May 25, 2010

Chip Corsi
Idaho Department of Fish & Game
2750 Kathleen Ave.
Coeur d'Alene, ID 83814

RE: Federal Energy Regulatory Commission's Spokane River Project, (FERC Project No. 2545) License, Appendix A, Section VII(A) Exhibit 1 Certification Conditions Fishery Protection and Enhancement Plan

Dear Mr. Corsi:

On June 18, 2009 the Federal Energy Regulatory Commission (FERC) issued a new license for the Spokane River Hydroelectric Project, FERC Project No. 2545. Ordering Paragraph D of the FERC License incorporated the *Idaho Department of Environmental Quality Certification under Section 401 of the Federal Clean Water Act (Issued on June 5, 2008 and filed on June 19, 2008)*(Certification). The conditions pertaining to the Certification can be found in Appendix A of the License.

The Certification states that within the first year after the License becomes effective, Avista shall submit a Five-Year Fishery Protection and Enhancement Plan (Plan) to the Idaho Department of Fish and Game (IDFG), for approval. In accordance with its Certification, IDFG consulted with the Idaho Department of Environmental Quality and U.S. Fish and Wildlife Service prior to submitting its own comments on the Plan to Avista. The consultation record with these agencies is included in the Plan as Appendix A and comments and responses are included as Appendix B.

With this, we request your approval of the Plan, upon which Avista will begin implementation. If you have any questions regarding the Plan, feel free to call me at (509) 495-4998 or in my absence please contact Tim Vore at (509) 495-8612.

Sincerely,

Speed Fitzhugh

Elvin "Speed" Fitzhugh
Spokane River License Manager

Enclosure

cc: Robert Steed, IDEQ
Rick Donaldson, USFWS

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AVISTA CORPORATION

FIVE-YEAR FISHERY PROTECTION AND ENHANCEMENT PLAN

IDAHO 401 CERTIFICATION, SECTION VII

Spokane River Hydroelectric Project
FERC Project No. 2545

Prepared By:
Avista Corporation

May 25, 2010

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Note: This Program is being reviewed independently of this Plan and will be inserted in its final form upon FERC approval.

1.0 INTRODUCTION

1.1 Background

On June 18, 2009, the Federal Energy Regulatory Commission (FERC) issued a new license for Avista Corporation's Spokane River Project, FERC Project No. 2545-091 (Project) for a 50 year license term (FERC 2009). The new FERC License (License) became effective on June 1, 2009 and includes operation of the Post Falls Hydroelectric Development (HED) in Idaho. Ordering Paragraph D of the License incorporated the Idaho Department of Environmental Quality's (IDEQ) Certification Conditions under Section 401 of the Federal Clean Water Act (IDEQ 2008). The Conditions can be found in Appendix A of the License. **This five-year plan is to comply with FERC License condition identified in Section VII of Appendix A of the State of Idaho Section 401 Water Quality Certification for the Post Falls Hydroelectric Development (Idaho WQC) and Article 409.** The Idaho WQC states in section VII that within the first year after the new FERC License becomes effective, Avista shall submit a Fishery Protection and Enhancement Plan (Plan) to Idaho Department of Fish and Game (IDFG) for approval. Article 409 of the License requires that the provisions for a Coeur d'Alene Lake Fishery Public Education and Outreach Program be incorporated into the Plan.

1.2 Post Falls HED

The Post Falls HED includes three dams located on the Spokane River about nine miles downstream from the outlet of Coeur d'Alene Lake (Lake), and controls water levels in the Lake and the lower tributaries to it, except during winter and through most of the spring run-off. The HED Project boundary encompasses the Lake, the Spokane River upstream of the Post Falls dams, and the lower reaches of the St. Joe, Coeur d'Alene and St. Maries rivers at the normal full pool elevation of 2,128.0 feet (Figure 1).

