquatic or waterfowl species, creating toxic conditions.

Natural sources of elemental mercury come from volcanic emissions, degassing from soils and volatilization from the ocean. Average concentrations of mercury in surficial soils have been measured at < 0.01 mg/kg to 0.061 mg/kg in southeast Idaho and up to 0.25 mg/kg in areas of the western U.S. (Shacklette and Boerngen 1984). Thus concentrations in the Cove sediments are somewhat higher than those measured in southeast Idaho but within the range defined as common for the western U.S. Anthropogenic sources of mercury come primarily from burning of coal and municipal or medical wastes. Mercury can enter the aquatic food chain through bacteria that metabolize the inorganic form of mercury to methylmercury, which can then be transferred upward, and bioaccumulate within other organisms.

Previous monitoring of surface and groundwater resources along the Bear River between Soda dam and Oneida Reservoir has not identified concentrations of mercury or selenium in excess of IDEQ or IDTL standards (Van Every 2005). No aquatic advisories regulating fish consumption due to high selenium or mercury levels are currently recommended for the Bear River downstream of the Cove forebay.

Table 3. Measurements of Total Suspended Solids (sediment) and Total Phosphorus at selected sites on the Bear River between Soda dam and Oneida Reservoir. Measurements shown were collected during four hydrologic periods that characterize flow and water quality dynamics in the Bear River Basin.

Sediment (mg/l)																
	Winter Base Flow				Lower Basin Runoff				Upper Basin Runoff				Summer Base Flow			
Site	Avg.	n	Max.	Min.	Avg.	n	Max.	Min.	Avg.	n	Max.	Min.	Avg.	n	Max.	Min.
Bear River below Soda dam	4	3	5	3	15	11	42	2	17	14	37	6	15	14	26	5
Bear River at Black Canyon	8	8	46	2	6	10	31	2	6	10	24	1	3	7	10	1
Bear River near Grace ID	12	1	12	12	11	1	11	11					48	1	48	48
Bear River above Cove powerplant	5	8	24	1	4	8	8	1	7	9	17	3	5	6	7	3
Bear River below Cove powerplant	7	3	10	5	12	9	25	2	17	13	36	7	16	8	26	5
Bear River above Oneida at Hwy. Bridge	18	3	25	13	37	11	64	22	39	13	46	25	31	9	72	7

Total Phosphorus (mg/l)																
	Winter Base Flow				Lower Basin Runoff				Upper Basin Runoff				Summer Base Flow			
Site	Avg.	n	Max.	Min.	Avg.	n	Max.	Min.	Avg.	n	Max.	Min.	Avg.	n	Max.	Min.
Bear River below Soda dam	0.04	3	0.043	0.037	0.058	11	0.097	0.031	0.068	16	0.100	0.045	0.065	14	0.093	0.024
Bear River at Black Canyon	0.089	8	0.126	0.060	0.075	10	0.102	0.041	0.066	10	0.086	0.050	0.053	7	0.081	0.030
Bear River near Grace ID	0.087	3	0.160	0.050	0.083	4	0.110	0.070	0.130	2	0.150	0.110	0.062	1	0.062	0.062
Bear River above Cove powerplant	0.081	8	0.202	0.034	0.060	8	0.073	0.050	0.151	9	0.900	0.035	0.047	6	0.069	0.030
Bear River below Cove powerplant	0.044	3	0.050	0.039	0.064	9	0.093	0.042	0.075	13	0.102	0.055	0.077	8	0.162	0.026
Bear River above Oneida at Hwy. Bridge	0.055	3	0.068	0.043	0.110	11	0.256	0.059	0.109	13	0.195	0.084	0.085	9	0.155	0.045

Table 4. Metals analytical results of four sediment samples collected from the Cove forebay floor during March 2005. Bold text indicates concentrations that exceed Idaho Default Target Level (IDTL) standards. Note that no IDTL standard is recommended for Total Phosphorus (Total P).

Parameter	IDTL (mg/kg)	Site P-1b		Site P-2b		Site P-3		Site P-8	
		Reporting Limit (mg/kg)	Results (mg/kg)	Reporting Limit (mg/kg)	Results (mg/kg)	Reporting Limit (mg/kg)	Results (mg/kg)	Reporting Limit (mg/kg)	Results (mg/kg)
Total P	NA	25	8,700	25	14,000	25	8,000	25	11,000
Mercury	.005	0.079	0.19	0.081	<0.081	0.084	0.11	0.093	<0.093
Selenium	2.03	0.50	1.7	0.50	3.0	0.50	2.6	0.50	2.2

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

5.1.2 ENVIRONMENTAL CONSEQUENCES

5.1.2.1 Proposed Action

5.1.2.1.1 Flow

The Proposed Action would affect flows in the Grace bypassed reach by amending the minimum flow release established in the Project license from 80 to 63 cfs (plus dam leakage as well as additional spring discharge that accrues in the lower part of Black Canyon). It would affect flows in the Cove bypassed reach primarily by removing the dam and restoring run-of-river flows to the reach.

Flow in the Grace and Cove bypassed sections under the Proposed Action are characterized in Table 5. The assessment of differences in flow values between alternatives are based on the following assumptions:

1. Existing irrigation contracts and water rights must be met prior to making minimum flow releases from Grace dam and Cove dam.
2. Minimum flow releases must be met before water can be diverted to the Grace flowline or Cove flume.
3. Release of whitewater flows (ranging from 700 cfs and 1,500 cfs) into the Grace bypassed reach would be identical between alternatives.
4. Grace dam leakage is 2 cfs; Cove dam leakage average leakage, when operating, is 6 cfs.
5. Five major springs located in Grace bypassed reach plus dam leakage produce a total flow contribution of 40 – 70 cfs (FERC 2003a). This discharge amount typically satisfies the 35cfs water right held by Gentile Valley Irrigation Co.
6. Three major springs located in Cove bypassed reach plus dam leakage produce a total flow contribution of 10 – 30 cfs (FERC 2003a).
7. Total discharge from Kackley Springs (5 – 8 cfs) and three major springs in the Cove bypassed reach is 9 – 32 cfs.

Minimum flows in the Grace and Cove bypassed reaches would be influenced by upstream water rights and drought conditions. Minimum flow releases from Grace dam would be 63 cfs and would combine with 40 – 70 cfs produced by leakage from Grace dam and discharge from five major springs in the Grace bypassed reach. A minimum flow release of 63 cfs is 17 cfs lower than the 80 cfs minimum flow release required under the No-Action Alternative. The additional 17 cfs would be available for power generation by the Grace development and would help offset the loss of power produced by the decommissioned Cove development.

It should be noted that all monthly average flows shown for the upstream end of the Grace bypassed reach in Table 2 exceed 63 cfs. The standard deviation associated with monthly average flows exceeds the average for all months, indicating a high level of variance between years. A closer look at the flow data collected at this location from 1981 – 2004 indicates that 173 of 262 monthly average flow values, or 66 percent, are below 63 cfs. Under the No-Action Alternative, 184 of 262 monthly average flow values, or 70 percent, are below the 80 cfs minimum flow release. This assessment indicates that contributions from the Grace forebay to the Grace bypassed reach under the Proposed Action would be slightly less than the No-Action Alternative. However, the 63 cfs minimum flow release associated with the Proposed Action is still much greater than the historical record when no minimum flow requirement was mandated in the Grace bypassed reach.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

PacifiCorp would divert water in excess of 63 cfs to the Grace flowline up to the design capacity of this structure (960 cfs). In general, flows in excess of the minimum flow release (63 cfs) and the flowline capacity (960 cfs) would spill into the Grace bypassed reach. A review of historical flow data indicates that inflow to the Grace flowline has exceeded the design capacity about 30 percent of the time, based on monthly averages (FERC 2003a).

Removal of the Cove dam would result in run-of-river flows in the Bear River channel below this point. Total flow in the Cove bypassed reach would be the total discharge from the Grace flowline, the Grace bypassed reach (minus diversion to the Gentile Valley canal), Kackley Springs (5 – 8 cfs), and the three major springs in the Cove bypassed reach. A rough approximation of flows in the Cove bypassed reach following removal of Cove dam can be obtained by looking at the monthly average flow values shown in Table 2 for the Cove forebay. Additional flow would be added by Kackley Springs (5 – 8 cfs) and three major springs located in the Cove bypassed reach (approximately 4 – 24 cfs). Note again that monthly flow rates in the Cove bypassed reach vary widely between years as represented by the standard deviations shown for each month. Flow variations between years are the result of annual precipitation amounts, irrigation demand and drought cycles.

5.1.2.1.2 Sediment

The plan for decommissioning the Cove Development is a two-stage process that would take place during the fall season when river flows are the lowest. This process is summarized in Section 3.1. The intent of this process is to drain the forebay, remove the dam and associated facilities, and to establish the new river channel with as little sediment transport as possible.

A typical process following dam removal involves incision of sediment previously trapped by the dam and formation of a new equilibrium channel passing though the old impoundment. The amount of incision and rate at which channel incision occur depends upon the height and grain size of sediment fill (Pizzuto 2002). Incision may not occur in sediment fill that is very thin and comprised of large gravel or cobble. In general, sediment fill comprised of sand, cohesive silt, or clay will continue to be incised even during low flow events, whereas incision of gravel materials occurs only during high flow events (Doyle et. al. 2002).

Sediment sampling in the Cove forebay has indicated that impounded material consists of structureless, loose, fine to medium sand with depths ranging from roughly 4 inches to 5 feet (Kleinfelder 2005). The deepest accumulation of this material appears to be located in the deep-water portion of the forebay near the dam and along the southeast shoreline of the forebay. The Bear River would likely begin to form a new channel during the second stage of dewatering the forebay, as water velocity increased at the floor of the forebay. If erosion of the new channel bed occurred below a certain critical depth, bank sloughing and bank erosion would result. This additional material would cause aggradation of the channel bed and eventually develop into mature floodplain features. Some of the processes normally observed during incision through thick sand deposits, such as liquefaction or mass wasting, would likely be absent in the Cove forebay due to the limited depth of sediment. Channel incision would eventually stop or become minimal once the longitudinal profile in the old impoundment reached equilibrium.

The length of time needed for incised channels to achieve equilibrium without human influence is generally considered to span years or even decades. Channel stabilization following dam removal would likely take less time as a result of mechanical efforts to reduce bank sloughing or erosion and stabilize bank surfaces. It is likely that the initial channel formed in the Cove forebay following dam removal would develop in a fairly rapid manner as a result of the low cohesiveness of the accumulated sand deposits.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

A detailed description of dam removal, construction of the new river channel, and grading of forebay sediments can be found in the Removal Plan. Surface grading would remove much of the sediment located in the new channel prior to receiving flows. Coarse gravel and cobble located beneath sand deposits would not be removed through grading in order to provide interstitial space needed for spawning habitat. The newly graded channel bed would consist of a mixture of sand, coarse gravel and cobble. As a result, a certain amount of fine sand would likely remain after grading and be transported downstream during the initial passage of flow in the channel. Erosion of the new channel would continue at a much slower rate over time, until equilibrium had been reached for the entire river segment in the old impoundment.

Sediment transport could occur during two phases; during initial construction of the new river channel and over a longer period from new channel banks and upslope areas. The total amount of sediment transported downstream would ultimately depend upon the correct application, installation and maintenance of the material and structures used to reduce erosion. A specific list of mitigation measures used to minimize sediment transport under the Proposed Action can be found in the Removal Plan. These measures include silt fencing, turf reinforcement mats, erosion control mats, coffer dams, berms, and settling ponds. The effectiveness of such measures is largely dependent on selecting the right erosion control materials then installing and maintaining them correctly. Mitigation suggested in Section 3.1.3.1 calls for specialist assistance in selecting, installing, and monitoring erosion control materials.

If proper precautions are taken during construction of the new channel, including supervision of construction procedures, erosion would be primarily limited to minor amounts of erosion from the new channel bed and sloughing as sediment barriers are moved back during the grading process. The potential for longer term erosion exists if revegetation procedures are not successful along channel banks and upslope areas. Prior to surface grading and removal of forebay sediments, existing topsoil layers covering upland areas west of the forebay would be removed and stockpiled, if required. Areas of graded sediment on the floor of the forebay would then be covered with topsoil or forebay sediment in order to promote successful establishment of vegetation. The total amount of fine material available for sediment transport from the floor of the Cove forebay has been calculated at 18,000 cubic yards (Black and Veatch 2005). Taking into account all mitigation measures used to reduce sediment transport, a conservative estimate of sediment loss and transport under the Proposed Action would be 20 percent of the total available amount or 3,600 cubic yards of sediment.

The Bear River below Cove dam would respond to increased sediment loads during dam removal, and the new flow regime which would restore transport of bedload and suspended material in the Cove bypassed reach. Two conceptual models are generally used to explain patterns of sediment transport following introduction of a one-time sediment source, as would be seen following dam removal. The dispersion model suggests that the sediment source (previously contained by the dam) would decay in place, until the source is eventually removed and spread across downstream river segments. The translation model indicates that accumulated sediment would travel downstream in a wave without a decrease in amplitude (i.e. the bulk of sediment volume would be contained within a limited reach). A combination of both processes is also possible.

Recent studies have shown that the dispersion process should predominate (Lisle et. al. 2001). Dispersion of impounded sediment volumes in the Cove forebay would produce sediment impacts that decreased in severity in both time and distance downstream. The greatest impacts to Bear River morphology would occur in river reaches located immediately downstream from Cove dam. A river reach is generally considered to contain several riffle-pool sequences or roughly 10 – 30 channel widths in length. Initial sediment accumulation would occur primarily in pools and the downstream end of riffles in the fall season following removal of Cove dam. Fine sediment particles would be carried further downstream before falling out of suspension than would coarse particles, which would be deposited nearer to the dam.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

It is likely that all sediment transported from the forebay would be deposited upstream of Oneida Reservoir, with much of the sediment remaining within a few miles of Cove dam. Coarser sediments would become resuspended during higher spring runoff flows that occur each year with some loads eventually reaching Oneida Reservoir.

Disturbance of the Cove forebay floor would produce increased turbidity levels in the Bear River downstream of Cove dam. According to State regulations, any increase in turbidity as a result of activities associated with the Proposed Action, should not exceed background turbidity by more than 50 NTU on an instantaneous basis or more than 25 NTU for more than 10 consecutive days (IDAPA 58 Title 1 Chapter 2 Section 250).

5.1.2.1.3 Total Phosphorus

Total P adsorbed to sediment particles will be transported downstream during the activities described above associated with sediment erosion and transport. Assuming a maximum sediment load of 3,600 cubic yards, sediment bulk density of 2,295 pounds per cubic yard, and an average Total P concentration of 0.011 pound Total P per pound of sediment, the maximum Total P load to downstream reaches is estimated to be about 25 pounds of Total P per cubic yard of sediment or up to 91,000 pounds of Total P.

It is unlikely that phosphorus would be released from sediment loads into a dissolved form that is readily available for algae uptake and use. Phosphorus is bound tightly to sediment during the adsorption process and is typically released only in a low pH environment. Conditions leading to phosphorus release from sediment are not present in the Bear River below Cove dam. However, a small portion of this load could potentially contribute particulate phosphorus to measurements of Total P in surface water samples. The amount of contribution would depend on how long sediment particles remained in suspension within the water column, which is in turn a function of water velocity and sediment particle size. Measurements of sediment texture indicate that the forebay floor consists primarily of fine to medium sand which would tend to settle out of suspension faster than silt or clay-sized particles.

As mentioned previously, the draft TMDL assessment recommends that existing Total P loads delivered to Oneida Reservoir be reduced from a minimum of 7 kg/day (winter season) up to a maximum of 142 kg/day (late spring-early summer season). Based on the nature of phosphorus adsorption to sediment particles, moderately coarse texture of forebay sediments, and distance between the Cove dam and Oneida Reservoir, it is anticipated that removal of the Cove dam under the Proposed Action would not exceed acceptable Total P loads to Oneida Reservoir.

5.1.2.1.4 Contaminants

Concentrations of mercury and selenium adsorbed to sediment particles in the Cove forebay would be transported downstream during removal of the Cove dam and other activities leading to sediment erosion and transport. The amount transported would depend upon the extent of sediment loading that would occur under the Proposed Action, as described above in Section 5.1.2.1.2.

The ultimate location of transported sediments would be dependent upon flow velocity and sediment availability. Due to the anticipated dispersion of sediment and mixing with downstream Bear River flows, the spatial concentration of mercury and selenium downstream of Cove dam would be less than currently found in the Cove forebay floor. Existing sediment deposits in the Cove forebay have accumulated through the history of the Cove dam. Following removal of the dam under the Proposed Action, run-of-river flows would be restored to the Cove bypass reach, allowing sediment loads, along with adsorbed mercury and selenium, to be transported downstream. As mentioned previously, there are no existing fish consumption advisories for the Bear River downstream of Cove dam. As a result, it is anticipated that no adverse impacts would result from release of sediments during dam removal or long-term impacts from transport of ambient sediment loads and the constituents adsorbed to sediment particles.

Table 5. Flow characterization by alternative.

Location	Proposed Action	Interconnect Canal Alternative	Fish Passage Alternative	No-Action Alternative
Grace Bypassed Reach	Minimum instream flow of 63 cfs plus dam leakage. Spring discharge adds 30 cfs-60 cfs to minimum flows in this reach. Flows in bypassed reach are superceded by upstream water rights and could drop below 63 cfs during drought years.	Same as No-Action Alternative	Same as No-Action Alternative	Minimum instream flow of 80 cfs plus dam leakage. Spring discharge adds 30 – 60 cfs to minimum flows in this reach. Flows in bypassed reach are superceded by upstream water rights and could drop below 80 cfs during drought years.
Grace Flowline	Additional 17 cfs available for power generation. No water diverted to flowline if inflow to Grace forebay is less than 63 cfs. Inflows above 63 cfs can be diverted to flowline up to design capacity of 960 cfs. Past records indicate design capacity exceeded 30% of the time, based on monthly averages.	Same as No-Action Alternative	Same as No-Action Alternative	No water diverted to flowline if inflow to Grace forebay is less than 80 cfs. Inflows above 80 cfs can be diverted to flowline up to design capacity of 960 cfs.
Gentile Diversion	Same as No-Action Alternative	Same as No-Action Alternative	Same as No-Action Alternative	Diversion up to 35 cfs April 20th – Oct 1st. Additional water would be released from Grace dam to meet water right during drought years.
Cove Forebay	Forebay eliminated following removal of Cove dam and flume. Flows at this location would be run-of-river.	Cove dam removed. Weir constructed to divert up to 267 cfs into Interconnect canal. No water diverted to canal until minimum flow release is met.	Fish ladder(s) constructed around Cove dam to facilitate fish passage. Barriers constructed at Grace and Cove tailrace locations to prevent fish migration into tailrace.	Existing facility configuration and operating regime of Cove Project would remain the same. Cove dam would remain in place,
Cove Bypassed Reach	No minimum flow release, but far greater than other alternatives due to irrigation flows coming downriver, except in low flow conditons. Spring discharge would provide about 9 – 32 cfs beyond run-of-river. Flows during irrigation season would be sum of discharge from Grace flowline, Bear River flows below Gentile Diversion, and discharge from Kackley Springs and 3 major springs in Cove bypassed reach. Upstream water rights could reduce flow to spring discharge contributions during drought years.	Minimum flow release of 10 cfs (Oct.-Mar.) and 35 cfs (Apr. – Sept.) from weir.	Same as No-Action Alternative	Minimum flow release of 10 cfs (October – March) and 35 cfs (April – September) from Cove dam. Dam leakage plus spring discharge would contribute an additional 10 – 30 cfs. The 10 – 35 cfs minimum flow release would be influenced by upstream water rights during drought years.
Cove Flume	Cove flume decommissioned, no water diverted for power generation.	Flow in Cove flume delivered through interconnect canal. The canal would receive water from Grace flowline and up to	Same as No-Action Alternative	Cove flume rehabilitated in accordance with the Project license. No water diverted to flume if inflow to Cove forebay is less than minimum flow

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

		267 cfs diverted by weir. No water diverted to canal until minimum flow release is met.		release. Inflows above minimum flow release can be diverted to flume up to design capacity of 1,227 cfs.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

5.1.2.2 Interconnect Canal Alternative

5.1.2.2.1 Flow

This alternative would affect flows between the Grace tailrace and the Cove intake, basically replacing the dam and forebay with an interconnect canal. It would not alter flows in the bypassed reaches

The hydraulic capacity of the Grace flowline is 960 cfs, less than the 1,227 cfs capacity of the Cove flume. To recapture the resulting potential loss in power generation by the Cove powerhouse, a small diversion weir would be constructed across the Bear River approximately 200 feet to 300 feet upstream from the Grace tailrace. This weir would divert up to 267 cfs to the interconnect canal for conveyance, with the 960 cfs from the Grace powerhouse, to the Cove powerhouse, equaling its maximum hydraulic capacity. The weir would be constructed in a manner to provide for minimum flow releases of 10 cfs and 35 cfs below this point. A small forebay created by the diversion weir would have a water surface level at the weir crest to direct 10 cfs to an adjacent fish ladder, thus meeting the minimum flow release. The remaining flow, up to 267 cfs, would be diverted to the Cove intake structure for power generation. During April-September when the 35 cfs minimum release is in effect, the forebay level would be allowed to rise and spill over the weir. A flow control gate located at the upstream end of the interconnect canal would insure that minimum flow releases were met by controlling the level of the forebay.

Flow in the Grace bypassed reach would be identical to that found under the No-Action Alternative. The minimum flow release from Grace dam would be 80 cfs or inflow, whichever was less. This flow release would add to existing flow contributions plus dam leakage in the Grace bypassed reach, which are estimated at 40 – 70 cfs (FERC 2003a). Flow in the Cove bypassed reach would also be identical to projections under the No-Action Alternative. Minimum flow release of 10 cfs (Oct.-Mar.) and 35 cfs (Apr. – Sept.) would occur from the weir described above.

5.1.2.2.2 Sediment

This alternative would involve sediment impacts associated with removal of Cove dam and construction of the weir providing inflows to the Cove flume. Sediment impacts associated with removal of Cove dam under this alternative would be similar to those listed above under the Proposed Action. The weir would be located approximately 200 – 300 feet upstream from the confluence of the Grace tailrace and the Bear River. It would be a 4-foot high, rock-filled structure spanning the Bear River channel (approximately 150 feet in length). Construction of the weir would disturb the channel bottom at this location and produce a limited amount of sediment loading to river segments below Cove dam. Any increases in turbidity as a result of activities associated with this alternative would not exceed background turbidity by more than 50 NTU on an instantaneous basis or more than 25 NTU for more than 10 consecutive days (IDAPA 58 Title 1 Chapter 2 Section 250).

No sediment impacts on the Bear River would be created during construction of the interconnect canal itself as this would occur in the dry after the forebay had been dewatered.

5.1.2.2.3 Total Phosphorus

Contributions of Total P to the Bear River below the Cove forebay under the Interconnect Canal alternative would be similar to those described above under the Proposed Action. Dewatering the Cove forebay and removal of Cove dam would contribute sediment from the forebay floor and Total P adsorbed to these particles. Delivery of all Total P loads associated with the Interconnect Alternative would occur over a limited time period coinciding with the removal of Cove dam and construction of the canal.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

5.1.2.2.4 Contaminants
Sediment loads generated from the floor of the Cove forebay during dewatering and removal of Cove dam would contain adsorbed mercury and selenium. Distribution of these loads and subsequent impacts would be similar to those described under the Proposed Action. Delivery of mercury and selenium associated with the Interconnect Alternative would occur over a limited time period coinciding with the removal of Cove dam and construction of the canal.

5.1.2.3 Fish Passage Alternative

5.1.2.3.1 Flow
This alternative would do nothing to affect flows in the project area. Flows in the Grace and Cove bypassed reaches would be the same as under the No-Action Alternative. Minimum flow released from Grace dam would be 80 cfs. Construction of the fish ladder around Cove dam would be designed to provide a base flow of 10 cfs that would meet the minimum flow release from October – March. During April – September, the remaining 25 cfs would be provided by an auxiliary water supply (AWS) to provide additional flow at the base of the ladder and meet the 35 cfs minimum release required through this period. Use of the AWS would reduce construction costs of the fish ladder and provide a means for meeting the minimum release when the fish ladder is out of service for maintenance. No alterations to flow in the Grace and Cove bypassed reaches would result from construction of any of the other developments associated with this alternative.