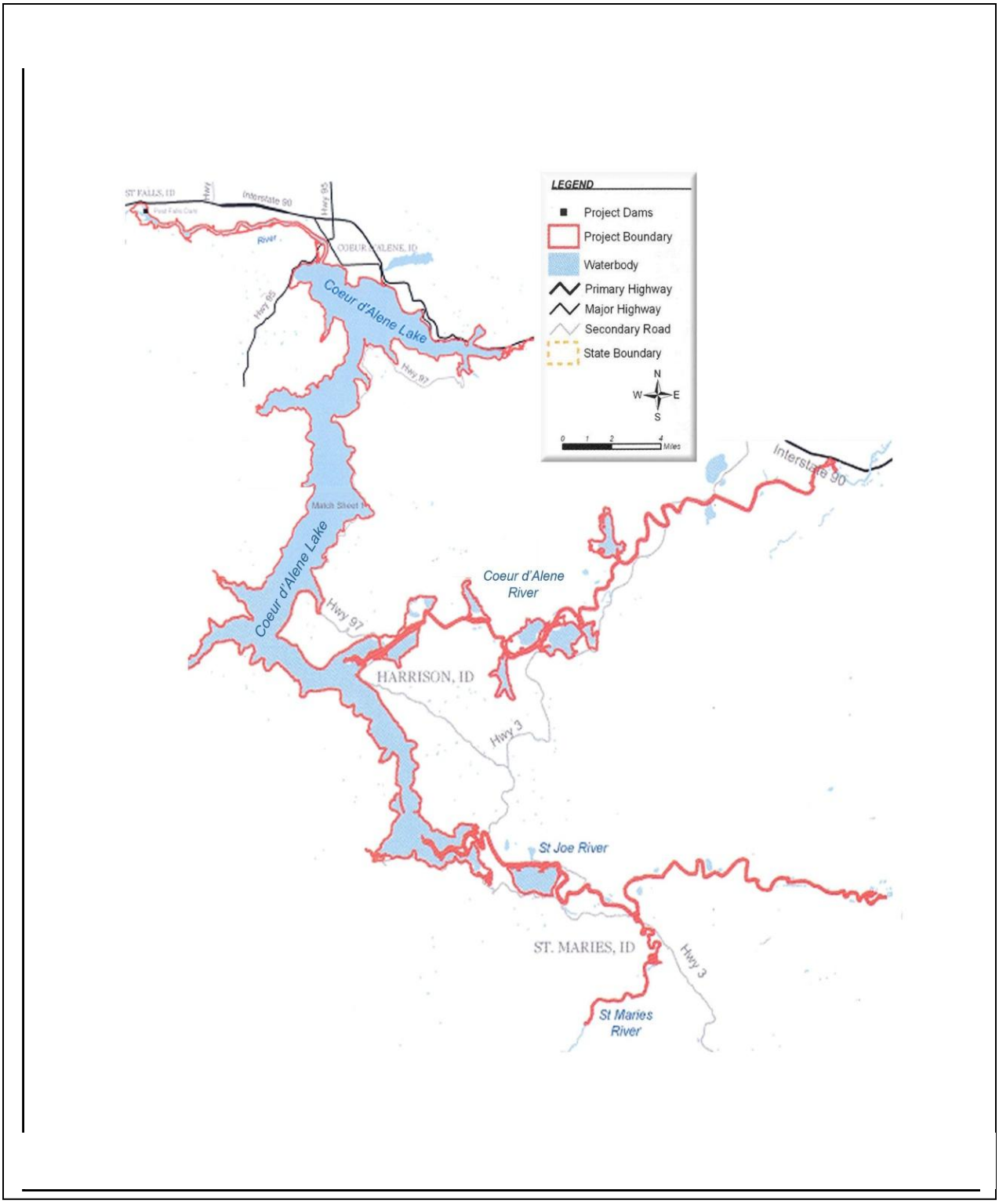

Figure 1 – Post Falls Project Area

2.0 FIVE-YEAR PLAN

The purpose of this Plan is to describe a prioritized set of measures to be implemented and funded for fish habitat protection and enhancement, fish population assessment and monitoring activities, and education/outreach actions for 2010 through 2014. The Plan includes the following components as specified in Appendix A; Exhibit 1 of the License:

> *A. Fishery Protection and Enhancement Plan. Avista shall develop and implement a Fishery Protection and Enhancement Plan ("Plan") that includes the following components:*
>
> *1. The Plan shall identify and describe fish habitat protection and enhancement activities, fish population assessment and monitoring activities, and education/outreach actions that will be implemented over the term of the New License. Potential actions are outlined in the Coeur d'Alene Lake Basin Bull Trout and Westslope Cutthroat Trout Protection, Mitigation, and Enhancement Implementation Plan (Kleinschmidt, 2004) (2004 Plan). The 2004 Plan, developed by Avista, technical working groups, and fisheries managers describes a framework for Avista's participation in basin-wide efforts to improve the aquatic environment for bull trout and westslope cutthroat trout. The 2004 Plan provides for Avista to work with fishery resource managers to select and implement aquatic habitat restoration and restoration measures commensurate with project-related impacts on fishery and aquatic resources. Basin-wide activities include riparian habitat restoration and protection projects; acquisition or other long-term protection of private lands where aquatic habitat important to bull trout and westslope cutthroat trout exists; suppression of exotic species; collection of required or relevant baseline data; fish stocking programs to deflect recreational angling pressure away from wild populations of bull trout and westslope cutthroat trout; and strategies to prevent illegal harvest of wild rainbow trout from the Spokane River.*
>
> *2. The Plan will identify and describe a prioritized set of measures to be implemented or funded in the first five-year (5) period after the New License becomes effective.*
>
> *B. Within the first year after the New License becomes effective, Avista shall submit to IDFG, for approval, the Plan that includes the above-described components. IDFG shall consult with IDEQ and USFWS regarding the Plan. Upon approval by IDFG, Avista shall implement the Plan. Within the first five (5) years after the New License becomes effective, Avista will implement at least one enhancement project that improves bull trout habitat. Every five (5) years after the New*

License becomes effective, and continuing for the term of the New License, Avista shall update and revise the Plan to identify and describe actions to be carried out within the following five (5) years. The updated Plan shall be submitted to IDFG for approval. IDFG shall consult with IDEQ and USFWS before approving an updated Plan. Priority shall be given to projects that enhance benefits for multiple native salmonids. Upon approval of an updated Plan, it shall be implemented by Avista. Avista shall consult with IDFG, IDEQ, and USFWS annually regarding those activities to be carried out within the year.

C. Avista shall prepare and submit to IDFG and IDEQ a summary report every five (5) years documenting implementation of the measures described in the Plan. The report shall be submitted to IDEQ and IDFG within six (6) months following each reporting period. The report will summarize the activities conducted under this measure during the preceding five (5) years and the results achieved, the overall results achieved to date (subsequent to the first five (5) year period), and the general nature of the activities that will be implemented during the next five-year (5) period.

By the first July 1st after the New License becomes effective, and every July 1st thereafter for the term of the New License, Avista shall make available $150,000 to implement this condition. Any funds not expended within one (1) year shall carry over and can be used in the following year consistent with Section VIII.A. of IDEQ's 401 certification. Any funds not expended for the specific measures outlined in the Plan may also be used in accordance with Section VIII.A. of IDEQ's 401 certification. Any funds carried over shall be in addition to the annual $150,000 provided by Avista. The fact that funds have not been expended in one (1) year and are carried over does not diminish Avista's responsibility for providing $150,000 annually for the term of the New License. Provided, however, that funds which are carried over and not expended within the subsequent five (5) years shall no longer be available in accordance with Section VIII.A. of IDEQ's 401 certification. The funding provided by Avista shall be used to pay for work by Avista, IDFG, or their contractors for the planning, implementing, or reporting components of this condition. Avista's internal administrative costs to implement this condition, shall be part of Avista's internal overall costs for license implementation and compliance, and will not be supported by the funding identified above. The $150,000 annual payment shall be adjusted in accordance with Section VIII.A of IDEQ's 401 certification.