5.1.2.3.2 Sediment
Construction of three temporary cofferdams would occur under this alternative to allow placement of tailrace barriers on the Grace flowline and Cove flume and a fish screen on the upstream end of the Cove flume intake. Placement of the cofferdams would occur in the wet, and each structure would be covered with a synthetic liner on the upstream end to provide a seepage barrier. Material used to create the cofferdams would provide a temporary source of sediment loading to downstream segments of the Bear River. Sediment loads from the cofferdam at the Grace tailrace and the Cove flume intake would be reduced slightly from dispersion and settling as flows passed through the Cove forebay. Any increases in turbidity as a result of construction and removal of the temporary cofferdams would not exceed background turbidity by more than 50 NTU on an instantaneous basis or more than 25 NTU for more than 10 consecutive days (IDAPA 58 Title 1 Chapter 2 Section 250).

5.1.2.3.3 Total Phosphorus
No contributions of Total P from sediments contained on the floor of the Cove forebay would occur under this alternative. Cove dam would remain in the current location and continue to trap a portion of the sediment material and adsorbed Total P transported by Bear River flows through the Grace bypass reach and discharge from the Grace flowline.

5.1.2.3.4 Contaminants
No contributions of mercury or selenium adsorbed to sediment material from the Cove forebay floor would occur under this alternative. Cove dam would remain in the current location and continue to trap a portion of sediment material and adsorbed mercury and selenium transported by inflows to the Cove forebay.

5.1.2.4 No-Action Alternative

5.1.2.4.1 Flow
Flow in the Grace bypassed reach would be supported by the minimum flow release of 80 cfs from Grace dam or inflow, whichever is less, as called for by the Project license. Additional flow of 40 – 70 cfs

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

would be provided by dam leakage and discharge from five major springs. Flow in the Cove bypassed reach would be supplemented by the minimum flow release from Cove dam of 10 cfs or inflow, during October-March and 35 cfs or inflow, during April-September. Additional flow of 10 – 30 cfs in the Cove bypassed reach would be provided by dam leakage and discharge from three major springs. Achieving the minimum flow release to the Grace and Cove bypassed reaches during drought years would ultimately depend on the flow remaining after irrigation demands have been met.

5.1.2.4.2 Sediment

The Cove dam and forebay would remain in place under the No-Action Alternative. No additional sediment loading associated with construction and development would occur under this alternative. The Cove dam would continue to remove a minimal amount of sediment from inflowing waters. It is noted that the Cove forebay is not considered a good sediment trap due to reservoirs upstream, substrate in Black Canyon, and the brief residence time of water in the reservoir (ECC 2005).

5.1.2.4.3 Total Phosphorus

No transport of Total P adsorbed to sediments from the Cove forebay to downstream reaches would occur under the No-Action Alternative.

5.1.2.4.4 Contaminants

No transport of mercury or selenium adsorbed to sediments from the Cove forebay to downstream reaches would occur under the No-Action Alternative.

5.1.2.5 Cumulative Effects

Several activities have been identified as having potential cumulative effects to flow and water quality in the project area including the Bear River draft TMDL (ERI 2005) and certain agreements associated with the Project license. These activities include the following:

- The Bear River draft TMDL has recommended load reductions for the Bear River above Oneida Reservoir ranging from 7 kg/day (winter season) to 142 kg/day (late spring-early summer season). No specific time frame has been proposed for meeting these load reductions due to the uncertainty associated with modifying agency operations that influence water quality on public lands or voluntary cooperation from private landowners. However, the TMDL indicates that substantial progress toward water quality goals should be evident within 10 years.

- Article 405: Restoration of aquatic and riparian habitat for Bonneville cutthroat trout and other wildlife resources.

- Article 406: Acquisition of land and water rights in the project area.

- Article 408: Release of minimum flows from Grace dam and Cove dam in order to improve aquatic and riparian resources in the Grace bypassed reach and Cove bypassed reach.

- Article 410: Modification of discharge from Kackley Springs in order to benefit aquatic resources in the Bear River.

- Article 413: Water quality monitoring at selected sites below Grace dam to investigate the effect of whitewater flow releases from Grace dam on channel substrate in Black Canyon. The effects of minimum flow releases on fish population composition and distribution will also be investigated.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

- Article 416: Development of recreational facilities along the Grace bypassed reach associated with whitewater boating.

- Article 419: Release of additional flows from Grace dam to enhance whitewater boating opportunities in Black Canyon. These flows will range from 700 cfs to 1,500 cfs depending on inflow forecasts by March 1 of each year.

- Article 424, 425 and 426: Development of a Land Management Plan designed to reduce grazing impacts on aquatic and riparian resources through establishment of shoreline buffer zones on PacifiCorp lands including specific measures for the Cove bypass reach. PacifiCorp will contribute to construction and maintenance of fence lines for all private landowners in the Cove bypass reach willing to participate in this program.

- Article 427: Improvement of public access for recreational purposes, including river access for fishing, boating, and picnicking.

Articles 406, 408, 410, and 419 would provide beneficial cumulative effects to flows in the Bear River in combination with removal of Cove Dam under the Proposed Action. These beneficial effects would be in the form of increased flows along the Grace and Cove bypassed reaches that would provide support to aquatic and riparian resources. Removal of Cove dam would provide run-of-river conditions in the Cove bypassed reach, allowing the full benefit of increased flows to be experienced in this river segment.

The Bear River draft TMDL and Articles 405, 413, 424, 425, and 426 would provide beneficial cumulative effects on water quality in the Bear River. These improvements would come in the form of reduced non-point source loads delivered to segments of the Bear River upstream, within, and downstream of the project area. Water quality monitoring recommended under Article 413 would provide on-going measurements of sediment and Total P above the Cove forebay area and would indicate if release of whitewater flows produce negative impacts in terms of sediment delivery and stability of channel substrate.

Articles 416 and 427 would provide increased recreational access to portions of Black Canyon above the project area.

It is anticipated that overall, the cumulative effect of the activities listed above will be beneficial and serve to improve and stabilize the health of the Bear River corridor with respect to flow and water quality.

5.2 Fisheries and Aquatic Resources

The following fisheries and aquatic resource issues were determined to require detailed analysis in this report (Section 4.1.3):

- *Would the aquatic ecosystem be affected by modification of facilities or flows?*

  When the Cove Development is in operation, the river system is disconnected between the Cove dam and the Cove tailrace and flows are reduced in the bypassed reach. This creates a barrier to the movement of aquatic species and limits the quality of aquatic habitat in the bypassed reach. In addition, dam removal and other facilities modifications could impact water quality, at least in the short term, and thereby affect the downstream aquatic ecosystem.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

- *Would BCT restoration efforts be affected?*

  The BCT, a native fish species in the Bear River system, is currently a state-listed "species of special concern." The Cove Development blocks BCT migration and spawning movement, and the bypassed reach could potentially support BCT. Restoring and enhancing the fish's habitat is a primary stipulation of the Bear River Settlement Agreement and of high priority to the stakeholders.

- *Would native fish species other than the BCT be affected?*

  Other native, cold-water fish species in the project area other than the BCT are impacted by the lack of river connectivity. Modification of the Cove facilities could affect fish passage. In addition, alteration of fish habitat in the bypassed reach may affect native fish populations.

- *Would the upstream dispersal of walleye and smallmouth bass be affected?*

  Walleye and smallmouth bass are known to occur below the Cove dam, which currently serves as a barrier to upstream dispersal. If this barrier to upstream reaches were removed, potential dispersal of non-native cool-water species could potentially undermine BCT restoration efforts and impact other native aquatic populations.

5.2.1 AFFECTED ENVIRONMENT

5.2.1.1 Aquatic Ecosystem

The aquatic resources and ecosystem in the Bear River basin have been adversely affected by a variety of activities associated with settlement and development of the basin, including land use practices and water resource developments.

Agricultural diversions have affected the availability of coldwater habitat by reducing stream flows and contributing warm water from agricultural returns. Sediment inputs from agricultural sources, reductions in flushing flows caused by storage of irrigation water in Bear Lake, and interruption of sediment transport caused by numerous dams have reduced the availability of silt-free gravel substrates available for use by spawning salmonids.

The primary effects of the Cove Development on aquatic resources include inundation of riverine habitat, blockage of fish migrations, entrainment and turbine mortality, flow fluctuations associated with project operations and the delivery of irrigation water, and reduced flows in the bypassed reaches.

At present, the waters in the Cove Development area support a mixture of species including non-native brown trout, rainbow trout, common carp, smallmouth bass, yellow perch, walleye, and mountain sucker. Native fishes include the Bonneville cutthroat trout, mountain whitefish, Utah sucker, redside shiner, mottled sculpin, and Paiute sculpin.

5.2.1.2 Bonneville Cutthroat Trout

The BCT (*Oncorhynchus clarki utah*) is a coldwater fish native to the Bear River drainage. In general, declines of native cutthroat trout populations have been evident throughout the Intermountain West with only a few populations remaining. Factors that lead to these declines include habitat degradation, hybridization, and competition with non-native species (Behnke 1992). Numerous dams and diversions have blocked migration paths and caused losses through entrainment, which have reduced the abundance and curtailed migratory life history strategies of BCT and other native fish species. Overharvest and

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

introductions of non-native species of trout have also been identified as factors that contributed to the decline of BCT.

Although the BCT is not currently federally listed by the USFWS under the Endangered Species Act, the American Fisheries Society (AFS) designated the native BCT as "threatened" throughout its range in 1979. This species was reclassified in 1989 as "endangered." The U.S. Forest Service has designated BCT as a sensitive species, and the State of Idaho considers it a "species of special concern".

The primary goal of the conservation agreement and strategy for BCT is to ensure the long-term existence of this species within its historic range by coordinating conservation efforts among government agencies and interested parties. This strategy is organized so that jurisdictional and ecological boundaries can be recognized. Five Geographic Management Units (GMU) have been designated for BCT conservation. The Cove Development is located within the Bear River GMU (Lentsch et al 2000). Further, protection and restoration of the BCT are key issues to the Bear River Settlement Agreement and the *Bonneville Cutthroat Trout Restoration Study Plan* (ECC 2004).

The current distribution of BCT in the State of Idaho is limited to the Bear River drainage. This species occurs in many tributaries of the Bear River upstream of Soda dam and in Bear Lake. BCT is present in Cottonwood Creek (located upstream of the Oneida Project), Mink Creek (located downstream of the Oneida Project), and Birch Creek (a tributary of Mink Creek). This species is also known to occur in Dry, Foster, Sugar, and Maple creeks, and in the Cub River, in the section between Soda dam and the Utah border (FERC 2003a). PacifiCorp's studies have not documented the presence of BCT in the Cove Development area. However, this species may seasonally occur in the Grace bypassed and Cove reaches (the Cove reach is the segment of the Bear River that extends from the Cove powerhouse to the upstream end of the Oneida Reservoir; FERC 2003a).

5.2.1.3 Other Native Fishes

Mountain whitefish, a member of the salmon and trout family, is native to the western U.S. and western Canada. This species prefers cold mountain lakes and streams with high oxygen concentrations. Within the Cove project vicinity, this species is present in the Grace bypassed and the Cove reach (FERC 2003a).

The redside shiner is a minnow native to southwestern Canada and the western U.S. This species is native to the Bonneville basin. In Idaho, this species is found in all major river systems. It prefers ponds, lakes, ditches, springs, sloughs, and rivers where the current is slow or absent, the predominant substrate is sand or mud, and vegetation is abundant. Within the Cove Development area this species is found in the Cove forebay and the Grace bypassed reach (FERC 2003a).

Also native to the Bonneville basin, the Utah sucker is capable of adapting to many different environmental conditions in streams and lakes. The presence of this species has been documented at the Grace and Cove forebays (FERC 2003a).

Mottled and Paiute sculpins are native to parts of Idaho, Utah, and other western states. In Idaho, mottled sculpin are found in the Snake River and tributaries above Shoshone Falls, the Bear River basin, and the Clearwater and Salmon rivers and some of their tributaries. They prefer cool, clear streams with moderate to rapid current and are associated with rubble, gravel, or rocky bottoms. They seldom are found in silted areas. Paiute sculpin is found in the Clearwater drainage, the Snake River above Shoshone Falls, the Bear River system, and the Big Lost River system. This species inhabits streams with slight to moderate current and is found in riffle areas among rubble or large gravel; it also occurs in lakes. Both species occur in the Grace bypassed and Cove reaches (FERC 2003a).

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

5.2.1.4 Walleye, Smallmouth Bass and Other Non-Native Species

Non-native fishes, in general, are currently known to occur throughout the Cove Development. The Cove forebay and Grace bypassed reach support common carp, yellow perch, brown trout, and rainbow trout populations (FERC 2003a). The Grace bypassed reach supports primarily adult and juvenile rainbow trout that are either stocked by IDFG or escape into the reach from a private trout farm. Relicensing studies indicated that most of the game fishes were located in the lower half of the reach, in the vicinity of the springs (FERC 2003a). However, beginning in May of 2005, IDFG decided to stock the entire reach by planting rainbow trout below Grace Dam, to create a fishery given the new minimum flows in the Grace bypass reach.

Sampling conducted by PacifiCorp in 2001 of the Cove bypassed reach found no game fish, but earlier studies documented the presence of smallmouth bass, brown trout, and rainbow trout (FERC 2003a). It is thought that since 2003, unregulated flows may result in smallmouth bass and walleye dispersal into the Cove bypassed reach and up to the Cove Dam (ECC 2005).

In general, exotic species are known to negatively affect native fish populations. Walleye, smallmouth bass, and brown trout are largely piscivorous as adults (they eat other fish). For this reason, they can have negative impacts on native and non-native fish species. Walleye inhabit both rivers and lakes and tolerate cool to warm water temperatures. Rainbow trout directly and indirectly compete with native BCT. Brown trout are also more tolerant of warm water temperatures than Idaho's native trout species. Yellow perch can tolerate cool and warm water temperatures. In some systems perch provide both fishing opportunity for anglers and food for other larger fish species such as walleye. Common carp prefer warm, moderately shallow water of streams, rivers, natural lakes, and man-made impoundments where aquatic vegetation is abundant. Carp tolerate turbid, polluted waters with low dissolved oxygen, and are generally considered undesirable because they disturb sediments while feeding, cause additional siltation, turbidity, and a negative impact on native fish species.

5.2.2 Environmental Consequences

5.2.2.1 Proposed Action

The Proposed Action will reconnect over 1.5 miles of the Bear River from the Cove tailrace through the Grace tailrace, improving fish passage through the Bear River system. The Gentile Valley diversion will remain and continue to redirect up to 35 cfs into a canal just upstream of the Cove forebay, potentially inhibiting upstream migrants from continuing into the Black Canyon.

5.2.2.1.2 Aquatic Ecosystem

In general, impacts of dams on aquatic ecosystems include the alteration of natural flow cycles, transformation of physical and biological characteristics of the river channel and the flood plain, and the fragmentation of the river continuity. Ecological effects of dam removal include changes in the fluctuation and magnitude of stream flows, water temperature, sediment transport, and connectivity. Flows in impounded rivers generally experience short-term variations (i.e., daily, weekly) while long-term variations are reflected in the dampening of large or seasonal floods and the elevation of low flows due to variations in power or water consumption. Regulated flows have been associated with decreased aquatic diversity.

Slowing flow behind the dam leads to temperature changes within the reservoir and downstream. Temperature stratification can occur within the reservoir. Whether warm or cold water is released, changes in downstream temperatures eliminate or shift the composition of species adapted to natural water temperatures. Warm water temperatures can act as a thermal barrier to movement for species such as trout.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Sediment transport is also affected by pooling or slowing flow behind the dam. Larger sediments settling in the inflow of the reservoir result in aggradation (raising of the streambed) upstream of the dam, while fine particles accumulate closer to the dam. These processes of sediment retention can cause sediment-low water to be released downstream limiting the sediments, and in some cases nutrients, available for organisms. Further, dams fragment the river in several ways including the isolation of population and habitats, creation of physical and thermal obstructions for migrating and drifting organisms, and the disruption of terrestrial and aquatic interactions (see Bednarek 2001, Poff and Hard 2002).

Restoration of run-of-river flows in the Cove bypassed reach (about 1.7 miles of the Bear River channel below the dam site) would occur with the implementation of the Proposed Action. Increases in seasonal flows and fluctuations could improve sediment transport and allow for silt-free gravel substrates. After the decommissioning activities are completed, fine sediments would be mobilized from the slow-moving reservoir and redistributed, exposing the larger substrates (i.e., gravel, cobble, and boulders) from the previously impounded area. In the long term, this would enhance potential trout spawning areas and aquatic invertebrate production.

Substrate and spawning beds would potentially be affected by decreased minimum flows in the Grace bypassed reach (80 to 63 cfs). While there is currently little empirical data, existing knowledge would suggest that a reduction in flows from 80 cfs to 63 cfs would not significantly impact aquatic resources (ECC 2005; IDEQ 2004). Physical data collected from Black Canyon suggests that there should be an increase in good habitat in the Cove reach due to full flow conditions. Currently, 10 or 35 cfs are required by the Project license (ECC 2005).

Removal of the dam could temporarily increase downstream sediment loads, affecting substrates and fish habitat in the Cove bypassed reach. An increase in sediment supply downstream could be observed at a reach scale (i.e., length of stream that contains several pool-riffle sequences). Increased sediment loads can cause suffocation and abrasion of various biota and habitat (Bednarek 2001). Other impacts may include disturbance of pools and riffles, burial of coarse-grained riffles by finer sediment, and modification of bedforms (Hart et al 2002, Pizzuto 2002). The rate and pattern of sediment transport can vary. Although short-term impacts from increased sediment loads are anticipated, the time frame for the relocation of sediments could range from months to years depending on the amount and type of sediment, channel slope, and flow magnitude (Bednarek 2001).

The principal effect of dam removal upstream would be the biotic response related to the restoration of connectivity. Once the dam was removed, migratory fauna could colonize both the previously impounded area and upstream reaches. This movement would allow nutrient transport and increase the potential for genetic exchanges. The restoration of connectivity could also lead to the reduction of fauna that formerly occurred upstream from the impoundment (e.g., lentic species). Geomorphic processes should be dominated by the evolution of the channel as it incises into the sediments trapped in the impoundment (Hart et al 2002). In addition, the removal of the dam would eliminate the need for a fish passage structure, thus precluding the potential of fish mortality or injury in passage mechanisms (i.e., fish ladders). Under the Proposed Action, aquatic resources would not be significantly impacted.

5.2.2.1.2 BCT

It is unlikely that the temporary increase in sediment loads caused by decommissioning activities would affect BCT populations. As stated above, BCT occur in tributaries of the Bear River upstream of Soda dam and in Bear Lake. Although BCT are believed to use the mainstem of the Bear River seasonally, fish surveys have not documented the presence of this species in the section of the Bear River that flows through the Cove Development (FERC 2003a).

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Implementation of this alternative would enhance the potential of fish passage through this section of the Bear River. Lentch et. al. (2000) stated that current efforts to recover BCT have been aimed toward the improvement of instream conditions and the restoration of stream fragments, and highlighted the need to re-establish population connectivity to minimize risks to BCT over long temporal scales. This alternative would not only improve habitat and flow conditions in the section currently impounded and in downstream reaches, but would also enhance connectivity to upstream reaches.

A biological limitation for BCT populations is the presence of exotic species. The occurrence of other salmonids (i.e., brown trout, rainbow trout) in the project area has been documented (FERC 2003a). These species may complete directly for food and space with BCT and limit success of restoration efforts. Further, species such as walleye and smallmouth bass that also occur in the project area not only are adapted to cool/warm water temperatures but are also predators of salmonids in streams and lakes where they coexist (Baldwin et. al. 2003, Fritts and Pearsons 2004).

High summer water temperatures in this area (14 to 22 °C) may not pose a limitation for the use of the mainstem section by adult BCT. Laboratory experiments have indicated that 24.2°C is the estimated 7-day incipient lethal temperature for this species, and that mortality occurs at temperature over 25°C (Johnstone and Rahel 2003). These experiments indicated that fish survived 7-day exposures to a diel cycle of 16 to 26°C despite a daily-6-hour exposure to temperatures higher than 24 °C. However, the recommended temperatures for cutthroat trout spawning range from 6 to 17 °C. Elevated water temperatures in the Cove Development area may limit the potential for BCT spawning. Further, high water temperatures could act as thermal barrier to upstream BCT migration if fish prefer to use tributaries that may present lower water temperatures. Based on this analysis, BCT would not be significantly affected by the Proposed Action.

5.2.2.1.3 Other Native Fishes

The temporary increase in sediment loads caused by decommissioning activities would not affect mountain whitefish, redside shiners, and mottled and Paiute sculpins that that are present above the Cove dam. However, this temporary disturbance could affect mountain whitefish and sculpins that occur in the Cove reach. In the short term, implementation of the Proposed Action would likely impact Utah suckers that are present in the Cove forebay. Utah suckers are capable of adapting to different types of environmental conditions and could persist after decommissioning activities were completed.

Utah suckers and mountain whitefish that may be present in the Cove reach could expand their habitat to upstream reaches following the removal of the dam. Similarly, other native species (i.e., mountain whitefish, redside shiners, and sculpins) that occur in the Grace bypassed reach could have access to the downstream reaches after decommissioning activities were completed. A potential limitation on these native species is the presence of walleye and smallmouth bass due to their predatory feeding behavior. However, decommissioning the Cove Development on the whole would not significantly impact non-BCT native fishes.

5.2.2.1.4 Walleye, Smallmouth Bass and Other Non-Native Species

The short-term increase in sediment loads could affect non-native species such as walleye and smallmouth bass that may occur in downstream reaches. However, after decommissioning activities were completed and sediments were relocated, the general shift from lentic (stillwater) to lotic (flowing water) would likely benefit these species. It is possible that since 2003, unregulated flows have allowed smallmouth and walleye dispersal into the Cove bypassed reach and up to the Cove dam (ECC 2005). Implementation of the Proposed Action could allow these species to disperse into the Grace bypassed reach thus affecting native and stocked fish populations in this reach.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Common carp would likely be unaffected by increased sediment loads as this species tolerate high levels of turbidity. However, in the long term, improvements in flow, temperature, and sediment composition could lead to a reduction in the abundance and distribution of this species. Overall, the non-native fishes would not be significantly affected by the Proposed Action.

5.2.2.2 Interconnect Canal Alternative

This alternative would channel water directly from the Grace tailrace to the Cove intake allowing direct water flow between these structures. This connection would make the Cove dam superfluous to the system and would allow its removal.

5.2.2.2.1 Aquatic Ecosystem

This alternative would result in connectivity of the Bear River through the current Cove impoundment area and improved fish passage. However, while aquatic habitat in the stream section currently impounded may improve over time with the implementation of this alternative, remaining flows through the reach (10-35 cfs minimum required by Project License) would not allow improvement at the scale of the proposed action the Proposed Action.

As with the implementation of the Proposed Action, removal of the Cove dam would temporarily increase sediment loads during the removal process. Increased sediment loads could affect substrate composition, invertebrate production, and fish habitat in lower reaches, particularly the Cove bypassed reach.

The interconnect canal would improve run-of-river flows to the Cove bypassed reach. Increases in seasonal flows and fluctuations, and improvements in sediment transportation would be expected. These improvements would contribute to the enhancement of potential trout spawning areas and aquatic invertebrate production in downstream reaches. However, unlike the Proposed Action, implementation of this alternative would include the construction of a diversion weir across the Bear River that would likely pose a limitation to the transportation of larger sediment (i.e., gravel, cobble). A fish ladder would be provided at the left abutment of the diversion weir, consisting of a series of small concrete weirs with vertical slots sized to pass 10 cfs. It would have five pools with a 0.75-foot step between pools. A diversion weir would divert available additional river flow to an intake structure located along the left bank of the river. An intake would include inclined fish screens suitable for screening fingerling trout providing an 0.8 fps approach velocity to the intake to avoid impingement of fingerling trout on the fish screens. Some fish mortality or injury would be expected in the fish ladder, which in turn would reduce the odds of successful reproduction. In addition, the fish screens that would be required on the intake structure would pose a threat to fingerling trout. On the whole, the aquatic ecosystem would not be significantly affected by the Interconnect Canal Alternative.

5.2.2.2.2 BCT

It is unlikely that the temporary increase in sediment loads caused by dam removal, canal construction, and relocation of sediments would affect BCT populations. As stated above, BCT occur in tributaries of the Bear River upstream of Soda dam and in Bear Lake. Although BCT are believed to use the mainstem of the Bear River seasonally, fish surveys have not documented the presence of this species in the section of the Bear River that flows through the Cove Development (FERC 2003a).

The implementation of this alternative would enhance the potential of fish passage through this section of the Bear River. As with the Proposed Action, this alternative would not only improve habitat and flow conditions in the section currently impounded and in downstream reaches, but would also enhance connectivity to upstream reaches. However, the construction of a fish ladder and the placement of fish screens on the intake structure to avoid impingement of fingerling and migrant trout, could limit movement and lead to some mortality in juveniles and adult fish.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

High summer water temperatures in this area (14 to 22 °C) may not pose a limitation on the use of the mainstem section by adult BCT. As stated above, the 7-day incipient lethal temperature for BCT is 24 °C (Johnstone and Rahel 2003). High water temperatures in the Cove Development area may continue to limit the potential for BCT spawning to the use of colder tributaries instead of the mainstem , but removal of the dam could potentially improve water temperature.