The Plan will be developed in consultation with and approval of IDFG. Avista will consult and provide IDFG a thirty day review period of the final Plan in accordance with the License (Appendix A of this Plan includes the record of consultation established in developing

this Plan and Appendix B includes agency recommendations and the rational for including or not including them in the Plan). Additionally, and in accordance with Exhibit 1 of the Idaho WQC, IDFG shall consult with IDEQ and the U.S. Fish and Wildlife Service (USFWS) regarding this plan. Upon IDFG's approval, Avista will implement the Plan.

2.1 Funding

Avista shall make $150,000 available on an annual basis to implement the approved Plan. Implementation of the Plan and expenditure of funds for specific projects will be governed by Section VIII.A of the Idaho WQC as follows:

> *A. Except as otherwise provided in this Section VIII., all funds to be provided by Avista described in this certification will be subject to the cost caps set forth in the certification and will remain in Avista's control until individual measures or activities required by this certification are implemented. Avista will fund individual measures and activities as they are implemented, in accordance with the plans required by this certification, and in coordination with IDEQ and, when applicable, IDFG. All funds required by this certification to carry out measures or activities include the costs of permitting such measures and undertaking any necessary studies and monitoring. If funds are made available for measures or activities conducted IDEQ or IDFG, IDEQ or IDFG shall provide an accounting/invoice to Avista quarterly. Within 30 days of receipt, Avista shall reimburse IDEQ or IDFG for the costs set forth in the accounting/invoice, up to the cost caps set forth in this certification. Funds not expended in a given year will remain available during the subsequent five (5) years and will not bear interest or be further escalated pursuant to Section VIII.B. below. Any funds provided by Avista pursuant to this certification or any funds carried over may be used to carry out and fund any measures set forth in Sections II, III, IV and VII of this certification. Funds carried over and not spent within five (5) years will no longer be available to implement the conditions of the certification.*

Budget sheets will be developed and updated to identify funding obligations, expenditures and carry over dollars. It is IDFG's and Avista's intent to leverage Avista's funding commitment as opportunities arise. This, however, will not diminish Avista's responsibility in regard to this Plan.

2.2 License Article 409

This Plan includes provisions to address License Article 409, Avista's Coeur d'Alene Lake Fisheries Public Education and Outreach Program (Program), which is included as

Attachment 2. The Program will educate the public about fishery measures implemented at the Post Falls HED and about measures to minimize their impact on native fish. The Program will be developed through consultation with IDFG, the Coeur d'Alene Tribe and the USFWS prior to submittal to FERC for approval. Avista will implement the Program upon FERC approval.

2.3 Reporting and Updating

Avista will prepare a summary report every five years, as specified in Exhibit 1, Section C of the Idaho WQC. The summary report will document implementation of the measures described in this Plan, the overall results achieved during the previous five years, and the general nature of the activities that will be implemented during the next five-year period. The report shall be submitted to IDFG and IDEQ within six months following each reporting period (the reporting period is five years after IDFG approval of the Plan).

Every five years, beginning with the IDFG approval of this Plan, and continuing for the term of the new License, Avista shall update the Plan to describe those measures to be implemented during the next five years. The updated Plan will be developed, approved and implemented in the same manner as this Plan.

3.0 PRIORITIZED PROJECTS AND ACTIONS

3.1 Selection Priorities and Evaluation Criteria

IDFG and Avista, in consultation with the IDEQ and USFWS have developed selection priorities and evaluation criteria for all projects and activities that will be implemented through this Plan that include:

1. Projects or actions that are associated with the Post Falls HED for bull trout and/or westslope cutthroat trout in the Coeur d'Alene Lake basin, and/or wild rainbow trout in the Spokane River downstream of the Post Falls Dam;
2. Projects or actions having significant potential to restore or enhance habitat for adfluvial bull trout and/or adfluvial westslope cutthroat trout in the Coeur d'Alene Lake basin, or wild rainbow trout populations in the Spokane River;
3. Projects that enhance benefits for multiple native salmonid species;

4. Projects or actions that have significant potential to restore or enhance habitat for bull trout and/or westslope cutthroat trout;
5. Projects that provide for recreational fishery enhancements and evaluation;
6. Projects consistent with existing management and recovery plans; and
7. Other programs or actions deemed appropriate as agreed by the cooperating parties.

The above criteria will be used to evaluate and select projects to protect and enhance bull trout and/or westslope cutthroat trout populations in the Coeur d'Alene Lake basin. At least one enhancement project that improves bull trout habitat will be implemented in 2010-2014. A Fishery Project Ranking Criteria, which is included as Appendix C, will also be used to help evaluate and prioritize projects. Fewer, but more effective efforts should be preferred to a larger number of activities that may not be sustainable either financially or logistically.

3.2 Prioritized Measures

Prioritization will be based on an understanding of the baseline information, the known presence of contaminated sediments, consistency with current management and recovery plans (USFWS 2002 a; 2002b), and the most urgent need for fishery protection and enhancement (FERC 2007; McIntyre and Rieman 1995; PBTTAT 1998; Weitkamp 2003; 2008). Potential projects and measures will be identified by IDFG, Avista or other cooperating entities. Potential projects will be evaluated through the consultation process and then prioritized and selected according to the prioritization and evaluation criteria identified in section 3.1. Review and consultation of project proposals ensures an objective evaluation process to select and prioritize fishery measures.

3.3 Anticipated Five-Year Implementation Schedule for 2010 to 2014

Avista, in cooperation with the other parties, plans to implement the following projects over the five-year period between 2010 and 2014. These projects may be modified, changed or extended, however, depending on the results achieved; as new information is obtained, or as new opportunity arises. Details pertaining to the first year measures are shown in Attachments 1 and 2.

Year One (2010)

Marble Creek Splash Dam Passage Project (2010 Annual Work Plan)
The purpose of this project is to enhance native salmonid populations and their associated habitats in Idaho. The project identifies fish passage opportunities in the Marble Creek Drainage, a tributary to the St. Joe River. The multi-year project will focus on passage for adfluvial and fluvial native westslope cutthroat and bull trout to re-colonize the high quality habitat in upper Marble Creek and includes several tasks and addresses the license requirement to implement at least one enhancement measure that improves bull trout habitat. Specific details of this project are included in Attachment 1.

Coeur d'Alene Lake Fisheries Public Education and Outreach Program
The Program is intended to educate and inform the public about fishery measures implemented at the Post Fall HED and about the measures to minimize their impact on native fish. Specific details of this program are shown in Attachment 2.

Identify and evaluate potential fishery protection and enhancement projects:
New and/or additional projects may be identified and/or implemented as opportunities arise for fishery protection and enhancement. Any that are identified will be evaluated in accordance with the Plan and considered for implementation.

Year Two (2011)

Marble Creek Splash Dam Passage Project
Avista will prepare a passage restoration plan that outlines all the components to complete the project initiated in 2010. The plan will include the selected passage alternatives, design options, estimated costs, and application for required permits. Avista expects to begin implementing the approved plan in 2011.

Coeur d'Alene Lake Fisheries Public Education and Outreach Program
Avista will provide support for developing and maintaining kiosks, signs and bulletin boards, and for printing and updating the Spokane River Drainage Brochure.

Identify and evaluate potential fishery protection and enhancement projects
New and/or additional projects may be identified and/or implemented as new opportunities arise for fishery protection and enhancement. Any that are identified will be evaluated in accordance with the Plan and considered for implementation.

Year Three (2012)

Marble Creek Splash Dam Passage Project
Complete the Marble Creek Splash Dam Passage Project. Implement a preliminary review of the other splash dams or blockages in the Marble Creek drainage and identify potential new passage projects.