As with the Proposed Action, BCT restoration efforts could be limited by the presence of exotic species. Other salmonids (i.e., brown trout, rainbow trout) that occur in the project area may have the competitive advantage. Further, species such as walleye and smallmouth bass that are present below the Cove dam not only are adapted to the water temperatures present in the this area but also prey on salmonids (Baldwin et. al. 2003, Fritts and Pearsons 2004). It is anticipated that this alternative would not significantly affect BCT.

5.2.2.2.3 Other Native Fishes

The temporary increase in sediment loads caused by dam removal, canal construction , and relocation of sediments would not affect mountain whitefish, redside shiners, and mottled and Paiute sculpins that occur above the Cove dam. In the short-term, the temporary increase in sediment loads could impact mountain whitefish and sculpins that occur in the Cove reach. The magnitude of the impact and how soon these species would recover would depend on the sediment particle size, total sediment volume, and water velocity. Implementation of this alternative would likely impact Utah suckers that are present in the Cove forebay. Utah suckers are capable of adapting to different types of environmental conditions, therefore populations would likely remain in the re-established channel. Increases in seasonal flows and fluctuations, and improvements in sediment transport that would result from the interconnect canal, would likely improve fish habitat in reaches located below the Cove dam. These long-term effects may improve habitat for whitefish, sculpins, and Utah suckers that occur in the Cove bypassed reach.

Utah suckers and mountain whitefish that may be present in the Cove reach could extend their movements through the system following removal of the dam and construction of the fish ladder. However, this fish passage structure could limit the movement of juvenile fish and could lead to injury and/or stress of adults. They could be exposed to higher risk of disease as a result.

Implementation of this alternative would allow the downstream movement of other native species (i.e., mountain whitefish, redside shiners, and sculpins) that occur in the Grace bypassed reach. The fish screens that would be placed in the intake structure could lead to an increased risk of injury and/or mortality of juveniles. Further, the potential occurrence of predatory fish (i.e., walleye and smallmouth bass) would pose a limitation for native species. However, based on this analysis, non-BCT native fishes would not be significantly affected by the Interconnect Canal.

5.2.2.2.4 Walleye, Smallmouth Bass, and Other Non-Native Species

The short-term increase in sediment loads due to dam removal, canal construction and sediment relocation could affect non-native species such as walleye and smallmouth bass that may occur in downstream reaches. As stated above, it is possible that unregulated flows since 2003 may have led to dispersal of these species into the Cove bypassed reach and up to the Cove dam (ECC 2005). Therefore, implementation of this alternative could lead to the colonization of upstream reaches by these species. Native and stocked fish populations that occur in the Grace bypassed reach could face detrimental effects due to the predatory behavior of both walleye and smallmouth bass.

Common carp would likely be unaffected by increased sediment loads as this species tolerates high levels of turbidity. However, in the long term, improvements in flow, temperature, and sediment composition could lead to a reduction in the abundance and distribution of this species. The Interconnect Canal would not significantly impact walleye, smallmouth bass or other non-native fish species.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

5.2.2.3 Fish Passage Alternative

Fish passage facilities included in this alternative would provide for upstream and downstream movement by fish in the Cove Development area. The barrier at the confluence of the Cove tailrace and the Bear River would stop migration of fish up the tailrace and assist in migration upstream. The effectiveness of fish ladders in providing fish passage over the dam is uncertain.

5.2.2.3.1 Aquatic Ecosystem

Because of the longevity of the dam, the channel and the species that occur in it are likely adjusted to the altered hydrologic and sediment transport regimes. The construction of the fish ladder would not constitute a major disturbance of this quasi-adjusted fluvial system. The physical obstruction of the dam would continue under this alternative. This obstruction would not allow the impounded section of the river to return to its previous lotic (flowing water) condition; no shift from still water to flowing water would occur. Consequently, the effect of the dam on aquatic ecosystems would continue. Effects of the physical obstruction include the alteration of flow cycles, temperature changes, disruption of sediment movement, and the fragmentation of the river corridor. The construction of a fish passage structure could improve the potential for upstream fish migration but would not eliminate all the problems associated with fish passage and migration.

The dam would continue to slow flow behind the dam leading to temperature changes within the reservoir and downstream. Warm water temperatures would continue to reduce the potential for migration of cold water species. Larger sediments would likely continue to settle in the inflow of the reservoir resulting in further aggradation (raising of the streambed) upstream of the dam. Fine particles would continue to accumulate in the Cove forebay. Sediment-low water would continue to be released downstream from the dam limiting the sediments available for organisms (e.g., invertebrates, fish). For these reasons, this alternative could pose limitations to potential future BCT restoration efforts, but would not significantly affect the aquatic ecosystem.

5.2.2.3.2 BCT

One of the goals of BCT restoration efforts is to re-establish population connectivity in order to minimize risks to BCT over long temporal scales. The construction of a fish ladder at the Cove dam could improve the fish passage to upstream reaches. This structure could enhance migration of native BCT that are believed to use the Grace and Cove bypassed reaches seasonally. However, the effectiveness of this ladder in allowing fish passage is uncertain as stress and mortality can occur in these types of structures.

This alternative would not lead to improvements in habitat, flow, temperature, and sediment conditions. Increases in flow and flow fluctuations suitable for trout migration, spawning, and rearing would not be expected. High summer water temperatures would continue to pose a limitation on the use of the Cove Development area by BCT as this species prefers cold water. Further, substrates that are required by this species for spawning and incubating embryos would continue to be retained above the forebay. Silt and sand substrates that are transported below the dam have no value for cover for fish, reduce fish production, and can reduce the abundance and diversity of aquatic invertebrates that fish consume.

The occurrence of other salmonids (i.e., brown trout, rainbow trout), walleye and smallmouth bass that tolerate or are adapted to cool to warm water conditions would continue to pose a threat to BCT that may use the Cove Development area seasonally. However, the Fish Passage Alternative would not significantly affect BCT.

5.2.2.3.3 Other Native Fishes

As stated above, the river channel throughout the project area and the species that occur in it are likely adjusted to the altered hydrologic and sediment transport regimes. The construction of the ladder would

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

not constitute a major habitat disturbance. The construction of the ladder could allow connectivity of the Utah suckers and mountain whitefish that may occur above and below the Cove dam. Effects on mountain whitefish, redside shiners, and mottled and Paiute sculpins that that are present above the Cove dam could be limited to the potential predation by walleye and smallmouth bass that could gain access to upper reaches through the ladder. These piscivorous species could also affect the Utah suckers that occur in the Cove forebay. However, this alternative would not have significant impacts on other non-BCT native fishes.

5.2.2.3.4 Walleye, Smallmouth Bass, and Other Non-Native Species

Implementation of this alternative could favor non-native species that are adapted to the current environmental conditions. Walleye and smallmouth bass, species adapted to cool-to-warm water temperatures, could continue to expand their range. The ladder could open reaches located above the Cove dam to colonization by these species. Colonization of the Grace bypassed reach by non-native species could impact native (e.g., mountain white fish) and introduced species (e.g., stocked rainbow trout) that occur above the dam. Carp would likely continue to thrive under the current low flows through the system and the reservoir environment in the Cove forebay. As noted above, this species can compete with native fish species and disturb habitat used by other natives, and it is likely that this alternative would not significantly affect the non-native fish species.

5.2.2.4 No-Action Alternative

Under the no-action alternative the Cove dam would remain in place, and no modification to improve fish passage or other aspects of the aquatic environment would be made.

5.2.2.4.1 Aquatic Ecosystem

Implementation of this alternative would allow the continued alteration of flow cycles and transformation of the physical and biological characteristics of the river channel and its flood plain. Flow reductions behind the dam would continue to affect the water temperature within the Cove forebay and downstream reaches. Temperature stratification could occur within the reservoir. Warm water temperatures could act as a thermal barrier to movement for species such as trout. Sediment transport would also continue to be affected by pooling or slowing flow behind the dam. Larger sediments settling in the inflow of the reservoir could result in further aggradation (raising of the streambed) upstream of the dam, and forebay sedimentation would continue to limit the sediments available for organisms downstream. Fine particles would continue to accumulate near to dam and in low flow areas in downstream reaches. Further, this alternative would halt potential improvements in river connectivity, but would not significantly affect the aquatic ecosystem.

5.2.2.4.2 BCT

Under this alternative, the potential seasonal use of the Cove bypass reach by BCT could be limited due to inadequate flow, substrate composition, and water temperature. Fish migrating upstream must have adequate stream water velocities and depths for successful upstream passage. Similarly, the potential for cutthroat spawning depends, in part, on the availability of suitable substrate, water depth, velocity, and temperature. The reduction of flow behind the dam would result in the prolonged impact on water velocity, sediment retention, and higher downstream water temperatures. These prolonged effects of the dam would continue to pose a threat to the potential use of the Cove development area by BCT and constitute a limitation to BCT restoration efforts.

Similar to the Proposed Action and other alternatives, a biological limitation for BCT populations is the presence of exotic species that have the competitive advantage. Piscivorous species such as walleye and smallmouth bass that also occur in the project area could further limit BCT restoration efforts. Nevertheless, BCT would not be significantly affected by the No-Action Alternative.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

5.2.2.4.3 Other Native Fishes

Other native fishes in the Cove Development area, including Utah sucker, mountain whitefish, redside shiner, and sculpins, are likely adjusted to the existing environmental conditions. It is anticipated that these species would not be significantly affected by the implementation of this alternative.

5.2.2.4.4 Walleye, Smallmouth Bass, and Other Non-Native Species

It is unlikely that the implementation of this alternative would have a negative impact on non-native species that are adapted to the current environmental conditions. Walleye and smallmouth bass, species physiologically suited to live in cool to warm water temperatures, could continue to occur below the dam. However, the restoration of regulated flows in the Cove bypassed reach could limit the further dispersal and colonization by these species. In addition, the dam would continue to block the upstream movement of these species, precluding any potential impacts on native and stocked species that occur in the Grace bypassed reach.

Carp would likely continue to thrive under the current low flows through the system and the reservoir environment in the Cove forebay. As noted above, this species can compete with native fish species and disturb habitat used by other native species. However, based on this analysis, the No-Action Alternative would not significantly affect non-native fishes.

5.2.2.5 Cumulative Effects

The implementation of the Proposed Action, interconnect canal, or fish passage alternatives would enhance connectivity between downstream and upstream reaches. However, at a larger spatial scale, the presence of other man-made barriers (e.g., Gentile Valley diversion, Grace Dam) would continue to pose limitations on fish movement and BCT restoration efforts.

The Bear River Settlement Agreement includes specific measures designed to enhance fishery resources along segments of the Bear River affected by the hydroelectric projects. Project license measures, in addition to improving fish passage at the Cove Development, are aimed toward land and water acquisition and restoration (Articles 405 and 406), development of a plan to minimize fish stranding (Article 409), specifying minimum flows and ramping rates to reduce impacts to fish resources downstream of Project facilities (Articles 408 and 412), and development of a plan to restore aquatic and riparian habitat (Article 405). Further, preparation of a monitoring plan that includes invertebrate sampling and creel surveys (Article 407), as well as water quality (Article 413) is also included.

Other Project license measures specific to the BCT include development of a comprehensive BCT restoration plan (Article 403), and development of a BCT "conservation hatchery" for stocking (Article 404). These measures, in conjunction to those stated above, would improve habitat conditions and enhance the restoration of BCT in the project area. On the whole, it is anticipated that the cumulative effects on aquatic resources would be positive, and that no significant cumulative impact on BCT recovery would result.

5.3 WETLAND/RIPARIAN RESOURCES

The following wetland/riparian issue was determined to require detailed analysis in this report (Section 4.1.3):

- *Would wetlands and riparian communities be affected by modification of facilities or flows?*

  A narrow riparian wetland community occurs along the river through most of the project area. In addition wetlands occur around springs typically located near the toe of slopes, around leaks in the

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

flume, and in a higher-lying areas south and west of the Cove forebay. Dam removal, other facilities modifications, and alteration of flows in the bypassed reaches could affect wetlands and riparian resources in the project area.

5.3.1 AFFECTED ENVIRONMENT

Several wetland studies were completed recently in the project area. In 2004 wetlands along the Cove flume were delineated (Cirrus 2004b). A second study identified wetlands on PacifiCorp-owned lands in the Grace-Cove area (Cirrus 2004a). Wetlands in the Grace and Cove bypassed reaches have not been mapped but have been described on field based observations. The following discussion is based on these reports, an additional on-site survey in March 2005, and other environmental reports prepared for the area.

5.3.1.1 Riparian

The term riparian has been defined as "plant communities contiguous to and affected by surface and subsurface hydrologic features of perennial or intermittent lotic and lentic water bodies (rivers, streams, lakes, or drainage ways). Riparian areas have one or both of the following characteristics: (1) distinctively different vegetative species than adjacent areas, and (2) species similar to adjacent areas but exhibiting more vigorous or robust growth forms. Riparian areas are usually transitional between wetland and upland" (FWS 1997).

In the project area, riparian communities are associated with the Bear River and associated small streams. Due to the confined nature of the Bear River channel, the riparian zone is typically limited to a narrow fringe. Where seeps occur along the river channel, the riparian community extends further upslope away from the river. Riparian communities are also associated with the spring complexes that occur throughout project area. Although riparian communities may or may not also be classified as wetlands, depending on the species composition, hydrology, and soils of the specific instance, many in the project area are also wetlands.

5.3.1.2 Wetlands

Wetlands are "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (Federal Register 1982). Palustrine emergent wetlands are the most common wetland type in the project area, although palustrine scrub-shrub wetlands also occur along reaches of the river. The following major wetlands near proposed project activities are described.

Kackley Springs is a group of springs that discharge water on a flat bench at the base of a lava bluff east of the Cove forebay. Water from these springs creates an emergent wetland complex dominated by cattails, brookgrass, and sedges. Most of the water discharged from Kackley Springs flows into the forebay via a poorly defined channel. Except as noted below, the forebay does not support wetlands along the shoreline, and only this discharge channel lies in the area of potential disturbance.

Two relatively large cattail-dominated wetlands occur south of the Cove dam and west of the forebay. The wetland west of the forebay is located on a bench above the forebay elevation and is apparently supported by groundwater discharge. This wetland drains to the forebay. The east side of the community extends down to the forebay, creating a limnetic fringe wetland. Likewise, the wetland south of the dam is located on a bench and appears to be supported by groundwater discharge. Only the limnetic fringe of the wetland west of the forebay lies within the area of potential disturbance.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Additional emergent wetlands occur along the Cove flume (Cirrus 2004b). Some of the wet areas are supported by water leaking from the flume (and are therefore not jurisdictional wetlands), and are characterized by redtop. Other true wetlands appear to be supported by ground or surface water and are better developed. They include species ranging from Nebraska sedge in wetlands that tend to be seasonally wet to brewer bittercress, fowl bluegrass, water speedwell, cattail, and spikerush in areas wet for longer periods.

Overall, about 2.5 acres of wetlands lie within the area of potential ground disturbance, of these, about 0.9 acres lie along the flume. The remainder is primarily associated with the fringe of the wetland west of the forebay.

The riparian zone along much of the Bear River includes a narrow fringe of wetlands. The width of the riparian wetland zone along the river varies depending on the source of the hydrology and the bank profile. Where the hydrology is dependent on the river, the riparian wetlands typically occur as a narrow fringe 10 to 20 feet wide. Where groundwater seepage is occurring along the bank, the zone tends to be wider, up to 50 feet. In the bypassed reach below the Cove dam, wider riparian wetlands areas associated with groundwater seeps occur along the east side of the river, while the west side of the river typically has the narrow fringe of wetlands. Palustrine emergent wetlands dominated by such species as cattails, sedges, and phragmites are the most common type of wetland occurring in the riparian zone. Palustrine scrub-shrub wetlands, characterized by species such as thinleaf alder, willow, red-osier dogwood, and coyote willow, also occur in specific reaches of the river.

The reach of river between the Cove dam and the Cove tailrace has been dewatered, with most of the river diverted to the Cove flume, until 3 years ago. This has undoubtedly affected the wetlands and riparian fringe along the river. However, enough water remains in the bypassed reach between high flows in the spring that are allowed to continue down the channel and seeps and springs below the dam (11 to 40 cfs from dam leakage and springs) to maintain the wetland and riparian fringe.

5.3.2 Environmental Consequences

5.3.2.1 Proposed Action

Construction related disturbance in the Cove forebay due to removal of the Cove dam and associated infrastructure and re-establishment of the river channel through the area would have minimal impact on wetlands due to the lack of wetlands around the forebay, as noted above. The cattail wetland west of the forebay would be unaffected by removal of the dam. Once the construction was complete, the Proposed Action would result in the restoration of approximately 1,600 feet of river channel and would likely allow a narrow riparian fringe to develop along the river.

Under the Proposed Action, the Cove flume would be demolished and the concrete and other materials would be buried on site. The Removal Plan indicates that existing drainages and wetlands occurring along the flume would be protected during this process and that flume material would not be buried within wetland or drainage features. Assuming effective implementation of this provision, impacts to the wetlands along the flume are not expected. To mitigate potential impact, wetlands along the flume would be flagged, and sediment fencing would be installed to keep debris from spilling into wetlands.

Under the Proposed Action, the Cove Development would be decommissioned and the dewatering of approximately 1.4 miles of Bear River channel between the Cove dam and the Cove tailrace would end. As noted above, the wetland and riparian fringe below the Cove dam has persisted despite the dewatering of this reach due to flows that exceed the flume capacity and springs and seeps below the dam. Returning season-long run-of-river flows to this reach would benefit wetland and riparian vegetation.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

The Proposed Action would reduce the minimum flow releases in the Grace bypassed reach by 17 cfs, from 80 cfs to 63 cfs. This change in flows would be unlikely to result in a measurable effect on riparian and wetland vegetation along the edge of the river channel. Minimum flows are likely to occur during the late summer/fall when they have less affect on riparian plants.

Wetland functions and values along the Bear River corridor in the Grace/Cove area were assessed using the *Montana Wetland Assessment Method* (Berglund 1999). This method evaluated 12 wetland functions and values based on set criteria, as shown in Table 6. Based on this methodology, the overall rating for this wetland system is 6.4 points out of a total of 12 possible points, placing it as a Category II wetland.

Table 6. Summary and overall rating of functions and values of Cove Development Decommissioning based on the *Montana Wetland Assessment Method*.

Function & Value Variables	Current Rating	Current Actual Functional Points	Possible Functional Points	Functional Rating Change due to Project Implementation	Revised Functional Points
A. Listed/Proposed T&E Species Habitat	Low	0.5	1	No Change.	0.5
B. Idaho Natural Heritage Program Species Habitat	Low	0.1	1	Increase - Eliminate dam/barrier to Bonneville cutthroat trout and water depletion in the Cove bypassed reach of the Bear River.	0.3
C. General Wildlife Habitat	High	0.9	1	No Change.	0.9
D. General Fish/Aquatic Habitat	Moderate	0.5	1	Increase - Eliminate dam/barrier to aquatic species and water depletion in the Cove bypassed reach of the Bear River.	0.6
E. Flood Attenuation	Moderate	0.4	1	No Change.	0.4
F. Short and Long-Term Surface Water Storage	Moderate	0.6	1	No Change.	0.6
G. Sediment/Nutrient/ Toxicant Removal	Low	0.2	1	Decrease - Removal of Cove dam would reduce sediment/nutrient/toxicant retention capacity.	0.1
H. Sediment/ Shoreline Stabilization	High	0.9	1	No Change.	0.9
I. Production Export/Food Chain Support	High	0.8	1	No Change.	0.8
J. Groundwater Discharge/Recharge	High	1	1	No Change.	1
K. Uniqueness	Low	0.3	1	Increase - Removal of dam and altered water regime in the bypassed reach would reduce disturbance.	0.4
L. Recreation/ Education Potential	Low	0.3	1	Increase - Removal of dam and increased instream flows would benefit recreation.	0.6
Totals:		6.5	12		7.1

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

The *Montana Wetland Assessment Method* was also used to predict changes in functions and values of the Bear River wetlands in the Grace/Cove area as a result of the implementation of the Proposed Action. As noted in Table 6, five of the functions would change due to the Proposed Action, four of which would increase and one of which would decrease. Specifically, the removal of the Cove dam as a barrier to fish migration would increase the functional value associated with Idaho Natural Heritage Species (cutthroat trout) and General Fish/Aquatic Habitat functions. In addition, the Uniqueness and Recreation/Education functions would increase due to reduced management of the system. However, Sediment/Nutrient/Toxicant Removal would decrease due to the removal of the Cove dam and forebay. The overall rating would increase from 6.4 to 7.1 under the Proposed Action. Based on this information, the Proposed Action would not significantly affect wetland and riparian resources.

5.3.2.2 Interconnect Canal Alternative

This alternative would have minimal wetland impacts. Ultimately, this alternative would also restore approximately 1,600 feet of Bear River channel and associated riparian wetlands through the former forebay. As described above under the Proposed Action, removal of the Cove dam and reconstruction of the river channel through the forebay would result in minimal impact on wetlands since wetlands in the forebay area are limited. Construction of the canal to connect the Grace tailrace with the Cove flume would likewise have minimal impact on wetlands.

The flows in the Cove bypassed reach would remain unchanged from the existing license conditions. This section of the stream would be largely dewatered as most of the flow is diverted into the flume. However, the minimum flow requirement, dam leakage, springs and seeps, and flows in excess of the flume capacity would maintain a minimal flow. This flow regime appears to be sufficient to maintain the riparian and wetland vegetation along this section of the river. The minimum flow release requirement for the Grace bypassed reach would also remain unchanged at 80 cfs. Wetlands and riparian resources would not be significantly impacted by this alternative.

5.3.2.3 Fish Passage Alternative

This alternative would leave the Cove development in place and in operation. It would improve fish passage by constructing a fish ladder at the Cove and would make improvements to the Grace and Cove powerhouses to benefit fisheries by installing intake fish screen and tailrace barriers. No impacts on wetlands and riparian resources are anticipated, and flow regimes in the bypassed reaches and effects on riparian vegetation would remain unchanged from the historic conditions. These flows appear to be sufficient to maintain the narrow fringe of riparian and wetland vegetation along this section of the river. Wetland and riparian communities would not be significantly affected by the Fish Passage Alternative.

5.3.2.4 No-Action Alternative

Under the No-Action Alternative, the Cove Flume would be rehabilitated and the Cove Development would continue operations. Since construction/demolition would not be occurring in the forebay area, there would be no impact on wetland and riparian vegetation. Flow regimes in the bypassed reaches would remain unchanged from historic conditions. Minimum flow releases, leakage, springs and seeps, and flows in excess of flume capacity would maintain a minimal flow in the stream below the Cove dam, and the minimum flow releases of 80 cfs below the Grace dam would continue. Therefore, this alternative would not significantly affect wetlands or riparian resources.

5.3.2.5 Cumulative Effects

A number of articles associated with Project license were identified as potential cumulative effects to wetland and riparian resources in the project area. These articles include:

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

- The release of minimum flows from each of the project developments to enhance resources in the impacted reaches of the Bear River (Article 408). This article would have a beneficial cumulative effect on the riparian and wetland resource functions and values along the river channel by maintaining the stream channel riparian corridor.

- Revision of the project area boundary to encompass additional lands to ensure public access for recreational purposes (Article 427). This article would have a potential minor detrimental effect to the riparian and wetland vegetation by providing additional access to areas that at present experience less recreational use. Cumulatively, this article could expand the area where trampling impacts occur associated with river access for fishing, boating, or picnicking. However, it would enhance the recreation function and value of the wetland.

- Development of a plan to modify the discharge from Kackley Springs to benefit aquatic resources in the Bear River (Article 410). In the short term, implementation a plan developed under this article could be potentially detrimental to the wetland complex that has established in the field around Kackley Springs if changes are made to the water regime that maintains these wetlands. However, in the long term, this article could be cumulatively beneficial if wetlands affected by the development of the Cove area are restored.

- Preparation of a plan to restore aquatic and riparian habitat for the benefit of the Bonneville cutthroat trout as well as other wildlife resources (Article 405). Implementation of a plan developed under this article that would restore aquatic and riparian habitat would be cumulative and beneficial to the increased wetland functions noted above due to the decommissioning of the Cove hydroelectric project, particularly for Idaho Natural Heritage Program Species Habitat values.

- Development of a plan to monitor water quality (Article 413). Monitoring water quality under a plan developed under this article would be unlikely to result in cumulative impacts on the riparian and wetland resources in the project area.

- The release of whitewater boating flows in the Grace bypass reach for the enhancement of whitewater boating (Article 419). This article would have a beneficial cumulative effect on wetland functions and values. It would be beneficial to the physical wetland and riparian resource, providing additional hydrology to maintain riparian vegetation and function. In addition, it would enhance the value of the recreation/education potential function of this section of the river.

- The implementation of a land use management plan (Article 424), the establishment of a shoreline buffer zone (Article 425), and development of a fencing plan (Article 426) to improve management within the project area. These articles would have a beneficial cumulative effect on the wetland functions and values in the project, particularly in regard to better management of livestock grazing. This would allow for physical improvement in the riparian and wetland community and be reflected in increase wetland functions and values.

5.4 VEGETATION RESOURCES

The following vegetation issue was determined to require detailed analysis in this report (Section 4.1.3):

- *Would the modifications to the Cove facilities influence the establishment of noxious weed species?*

  Non-native, invasive weed species threaten native plant communities and the overall ecological integrity of the ecosystem. Weed species are found throughout the project area. Further disturbance

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

during modification activities could introduce new species and contribute to the spread of species currently found in and around the project area.

5.4.1 Affected Environment

Noxious weeds are non-native plant species that have been designated as weeds by law due to their potential to have detrimental effects on agriculture, commerce, or public health. They usually spread aggressively and are difficult to control. Disturbed sites, such as roadways and construction sites tend to be more prone to weed establishment. Some weeds are able to successfully establish and compete in relatively undisturbed areas and spread quickly over large geographic areas. These aggressive weed species are further classified as invaders.

Weeds are common in the Cove Development Area, occurring in both disturbed and relatively undisturbed sites. Weed species present include whitetop, musk thistle, bull thistle, Canada thistle, Scotch thistle, and hound's tongue. Other common non-native/weedy species in the development area include phragmites, cheatgrass, bulbous bluegrass, and bur buttercup.

5.4.2 Environmental Consequences

5.4.2.1 Proposed Action

The Proposed Action would result in disturbance in the Cove forebay area associated with removal of the Cove dam and infrastructure and reconstruction of the river channel through the area. In addition, there would be disturbance associated with the demolition of the Cove flume. Disturbed sites are particularly prone to weed establishment and would be subject to colonization by noxious weeds, which are already present in the project area. To reduce this risk, the contractor would use a weed-free, primarily native seed mixture to revegetate and stabilize disturbed areas along the river channel and flume right-of-way. Additionally, a hydro-seed mixture with fibrous materials would be used to affix the mixture to the soil surface (tackifier) at a dispersal rate of up to 120 pounds per acre on slopes steeper than 2:1 or on actively eroding sites. Reseeding would occur during seasons when establishment would be most likely to be successful, and will likely need to be augmented until revegetation criteria are met.

The establishment of a vigorous plant community of desirable species would reduce the risk of noxious weeds colonizing disturbed areas. However, given the weeds that are present in the project area and their ability to invade relatively undisturbed communities, it is likely that they would establish on the construction sites and require subsequent treatment in order to control their populations. Nevertheless, it is anticipated that the Proposed Action would not significantly affect the spread of noxious weeds.

5.4.2.2 Interconnect Canal Alternative

Under this alternative, there would be less construction-related disturbance relative to the Proposed Action, as the flume would not be removed. As a result, there would be a reduced threat of noxious weed establishment in terms of amount of disturbed area more prone to weed establishment. However, given the weeds that are present in the project area and their ability to invade relatively undisturbed communities, it is likely that they would establish on the construction sites and that the weed problem already present in the area would continue, requiring ongoing treatment. It is determined that the distribution of noxious weeds would not be significantly affected by this alternative.

5.4.2.3 Fish Passage Alternative

Under this alternative, construction-related disturbance would be limited to the construction of fish ladders and intake/tailrace barriers. These projects would result in minimal ground disturbance. As a result, there would be little risk of increased weed establishment under this alternative. However, given the weeds that are present in the project area and their ability to invade relatively undisturbed

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

communities, it is likely that the weed problem already present in the area would continue, requiring ongoing treatment. The Fish Passage Alternative would not significantly affect the overall spread of noxious weeds.

5.4.2.4 No-Action Alternative

Under this alternative, the Cove flume would be rehabilitated, creating construction-related disturbance and an increased risk of weeds in the flume corridor. In addition, the situation described above under Affected Environment would continue. Weeds are now present in the project area, in both existing disturbed areas and in relatively undisturbed sites, and would likely remain a management issue. Therefore, noxious weed spread would not be significantly affected by this alternative.

5.4.2.5 Cumulative Effects

Cumulative actions potentially affecting the establishment of noxious weeds in the project area include the implementation of a land use management plan (Article 424), the establishment of a shoreline buffer zone (Article 425), and development of a fencing plan (Article 426) to improve management within the project area. These actions would have a beneficial effect on the establishment of noxious weeds in the project area. This benefit would be realized as these three management actions improve the management and subsequently the health of the plant communities. More healthy and vigorous plant communities would be more able to exclude noxious weed establishment.

The revision of the project area boundary to encompass additional lands to ensure public access for recreational purposes (Article 427) was also identified as a cumulative action potentially affecting the establishment of noxious weeds. The cumulative effect of this article would likely be detrimental in terms of noxious weeds establishment. The detrimental effect would be due to potentially expanding the area affected by recreation-related disturbance and creating sites that would be more prone to weed establishment. In addition, recreational users would potentially serve as dispersal vectors for weed seeds.

5.5 Wildlife Resources

The following wildlife issues were determined to require detailed analysis in this report (Section 4.1.3):

- *Would passerines and neotropical migratory birds and their habitats be affected?*

  Passerines, most of which are also neotropical migratory bird species and a variety of other non-passerine birds utilize the area's diverse habitat types, particularly riparian communities. Breeding and migration habitats that support these populations could be disturbed during modification activities. Potential indirect impacts on wetlands and riparian areas resulting from the elimination of the Cove forebay and flow alterations in the bypassed reaches could also impact these species.

- *Would waterfowl and shorebird use of the Cove forebay be affected?*

  Waterfowl utilize the Cove forebay as a resting and feeding area, and shorebirds forage along the forebay shoreline. Dam removal and elimination of the forebay could preclude these activities and affect waterfowl and shorebird use of the project area.

5.5.1 Affected Environment

The main habitat types occurring in the project area include open water, riparian communities, wetlands, sagebrush steppe, scattered junipers, exposed rock and talus slopes, and agricultural areas (pastures/cropland). This analysis will focus on species using open water, riparian areas, and wetlands.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

The other habitat types are abundant throughout southeastern Idaho and the very small portion of these habitats that may be disturbed during demolition of the dam, flume, and other structures is negligible in comparison with available habitat.

Riparian habitats cover only a small percentage of the land area in the western United States (less than 1 percent), but are used by more wildlife species than any other habitat (Knopf et al. 1988). Because humans tend to settle and concentrate their activities near water, particularly in arid regions, many riparian areas have been lost or heavily modified by human activities. This makes remaining riparian communities even more important for wildlife. A majority of migratory bird species use riparian areas during at least part of the year. Wetlands and open water are also relatively scarce in the Intermountain West, where water is a limiting resource.

Riparian areas and wetlands provide nesting habitat for neotropical migrants and are also used as rest stops during migrations. Waterfowl usually nest in wetlands or in upland areas in the vicinity of water and forage in marshes, agricultural areas, or open water, if appropriate aquatic vegetation is present. Open water is also used by waterfowl for resting, as a staging area during migrations, and as a refuge during molting, when they are unable to fly. Some waterfowl populations conduct molt-migrations in the summer, moving to molting areas away from their breeding areas. Shorebirds usually forage along the shores of water bodies, particularly in mudflats. A small mudflat is located on the northwest side of the Cove forebay. Wetlands and riparian communities occurring in the project area are described in Section 5.4.

PacifiCorp conducted four surveys during the 1997 waterfowl nesting season to document species presence, habitat use, and nesting success for migratory waterfowl, marsh birds, and shorebirds in the Grace/Cove area (PacifiCorp 1999). The study area included the Grace forebay, Grace bypassed reach, Cove forebay, Cove bypassed reach, and the Cove riverine reach downstream from the powerhouse. Fourteen species of waterfowl, shorebirds, and marsh birds were recorded during these surveys. Of these, Canada goose and mallard were observed to nest within the study area. Additional bird species were observed incidentally during the surveys. A total of 68 bird species were recorded in the vicinity of the Grace/Cove hydroelectric project in 1997, including 38 passerines (see Table 7.). Forty-three of these species are considered neotropical migrants, mostly passerines or raptors. Species marked with an asterisk in the table were also observed during a site visit by Cirrus personnel to the Cove forebay and bypass area on March 31, and May 17-18, 2005. Two additional species were observed in 2005, the common snipe and the Eastern kingbird, which had not been observed in 1997.

Passerine species using riparian communities in the study area include the western and Eastern kingbirds, black-billed magpie, black-capped chickadee, house wren, Townsend's solitaire, American robin, cedar waxwing, western tanager, spotted towhee, chipping sparrow, song sparrow, dark-eyed junco, lazuli bunting, Bullock's oriole, American goldfinch, five species of swallows, and three species of warblers (see Table 7.). Most of these species are neotropical migrants, with the exception of the magpie, black-capped chickadee, and starling, which are year-round residents. Additionally, the Bear River provides foraging habitat for the American dipper, and the cattail-dominated wetlands located to the west and south of the Cove forebay provide habitat for the red-winged and yellow-headed blackbirds and the common yellowthroat. Raptors observed in the study area likely use a variety of habitats, such as pastures and agricultural areas, sagebrush, riparian areas, wetlands, and rock/talus slopes.

Seven nesting pairs of Canada geese were recorded in the Grace forebay and two nesting pairs were observed along the west shore of the Cove forebay in 1997. An additional goose pair and nest were observed below the Cove powerhouse. All of the Canada goose nest sites were located on the ground in predominantly grass/shrub thickets, above the high-water mark (PacifiCorp 1999). In March 2005, an active goose nest was found in sagebrush to the south of the Cove dam, a goose pair was observed on the

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Cove forebay, and two additional pairs were observed in pastures on the west side of the Cove bypassed reach. Mallards were observed nesting throughout the Grace/Cove area in 1997, with the majority of pairs occurring near the Cove forebay and Cove bypass area (PacifiCorp 1999). Mallards were also observed in that area in March 2005.

Only two shorebird species were observed in 1997, the killdeer and the spotted sandpiper. Killdeer were also observed in 2005, along the forebay and near Kackley Springs. Both species use a variety of habitats, usually near water, and have adapted to human-modified environments, including agricultural and urban areas. The common snipe, observed in 2005, uses marshy areas and wet meadows.

5.5.2 ENVIRONMENTAL CONSEQUENCES

5.5.2.1 Proposed Action

Impacts of the Proposed Action would include the elimination of the area of open water currently available to waterfowl in the Cove forebay, alteration of the shoreline in the forebay area, increasing flows in the Cove bypassed reach with associated effects on riparian vegetation, and possible temporary disturbance of riparian and wetland communities and associated bird populations during the dismantling and burial of the flume structure.

The elimination of the forebay would likely result in a decrease in use of the area by waterfowl during spring and fall migration and during molting. Other water birds, such as cormorants, pelicans, and grebes, would likely stop using the area. However, the Cove forebay is fairly small (10 acres) and the amount of habitat lost is unlikely to impact populations of these species at the regional level. Larger bodies of water would still be available to these species along the Bear River, such as the Grace forebay (38 acres, 5 miles to the northeast), Soda dam (1,100 acres, 9 miles to the northeast), and Oneida Narrows Reservoir (480 acres, 16 miles to the south).

Nesting sites would still be available to waterfowl along the Bear River after the Cove forebay was eliminated, and foraging habitat would still be available in shallow marshes associated with springs (such as Kackley Spring) for mallards and in pastures and agricultural areas for Canada geese. It is doubtful that the Cove forebay currently provides much foraging habitat for waterfowl, due to the lack of aquatic vegetation. Spring-associated marshy areas located along the flume, which may provide foraging habitat for mallards, could be disturbed during demolition of the flume. However, efforts would be made to preserve these springs, and disturbance would be temporary. Wet areas resulting from flume leakage would be eliminated but these non-jurisdictional habitats are fairly limited in comparison with the true wetlands associated with the springs.

Shoreline alterations in the Cove forebay area may affect shorebird use of the area, particularly if the new shore does not include mudflats. However, none of the three shorebird species recorded in the Grace/Cove area require mudflats. The killdeer, spotted sandpiper, and common snipe are generalist species using a variety of habitats and are not very sensitive to human disturbance. Killdeer would still be able to forage in pastures and spotted sandpipers could still forage along the shores of the Bear River. The springs and associated wetlands would also continue to provide habitat for both species and for the common snipe. Additional shorebird species that could potentially use the current mudflat during migrations would lose this opportunity if the new shoreline did not include mudflats.

The elimination of the forebay and changes in stream flow in the bypassed reaches could also impact riparian or wetland vegetation and bird species. However, the cattail-dominated wetlands located to the west and south of the Cove forebay do not depend on the Cove forebay as a source of water. As a result, bird species depending on these wetlands for cover, foraging, or nesting are unlikely to be affected by the

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Proposed Action. The narrow fringe of riparian vegetation bordering the Grace bypassed reach already existed before minimum flows were established in this reach, so a reduction of minimum flow from 80 to 63 cfs is unlikely to affect this vegetation or the bird species using it. Flow in the currently bypassed reach between the Cove dam and power plant would be increased. This could have a positive effect on riparian vegetation and associated bird species. Birds using riverine habitat, such as the common merganser and the American dipper, could also benefit from the increased flow.

Disturbance of neotropical migrants and passerines using riparian areas along the Cove bypassed reach and adjacent springs could occur during demolition of the flume. However, these riparian areas are located for the most part on adjacent non-PacifiCorp private and BLM lands, where no direct impacts are anticipated. Riparian vegetation on adjacent private and BLM land would not be directly impacted by the Proposed Action. Impacts on springs crossing the path of the flume and on the associated riparian vegetation would be avoided as much as possible (see Section 5.4). Disturbance of birds would mostly result from the close proximity of humans and machinery, and associated noise. This would be a short-term impact. Removal of the dam, bank grading, and revegetation activities would also result in short-term disturbance of bird species using the surrounding area. Overall, neotropical migrants, passerines, waterfowl and shorebirds would not be significantly affected by this alternative.

5.5.2.2 Interconnect Canal Alternative

Potential impacts on migrating waterfowl, shorebirds, and other water birds resulting from the elimination of the forebay would also occur under this alternative (see Section 5.6.2.1). Disturbance in the forebay area during construction of the interconnect canal would be more extensive than under the Proposed Action.

The flume would not be dismantled but it would need to be repaired. This would require major work, including the replacement the wooden structure of the flume and some of the concrete supports. As under the Proposed Action, efforts would be made to avoid impacts on springs crossing the path of the flume and on the associated riparian vegetation, and disturbance of birds would mostly result from the close proximity of humans and machinery, and associated noise. This would be a short-term impact.

As under the Proposed Action, there would likely be no significant impact on the cattail marshes to the south and west of the Cove forebay or on the species depending on these marshes.

5.5.2.3 Fish Passage Alternative

Under this alternative, the forebay would not be eliminated and no long-term impacts on waterfowl, shorebirds, and other water birds would occur. Short-term disturbance might occur during the installation of the fish ladder, fish screens, and tailrace barriers. As under the Interconnect Canal Alternative, the flume would not be dismantled but would have to be repaired, which could result in short-term disturbance of passerines and neotropical migrants using the area (see section 5.6.2.2). However, these bird species would not be significantly impacted the Fish Passage Alternative.

5.5.2.4 No-Action Alternative

Due to flume repair, impacts would be similar to those occurring under the fish passage alternative (see Section 5.6.2.3), with one exception. No fish ladder, screens, or tailrace barriers would be installed and no short-term disturbance would occur in the forebay area. The No-Action Alternative would not significantly impact passerines, neotropical migrants, waterfowl or shorebirds.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

5.5.2.5 Cumulative Effects

The only notable cumulative actions identified through this analysis are those associated with implementation of the Bear River Project. The Project license establishes various management directives that will directly or indirectly improve riparian habitats and wetlands:

- Article 405 requires the preparation of a restoration plan for aquatic and riparian habitats in the Action Area.
- Article 406 requires the development of a plan for acquiring land and water rights in the Action Area.
- Article 424 requires the development of a Land Management Plan with measures to reduce adverse livestock grazing impacts, protect and improve riparian habitat and wetlands, and establish shoreline buffer zones on PacifiCorp lands (also see Articles 425 and 426).
- Articles 425 and 426 require the preparation of a Shoreline Buffer Zone Plan and a Cove Bypass Reach Buffer Zone Plan, respectively, to provide for the exclusion of livestock from shorelines, wetlands, springs, and riparian areas. In addition to fencing the buffer zones on their own lands, PacifiCorp will contribute 25 percent of the cost of fencing the buffer zone on other private lands in the Cove bypassed reach, and 100 percent of fence maintenance costs, for landowners willing to participate in this program.

These measures will have positive impacts under any alternative. Land acquisition along the Bear River will increase the amount of riparian/wetland habitat benefiting from conservation measures and will improve the continuity of riparian habitat along the Bear River corridor. Unmanaged grazing can damage riparian habitats and wetlands because cattle tend to concentrate near water. Livestock exclusion from these sensitive areas will improve habitat quality and will likely benefit various passerines and neotropical migratory bird species. It should also provide better nesting cover for waterfowl. Bird species diversity is likely to increase, due to increased habitat complexity. Grazed areas will still be available on pastures and rangelands outside the exclosures for species that prefer to forage in short vegetation, such as killdeer, waterfowl, cranes, and shorebirds.

The Project license also calls for development of recreational facilities (Article 416), including the addition of a gravel parking lot for 15 vehicles, a restroom, and gravel access to the river at the put-in area located downstream from the Grace Dam, and improvement of the parking lot at the Black Canyon take-out area. As mentioned in the 2003 Bear River EIS, the effects of this project include minor vegetation removal (mostly upland vegetation), short-term displacement of wildlife during construction, and potential long-term disturbance of wildlife as a result of increased recreational use in these areas and along the Bear River. However, long-term impacts should also be minor, because increased use will occur primarily during periods of whitewater boating flow releases, which will be limited to 96 hours during 16 days per year.

Whitewater releases are addressed by Article 419 of the Project license and will occur between April 1 and July 15. Such releases may potentially affect waterfowl and other ground-nesting birds due to the potential increase in disturbance from recreational activities. No flooding of waterfowl nests was observed in 1997 as a result of fluctuations in flow during normal power plant operations, and none is expected to result from whitewater boating flows given that even the highest potential realeases (1500 cfs) are still contained within the defined river channel, where no nests would be found (PacifiCorp 1999).

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Overall, the management actions required by the Project license should have mostly beneficial cumulative effects, contributing to the general health of the Bear River ecosystem. Negative effects should be limited to minor, short-duration disturbances associated with recreational facility development and increased recreational access, and potential impacts of whitewater releases.

Table 7. Bird species observed by PacifiCorp in the vicinity of Grace/Cove Hydroelectric Project in 1997.[1]

Common Name	Scientific Name	Neotropical Migrant
Passerines		
Say's phoebe	*Sayornis saya*	X
Western kingbird	*Tyrannus verticalis*	X
Black-billed magpie*	*Pica hudsonia*	
American crow*	*Corvus brachyrhynchos*	
Common raven*	*Corvus corax*	
Horned lark	*Eremophila alpestris*	X
Tree swallow	*Tachycineta bicolor*	X
Violet-green swallow	*Tachycineta thalassina*	X
Northern rough-winged swallow	*Stelgidopteryx serripennis*	X
Cliff swallow	*Petrochelidon pyrrhonota*	X
Barn swallow*	*Hirundo rustica*	X
Black-capped chickadee*	*Poecile atricapillus*	
House wren	*Troglodytes aedon*	X
American dipper*	*Cinclus mexicanus*	
Townsend's solitaire*	*Myadestes townsendi*	X
American robin*	*Turdus migratorius*	X
European starling*	*Sturnus vulgaris*	
Cedar waxwing	*Bombycilla cedrorum*	X
Orange-crowned warbler	*Vermivora celata*	X
Yellow warbler*	*Dendroica petechia*	X
Yellow-rumped warbler*	*Dendroica coronata*	
Common yellowthroat	*Geothlypis trichas*	X
Western tanager	*Piranga ludoviciana*	X
Green-tailed towhee*	*Pipilo chlorurus*	X
Spotted towhee	*Pipilo maculatus*	X
Chipping sparrow	*Spizella passerina*	X
Brewer's sparrow	*Spizella breweri*	X
Vesper sparrow	*Pooecetes gramineus*	X
Song sparrow*	*Melospiza melodia*	X
Dark-eyed junco	*Junco hyemalis*	X
Lazuli bunting*	*Passerina amoena*	X
Red-winged blackbird*	*Agelaius phoeniceus*	X
Yellow-headed blackbird*	*Xanthocephalus xanthocephalus*	X
Brewer's blackbird*	*Euphagus cyanocephalus*	X
Western meadowlark*	*Sturnella neglecta*	X
Brown-headed cowbird	*Molothrus ater*	X
Northern oriole*	*Icterus bullockii*	X
American goldfinch	*Carduelis tristis*	X

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Common Name	Scientific Name	Neotropical Migrant
Non-passerine birds		
Canada goose*	*Branta canadensis*	
Gadwall*	*Anas strepera*	
Mallard*	*Anas platyrhynchos*	
Cinnamon teal	*Anas cyanoptera*	
Common goldeneye	*Bucephala clangula*	
Common merganser*	*Mergus merganser*	
Ring-necked pheasant*	*Phasianus colchicus*	
Sharp-tailed grouse	*Tympanuchus phasianellus*	
Clark's grebe	*Aechmophorus clarkii*	
American white pelican*	*Pelecanus erythrorhynchus*	
Double-crested cormorant*	*Phalacrocorax auritus*	
Turkey vulture*	*Cathartes aura*	X
Osprey	*Pandion haliaetus*	X
Northern harrier	*Circus cyaneus*	X
Cooper's hawk	*Accipiter cooperii*	X
Swainson's hawk	*Buteo swainsoni*	X
Red-tailed hawk*	*Buteo jamaicensis*	X
Rough-legged hawk	*Buteo lagopus*	
Golden eagle	*Aquila chrysaetos*	X
American kestrel*	*Falco sparverius*	X
Prairie falcon	*Falco mexicanus*	X
Sandhill crane*	*Grus canadensis*	
Killdeer*	*Charadrius vociferus*	X
Spotted sandpiper	*Actitis macularius*	
Franklin's gull	*Larus pipixcan*	
Ring-billed gull	*Larus delawarensis*	
Forster's tern	*Sterna forsteri*	
Rock pigeon	*Columbia livia*	
Mourning dove*	*Zenaida macroura*	X
Northern flicker*	*Colaptes auratus*	X

[1] Adapted from Table 3.2-5. of the 1999 Grace/Cove Hydroelectric Project License Application (PacifiCorp 1999). Common and scientific names were updated to conform to current American Ornitholigists' Union (AOU) standards (AOU 2005). Neotropical migratory status was determined from Table 1 in Parrish et al. (2002). Species marked with an asterisk (*) were also observed during a field visit by Cirrus personnel to the Cove forebay and bypassed reach areas on March 31 and May 17-18, 2005. Two additional species were seen during that visit, the common snipe (*Gallinago gallinago*) and the Eastern kingbird (*Tyrannus tyrannus*).

5.6 AESTHETIC RESOURCES

The following aesthetic resource issue was determined to require detailed analysis in this report (Section 4.1.3):

- *Would dam removal or other facilities modifications affect the visual quality and natural setting of the project area?*

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

The Cove facilities were constructed in the early 20th century and have become a valued element of the landscape for some people. On the other hand, their removal would restore a more natural setting. In the short term, modification of facilities would require onsite construction equipment and material, as well as disturbance of soil and vegetation, which could temporarily affect the visual aesthetics of the area.

5.6.1 AFFECTED ENVIRONMENT

The Cove facilities are an important historical element of the landscape and contribute to the setting's visual character. The presence of the Cove dam, flume and powerhouse are of cultural-historic significance. However, project operations have permanently altered the area's natural environment including ground and vegetation disturbances at the Cove forebay. While the historic development is undoubtedly aesthetically pleasing to some people, most techniques for assessing visual quality value natural settings higher than altered ones.

In 1997, PacifiCorp conducted a visual assessment of the Cove development features for the relicensing process using the BLM Visual Resource Assessment (VRA) as a guideline. The methodology aggregates findings into a visual assessment classification on a scale of I (wilderness landscape) to IV (highly modified landscape). In general, the facilities of the Cove Development are the dominant features on the landscape, and the site is rated as a Class IV. (FERC 2003a.)