Identify and evaluate potential fishery protection and enhancement projects

New and/or additional projects may be identified and/or implemented as new opportunities arise for fishery protection and enhancement. Any that are identified will be evaluated in accordance with the Plan and considered for implementation.

Coeur d'Alene Lake Fisheries Public Education and Outreach Program
Avista will provide support for developing and maintaining kiosks, signs, bulletin boards, brochures and other actions identified in the program.

Year Four (2013)

Identify and evaluate potential fishery protection and enhancement projects:
Assess the review and survey of potential blockages in the Marble Creek drainage, and develop possible passage alternatives and design options if appropriate. New and/or additional projects may be identified and/or implemented as new opportunities arise for fishery protection and enhancement. Any that are identified will be evaluated in accordance with the Plan and considered for implementation.

Implement annual work plans
Projects in year five will be determined in previous years and through annual consultation.

Coeur d'Alene Lake Fisheries Public Education and Outreach Program
Avista will provide support for developing and maintaining kiosks, signs, bulletin boards, brochures and other actions identified in the program.

Year Five (2014)

Coeur d'Alene Lake Fisheries Public Education and Outreach Program
Avista will provide support for developing and maintaining kiosks, signs, bulletin boards, brochures and other actions identified in the program.

Identify and evaluate potential fishery protection and enhancement projects:
New and/or additional projects may be identified and/or implemented as opportunities arise for fishery protection and enhancement. Any that are identified will be evaluated in accordance with the Plan and considered for implementation.

Implement annual work plans
Projects in year five will be determined in previous years and through annual consultation

4.0 ANNUAL WORK PLANS

The Idaho WQC, Exhibit 1 states that Avista shall consult with IDEQ, USFWS and IDFG annually regarding those measures to be carried out within the year. Consultation to develop Annual Work Plans (AWP) will occur during the first quarter of the upcoming year to be approved for implementation by April 30 on an annual basis.

Annual Work Plans will provide a detailed set of actions to implement within the specified calendar year. The AWP will describe the purpose, goals and objectives to how each project will be accomplished that year. Specific tasks will detail the schedules, budgets, funding sources, and planning, enhancement or management activities. Budgets will identify anticipated expenditures, carry over dollars, cost share commitments or other funding sources. The AWP will be implemented by Avista after consultation with IDEQ, USFWS and IDFG, the securing of required funding, after partnerships have been established, the necessary permits have been obtained, and any ESA consultation, if required, has been completed. Additions or changes to AWP may occur if agreed to by IDEQ, USFWS, IDFG and Avista. Subsequent AWPs will be developed each year and implemented by Avista through consultation with IDEQ, USFWS and IDFG. The 2010 AWP is included as Attachment 1 to this Plan.

5.0 POTENTIAL PROTECTION AND ENHANCEMENT ACTIVITIES

The following section identifies general categories of measures that may be implemented for fish habitat and enhancement activities, fish population assessment and monitoring, and education and outreach actions through this Plan. Basin wide activities include:

- Riparian habitat restoration and protection projects;
- Acquisition or other long-term protection of private lands where aquatic habitat important to bull trout and westslope cutthroat trout exists;
- Suppression of exotic species;
- Collection of required or relevant baseline data;
- Fish stocking programs to deflect recreational angling pressure away from wild populations of trout; and
- Strategies to prevent illegal harvest of wild rainbow trout from the Spokane River.

Potential actions are identified in the *Coeur d'Alene Lake Basin Bull Trout and Westslope Cutthroat Trout Protection, Mitigation, and Enhancement Plan* (Kleinschmidt 2004) and are summarized below. Annual Work Plans may include portions or subsets of these actions.

5.1 Tributary Habitat Conservation, Enhancement and Reconnection

This measure provides for resources to protect and enhance stream habitats in the Lake basin. Tributary stream and riverine habitats represent important spawning, rearing, and other life history habitats for both resident and migratory native fish species. Habitat may be protected through purchase of adjacent lands, conservation easements, watershed restoration, and reconnection of fish passage or other measures. An emphasis will be placed on restoring and protecting particularly valuable areas such as key spawning sites or areas with groundwater upwelling that provide critical cold water refugia.

Blockages may be physical or natural conditions that restrict migration or movement and may provide habitat for competitive or predatory species. Actions may include channel or stream bank modification, planting and maintenance of buffer strips, exclusion of livestock, addition of large woody debris and other structure at selected areas to provide cover and prey habitat or otherwise increase stream habitat complexity. Providing passage past roads, culverts, splash dams in the Marble Creek drainage, or other dikes and barriers will provide a means to re-connect fish to previously blocked habitat. Riparian habitat restoration may be conducted on lands held in fee title, with permanent conservation easements or by other relevant land ownership means.

5.2 Recreation Fishery Evaluation and Enhancement

The Plan may provide support for recreational fishery enhancements that either directly benefit or reduces risk to native species. Proposed recreational fishery enhancement projects will be consistent with native fish restoration goals and Endangered Species Act (ESA) requirements. Recreational fishery enhancement actions may proceed only when the project will not conflict with native salmonid restoration efforts, or the requirements for federally listed species. One such implementation measure may include the creation of "catch-out" ponds near communities or heavily used

recreation areas, improved habitat and non-native sport fisheries or population enhancement or control measures that benefit target species.

5.3 Monitoring, Management and Restoration Plans

Monitoring, management or restoration plans will be developed as appropriate. Detailed monitoring plans will include goals and objectives, restoration and protection activities, information and education measures, budgets, schedules or other relevant information. Monitoring and management insures project effectiveness, that actions are producing the intended results, and provide a basis for re-directing efforts consistent with management direction.

Fish population and habitat evaluations of associated tributaries to the Project may be necessary to fill information gaps or determine conservation or restoration opportunities to enhance native fish species. Evaluations may be needed to determine the current habitat condition and/or the fish populations in tributaries to the Lake that historically supported spawning and rearing habitat for native salmonid species.

5.4 Exotic Species Suppression

Programs to control or suppress non-native fish species may be implemented to minimize their impacts to native species (Rich 1992; Weitkamp 2003). These may occur near tributary mouths, along shoreline habitats or other specified locations as identified by the cooperating parties during implementation of this Plan.

5.5 Education and Outreach

This Plan includes provisions to address License Article 409, Avista's Coeur d'Alene Lake Fisheries Public Education and Outreach Program (Program), which is included as Attachment 2. The Program will educate the public about fishery measures implemented at the Post Falls HED and about measures to minimize their impact on native fish.

5.6 Coeur d'Alene Lake Habitat Enhancement and Protection

Enhancement and protection of lake shores, bays or tributary mouth habitat may be implemented to help protect native salmonid species in the Lake. This program may include localized habitat protection or restoration actions and shoreline protection measures to improve juvenile or adult native salmonid survival or migration. Actions such as placement of rock or wood structure or the planting of native vegetative cover near the mouth of Wolf Lodge, Mica, or Carlin Creeks are examples of these activities.

6.0 ENDANGERED SPECIES ACT

During the re-licensing of the Project, FERC consulted with the USFWS in regard to threatened or endangered species and their critical habitats that may be affected by the Project, which includes the Post Falls HED. FERC submitted its initial biological assessment to the USFWS on January 31, 2007 (FERC 2006). The USFWS concurred with FERC that licensing of the Project was "**not likely to adversely affect"** bald eagles and would have **no effect** on the water howellia, Ute ladies' tresses, Spalding's catch fly or gray wolf. On July 31, 2008 the USFWS concurred with FERC that issuance of new License for Avista Utilities Spokane River Hydroelectric Projects, which includes the Post Falls HED, is **"not likely to adversely affect"** bull trout or bull trout critical habitat (USFWS 2008). To help alleviate any potentially incremental increase in bull trout predation Avista developed, in consultation with the USFWS and IDFG, a "Targeted Non-Native Predator Fish Removal Program (Avista 2008)." This Program includes a two year "Predator Fish Removal and Analysis Lower St. Joe River" to be implemented in 2009 and 2010. Appendix A of the FERC License also requires IDFG to consult with the USFWS regarding this Plan and states that within the first five years after the new License becomes effective Avista will implement at least one enhancement project that improves bull trout habitat.