5.6.2 ENVIRONMENTAL CONSEQUENCES

5.6.2.1 Proposed Action

Decommissioning the Cove Development would temporarily impact the visual quality of the project area. During the demolition and rehabilitation phases of the project, heavy equipment operations and ground disturbance would impact the area's visual quality. Following demolition, rehabilitation of disturbed areas would return the area along the new channel and former forebay to a more natural, pre-development appearance. Removing the Cove dam and its facilities would not significantly impact the visual quality of the project area but would rather reclaim the area's natural aesthetic. Some people would likely miss seeing the historic structures, but shifting to a more natural appearing landscape is generally viewed as an improvement in aesthetic quality. Overall, the Proposed Action would not significantly affect the area's visual aesthetic.

5.6.2.2 Interconnect Canal Alternative

The Interconnect Canal Alternative would have temporary construction-related impacts similar to those of the Proposed Action. Long-term visual impacts would include dewatering the forebay and dam removal. Following the demolition process, the disturbed areas would be restored to a more natural condition. The addition of the canal to the project area would not significantly impact the visual quality of the area. Overall, this alternative would not significantly impact the site's highly modified character.

5.6.2.3 Fish Passage Alternative

The Fish Passage Alternative would temporarily affect the visual quality of the project area. Modifications of the development would include temporary ground disturbance from construction activities. Rehabilitation of the site would be required following modification activities to restore the site to pre-construction condition. None of the Cove facilities would be removed and power generation activities would continue. Human modifications would remain the dominant visual features. The Fish Passage Alternative would not significantly affect the visual quality of these features.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

5.6.2.4 No-Action Alternative

Under this alternative, the Cove Development would return to power generation operations following upgrades to the Cove flume. The upgrades would temporarily impact the visual quality of the area and any disturbance would require site rehabilitation. While the upgrade-related activities would temporarily affect the area's visual quality, continuation of operations at the Cove Development would not significantly impact the visual quality in the area, which would remain dominated by human modifications.

5.6.2.5 Cumulative Effects

The Project license establishes specific management directives that either directly or indirectly would improve the area's aesthetic value. Article 423 requires a Historic Properties Management Plan for assessing and monitoring the effects of project operations on historically significant properties. The plan would also implement protective measures for those historic properties, assuring the public's continued enjoyment of project facilities.

The site is also appealing to recreationists because of its natural setting. Article 416 (5) and (6) of the license requires a recreation plan for managing and enhancing recreational facilities and areas. The management objectives specified in the plan would increase the area's attractiveness to recreationists.

Further, the license requires implementation of a land management plan (Article 424) intended to minimize effects on natural resources and improve overall administration of land use in the project area. In the past, uses outside of the project area, including livestock grazing, have impacted the area's overall aesthetic quality. Grazing along the Cove bypassed reach and the forebay has heavily impacted shoreline vegetation. The Project license establishes a shoreline buffer zone (Article 425) and a fencing plan (Article 426) to ensure protection of important riparian and wetland areas, enhancing the area's natural and visual quality.

5.7 Safety Issues

The following safety issue was determined to require detailed analysis in this report (Section 4.1.3):

- *Would the public's safety be affected by decommissioning the Cove Development?*

  The project area is currently open to limited public access, and the existing facilities pose a minor public safety risk. During the demolition phase, construction workers could be exposed to safety hazards. After decommissioning, the abandoned Cove powerhouse and the dam's east abutment could remain accessible, constituting a threat to public safety.

5.7.1 Affected Environment

The Cove development's major facilities including the dam, powerhouse, penstock, and intake structures are currently fenced or locked to restrict public access. Other facilities, such as the Cove flume, have restricted public access. Signs are used in the project area to inform the public and prevent access to potentially un-safe areas.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

5.7.2 ENVIRONMENTAL CONSEQUENCES

5.7.2.1 Proposed Action

The Removal Plan outlines specific measures for appropriately managing potential safety hazards during and following decommissioning. Management of any potential safety hazards related to retaining the Cove powerhouse is also addressed.

Demolishing the Cove flume, dam, and intake structures would require the burial of wood, concrete, liner materials, and steel. Any protruding metal would be cut-off flush with the ground surface. The flume wood would be tested to ensure that it did not contain contaminants that could affect human safety.

The Cove dam's associated components including the penstock, tainter gates, and pressure box would be demolished. Structural remnants would be buried, and the disturbed area would be backfilled and regraded in preparation for reclamation.

The powerhouse and the area around the intake structure would remain intact. Fitting the windows with plywood covers and securing all interior hatches and passageways with locks would minimize safety hazards. Any remaining petroleum products and station batteries would be removed from the powerhouse and appropriately disposed of. In addition, a permanent security fence would be constructed around the area of the intake structure and east dam abutment to restrict public access.

Additional safety provisions would be in place to ensure the safety of the public and the construction crews during the decommissioning process. Structures that would be either demolished or affected by surrounding demolition activities would be provided with protective bracing and support devices. All solid waste would be disposed of properly to comply with environmental protection standards. Sanitary waste, sediment, debris, and other substances resulting from construction activities would be controlled to prevent pollution of drains and watercourses such as the Cove forebay. Vegetated areas would be protected against fire during extreme dry conditions. With these safety provisions in place, decommissioning the dam and its facilities would not significantly affect public safety.

5.7.2.2 Interconnect Canal Alternative

The Cove dam and flume would be removed and a canal would be constructed under the Interconnect Canal Alternative. Measures similar to those described above for the Proposed Action would be employed to manage potential safety hazards during and following the demolition and canal construction processes. Permanent fencing would be placed along the east and west sides of the canal. Signage would be located along the top of the canal embankment to prevent the public from climbing the embankment or falling into the canal. The public would continue to have free access to the new river channel once occupied by the Cove forebay (PacifiCorp 2005c). With these safety measures in effect, the Interconnect Canal Alternative would not significantly impact public safety.

5.7.2.3 Fish Passage Alternative

During construction of the fish passage improvements, the safety provisions described under the Proposed Action would be in effect. After the improvements were completed, fencing would be placed around the structures to prevent public access and to ensure public safety. The public would also be restricted from accessing the fish ladder and screen maintenance points. Similar to the preceding alternatives, sufficient safety precautions would ensure that public safety would not be significantly impacted by this alternative.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

5.7.2.4 No-Action Alternative

The Cove Development would continue to generate power under this alternative following flume upgrades. Safety measures similar to those described under the Proposed Action would be implemented. Public access would be restricted during construction. After the flume was repaired and Cove was operating, additional signs would be placed in the area to inform the public of the historical significance of the facilities. Under the No-Action Alternative, public safety would not be significantly affected.

5.7.2.5 Cumulative Effects

The Project license outlines objectives for public access and safety management within the project boundary and on PacifiCorp-owned properties. Article 424 establishes a land management plan that specifies restricting public access to project facilities through improved signage and extensive security fencing and lighting. Any work related to project improvements must have approval from the Division of Dam Safety and Inspections of the FERC to assure that work is completed in a safe and environmentally sound manner (Articles 302 – 306). With these provisions in place, the cumulative effects on safety would be positive and potential public safety hazards would be minimized.

5.8 Recreation and Land Uses

The following recreation and land use issues were determined to require detailed analysis in this report (Section 4.1.3):

- *Would recreational boating opportunities be affected?*

  Whitewater boating currently occurs through the Black Canyon section of the Grace bypassed reach. The Bear River Settlement Agreement and Project license have mandated flows to support whitewater recreational opportunities consistent with BCT restoration goals. Dam removal and restoration of flows in the Cove bypassed reach may provide additional recreational boating opportunity through that section of the river.

- *Would fishing opportunities and fishing access be affected?*

  Currently, public access to shoreline fishing in the area is readily available. A formal parking area is located at the Black Canyon take out, approximately 0.5 mile upstream from the Grace powerhouse. Recreation access to the Cove forebay is also available. Dam removal and elimination of the forebay could alter the type of angling opportunity available. Currently, a new 80 cfs minimum flow provided for by the new license is in effect in the popular angling reach near the lower end of Black Canyon (Grace bypass reach).

- *Would livestock grazing management be affected?*

  Livestock grazing occurs on some leased PacifiCorp property and on private lands adjacent to the project area. The Cove flume currently restricts most livestock from grazing in the riparian areas along the bypassed reach.

5.8.1 Affected Environment

5.8.1.1 Recreational Boating

Recreational boating opportunities in the Cove project area are limited because flows in the Bear River are diverted for power generation. Even with substantial inflow from springs, instream flows in Black

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Canyon are generally inadequate to provide for any type of recreational boating. The Grace bypassed reach (Black Canyon) has historically provided limited recreational boating opportunities, specifically whitewater kayaking and limited rafting in the canyon's difficult Class IV and V rapids. This opportunity has been infrequent, dependent on spill (release of excess water) from the Grace dam. Flows in the Cove bypassed reach are generally inadequate for recreational boating when the development is operating.

There are currently two semi-formal recreation sites that provide boater access to Black Canyon. A put-in area with parking was developed immediately downstream from the Grace dam to improve the primary boater access to the Black Canyon run. A take-out area is located approximately 0.5 miles upstream of the Grace powerhouse. This site accommodates about 30 cars and has a portable toilet and a footbridge across the river. Extension of the original FERC boundary includes the take-out area to ensure public access for recreational purposes (Article 427).

The optimum flow level required for whitewater boating in Black Canyon depends on the boaters skill level and experience in Black Canyon, but averages around 1,000 cfs. A 1997 PacifiCorp survey found that approximately 50 percent of whitewater boaters considered the minimum boatable flow to be 700 cfs, and optimum flows to be approximately 1,200 cfs. However, based on limited spill events in 2003 and 2005, many boaters reported lower minimum flow requirements (~500 cfs), as well as lower optimum flows (800-900 cfs). Because of upstream water management practices on the Bear River, including diversion of much of the spring runoff into Bear Lake for storage, spill of 500-700 cfs at Grace dam is unusual. However, spill occurred in April of 2003 and 2005 due to flume maintenance, and whitewater test flow studies were conducted in April and May, 1997, as well as for 3 weeks in October and November of 1997, providing boating opportunities for the first time since 1986. During April and May, spilled flows only exceed 700 cfs in very wet years, yet recreational boating accounted for 54 percent and 70 percent respectively of total observed recreational use in 1997. The October and November spill never exceeded 700 cfs, but boaters accounted for approximately 20 percent of observed use in October and approximately 12 percent in November (FERC 2003a).

Instream flows in the Cove bypassed reach reflect the amount of the combined volume of Black Canyon flows, discharge from the Grace powerplant, and spring inflows that is passed through the Cove dam. When the Cove Development is operating, the bypassed reach is often dry and almost never reaches boatable flows. For the past 3 years, when the Cove Development has been shut down, all flows collected in the forebay have been spilled into the bypassed reach. Flows in the Cove bypassed reach have not been gauged, but averaged 700-900 cfs during the irrigation seasons over the past three years, and considerably less outside of irrigation season.

An estimate of the amount of time the Cove bypassed reach is boatable was calculated based on Black Canyon flows, assuming that the Cove Development is not in operation and all flows out of Black Canyon continue to the Cove bypassed reach. If 700 cfs is assumed to be the minimum boatable flow, as it is in Black Canyon, the Cove bypassed reach has been boatable, based on daily flow average values from October 1996 to September 2004, an average of 1.3 percent of the time. It is assumed that the Cove bypassed reach could be boated in a canoe or kayak with as little as 250 cfs flow. However, little recreational boating has been observed on the bypassed reach during the 3-year period in which Cove has been out of operation. This is most likely due to the reach being relatively flat water, not the whitewater that draws boaters to Black Canyon. The dam also poses a barrier between the Black Canyon take-out, where boaters would logically put in, and the Cove bypassed reach. After floating the Cove bypassed reach, boaters could continue down the Bear River as far as Oneida Reservoir.

5.8.1.2 Fishing

Aside from boating, fishing was the only recreational activity observed in PacifiCorp's 1997 survey. Of the 441 recreationists observed during this survey, 75 percent were anglers. During periods of low flow

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

that do not support boating, recreational angling generally comprises the vast majority of the recreational use of the Cove project area. Shoreline fishing and wading is currently available along calmer stretches of the river below Black Canyon, an area popular with local fly fishermen. Shoreline angling also occurs below the Grace and Cove power plants and at the Cove forebay. The primary species targeted by anglers are trout, though cool-water species are also caught and smallmouth bass and walleyes are thought to occur below the Cove tailrace. Private land along these stretches of the river severely restricts access and additional uses such as camping. The two public access points described above in Section 5.9.1.1 are also used by fishermen. The new 80 cfs minimum flows in Black Canyon apparently increase the difficulty of fishing this reach, compared to the historical flow regime that was often less than half of the new flows and comprised only of relatively clear spring water.

5.8.1.3 Livestock Grazing

Currently, livestock graze a large percentage of PacifiCorp land in the project area and adjacent private and BLM managed lands. Under two active grazing leases until 2004, about 50 cattle combined grazed along the lower end of the Grace bypassed reach below Black Canyon and near the Grace powerhouse. Grazing management on the leased parcels was generally very basic. Cattle were turned out in the spring and taken off in the fall, generally with little management in the interim.

However, beginning in 2005, cattle grazing was removed from the lease parcel on the west side of the river due to site conditions and cost of appropriate land management measures, and cattle numbers were reduced by approximately half on the east side of the river due to changes in the lease boundaries. New land management plan (LMP) practices regarding grazing management and the development of specific-site plans have been implemented on all Pacificorp-owned parcels in the Cove project area. Cattle movements are controlled to some degree by fencing. PacifiCorp maintains several segments of fence throughout the project area to delineate property lines and lease boundaries, control livestock, and restrict access to the river. Other barriers include the Cove flume, which currently serves to control livestock access to the river and to riparian areas, and to keep cattle on separate leases or other private or BLM administered parcels from mixing.

5.8.2 Environmental Consequences

5.8.2.1 Proposed Action

5.8.2.1.1 Recreational Boating

Whitewater boating opportunities in Black Canyon would not be affected by the decommissioning project. The only potential impact of the Proposed Action would be the reduction of minimum flow requirement for the Grace bypassed reach from 80 to 63 cfs. As discussed above, however, boating is not possible under minimum flow conditions, so this change would not affect boating opportunities in Black Canyon.

In regard to the Cove bypassed reach, the Proposed Action would create a new recreational boating opportunity by restoring run-of-river flows and removing the barrier posed by the dam itself. The Gentile Valley Canal diversion would remain, forcing boaters putting in at the Black Canyon take-out to go over or around it. As discussed above, run-of-river flows in the Cove bypassed reach exceed the threshold for boating used in this analysis typically following spring spill events and during the irrigation season, given the throughput of the Grace turbines.. As a result, boating through and beyond the Cove bypassed reach would be possible, but would not be significantly affected.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

5.8.2.1.2 Fishing

The Proposed Action could potentially affect fishing opportunities in the project area in a number of ways, several of which are discussed in more detail in Section 5.3, Fisheries and Aquatic Resources. First, the reduction in minimum flow requirements in the Grace bypassed reach could affect habitat in that reach. However, evidence indicates that this incremental change would have not noticeable impact (Section 5.3). It is interesting to note that anglers have commented that increased flows in the popular area below the mouth of Black Canyon make it more difficult to safely wade so this reduction in the minimum flow requirement could impact this issue positively.

Second, reconnecting the river would create new angling opportunities in the Cove bypassed reach and would improve the prospects for fish migration through the project area as a whole. Third, removal of the dam could result in smallmouth bass and walleye moving upstream into the project area and beyond, adding these species to the list available to anglers but potentially threatening other species, particularly trout. Fourth, during demolition activities, fishing access to the Cove forebay, the flume area, and the Cove powerplant would be temporarily limited. Access would be restored after the project was completed. Finally, elimination of the Cove forebay would change the type of fishing available there from a pond or still-water type to a river type. The fish species currently found in the forebay would likely remain in the river in the project area. Overall, the impact of the Proposed Action on angling opportunities in the project area and elsewhere in the Bear River system are anticipated to be positive.

5.8.2.1.3 Livestock Grazing

The only notable, potential impact of the Proposed Action on livestock grazing would be the removal of the Cove flume. This would allow cattle that currently graze east of the flume to cross into the flume right of way, graze down into the riparian area along the Cove bypassed reach, and potentially mix with cattle grazing on the west side of the river. Removing the Cove flume would permit unimpeded cattle movement, allowing mixing and access to the new river channel and to the riparian areas. Construction of a fence along the flume right-of-way, as required in license Article 426, would eliminate this effect and preclude any significant impact on grazing or on the riparian area as a result of grazing. Such fencing is noted as mitigation in Section 3.1.3.3.

5.8.2.2 Interconnect Canal Alternative

5.8.2.2.1 Recreational Boating

The Interconnect Canal Alternative would have no significant impact on whitewater boating in Black Canyon. It would create no new boating opportunity in the Cove bypassed reach, as the same amount of flow would be channeled to the Cove intake for power generation. On the rare occasion when flows exceed the amount diverted at the Cove intake, enough to make the Cove bypassed reach boatable, dam removal would make the reach more accessible from the Black Canyon take-out. Overall, this alternative would not significantly impact recreational boating positively or negatively.

5.8.2.2.2 Fishing

This alternative would have the same affect on angling opportunities as the Proposed Action, with two exceptions. First, minimum flow requirements in the Grace bypassed reach would not be reduced so their impact on wading in the reach just below Black Canyon would not be reduced. Second, although the dam would be removed, flows in the Cove bypassed reach would remain minimal, as diversions would be resumed at the Cove intake. Minimal flows would constrain fish passage relative to the Proposed Action, and this reach would not likely provide notable fishing opportunity in itself. Overall, impacts on angling opportunities in the project area and elsewhere in the Bear River system are anticipated to be positive.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

5.8.2.2.3 Livestock Grazing
This alternative would not significantly affect livestock grazing in the project area. Grazing would continue as described above under Affected Environment (Section 5.9.1.3). The flume would remain in place, keeping livestock out of the Cove bypassed reach's riparian area and keeping cattle from mixing.

5.8.2.3 Fish Passage Alternative

5.8.2.3.1 Recreational Boating
This alternative would not significantly affect recreational boating opportunities in Black Canyon and would not create new opportunities in the Cove bypassed reach. The situation would remain generally as described above under Affected Environment (Section 5.9.1.1) prior to 2002 when the Cove development was shut down.

5.8.2.3.2 Fishing
This alternative would have the same affect on angling opportunities as the Proposed Action, with two exceptions. First, minimum flow requirements in the Grace bypassed reach would not be reduced so their impact on wading in the reach just below Black Canyon would not be reduced. Second, although the dam would be removed, flows in the Cove bypassed reach would remain minimal, as diversions would be resumed at the Cove intake. Minimal flows would constrain fish passage relative to the Proposed Action, and this reach would not likely provide notable fishing opportunity in itself. Overall, impacts on angling opportunities in the project area and elsewhere in the Bear River system are anticipated to be positive.

5.8.2.3.3 Livestock Grazing
This alternative would not significantly affect livestock grazing in the project area. Grazing would continue as described above under Affected Environment (Section 5.9.1.3). The flume would remain in place, keeping livestock out of the Cove bypassed reach's riparian area and keeping cattle from mixing.

5.8.2.4 No-Action Alternative

5.8.2.4.1 Recreational Boating
This alternative would not significantly affect recreational boating opportunities in Black Canyon and would not create new opportunities in the Cove bypassed reach. The situation would remain as described above under Affected Environment (Section 5.9.1.1) prior to 2002, when the Cove development was shut down.

5.8.2.4.2 Fishing
This alternative would have no significant impact on the angling opportunities currently provided by the project area, as described above under Affected Environment (Section 5.9.1.2). Most importantly, the Bear River would not be reconnected through the Cove bypassed reach so the dam and the minimal flows through the reach would continue to block fish passage.

5.8.2.4.3 Grazing
This alternative would not significantly affect livestock grazing in the project area. Grazing would continue as described above under Affected Environment (Section 5.9.1.3). The flume would remain in place, keeping livestock out of the Cove bypassed reach's riparian area and keeping cattle from mixing.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

5.8.2.4 Cumulative Effects

5.8.2.4.1 Recreational Boating

As required by the Project license Article 416(c), PacifiCorp has made improvements to the put-in and take-out access points for the Grace bypassed reach. Specifically, the put-in access at the Highway 34 bridge below Grace Dam was improved by developing a gravel parking lot for 15 vehicles, a portable or permanent restroom, and graveled access to the launch site. PacifiCorp also provides a staff gage near the put-in to indicate water level and a rating table to translate water level to flow. The parking lot at the take-out was improved by graveling.

The Project license (Article 419) provides for periodic, scheduled, whitewater releases into Black Canyon between April 1 and July 15. The details of the whitewater release program are specified in the license article. They reflect the importance of this recreational opportunity but call for an adaptive approach, insuring the compatibility of whitewater boating with ecological values.

Kackley Springs was originally diverted into the Cove forebay for purposes of generating additional power. As required by the Project license (Article 410), the spring flows would be rediverted to below the Cove dam with the intent to benefit the river's aquatic resources. However, the Proposed Action would remove the dam and the forebay, and Kackley Springs would then flow into the newly formed channel. Its flows would further benefit aquatic resources in the river but also provide some additional flow benefiting recreational boating.

5.8.2.5.2 Fishing

The Project license establishes the minimum flow requirements (Article 408) under the Proposed Action and the action alternatives, and requires that recreational access and access facilities are improved as described in detail above (see also Section 3.9.2.5.1). In addition, the license calls for the development of a restoration plan for the BCT in the Bear River basin (Article 403). Under the Proposed Action or any action alternative, the minimum flow requirements would further enhance fish passage through the project area. On the other hand, facilitating the spread of predatory smallmouth bass and walleyes in the Bear River basin could be inconsistent with the goals of the BCT recovery plan. Overall, it is anticipated that the cumulative effects on fishing would be positive, and that no significant cumulative impact on BCT recovery would result. These issues are discussed in more detail in Section 5.2.

5.8.5.3.3 Grazing

Several articles of the Project license bear cumulatively on livestock grazing. The license requires preparation of land management plans (Article 424) that will specifically address grazing management on project-area leases and update those leases accordingly. Other articles (425 and 426) require modifying grazing practices of lessees of PacifiCorp land, and fencing of buffers on PacifiCorp land along the Cove bypassed reach to protect sensitive areas from grazing impacts. Fencing along the flume right-of-way would serve the purpose of protecting riparian resources along the Cove bypassed reach, as well as preventing cattle from mixing.

In accordance with the Bear River Settlement Agreement, these license stipulations are intended to support continued grazing on the leased parcels in a manner that is consistent with the other objectives for management of PacifiCorp-owned lands. The cumulative impact on grazing would be negative in some respects, positive in others. The acreage available for grazing in the project area would likely be reduced. However, effective implementation of improved management plans would help insure the future of grazing in the project area. Overall, significant cumulative impacts on livestock grazing are not anticipated.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

5.9 SOCIOECONOMIC ISSUES

The following socioeconomic issues were determined to require detailed analysis in this report (Section 4.1.3):

- *Would decommissioning the Cove Development affect employment in the project area?*

  Modification of the Cove facilities could have short- and long-term impacts on area employment opportunities. There are currently 15 PacifiCorp employees indirectly affiliated with the Cove Development. Decommissioning Cove could eliminate long-term facility-related employment for up to one employee. However, construction and restoration activities could lead to a short-term increase in area employment opportunities.

- *Would decommissioning the Cove Development alter the county's tax base?*

  PacifiCorp properties are assessed based on historic values and the assessed property taxes contribute to the Caribou County tax base. Decommissioning could affect the tax valuation thereby impacting PacifiCorp's contribution to the County.

5.9.1 AFFECTED ENVIRONMENT

5.9.1.1 Employment

The Cove Development is located in Caribou County, Idaho, approximately 38 miles north of the Utah border on the Bear River. The county has a population of approximately 7,300 people. Caribou County's workforce is approximately 3,400, and its unemployment rate is approximately 6.4 percent (Idaho Department of Commerce and Labor 2004). Currently, the area's economy is largely agriculture-based and is supported by beef, dairy, potato, grain and hay farming as well as manufacturing and phosphate mining.

Historically, the area was settled gradually following the Lewis and Clark Expedition in the early 1800s. The discovery of gold in the mid-1800s further stimulated population growth, and hydroelectric power was developed along the Bear River to support the demands of the mining industry and the growing population.

Built in 1917, the Cove Development was one of the earliest of those hydroelectric facilities. PacifiCorp, formerly Utah Power and Light, purchased Cove in 1929. Over the years, with increased capacity to generate electrical power from coal fired steam plants, the facility's contribution to the company's power generation has been reduced. Prior to the Cove Development going off-line in 2002, only about 6.7 percent of PacifiCorp's total electrical generation came from the Bear River Hydroelectric Project.

PacifiCorp has been one of the major employers in the project area and at one time had 25-30 employees involved in Bear River Hydroelectric operations. However, the system has been automated in recent years and the number of employees has been reduced. Currently, PacifiCorp maintains a crew of about 15 individuals comprising the project-wide maintenance crew and operators for all four Bear River Hydroelectric developments. There is no staffing assigned specifically to the Cove Development. However, a maintenance crew or an individual employee performs daily, routine security checks on the project facilities, maintains roadways, and works on weed control.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

5.9.1.2 Property Taxes

Taxation of PacifiCorp's hydroelectric facilities is primarily in the form of county property taxes. Calculation of taxes for a given facility is complex but can be summarized as follows. Each state in which PacifiCorp has operating facilities calculates a gross value of the entire PacifiCorp system based on a variety of financial factors, including revenue generation. The state then determines what portion of that overall value resides in that state and calculates a property tax amount for that portion of PacifiCorp's value. PacifiCorp then provides the state with a breakdown of historic value (i.e., purchase price) by location of specific properties and facilities. The state incorporates these historic values and locations to allocate the total tax amount among the counties where PacifiCorp operates. Each county then submits a property tax bill for all PacifiCorp facilities in that county, reflecting all pertinent tax zones (e.g., water and sanitation, schools, cemeteries, etc.) to PacifiCorp.

This system obscures the property tax associated with any given facility in counties with more than one facility. However, for bookkeeping purposes, PacifiCorp internally apportions out a share of each county's total bill to each facility within that county. In this case, the property tax assigned to the Cove Development is $14,000 annually, paid to Caribou County.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

5.9.2 ENVIRONMENTAL CONSEQUENCES

5.9.2.1 Proposed Action

5.9.2.1.1 Employment

Decommissioning Cove would create short-term employment opportunities and reduce long-term employment levels for the Bear River Hydroelectric Project as a whole.

Following the contracting process, the demolition and rehabilitation phases of the project would take approximately 11 months. It is anticipated that no more than 15 individuals at one time, including subcontractors' crews, would be required to complete the project. Those positions would be filled from either the immediate area, including the town of Grace, or from larger, outlier communities such as Soda Springs, Idaho, located 18 miles from Cove or Logan, Utah, 78 miles from Cove. PacifiCorp would provide on-site, employee housing for the duration of the decommissioning process. Therefore, it is anticipated that area businesses and services would not be notably impacted by the decommissioning activities.

Removing Cove could negate the need for up to one long-term PacifiCorp position systemwide. After Cove was decommissioned, however, weed control, safety assurance, and general maintenance of the powerhouse would still be required at the Cove Development.

Based on this information, decommissioning the Cove facilities would not significantly impact short-term or long-term employment conditions in the project area.

5.9.2.1.2 Property Taxes

If the Cove Development were decommissioned, it would no longer be carried on PacifiCorp's books as a generation facility, and it would therefore not factor into the centrally assessed system of valuating the pooled facilities described in Section 5.10.1.2. Instead, it would fall back to Caribou County's local assessment of property values and be taxed accordingly. It is impossible to predict exactly how this would affect property taxes paid to the County because the system of valuation would be fundamentally changed. If Caribou County's local property valuation were higher than the figure resulting from the central assessment, property taxes would increase. If the local valuation were lower, taxes would fall. Given the role of the historic value (i.e., original purchase price) in the central assessment, and the fact that the property was purchased about a century ago, it is possible that the local valuation and resulting property tax would be higher. In either case, decommissioning Cove is not anticipated to significantly affect or alter the county's tax base.

5.9.2.2 Interconnect Canal Alternative

5.9.2.2.1 Employment

Similar to the Proposed Action, employment opportunities would not be notably affected by the Interconnect Canal Alternative. The number of short-term, construction-related employees would be similar to those projected under the Proposed Action. The current number of PacifiCorp employees would likely remain at 15, with individuals being placed permanently for the continued operation and maintenance of the Cove facilities, or additional employees could be hired to maintain the canal. Short-term and long-term employment opportunities would not be significantly impacted by this alternative.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

5.9.2.2.2 Property Taxes
The Interconnect Canal Alternative would provide for continued power-generation at the Cove Development. Property taxes would be similar to those discussed in Section 5.10.1.2, and thus PacifiCorp's contribution to the County would be similar.

5.9.2.3 Fish Passage Alternative

5.9.2.3.1 Employment
Construction of the Fish Passage Alternative would sustain current long-term employment levels. Temporary employment would be available for facilities modifications and for worksite rehabilitation. Power generation would continue, and only temporary construction employment would be necessary. Therefore, this alternative would not significantly affect employment opportunities in the area.

5.9.2.3.2 Property Taxes
The Cove Development and its power generation capabilities would continue. Property valuation would be similar to that discussed in Section 5.10.1.2, and PacifiCorp's contribution to the County would remain unchanged. The Fish Passage Alternative would not significantly affect the County's tax base.

5.9.2.4 No-Action Alternative

5.9.2.4.1 Employment
Under the No-Action Alternative, no changes from current long-term employment conditions are anticipated and only short-term employment opportunities would be made available. The Cove Development would return to power generation operations once flume repairs were complete as required by the Project license (Para. 45; FERC 2003b). Short-term employment opportunities would be related to repairing the Cove flume. The crew assigned to this project would be approximately 20-30 employees, employed for approximately 6 months (PacifiCorp 2005c). Therefore, this alternative would not significantly affect the area's employment conditions.

5.9.2.4.2 Property Taxes
Property valuation would not be altered under the No-Action Alternative. As a result, PacifiCorp's tax contribution to the county would not be affected.

5.9.2.5 Cumulative Effects

5.9.2.5.1 Employment
The Project license requires multiple enhancement and protection measures in and around the project area including fencing in the Cove bypassed reach (Article 425) and establishing buffer zones (Article 426), implementing a water quality monitoring plan (Article 413), and upgrading recreational facilities at the Black Canyon put-in and take-out (Article 416). These measures would provide short-term or temporary employment opportunities to area residents. These interim opportunities would cumulatively affect employment opportunities and offset any potential loss of a long-term, hydro operations job due to the Proposed Action.

5.9.2.5.2 Property Taxes
It is anticipated that there will be no new developments in the area and land uses will not change markedly in the foreseeable future. Therefore it is likely that the Proposed Action and action alternatives would not have a significant cumulative effect on property taxes.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

5.10 CULTURAL RESOURCES

The following cultural issues were determined to require detailed analysis in this report (Section 4.1.3):

- *Would historic, Native American, or paleontological values be impacted by modification of the facilities?*

  Most of the facilities comprised by the Cove Development were built nearly 100 years ago and contribute to the area's historic character. The project area may also be important to Native Americans with cultural roots in the area, and it could be the site of paleontological resources. Facilities modification and removal could impact these values.

5.10.1 AFFECTED ENVIRONMENT

As discussed in detail in the Bear River EIS (Section 4.3.6) and in the HPMP (Section 2.0), southern Idaho has a rich cultural history dating from as early as 14,000 B.P. (Paleo-Indian Period), extending through early Euro-American settlement in the mid 19th century, and the subsequent hydroelectric developments from the early 20th century to the present.

The Cove hydroelectric structures including the Cove dam, flume, powerhouse, and associated employees' facilities were constructed in 1917 and are located within an area of ancestral tribal land important to the Shoshone-Bannock Tribes, a party to the Bear River Settlement Agreement.

In compliance with the NHPA during relicensing of the Bear River Hydroelectric Project, contractors for PacifiCorp conducted an intensive survey in 1997 and 1998 to identify, record, and evaluate cultural resources in the Cove project area, among others. The survey included the area within the high-water zone of the Cove forebay, the area immediately surrounding the project facilities, both sides of the Bear River in the FERC project boundary, and the 100-foot-wide corridor along either side of the existing flume (FERC 2003a).

The historic structures and facilities documented during these earlier surveys of the project area were found to collectively contribute to the eligibility of the Grace-Cove complex for listing on the National Register of Historic Places (National Register; SWCA 2005). Those structures and facilities include: (1) the Cove Dam; (2) the Cove flume; (3) the Cove power plant complex including the superstructure and the tainter gate superstructure buildings; and, (4) the Cove power plant employees' residential community landscape (FERC 2003a). All of the Cove structures or facilities are also eligible for listing in the National Register as individual resources (SWCA 2005).

Those surveys found no paleontological resources in the Cove area, and no prehistoric sites were recorded. However, as noted in Section 4.2.5.1 of the HPMP (SWCA 2005), the Shoshone-Bannock Tribes have identified culturally significant resources located within the general project area, though none have been identified within the specific area of the Cove Development.

A survey of the Cove bypassed reach has not been conducted, but its generally flat or gently rolling terrain is conducive to the presence of both prehistoric and historical sites (SWCA 2005).

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

5.10.2 Environmental Consequences

5.10.2.1 Proposed Action

Decommissioning the Cove Development would impact all of the associated historic properties. With the exception of the Cove powerhouse, the pressure box, and the flume materials, part or all of the following structures and facilities would be removed: the dam, except the east abutment section; the superstructure buildings, intake trash racks, and stoplogs; and the tainter gate and bar screens. Additionally, the forebay bed would be exposed by water level reductions following the removal of the dam, and it would be regraded and revegetated.

The removal of these structures and facilities would have an adverse impact on the integrity of the historical hydroelectric district and future eligibility of the individual buildings and structures for the National Register. The powerhouse more clearly exhibits the architectural stylings of its period than any other area structure. Although left intact, its historical setting and association would be compromised by the removal of some or all the associated features that collectively comprise the historical complex (SWCA 2005).

The loss of buildings and structures as a result of decommissioning the Cove Development could have an impact on the historical landscape and historical identity of the nearby community of Grace. Given the historical significance of the Cove Development, substantive mitigation of impacts on the complex's current eligibility, and the individual components' future eligibility, would be warranted.

PacifiCorp proposes to mitigate this aspect of the decommissioning impact on the broader historical landscape and community identity by implementing a public interpretation program. The specifics of this program would be defined through consultation with the ISHPO and the Grace City Council, but the program is currently anticipated to consist of interpretive signage placed either near the Cove Development site or elsewhere in the community at locations defined by the City Council. This signage would be placed as part of the overall public interpretation program called for in the HPMP.

The Tribes have interest in natural and cultural resources located, or potentially located, in the area including gravesites, springs, and BCT. The impacts on BCT due to decommissioning Cove are discussed in detail in Section 5.3. Surface disturbance and excavation associated with the removal of the dam and other structures could disturb such resources. If previously unknown cultural artifacts, including Native American gravesites, are disturbed during the Proposed Action, there are protocols in place to mitigate adverse impacts. These are discussed in detail in the HPMP (Section 6.7). In regard to project area springs that may be culturally important, site ground disturbance such as grading will be avoided to mitigate the effects of disturbance to springs. Further, reseeding in any adjacent disturbed areas will restore the project area to a more natural state, and help to reconnect the Bear River.

Consistent with the Bear River Settlement Agreement, PacifiCorp would continue to consult with the Tribes in identifying traditional cultural sites or other values considered significant to them in the project area.

In light of the mitigative considerations discussed above, decommissioning the Cove Development is not anticipated to significantly impact the cultural resources of the project area.

5.10.2.2 Interconnect Canal Alternative

The Interconnect Canal Alternative, including removal of the Cove dam, could adversely affect eligibility of the historical complex and individually eligible resources for listing on the National Register, but to a

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

lesser degree than the Proposed Action. Ground-disturbance and excavation associated with dam removal and installation of the diversion weir, the intake structure, the flow conveyance channel, and the canal could impact archaeological sites and artifacts. Otherwise, potential impacts on cultural resources would be similar to those discussed under the Proposed Action. Mitigation would also be similar, and no significant impacts are anticipated.

5.10.2.3 Fish Passage Alternative

Modification of the Cove Development to provide fish passage could adversely affect the eligibility of the historical complex and individually eligible resources for listing on the National Register, but to a lesser degree than the Proposed Action. Ground-disturbing activities associated with installation of the fish-passage enhancements, including construction of the cofferdam for the fish screen located upstream of the Cove intake, could impact archaeological sites and artifacts. Mitigation requirements would be similar to those under the Proposed Action, and no significant impacts are anticipated.

5.10.2.4 No-Action Alternative

Continued operation of the Cove Development would maintain the current status of the historical hydroelectric complex and not jeopardize current or future eligibility for National Register listing, provided appropriate mitigation was associated with rebuilding the flume. Continued operation would maintain any existing impacts on Native American values (e.g., maintenance of the altered landscape and fluctuating pool levels causing possible erosion of sites inundated by the forebay or along shorelines) but would not create new impacts. An exception would be ground-disturbing activities associated with repairs to the Cove flume and penstocks. Overall, with mitigation measures comprised by the HPMP in place, no significant impacts are anticipated.

5.10.2.5 Cumulative Effects

The Project license would require the implementation of a land management plan (Article 424) detailing public access management, improvements to recreational access (Article 416) and the release of whitewater flows (Article 419). These actions would cumulatively increase both vehicle and foot traffic in the area. The requirements would provide improved access to the area and the Cove facilities, thereby increasing the potential for disturbance to area cultural resources. The Project license also requires that a Programmatic Agreement be implemented to ensure the protection of cultural resources (Article 423). As a function of the Programmatic Agreement, education and outreach would mitigate these effects.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

6. LIST OF PREPARERS

Contributor	Education & Experience	Contribution
Neal Artz Cirrus Ecological Solutions, LC	Ph.D. in Range Science; 21 years experience in natural resource management, socioeconomic impact assessments, project management and technical writing.	Project administration and management, NEPA oversight, quality control/quality assurance.
Anne Brown Cirrus Ecological Solutions, LC	MSc. in Wildlife Ecology, and 10 years professional experience.	Wildlife Resources analysis.
Ernesto de la Hoz Cirrus Ecological Solutions, LC	MSc. in Aquatic Ecology, and 8 years professional experience.	Fisheries and Aquatic Resources analysis.
Eric Duffin Cirrus Ecological Solutions, LC	MSc. in Watershed Science, and 10 years professional experience.	Water Quantity and Quality analysis.
John Stewart Cirrus Ecological Solutions, LC	B.S. in Range Science; 7 years as Botanical and Wetland Specialist.	Wetland/Riparian Resources and Vegetation Resources analysis.
Kelli Taylor Cirrus Ecological Solutions, LC	MSc. in Bioregional Planning, and 10 years resource management and planning; 4 years GIS.	Project management assistance and GIS support; Aesthetic Resources, Safety Issues, Recreation and Land Uses, Socioeconomic Issues, and Cultural Resources analyses.
Judith Seamons Cirrus Ecological Solutions, LC	B.S. in Home Economics; 6 years document production and desktop publishing experience.	Document production and administrative assistance.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

7. REFERENCES

AOU. (American Ornithologists' Union). 2005. List of the 2,038 bird species (with scientific and English names) known from the A.O.U. check-list area. http://www.aou.org/checklist/index.php3. Accessed on 04/05/2005.

Baldwin, C.M., McLellan, J.G., Polacek, M.C., and K. Underwood. 2003. Walleye predation in hatchery releases of kokanees and rainbow trout in Lake Roosevelt, Washington. North American Journal of Fisheries Management 23:660-676.

Bednarek, A.T. 2001. Undamming Rivers: a review of ecological impacts of dam removal. Environmental Management 27: 803-814.

Berglund, Jeff. 1999. MDT Montana Wetland Assessment Method. Prepared for the Montana Department of Transportation and Morrison-Maierle, Inc. Prepared by Jeff Berglund, Western EcoTech.

Black and Veatch Corporation. 2004. Cove Feasibility Study. Prepared for PacifiCorp. Portland. June 2004.

Black and Veatch Corporation. 2005. Cove Decommissioning, Grace, Idaho, General Construction Specification 130683.70.0164, 50% Submittal Issue (Removal Plan). Prepared for PacifiCorp. Portland. February 15.

Behnke, R. J. 1992. Native trout of western North America. American Fisheries Society, Momograph6, Bethesda, Maryland.

BLM. (Bureau of Land Management). 2005. Personal communication with Blaine Newman, Outdoor Recreation Planner, Pocatello Field Office, Pocatello, ID. March 17, 2005.

Cirrus. (Cirrus Ecological Solutions). 2004a. Grace-Cove Development Wetland, Riparian, and Spring Survey. Prepared by Cirrus Ecological Solutions, Logan, UT for PacifiCorp. August.

Cirrus. 2004b. Wetland Delineation Report for Cove Flume Wetland Delineation Report for the Cove Flume Wetland Delineation. Prepared by Cirrus Ecological Solutions, Logan, UT for PacifiCorp. August.

Doyle M.W., E.H. Stanley and J. M. Harbor. 2002. Assessing probable channel response to dam removal using geomorphic analogies. Journal of the American Water Resources Association.

ECC. (Environmental Coordination Committee). 2004. Bonneville Cutthroat Trout Restoration Study Plan. Prepared by the ECC and PacifiCorp for FERC. Portland. July 2004.

ECC. 2005. Environmental Coordination Committee meeting notes. http://www.pacificorp.com/Article/Article43436.html. February 16, 2005.

ERI. 2005. Draft Bear River/Malad Subbasin Assessment and Total Maximum Daily Load Plan (for HUCs 16010102, 16010201, 16010202, 16010204). Prepared for Idaho Department of Environmental Quality. Logan. January 2005.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

FERC. (Federal Energy Regulatory Commission). 2002. Guidelines for the development of historic properties management plans for FERC hydroelectric projects. FERC, Washington, DC. May 20, 2002.

FERC. 2003a. Final Environmental Impact Statement-Bear River (FERC Project Nos. 20, 2401, & 472). FERC, Washington, DC. April 2003.

FERC. 2003b. Order Approving Settlement Agreement and Issuing New License. FERC, Washington DC. December 22, 2003.

Federal Register. 1982. Title 33: Navigation and Navigable Waters; Chapter II, Regulatory Programs of the Corps of Engineers, Vol. 47, No. 138, p. 31810, US Government Printing Office, Washington, D.C.

Fritts, A.L., and T.N., Pearsons. 2004. Smallmouth bass predation on hatchery and wild salmonids in the Yakima River, Washington. Transaction of the American Fisheries Society 133:880-895.

FWS. (Fish and Wildlife Service). 1997. A System for Mapping Riparian Areas in the Western United States. 1997. http://wetlands.fws.gov/PubsReports/Riparian/Riparian.htm.

FWS. 2005a. Letter from Debra Mignogno, United States Department of Interior, FWS Supervisor, Eastern Idaho Field Office to Cirrus Ecological Solutions. March 3, 2005.

FWS. 2005b. Personal communication with Troy Smith, United State Department of Interior, FWS Biologist, Eastern Idaho Field Office. March 23, 2005.

Hart, D.D., Johnson, T.E., Bushaw-Newton, K.L., Horwits, R.J., Bednarek, A.T., Charles, D.F., Kreeger, D.A., and D.J. Velinsky. 2002. Dam removal: challenges and opportunities for ecological research and river restoration. BioScience 52:669-681.

Idaho Department of Commerce and Labor. 2004. http://www.journalnet.com/articles/2004/12/12/news/local/news09.txt. December 12, 2004.

Idaho Department of Environmental Quality (IDEQ). 2003. Principles and Policies for the 2002/2003 Draft Integrated (303(d)/305(b)) Report. State of Idaho Department of Environmental Quality 1410 N. Hilton, Boise, ID 83706.

Idaho Department of Environmental Quality (IDEQ). 2004. Bear River Black Canyon Substrate Survey. Prepared for the ECC and PacifiCorp. December 2004.

Idaho Department of Lands (IDL). 2005. Personnel communication with Pat Brown. March 2005.

Idaho Mining Assoc. 1999. Final 1998 Regional Investigative Report. Southeast Id. Phosphate Res. Area. Selenium Proj.

Johnstone, H. C., and F. J. Rahel. 2003. Assessing temperature tolerance of Bonneville cutthroat trout \ based on constant and cycling thermal regimes. Transactions of the American Fisheries Society 132:92-99.

Kleinfelder Inc. 2005. Environmental and Geotechnical Report – Cove Pond Sediment Characterization Study, Caribou County, Idaho. May 2005.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Knopf, F. L., R. R. Johnson, T. Rich, F. B. Samson, and R. C. Szaro. 1988. Conservation of riparian ecosystems in the United States. Wilson Bulletin 100:272–284.

Kuo, S. 1996. Soc. of Soil Scientists of America, Book series no. 5, Methods of Soil Science, Part 3, Chemical Methods, Ch. 32.

Lentsh, L.D., Toline, C.A., Kershner, D., Hudson, J.M., and J. Mizzi. 2000. Conservation agreement and strategy for Bonneville cutthroat trout (*Oncorhynchus clarki utah*). Utah Division of Wildlife Resources, Publication 00-19, Salt Lake City, Utah.

Lisle T.E., Y. Cui, G. Parker, J.E. Pizzuto and A.M. Dodd. 2001. The dominance of dispersion in the evolution of bed material waves in gravel-bed rivers. Earth Surface Processes and Landforms. 26:1409-1420.

Long, E.R., D.D. MacDonald, S.L. Smith, and F.D. Calder. 1995. Incidence of adverse biological effects within ranges of chemical concentrations in marine and estuarine sediments. Environ. Manage., Vol. 19(1). Pp 81-97.

Mladenka, G. and L. Van Every. 2004. Bear River Black Canyon Substrate Survey. Idaho Department of Environmental Quality. Prepared for PacifiCorp and the Environmental Coordinating Committee by Greg Mladenka and Lynn Van Every. December 30, 2004.

PacifiCorp. 1999. Grace/Cove Hydroelectric Project, FERC Project No. 2401, License Application, Volume I. PacifiCorp, Portland, Oregon, September 1999.

PacifiCorp. 2003. Settlement Agreement: Resolving the Relicensing of the Bear River Hydroelectric Projects. Prepared for FERC. Portland. August 2003.

PacifiCorp. 2005a. Settlement Agreement Concerning the Decommissioning of the Cove Development, Bear River Hydroelectric Project, FERC Project No. 20, Caribou and Franklin Counties, Idaho. Prepared for FERC. May 2005.

PacifiCorp. 2005b. Consumer Benefit Analysis. Portland. February 2005.

PacifiCorp. 2005c. Personal communication with Robert Atwood. April 2005.

PacifiCorp. 2005d. Personal communication with Eve Davies. April 2005.

Parrish, J. R., F. P. Howe, and R. E. Norvell. 2002. Utah Partners in Flight Avian Conservation Strategy. Version 2.0. Utah Partners in Flight Program, Utah Division of Wildlife Resources Publication Number 02-27, Salt Lake City, Utah.

Peterson P. 2005. Watermaster, Gentile Valley Irrigation Company. Personal communication with E. Duffin, Watershed Scientist, Cirrus Ecological Solutions, Logan, Utah re. water diverted from the Bear River through the Gentile Valley Irrigation Diversion. April 2005.

Pizzuto, J. 2002. Effects of dam removal on river form and process. Bio Science 52:683-691.
Poff, N.L., and D.D. Hart. 2002. How dams vary and why it matters for the emerging science of dam removal. BioScience 52: 659-668.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Poff, N.L., and D.D. Hart. 2002. How dams vary and why it matters for the emerging science of dam removal. BioScience 52: 659-668.

Shacklette, H. and J. Boerngen. 1984. Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States. United States Geological Survey Professional Paper 1270. U.S. Government Printing Office, Washington D.C.

SWCA. (SWCA Environmental Consultants). 2004. Black Canyon Monitoring Plan. Prepared for the ECC and PacifiCorp. Salt Lake City. November 2004.

SWCA. 2005. Historic Properties Management Plan for PacifiCorp's Bear River Hydroelectric Projects (Soda, Grace-Cove, and Oneida Developments, Franklin and Caribou Counties, Idaho). Prepared for PacifiCorp. Salt Lake City. March 2005.

Van Every, L. 2005. Water Quality Manager, Pocatello Regional Office, Idaho Department of Environmental Quality. Personal communication with E. Duffin, Watershed Scientist/Hydrologist, Cirrus Ecological Solutions, Logan, UT re. Bear River channel characteristics below Cove dam and water quality monitoring in Bear River Basin.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Appendix D

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

DRAFT Bear River 401 Certification Conditions

29 July 2005

Cove Dam Removal on Bear River, Caribou County, Idaho

PacifiCorp shall conduct the following monitoring, and adhere to the following conditions in conjunction with Cove Dam removal activities:

1. PacifiCorp shall develop a water quality monitoring plan ("Cove Dam Removal WQMP") to monitor turbidity, dissolved oxygen, suspended sediment concentration, total phosphorus, nitrate, and ammonia that meets the requirements set forth below. PacifiCorp shall implement the Cove Dam Removal WQMP upon approval by the Idaho Department of Environmental Quality (IDEQ).

- The purpose of the Cove Dam Removal WQMP is to characterize water quality conditions above and below the project, determine the project's contribution to any violation of water quality criteria set forth in Idaho's Water Quality Standards and Wastewater Treatment Requirements, IDAPA 58. 01.02 (Water Quality Standards), and describe what actions will be taken in the event that Water Quality Standards are violated during project activities. The Cove Dam Removal WQMP will provide for continuous (5 minute intervals) monitoring of turbidity and dissolved oxygen in the Bear River for the duration of the project. Continuous turbidity monitoring shall occur upstream of the project below the Grace tailrace and downstream immediately below the Cove Hydroelectric Plant. Turbidity and dissolved oxygen data shall be monitored real time by a qualified on-site person whenever construction activities are taking place below the ordinary high water mark (in-channel activities).
- Concurrent with continuous monitoring at the two sites, PacifiCorp will collect two water samples each day when in-channel activities will occur. Samples shall be taken below the Grace tailrace and immediately below the Cove Hydroelectric Plant prior to commencing in-channel activities and below the Cove Hydroelectric Plant 15-30 minutes following in-channel activities anticipated to create the highest turbidity for that day. Water samples shall be analyzed for suspended sediment concentration, total phosphorus, nitrate + nitrite, and ammonia. Following day one of in-channel activities, water sample collection shall continue; however, daily water samples collected that day need not be analyzed if the greatest measured turbidity increase as shown by the continuous monitoring due to construction activities for that day is less than 10 NTU. The Water Quality Section in the Pocatello Regional Office of the IDEQ will make determinations whether to allow a decrease in the number of analyses for samples taken at higher turbidities during the project.
- Instrumentation utilized for continuous monitoring shall be accurate within ± 5 NTU for turbidity and ± 0.2 mg/L for dissolved oxygen concentration.
- Water quality monitoring shall be conducted by an independent, qualified consultant.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

- Monitoring results shall be sent to the IDEQ within 24 hours of of data collection. If, however, turbidity or dissolved oxygen standards are violated as shown by the continuous monitoring, IDEQ shall be notified on a same day basis or as soon as possible.

2. PacifiCorp must obtain IDEQ approval of the WQMP prior to commencing dam removal activities. At a minimum, the WQMP shall comply with the requirements set forth in this certification and shall identify the sites for the monitoring, how background levels shall be established and the manner in which PacifiCorp shall collect and report the data, including QA/QC requirements.

3. Idaho's Water Quality Standards and Wastewater Treatment Requirements, IDAPA 58. 01.02 (Water Quality Standards) provide a turbidity standard for surface water which reads that activity-related turbidity shall not exceed background levels by more than 50 NTU instantaneously or more than 25 NTU for more than ten (10) consecutive days. Dissolved oxygen shall not be less than 6 mg/L. If turbidity or dissolved oxygen standards are exceeded at any time due to project activities as shown by PacifiCorp's continuous monitoring, procedures in the approved WQMP shall be conducted to correct the situation causing excessive turbidity or insufficient dissolved oxygen prior to recommencing work.

4. If IDEQ determines that monitoring results show elevated levels of phosphorous, nitrates, ammonia or suspended sediment, IDEQ may require PacifiCorp take appropriate actions to prevent or minimize future water quality impacts.

5. To the maximum extent practicable, sediments will be removed from the anticipated new river channel within Cove forebay prior to dam removal.

6. Petroleum products, hazardous, toxic and/or deleterious materials shall not be stored, disposed or accumulated adjacent to or in the immediate vicinity of state waters unless adequate measures and controls are provided to ensure that those materials will not enter state waters as the result of high water, precipitation runoff, wind, storage facility failure, accidents in operation, or unauthorized third party activities. Vegetable-based hydraulic fluid must be used on equipment operating in or directly adjacent to the channel.

7. This certification shall remain in effect for a period of two (2) years from the date of issuance. If decommissioning activities are not begun within this 2 year period, the certification shall be void, and a new certification shall be required. If significant changes occur in the decommissioning plan, IDEQ shall be notified and these permit conditions may be revised to address those changes.

8. Water quality certification provided herein may be revoked for failure of the permittee to comply with the conditions of the referenced permit and/or requirements contained herein. IDEQ shall provide notice of its intent to revoke, and provide an opportunity for a contested case, prior to revocation.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Attachment B: Explanatory Statement for the July 20, 2005, Settlement Agreement Concerning the Cove Development

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

EXPLANATORY STATEMENT

FOR THE SETTLEMENT AGREEMENT CONCERNING THE DECOMMISSIONING OF THE COVE DEVELOPMENT

AMONG
PACIFICORP
UNITED STATES FISH AND WILDLIFE SERVICE
UNITED STATES BUREAU OF LAND MANAGEMENT
UNITED STATES NATIONAL PARK SERVICE
UNITED STATES FOREST SERVICE
SHOSHONE-BANNOCK TRIBES
IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY
IDAHO DEPARTMENT OF FISH AND GAME
IDAHO DEPARTMENT OF PARKS AND RECREATION
TROUT UNLIMITED
IDAHO RIVERS UNITED
GREATER YELLOWSTONE COALITION
AMERICAN WHITEWATER

DATED AUGUST 15, 2005

BEAR RIVER HYDROELECTRIC PROJECT
FERC PROJECT NO. 20
CARIBOU AND FRANKLIN COUNTIES
IDAHO

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Explanatory Statement **August 15, 2005**

I. Introduction

On August 28, 2002, PacifiCorp executed a comprehensive settlement agreement ("the Relicensing Settlement Agreement") with sixteen state and federal resource agencies, Indian Tribes, and non-governmental organizations (collectively, "the Parties")[1] to resolve all issues regarding relicensing of the Bear River Hydroelectric Project ("the Project") and for the purpose of obtaining a new Project license ("New License") from the Federal Energy Regulatory Commission ("the Commission").[2] On September 26, 2002, PacifiCorp filed the Relicensing Settlement Agreement with the Commission, along with an Explanatory Statement and proposed license articles. On December 22, 2003, the Commission issued a New License adopting in large part the Relicensing Settlement Agreement and incorporating its terms into license articles.

Section 3.1.2.6 of the Relicensing Settlement Agreement requires PacifiCorp to conduct a feasibility study to evaluate methods to improve fish passage at Cove dam, with alternatives ranging from modification of existing facilities, to decommissioning of the Cove development. PacifiCorp complied with this requirement by providing the Parties with the Cove Feasibility Study (Black and Veatch 2004) on June 14, 2004. The Cove Feasibility Study assesses (1) the technical and economic feasibility of decommissioning and removing the Cove development; (2) interconnecting the Grace tailrace and Cove flume, and removing Cove dam; and (3) constructing a range of fish passage facilities to reduce the barrier effect of the current infrastructure.

On December 10, 2004, PacifiCorp, on behalf of the Environmental Coordinating Committee ("ECC"),[3] submitted a letter to the Commission selecting Cove development decommissioning as the recommended alternative under Section 3.1.2.6 of the Relicensing Settlement Agreement. The Parties determined that Cove development decommissioning was consistent with the Parties' objectives for restoring river processes and improving water quality, while at the same time providing increased operational and economic certainty for PacifiCorp.

The Parties have now developed a comprehensive settlement agreement to decommission the Cove development ("the Agreement"). This Agreement modifies certain provisions of the Relicensing Settlement Agreement and New License as described below. In reaching an agreement to decommission the Cove development, the Parties have recognized the importance

---

[1] Parties to the Relicensing Settlement Agreement and this Agreement include the United States Fish and Wildlife Service ("USFWS"); United States Bureau of Land Management ("BLM"); United States National Park Service ("NPS"); United States Forest Service ("USFS"); Shoshone-Bannock Tribes ("Tribes"); Idaho Department of Environmental Quality ("IDEQ"); Idaho Department of Fish and Game ("IDFG"); Idaho Department of Parks and Recreation ("IDPR"); Idaho Council of Trout Unlimited ("ITU"); Idaho Rivers United ("IRU"); Greater Yellowstone Coalition ("GYC"); American Whitewater ("AW"), and other interveners.

[2] The history of the Bear River Hydroelectric Project licensing proceeding is discussed in the Explanatory Statement accompanying the August 28, 2002, Relicensing Settlement Agreement, and the Commission's December 22, 2003, Order Approving Settlement Agreement and Issuing New License. See 105 FERC ¶ 62,207.

[3] The ECC, organized under Section 4.1 of the Relicensing Settlement Agreement, consists of representatives from the Parties. Among other things, the ECC facilitates coordination and consultation between PacifiCorp and the other Parties on plan development and PM&E implementation.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

of clearly defining PacifiCorp's obligations to remove the Cove development, and providing contingencies to cease decommissioning in the event unforeseen permitting or other requirements materially alter the agreed-upon Cove development removal plan ("the Removal Plan"), attached as Appendix B to the Agreement.

Pursuant to the Commission's regulations at 18 C.F.R. § 385.602, PacifiCorp now submits this Explanatory Statement ("Statement") which provides the rationale for the protection, mitigation and enhancement ("PM&E") measures and decision-making provisions contained in this Agreement. Nothing in this Statement is intended to modify the terms of the Agreement.

The Parties submit that this Agreement is fair and reasonable and in the public interest within the meaning of Rule 602, 18 C.F.R. § 385.602(g)(3), for the reasons set forth in this Statement. The Agreement resolves all issues regarding decommissioning of the Cove development for the purpose of obtaining a Commission order issuing to PacifiCorp amending the New License.

II. Background

A. The Bear River Project

The Bear River Project is located on the Bear River in Caribou and Franklin Counties, Idaho, and is partially located on United States lands administered by BLM. The Project generates approximately 84.5 megawatts of electricity.

The Soda facilities consist of: (1) the 103-foot-high and 433-foot-long concrete gravity Soda dam with a 114-foot-long spillway section; (2) the Soda reservoir with a surface area of 1,100 acres, and active storage capacity of 16,300 acre-feet, and a maximum water surface elevation of 5,720 feet; (3) the Soda powerhouse containing two units with a total installed capacity of 14 megawatts; and (4) other appurtenances.

The Grace/Cove facilities consist of the Grace and Cove developments. The Grace development consists of: (1) a 51-foot-high and 180-foot-long rock filled timber crib dam that creates a forebay; (2) a 26,000-foot-long flowline and surge tanks; and (3) a powerhouse with three units with a total installed capacity of 33 megawatts. The Cove development consists of: (1) a 26.5-foot-high and 141-foot-long concrete dam and forebay; (2) a 6,125-foot-long concrete and wood flume; (3) a 500-foot-long steel penstock; and (4) a powerhouse with a 7.5-megawatt unit.

The Oneida facilities consist of: (1) the 111-foot-high and 456-foot-long concrete gravity Oneida dam; (2) the Oneida reservoir with an active storage of 10,880 acre-feet and a surface area of 480 acres; (3) a 16-foot-diameter, 2,240-foot-long flowline; (4) a surge tank; (5) three 12-foot-diameter, 120-foot-long steel penstocks; (6) the Oneida powerhouse with three units with a total installed capacity of 30 megawatts; and (7) other appurtenances.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

B. History of Cove Development Decommissioning Discussions

As described above, on December 10, 2004, PacifiCorp submitted a letter to the Commission selecting Alternative No. 1 of the Cove Feasibility Study (Decommissioning of the Cove development) as the Parties' recommended alternative. PacifiCorp indicated its intent to file with the Commission by April, 2005, an amendment to the Relicensing Settlement Agreement specifically defining actions required to implement Alternative No. 1. Further, PacifiCorp indicated its intent to file with the Commission an application for a license amendment to incorporate Decommissioning actions contemplated by Alternative No. 1.

Between December, 2004, and June, 2005, the Parties developed a comprehensive settlement agreement to address decommissioning of the Cove development, including (1) a plan specifically outlining decommissioning measures (the "Removal Plan"); (2) a report analyzing the environmental impacts associated with the proposed action ("the Environmental Report"); and (3) proposed license articles implementing the terms of the Agreement. The Parties now submit these documents to the Commission in support of their collective recommendation to authorize Cove development decommissioning consistent with the terms of the Removal Plan.

III. Description of the Grace/Cove Project Facilities

The Grace/Cove facility consists of two hydroelectric developments (total capacity of 40.5 MW) located on the Bear River in Caribou County near the town of Grace, Idaho. The facility consists of the Grace and Cove diversion dams, forebays, flow lines, and powerhouses.

The Grace forebay covers 38 surface acres and has a total storage capacity of 320 acre-feet. At full pool, the forebay has an average depth of about 14 feet, and the surface elevation varies by about 0.3 foot in any one day and about eight feet over a typical operating year. The Grace bypass is a 6.6-mile long section of the Bear River that extends from the Grace dam to the Grace powerhouse. The Cove forebay covers about 10 surface acres and storage capacity of 60 acre-feet. At full pool, the forebay has an average depth of about seven feet and may vary by about 0.1 foot in any one day and about four feet over a typical operating year. The Cove bypass is a 1.7-mile long section of the Bear River that extends from Cove dam to Cove powerhouse. Currently flows in the Grace bypass reach (Black Canyon) is provided by the minimum flow requirement stipulated in the New License, leakage from the dam, and natural springs in the lower end of the Grace bypass reach. The Cove Development has been out of operation since March 2003 and, thus, flows from the Grace tailrace and Grace bypass reach continue into the Cove bypass.

Cover types in the area of the Grace/Cove facility consist of cropland/ pastureland, sagebrush steppe, and cliff/rock/tallus. A small amount of emergent and scrub-shrub wetlands occur in the area, mostly associated with the Bear River upstream and downstream of Black Canyon and along the Cove Bypass. No Endangered Species Act-listed species are known to occur in the vicinity of these developments. The only sensitive wildlife species observed near these developments is the ferruginous hawk; suitable habitat for ferruginous hawk occurs above the ordinary high water and away from Grace/Cove facilities. Canada geese nest in the vicinity of the Grace and Cove forebays, and mallards have been observed nesting throughout the area.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

In addition to hydroelectric development, land use in the area includes agriculture crop production and livestock grazing.

Grace forebay is meso-eutrophic, or moderately enriched. Water quality in the forebay meets all water quality standards established by IDEQ to support designated uses for the forebay with the exception of dissolved oxygen ("DO") for cold water biota. While in summer DO levels in the forebay are occasionally less than the established standard, levels rarely drop below 3.9 milligrams per liter (mg/l) and affect only the deepest areas of the forebay.

Currently, flow in Grace Bypass is composed of the minimum flow release from Grace Dam, leakage from Grace Dam (approximately 2 cfs), and contributions from five major springs (ranging from 40 to 70 cfs, depending on the time of year and weather conditions) that enter Grace Bypass about three miles downstream of Grace Dam. Normal flow in Cove Bypass is composed of leakage from Cove Dam (ranging from 1 to 10 cfs, depending on time of year and weather conditions), and contributions from three major springs (ranging from 10 cfs to 30 cfs, depending on time of year and weather conditions). However, the Cove Development has been shut down since March 2003 and the Cove Bypass receives all flows from the Grace tailrace as well as Black Canyon.

Relicensing studies and the Environmental Report (PacifiCorp 2005a) indicate that in general, flows in Grace and Cove Bypasses meet all water quality standards established by IDEQ to support designated uses. Grace Bypass supports an IDFG-stocked fishery composed of juvenile and adult rainbow trout, primarily in the lower section of the bypass. Further, IDEQ is in the process of completing a TMDL for total phosphorus and total suspended solids throughout the Project reach.

IV. Studies and Existing Information

Relicensing studies were conducted between 1996 and 1998 to assess the effects of the presence and operation of the Bear River projects (PacifiCorp 1999a, b, c). Applications submitted to the Commission on September 27, 1999, and the Commission's final Environmental Impact Statement ("FEIS") for license issuance, document the results of these studies. In addition to these documents, PacifiCorp prepared an Environmental Report evaluating the environmental impacts of the proposed action and alternatives (PacifiCorp 2005a).

V. Summary of Decommissioning Measures

A. Minimum Flow Requirements (Sections 5 and 6.4 of the Agreement)

Sections 5 and 6.4 of the Agreement provide for changes to Section 3.2 of the Relicensing Settlement Agreement and Article 408(b) of the New License by (1) eliminating minimum flow requirements at the Cove development in view of facility decommissioning; and (2) reducing minimum flow levels in the Grace bypass to the lower of 63 cfs or inflow, in addition to current leakage from Grace Dam. Reducing minimum flow requirements in the Grace bypassed reach (about 6.6 miles of the Bear River channel) from 80 cfs to 63 cfs, plus leakage from the dam of about 2 cfs, would provide PacifiCorp with 17 cfs of additional flow for

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

power generation at the Grace powerhouse that would partially offset the loss of Cove development generation.

As discussed in Section 6.4.1 of the Agreement, on December 10, 2004, PacifiCorp filed an application with the Commission to temporarily amend Article 408(b) of the Bear River Project license consistent with the terms of the Agreement to permit the Parties to begin conducting baseline aquatic habitat surveys in Bear River in accordance with Section 3.1.6 of the Relicensing Settlement Agreement (Black Canyon Monitoring Plan). On March 3, 2005, the Commission approved PacifiCorp's application, requiring PacifiCorp to implement the new minimum flow release upon the date of PacifiCorp's filing of an application to decommission the Cove development. Section 6.4.1 of the Agreement also provides that upon the Commission's acceptance of the Agreement and issuance of a license amendment consistent with its terms, PacifiCorp shall permanently implement the new minimum flow requirements for the duration of the New License.

Section 6.4.2 of the Agreement provides a process whereby PacifiCorp will refund the economic benefit of minimum flow reductions to a mitigation account in the event PacifiCorp abandons Cove development decommissioning. This provision is intended to help ensure the Parties recoup the environmental benefits of the foregone minimum flows in the Grace bypassed reach in the event PacifiCorp is unable to complete Cove development decommissioning.

While substrate and spawning beds may be affected by decreased minimum flows in the Grace bypassed reach, the Parties agree that a reduction in flows from 80 cfs to 63 cfs in this reach is not expected to significantly impact aquatic resources (ECC 2005). Physical data collected from Black Canyon further suggests that there should be an increase in good habitat in the Cove reach due to increased flow conditions (PacifiCorp 2005a).

As discussed in the Cove Feasilibilty Study and the Agreement, the economic impact of Cove development decommissioning remains an important consideration in selection and implementation of this alternative. PacifiCorp has indicated its willingness to decommission the Cove development as described in the Removal Plan – the most desirable option in terms of fish passage and habitat values – but believes the cost of such a measure would, on its own, be prohibitive. In view of these considerations, the Parties agree that the minimum flows in the Grace bypassed reach established in the new license (Article 408(b)) should be reduced from 80 cfs to 63 cfs in the event PacifiCorp decommissions the Cove development. The additional generation derived from the reduced flow requirements would partially offset both the decommissioning costs and the power generation lost by taking the Cove development out of service.

Although the proposed decommissioning of the Cove development would result in a net loss of power generation at the Project, the need for power was a consideration in developing the proposal. The Bear River Hydroelectric Project as a whole has historically produced 366,528 MWh/year (30-year net generation average). The Grace development has produced 148,353 MWh/year, and the Cove development 29,513 MWh/year. Elimination of the Cove development output would be partially offset by the addition of 17 cfs to the Grace powerhouse due to the reduced minimum flow requirement in the Grace bypassed reach included in the Proposed

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Action. This additional flow would result in approximately 4,721 MWh/year in generation by the Grace Development. This would equate to a net loss in system production of 24,792 MWh/year, or 6.7 percent.

Article 306 of the New License requires the rehabilitation of the Cove flume prior to resuming operation of the development, which has been out of service since March, 2003. Prior to proposing Cove development decommissioning, PacifiCorp conducted a customer benefit analysis comparing Cove decommissioning with flume rehabilitation and resumed operation. To determine the value of the additional 17 cfs to be used for generation at the Grace Development under the decommissioning proposal, an incremental analysis compared the benefit of decommissioning and associated proposed additional flows to the Grace Development over 30 years with the $3.2 million in estimated decommissioning costs. The results of the analysis indicated a net customer benefit as a result of decommissioning. In addition, the analysis indicated that the return on generation potential would be equivalent, on a total Bear River Project basis, to compensation for the estimated decommissioning costs (PacifiCorp 2005a).

B. Facility Deconstruction and Removal (Sections 6, 6.1, 6.2, 6.3, and Appendix B of the Agreement)

Section 6 of the Agreement provides that PacifiCorp shall remove the Cove development consistent with the terms and schedule contained in the Removal Plan (PacifiCorp 2005a), attached as Appendix B to the Agreement. The Parties agree that in the event conflicts arise between the Agreement and the Removal Plan, the Removal Plan shall control.

Sections 6.1, 6.2, and 6.3 of the Agreement provide that if PacifiCorp is required to undertake additional or alternative measures beyond those included in the Removal Plan or Appendix D (draft 401 Certification conditions) prior to, during, or after Cove facility removal, then PacifiCorp may, in its sole discretion, as permitted by law, suspend or abandon facility removal and seek to implement the terms of its original Project License. Section 6.5.1 further provides that if PacifiCorp is unable to obtain acceptable contractor bids to conduct decommissioning measures, PacifiCorp may also cease decommissioning and resume implementation of the Project License and the Relicensing Settlement Agreement. The purpose of these procedural requirements is to ensure the Parties are able to remove the Cove development consistent with intent and requirements of the Removal Plan.

Section 6.3 of the Agreement establishes a process whereby PacifiCorp will provide an accounting of costs incurred after December 1, 2004, that are attributable to Cove development decommissioning ("Decommissioning Costs"). Such Decommissioning Costs include those costs associated with PacifiCorp's internal administrative process undertaken in connection with the implementation of Cove Development Decommissioning, preparation of the Environmental Report and license amendment submittals, and costs associated with permitting, 401 Certification conditions, mitigation, design, deconstruction, construction, demolition, removal, contractor materials required to undertake this work, and implementation of Decommissioning Measures identified in the Removal Plan. Proposed license Article No. 2, attached as Appendix A to the Agreement, provides that if actual Decommissioning Costs are less than $2.5 million NPV, then PacifiCorp will refund the difference to the ECC for use in mitigation projects.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

The principle effect of Cove dam removal would be related to the biotic response to the restoration of connectivity (PacifiCorp 2005a). Removing the Cove development will result in the restoration of run-of-river flows in the Cove bypassed reach (about 1.7 miles of the Bear River channel below the dam site). Once the dam is removed, migratory fauna may colonize both the previously impounded area and upstream reaches. This movement would allow nutrient transport and increase the potential for genetic changes. The restoration of connectivity could also lead to the reduction of fauna that formerly occurred upstream from the impoundment. Geomorphic processes should be dominated by the evolution of the channel as it incises into the sediments trapped in the impoundment. In addition, the removal of the dam would eliminate the need for a fish passage structure, thus precluding the potential of fish mortality or injury in passage mechanisms (i.e., fish ladders).

A concern associated with Cove development decommissioning is the potential suspension and transport of sediments accumulated in the Cove dam forebay when the dam is removed. Black and Veatch, the engineering firm that completed the Cove Feasibility Study, assessed a number of removal options in consultation with PacifiCorp and the ECC. The final result was documented in the Removal Plan, attached as Appendix B to the Agreement. The Removal Plan is intended to minimize the potential for sediment transport by: (1) slowly draining of the forebay, decanting the water off the top of the impoundment while leaving a majority of sediments as undisturbed as possible; (2) regrading remaining sediments "in the dry" using conventional equipment; (3) establishing a streambed and channel banks; and (4) stabilizing and revegetating disturbed areas as soon as possible after work is complete.

The process of removing the Cove dam and associated facilities is scheduled to commence in July, 2006, and continue through November, 2006. Cove development decommissioning involves two types of actions - facility changes and operational changes. Each of these actions is described below. Further, the Removal Plan includes a sequence of steps to accomplish the work. Figure 2 of the Environmental Report depicts the main elements of the Removal Plan (PacifiCorp 2005a).

All facility changes would take place within the 66-acre zone of potential disturbance shown in Figure 1 of the Environmental Report (PacifiCorp 2005a). While the following phases of decommissioning are currently scheduled for the period of July to November, 2006, demolition work in the Cove forebay area would be performed during October and November when river flows are typically low in order to minimize sediment transport potential.

The initial phase of decommissioning would be dewatering the forebay. The forebay would be decanted or incrementally emptied via the existing intake structure. Flows would be spilled into the river channel immediately below the dam rather than continuing through the flume to the Cove Powerhouse. Power generation flows to the intake structure have maintained a channel through the forebay to the intake, and this channel would contain most of the flow during initial dewatering. Controlling the river flow in staged releases is intended to minimize sedimentation.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

The second phase of work would be demolition of the Cove dam and relocation of sediment to form the new river channel. Once the forebay reached equilibrium (i.e., all free water had been drained), a cofferdam would be installed below the dam to divert the spilled flow away from the work area and provide a dry area for demolition activities. Initially, the dam's concrete wall would be "softened" using explosives to facilitate the removal process. Heavy mobile hydraulic equipment such as tracked excavators, bulldozers, dump trucks, and hydraulic hammers and shears would be used to break up concrete into smaller sizes suitable for handling. The concrete material would be either removed or buried on site. Any remaining concrete rubble would be excavated, and the area graded.

The third phase of decommissioning would be demolition and removal of the Cove intake steel superstructure, flume, and pressure box. Heavy equipment similar to that used in dam removal would be utilized to complete this phase. All concrete and rubble associated with demolition of the structures would be buried in designated locations on site, where it would facilitate grading. The flume's remaining concrete, wood, and liner material would be buried in place within the flume footprint. All protruding metal would be cut-off flush with the ground's surface and removed from the site. Wetlands and drainages around the flume would be protected from damage and kept free from demolition and soil fill.

Decommissioning the Cove powerhouse would conclude facility modifications. The powerhouse building would remain intact. All safety precautions including securing windows, interior hatches and passageways as well as removal of all petroleum products would be taken to ensure public safety.

The final phase of decommissioning would be revegetation of all disturbed areas, through hydro-seeding with an ECC approved seed mix and willow slips. Temporary sediment control measures (e.g., silt fencing, membrane, and straw bales) installed before and during construction would be left in place until these areas were considered stable and vegetation established (Black and Veatch 2005).

C. Permitting and Mitigation Requirements (Sections 6.1, 6.2, and 8 of the Agreement)

Sections 6.1, 6.2, and 8 of the Agreement recognize the need for PacifiCorp to obtain necessary authorizations and permits from regulatory agencies prior to commencing Cove facility deconstruction. The Agreement provides that if PacifiCorp is unable to obtain all necessary permits and authorizations required for Cove development decommissioning consistent with the Agreement and associated Removal Plan, PacifiCorp may discontinue work on Cove decommissioning and seek to continue implementing the terms of the Bear River Hydroelectric Project License issued on December 22, 2003.

Section 6.2 of the Agreement provides that in the event that (1) a license amendment issued by the Commission includes measures in addition to those identified in the Project Removal Plan; or (2) any final government permit, authorization, or approval includes measures in addition to those identified in the Removal Plan or appendix D (draft 401 Certification conditions), then PacifiCorp may provide notice of such new required measures to the ECC, and

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

the ECC shall meet to discuss options for entering into a cost-sharing agreement to share the costs of these new measures. Under the Agreement, neither PacifiCorp nor the ECC is required to enter into a cost-sharing agreement. In the event PacifiCorp and the ECC are unable to execute a cost-sharing agreement for new measures, PacifiCorp may, in its sole discretion, discontinue work on Cove decommissioning, and seek to continue implementing the terms of the Bear River Hydroelectric Project License as issued by the Commission on December 22, 2003.

Below we describe Clean Water Act ("CWA") permitting processes and related requirements addressed by the Agreement. We also briefly summarize mitigation elements included in the Removal Plan.

1. Water Quality (401 Certification; Section 8 of the Agreement)

Section 8 of the Agreement describes the process whereby the IDEQ will address conditions necessary to protect water quality through the 401 certification process. As part of the Removal Plan, appropriate steps will be taken to ensure that the erosion control measures required in the Removal Plan (e.g., silt fences, sediment barriers, turf reinforcement mats, and erosion control mats) meet the necessary specifications and are properly installed. A qualified erosion-control specialist will determine the necessary specifications, instruct contractor personnel on proper installation techniques, and inspect the final installation.

Appendix D to the Agreement sets out draft 401 Certification conditions. As indicated in Section 8 of the Agreement, IDEQ intends that its 401 Certification conditions shall be consistent with the terms contained in Appendix D to the Agreement to the maximum extent practicable, and subject to IDEQ's consideration of public comment. IDEQ's final 401 Certification shall constitute final certification for any decommissioning order issued by the Commission, and for the CWA Section 404 Permit described below. Any inconsistency between final 401 Certification conditions and the Agreement will be addressed in accordance with the dispute resolution and other applicable provisions of Section 6 of the Agreement. The settlement agreement does not limit in any way IDEQ's exercise of its 401 Certification authority or predetermine the outcome of such proceeding. PacifiCorp and IDEQ agree that nothing in the Agreement modifies the previous 401 Certification for the Bear River Projects issued by IDEQ on June 23, 2003, except as specified in Section 6.4 of the Agreement.

2. Wetlands (404 Permitting Requirements)

Sections 6 and 8 of the Agreement contemplate that PacifiCorp will obtain a Permit from the U.S. Army Corp of Engineers ("USACE") under CWA Section 404. PacifiCorp intends to seek coverage for the Cove decommissioning under a USACE CWA Section 404 Nationwide Permit. Any final water quality certification conditions and any regional conditions imposed by the USACE will be included in the Section 404 Permit and be implemented by PacifiCorp during the Cove Decommissioning consistent with the terms of the Settlement Agreement. If the USACE determines that Nationwide Permit coverage is not available, PacifiCorp will seek coverage under an individual Section 404 Permit. PacifiCorp intends to obtain a Section 404 Permit from the USACE which authorizes any discharge during the Cove decommissioning well before July, 2006. Prior to commencing any efforts to remove or repair the Cove flume,

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

jurisdictional wetlands along the flume corridor will be delineated with pin flags. No dredge or fill material will be discharged into the delineated areas. Where appropriate, silt fencing will be erected to prevent upland soil and debris from falling into delineated wetlands.

3. Livestock Grazing

After removal of the flume associated with the Cove facility, a fence will be constructed along the flume alignment to preclude cattle from grazing down into the riparian area and/or mixing with cattle from the other side of the river. This measure is consistent with requirements of Project license Article 426.

4. Cultural Resources

Impacts on cultural resources would be mitigated through specific measures and protocols described in detail in the *Historic Properties Management Plan for PacifiCorp's Bear River Hydroelectric Project* Section 6.8 (SWCA 2005).

D. Selection of Contractors (Section 6.5 of the Agreement)

Section 6.5 of the Agreement provides that PacifiCorp shall select and retain all consultants and contractors required to facilitate Cove Development Decommissioning and to perform Decommissioning Measures. Such consultants and contractors shall serve at the discretion of PacifiCorp, and PacifiCorp shall coordinate and supervise all consultants and contractors. PacifiCorp may, in its sole discretion, reject any proposal or bid for consultant or contractor services for any reason, and such rejection shall not constitute a breach of the Cove Settlement Agreement. The Parties agree that PacifiCorp, as the responsible licensee, must retain the right to select, manage, and direct contractors working at its Project to ensure their compliance with all applicable laws and requirements.

E. Recycling Byproducts (Section 6.6 of the Agreement)

Section 6.6 of the Agreement provides that PacifiCorp may in its sole discretion recycle or otherwise dispose of concrete, wood, and metal byproducts associated with the Cove facility and in doing so, PacifiCorp may retain the economic benefit from any recycled byproducts. The Parties believe these provisions will encourage recycling of materials where appropriate.

VII. Conclusion

For the reasons set forth in this Statement and in the Agreement, the Parties believe that the Agreement is fair, reasonable, and in the public interest, and recommend that the Commission accept and incorporate without modification the Cove development decommissioning measures set forth in Appendix A of the Agreement as license articles in the New License.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

VIII. Literature Cited

Black and Veatch. 2004. Cove Development Decommissioning Report.

Environmental Coordination Committee (ECC). 2005. Meeting notes from ECC meeting.

PacifiCorp. 1999a. Soda Hydroelectric Project License Application. FERC Project No. 2401. Portland, Oregon.

PacifiCorp. 1999b. Grace/Cove Hydroelectric Project License Application. FERC Project No. 20. Portland, Oregon.

PacifiCorp. 1999c. Oneida Hydroelectric Project License Application. FERC Project No. 472. Portland, Oregon.

PacifiCorp. 2005a. Environmental Report for Cove Development Decommissioning.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Attachment C: Summary of November 9, 2004, Meeting Minutes, Idaho Water Resources Board

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

IDAHO WATER RESOURCE BOARD

Dirk Kempthorne
Governor

Jerry R. Rigby
Chairman
Rexburg
At Large

Terry T. Uhling
Vice Chairman
Boise
District 2

Dick Wyatt
Secretary
Lewiston
District 1

Leonard Beck
Burley
District 3

Bob Graham
Bonners Ferry
At Large

L. Claude Storer
Idaho Falls
District 4

Gary M. Chamberlain
Challis
At Large

Joseph L. Jordan
Boise
At Large

MINUTES OF MEETING

MEETING NO. 11-04
Tuesday, November 9, 2004 8:30 a.m., MDT
Idaho Water Center, 322 E Front Street, Boise, ID
6th Floor Conference Rooms

Meeting No. 11-04 of the Idaho Water Resource Board was called to order by Chairman Jerry Rigby in the conference room at the Idaho Water Center in Boise Idaho
(One Recording Tape)

Agenda Item No. 1, Roll Call

Board Members Present

Jerry Rigby, Chairman	Claude Storer
Joe Jordan	Terry Uhling
Leonard Beck	Gary Chamberlain

Absent

Bob Graham	Dick Wyatt - Secretary

Department of Water Resources Staff Present

Hal Anderson, Administrator	Bill Graham, Bureau Chief
Crystal Calais, Admin. Asst. II	Brian Patton, Staff Engineer
Karl Dreher, Director	Michael Keckler, PIO

Guests

Jim Wrigley, Wells Fargo Bank

There were no agenda modifications

Agenda Item No. 2, Approval of Minutes

Motion: Joe Jordan moved to approve the minutes for meeting Nos. 09-04 and 10-04. Gary Chamberlain seconded the motion.

Voice Vote: 6 Ayes, 0 Nays, 2 Absent. *Motion passed.*

1301 North Orchard Street, Boise, ID 83706 Tel: (208) 327-7900 Fax: (208) 327-7866

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Agenda Item No. 3, Public Comment

There was no public comment made

Agenda Item No. 4, Dworshak Hydroelectric Project Status Report

Brain Patton, staff engineer; gave the status report of the Board's Dworshak Hydroelectric Project. Since the project came online it has produced nearly 90 million kWh of electricity which was sold to the Bonneville Power Administration. There have been no shut downs since the last report. It has operated at an average availability factor of 98 percent. Dworshak reservoir was drafted during August & September and is currently 80 feet below fill. On January 1st the power sales rate escalates 3% to 4.51¢ per kWh as a provision of the power sales agreement. This will increase the gross revenues by about by about $28,000. He reviewed the budget and expenses worksheet.

Mr. Rigby asked about the basis of the level of increase. Mr. Patton responded it was based on Corp of Engineers study.

Mr. Uhling asked about FERC expenditures of $13,200.00 in fees against a budget item of $22,000.00 – Is that it for the year? Mr. Patton answered in the affirmative. Mr. Rigby asked if this is this the final bill? Mr. Patton believes this is the Annual bill. The bill did not include any fees for past years that were not billed by FERC. This is the first response and billing we've received.

Mr. Beck asked if we would continue to respond back to them based on a no response? Mr. Patton's answer was that his guess is that future invoices will reflect correct amounts. Mr. Jordan commented on appreciation to staff for the operation of the program.

Mr. Patton concluded his report.

Agenda Item No. 5, IWRB Financial Report

5a. Status Report

Mr. Patton reviewed the financial program accounts, reviewed projected funding requests and income sources, and briefed the Board on pending expenses and completed projects. Mr. Patton referred to workbook inserts and explained that money is adequate to meet current grant requests.

Lava hot springs is on schedule.

Live-More Lake well has been completed and is on-line

Mr. Uhling questioned the lack of bidding response regarding the City of Spirit Lake project. Mr. Patton responded that there was no response – The contractors needed more time. Mr. Uhling asked about the status of Boise City Canal Company phase 2 construction. Mr. Patton stated that they are in the final design and permitting phase right and are coordinating with ACHD. He expected them to start in January or February.

Mr. Patton concluded his report on the financial program status.

5b. Preston/Whitney Irrigation Company

Preston Whitney is requesting grant money in the amount of $7,500.00 to conduct a feasibility study for the conversion of their open Fairview Lateral Canal to a closed gravity pressure pipeline – Referred to workbook reports showing suitability and recommendation for the $7,500 grant funds to assist with that study.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Motion: Mr. Jordan moved to approve the resolution to grant the funds to Preston / Whitney Irrigation Company for $7,500.00 to conduct the study. Mr. Storer seconded the motion.

Roll Call Vote: Beck, Aye; Chamberlain, Aye; Graham, Absent; Jordan, Aye; Storer, Aye, Uhling, Aye; Wyatt, Absent; and Rigby, Aye. **6 Ayes, 0 Nays, 2 Absent.** ***Motion passed.***

5c. City of Richfield – Grant Request

The City of Richfield, located along the Little Wood River in Lincoln County, currently supplies 213 homes, 6 businesses and one industrial plant with water. The City is requesting $7,500 to undertake a study of its water system and it's ability to meet future demands. Noted that the IWRB had previously decided to stop providing grants for municipal water studies and replace with no-or-low interest loans. There was some discussion at the work session that this might be an exception to that decision.
Mr. Chamberlain made a motion for approval. Mr. Jordan seconded.
Chairman Rigby asked for discussion on the matter.
Mr. Chamberlain stated, in support, the city has a hard time raising those funds.
Mr. Rigby asked if we had dealt with subdivisions or developments that otherwise qualify under this policy that are equal to or larger than the City of Richfield?
Mr. Patton responded that we have dealt with certain subdivisions with more available funds.
Mr. Beck asked if the city water rates were too high? Could they stand a rate increase on their own?
Mr. Patton responded that their current rate structure is probably on the low end of average and any improvements would probably require a rate increase anyway.
Mr. Uhling stated that it appears we reviewed this policy of not granting to municipalities in Salmon and it is unclear what has changed since then?
Mr. Jordan reiterated that we were questioning whether the people of Richfield were able to pay.
Mr. Beck asked Mr. Chamberlain if he would consider a low interest loan instead of a grant?
Mr. Chamberlain stated that he would rather give them the grant. We want to help them prepare for the future expected growth. Reminded the Board that the City would still need to come up with matching funds.

Motion: Mr. Chamberlain made a motion for approval of the grant. Mr. Jordan seconded.

Roll Call Vote: Mr. Beck, Nay; Mr. Chamberlain, Aye; Mr. Graham, Absent; Mr. Jordan, Aye; Mr. Storer, Aye; Mr. Uhling, Nay; Mr. Wyatt, Absent; Chairman Rigby, Nay. **3 Ayes, 3 Nays, 2 Absent.** ***Motion Denied.***

Motion: Mr. Chamberlain moved for a motion of a low-interest loan at 4 %. Mr. Jordan seconded.

Roll Call Vote: Mr. Beck, Aye; Mr. Chamberlain, Aye; Mr. Graham, Absent; Mr. Jordan, Aye; Mr. Storer, Aye, Mr. Uhling, Aye; Mr. Wyatt, Absent; and Chairman Rigby, Aye. **6 Ayes, 0 Nays, 2 Absent.** ***Motion passed.***

There was some discussion about loans and grants going to other communities and staying with set policies.
It was agreed that there should be more discussion on the policy, at a time when Mr. Graham and Mr. Wyatt could be present.
Mr. Rigby asked that we address this at the next available time and review the policy of lending or granting funds.
Mr. Anderson stated that he and Mr. Patton would put together some information and add this to the next work session agenda.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Mr. Uhling asked when we needed to transfer funds from the Water Management Account to the Revolving Development Account?
Mr. Chamberlain moved to authorize the transfer of funds of $7,500.00 – Mr. Uhling seconded the motion.

5d. Dworshak Advanced Refunding

Mr. Wrigley addressed the board. He stated that Wells Fargo is making some progress and working on new processes to sell bonds to treasurer. The refunding was negotiated, accepted and prepared but because of an old statute that was found which limits funding specifically to IWRB to 7 days we cannot proceed. The Treasurer assured us he was unaware of the statute and he will support changing it during the next legislative session.

Mr. Wrigley presented handouts reflecting current bonds and their interest rates. The numbers shown give examples of fixed interest rates with no letter of credit and a reserve account being self-funded and held by the board.

There was some discussion about whether it would be worthwhile to wait until 2008 to refund. If the Treasurer will commit in writing, then it would be in the board's interest to wait and work on changing this statute with the commitment of the Secretary of State and State Legislature.

Mr. Uhling wanted some background on the basis for the statute before asking to repeal it.

5e. Arrowrock Power Plant Inducement Resolution

IDWR Staff has not yet received any feasibility studies and does not have enough technical information to recommend approval of the resolution.

Mr. Rigby commented that if the project has the financial backing that's been promised then we have a duty to understand it completely before giving our approval. If needed, we will have a special conference to make a decision on the resolution. The Board does not want to be a cause for delay but needs more detailed information.

5f. ESPA Water Right Purchase

Mr. Anderson reviewed materials in the folder and items discussed at the work session. Deferred to Director Dreher for his perspective.

Mr. Dreher stated that we are trying to secure water under existing rights such as water above Milner and with priorities prior to Swan Falls minimum stream flows. What is in the books is just a draft Strawman and still requires extensive modifications. Referred to pg. 2 and some improper wording that needs to be fixed.

Mr. Dreher went over some of the issues of what the State's role should be with current owners and the high power costs for high lift pumps on the Snake River as well. He also talked about some other options and some of the consequences. The purpose of the water right sales proposals and Federal Conservation Reserve Enhanced Program (CREP) was discussed. Karl reminded the Board that when we solicit offers to sell we'd have a better perspective about how many are willing to sell. We want information on what rights may be available and how much money they are asking for. Mr. Dreher talked about his meeting with Governor Kempthorne to make sure he was OK with it, and he was. We do intend to finalize the plan this week and perhaps get it issued as early as next week.

The Governor wants it clear that the state will participate in the CREP program. He also wants to make sure everyone knows that this is not the only option and the State is prepared to make other water budget adjustments.

Mr. Dreher discussed the Eastern Snake Plain Aquifer (ESPA) Straw Man Proposal. The proposal was not Karl's – It was the product of Natural Resource Interim Legislative Committee

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Co-Chairs asking Clive Strong and Karl to help them put something together to show various options that may be available.

Mr. Dreher explained why and where this agreement is necessary and how it will benefit the majority of water users and restated prior comments on the necessity of reduction in use.

Mr. Dreher also commented on the State's accountability in issuing too many water rights and permits when actually the State issued what was appropriate at the time of issuance when water was available for appropriation... He clarified that several media articles stating that the State is seeking to buy back junior rights is untrue. Karl continued to explain the details of the ESPA Strawman proposal and the background, and went on to say we have to have the ESPA lined out as well as having the RFP process and the CREP process lined out by December to go forward.

Karl talked about cover crops being used in the CREP program. 15 years being the normal time lands would be out of production. Most would not put the land back into production either because they've found a different use or have left the Ag industry.

Mr. Beck asked what is a ballpark range of money involved in acquiring the desired water rights? Mr. Dreher responded that at this time we don't know and would not go into speculating amounts so as not to affect the RFP process. This RFP is not a commitment to purchase; it is the intention to purchase when an agreement to sell can be reached. We would still need to have appraisals and decide if the rights are a good value and then we may still choose to take an option to lease the water for one year. If the State gets a proposal to purchase a water right from a high lift pumper and is sure he's serious and an appraisal shows it is a good value, we might move quickly to make an offer if the funding mechanism is in place.

Mr. Storer asked what's going on in the Lost River? Mr. Dreher responded that the previous Director made procedures regarding required mitigation for senior water holders that we have to review because of the issues in that area. We are reviewing next year's solutions and working on plans for upcoming years.

Mr. Uhling had questions about the RFP in relation to important funding considerations such as benefits from the Nez Perce Settlement. He would like to know more about the financial parameters and thought it would be prudent to wait until we knew more details before giving the Board's approval.

Mr. Dreher stated that it's difficult to present actual figures in a public setting. There are several scenarios we have laid out that we do not want in the public record at this time. We have not ruled out access to the general funds as well as taxes or fees from the public.

Mr. Uhling expressed concerns with some of the wording in the draft.

Mr. Rigby stated that the Board would want to ensure that our own wording does not project anything that is not in the public interest.

Mr. Dreher affirmed that he would address Mr. Uhling's financial and wording concerns and will provide a copy to Mr. Skinner, the Board's bond counselor, for his revision prior to releasing it.

Mr. Anderson added that we have assembled a financing team, which is working on the issues associated with the financing of the RFP, from both tax and credit standpoints.

Agenda Item No. 6, Planning Status Report

Bill Graham referred to memos included in the board folders -

Lower Boise River basin is undertaking a study of water use. We have developed a contract with the Bureau of Reclamation. The department made the study presentation during the work session and the next step would be to present it to the users with the Board's approval. One element we're studying is irrigation and related water use efficiencies in subdivisions.

The Water Transaction Program was presented to Clearwater Watershed Focus Group. Based on feedback we don't expect to see a lot of use of the program there. We have signed the 2005 contract, which provides for the same level of support that we've had for the last two years.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Agenda Item No. 7, Minimum Streamflows

7a – Cocolalla Minimum Lake Level

Bill Graham stated that we are setting up public meetings where we will be including public and major water users in the Valley Creek, Lemhi and Pashimeroi as well as the Office of Species Conservation. We are putting together lists of major water users on the Pashimeroi for Mr. Chamberlain and will do the same for Mr. Jordan for the Little Salmon River.

7 b - Nez Perce Sheet Term negotiation

Bill Graham referred to a map showing the Nez Perce Settlement Agreement streams being moved from the B list to the A list.

Nez Perce Sheet Term negotiations. He discussed the timeline included in Board folders and we are still negotiating what streams will go from the B list to the A list. He will provide copies of the power point presentation and update the map showing A and B lists as well.

Mr. Anderson stated that we are setting up a place on our website where anyone will be able to see this information at anytime in a map-based format.

Bill Graham added an item that was not on the agenda and discussed the Elk Creek Minimum Stream Flow License, which was issued after the Board Folders had been mailed.

Mr. Rigby asked Mr. Anderson to address the issue of the Big Lost. Mr. Anderson handed out an email from Gary Spackman explaining what information is available on the Water Rights that may be available to put in to the Water Supply Bank to supply mitigation requirements for some of the Ground Water Users.

Agenda Item No. 8, Director's Report

Mr. Dreher stated that most of his report was discussed earlier during the ESPA discussions. He referred to news articles about IDWR continuing to process applications up north on the Rathdrum Prairie. Some groups in Washington want us to issue a moratorium on use in that area however; we still have a constitutional responsibility to appropriate un-appropriated water. Bear River is another example of attempting to manage water in cooperation with other states and other water agencies…

Mr. Dreher also spoke briefly about the New Water Center features.

Agenda Item No. 9, Other items

Mr. Jordan asked to review the Cove Project information that was discussed in the work session. In the past the Board has intervened in projects and there was some concern that the board might object to the decommissioning of the Cove project. It was agreed that the board has no objections.

Mr. Uhling set a telephonic meeting date for December 17th at 8:00 am.

Mr. Rigby asked to have someone in attend the Farm Bureau Annual Meeting in Moscow – Mr. Chamberlain and Mr. Uhling agreed to attend.

Bannock County Commissioners were hopefully going to reverse their opposition to the term sheet.

Mr. Uhling stated that he is unable to attend on behalf of the Board but he can address the Farm Bureau as part of the interested parties.

Mr. Anderson was asked to call and make sure that the Board was on the agenda.

Unofficial FERC-Generated PDF of 20050817-0175 Received by FERC OSEC 08/16/2005 in Docket#: P-20-065

Mr. Dreher said there would be a similar meeting with the Idaho Council on Industries and Environment on Nov. 23rd in Boise with the focus being the Pros and Cons of the Nez Perce Settlement. Mr. Uhling will be attending if there are no conflicts to the schedule.

Mr. Rigby asked Mr. Jordan to attend on Nov 23rd to represent the Board and support the term sheet.

Mr. Rigby asked that we schedule next Board meeting for January 24 & 25, 2005 to coincide with the IWUA meeting.

Mr. Storer – Motion to adjourn
Mr. Beck - Seconded

Meeting adjourned at 12:30 p.m.

Dated this 9th day of November 2004.

D. Richard Wyatt, Secretary

Crystal Calais, Administrative Assistant II

Board Actions

1. Mr. Jordan moved to approve the resolution to grant the funds to Preston / Whitney Irrigation Company for $7,500.00 to conduct the study. Mr. Storer seconded the motion. *Motion Passed.*

2. Mr. Chamberlain made a motion for approval of a grant to the City of Richfield in the amount of &7,500.00. Mr. Jordan seconded. *Motion Denied*

3. Mr. Chamberlain moved for a motion of a low-interest loan at 4 % to the City of Richfield in the amount of $7,500.00. Mr. Jordan seconded. *Motion Passed.*