The Service's July 31, 2008 concurrence with FERC's "not likely to adversely affect" determination under Section 7 of the ESA for issuance of the Project License explicitly covered development of a Fishery Protection and Enhancement Plan to address improvements to bull trout habitat. However, to the extent impacts to bull trout or bull trout critical habitat from the

implementation of the Fishery Protection and Enhancement Plan are expected to exceed those anticipated in that consultation, additional site specific ESA consultation may be required.

7.0 REFERENCES

Avista Corporation. 2008. Targeted Non-Native Predator Fish Removal Program Post Falls Hydroelectric Project, FERC No. 12606. July 14, 2008. Avista Corporation. Spokane, WA

FERC. 2009. Order Issuing New License and Approving Annual Charges For Use of Reservation Lands. Federal Energy Regulatory Commission. Project Nos. 2545-091 issued June 18, 2009. Washington DC.

FERC. 2007. Final Environmental Impact Statement Spokane River and Post Falls Hydroelectric Projects. Washington DC.

FERC. 2006. Draft Biological Assessment for Threatened and Endangered Species Listed or Proposed for Listing Under the Endangered Species Act and Potentially Affected by the Federal Energy Regulatory Commission Relicensing of the Spokane River Hydroelectric Projects. Washington, DC.

IDEQ. 2008. Idaho Department of Environmental Quality Certification Under Section 401 of the Federal Clean Water Act. Issued June 5, 2008.

Kleinschmidt. 2004. Coeur d'Alene Lake Basin Bull Trout and Westslope Cutthroat Trout Protection, Mitigation & Enhancement Plan. Kleinschmidt. PA

McIntyre, J.D. and B.E. Rieman. 1995. Westslope cutthroat trout in conservation assessment for inland cutthroat trout. General Technical Report RM-256. U.S. Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station, Fort Collins, Colorado. M.K. Young, Tech. Ed. pp 1-15.

PBTTAT. 1998. Draft Coeur d'Alene Lake Basin bull trout problem assessment. Panhandle Bull Trout Technical Advisory Team. Prepared for the State of Idaho. 73 pp.

Rich, B.A. 1992. Population dynamics, food habits, movement and habitat use of northern pike in the Coeur d'Alene Lake System, Idaho. Completion Report F-73-R-14, Subproject Number VI, Study Number 3. Idaho Department of Fish and Game, Boise, Idaho. 97 pp.

U. S. Fish and Wildlife Service (USFWS). July 31, 2008. Letter of concurrence with "Not Likely to Adversely Affect" Determination to Kimberly D. Bose, Secretary from Rich Torqemada. Spokane, WA

U.S. Fish and Wildlife Service (USFWS). 2002(a). In bull trout (S*alvelinus confluentus*) draft recovery plan. Chapter 1, Introduction. U.S. Fish and Wildlife Service, Portland, Oregon. 137 pp.

U.S. Fish and Wildlife Service (USFWS). 2002(b). In bull trout (S*alvelinus confluentus*) draft recovery plan. Chapter 15, Coeur d'Alene Lake Basin Recovery Unit. U.S. Fish and Wildlife Service, Portland, Oregon. 92 pp.

Weitkamp, D. E. 2008. Fisheries Resources Additional Analysis and Supplemental Information on Bull Trout and Bull Trout Critical habitat in the Coeur d'Alene Lake Basin. Parametrix, Inc. Bellevue, WA.

Weitkamp, D.E. 2003. Summary Review, Predation on cutthroat trout in Coeur d'Alene. Report by Parametrix, Inc.

APPENDIX A

Record of Consultation

February 17, 2010: Jim Fredericks of IDFG emails Tim Vore preliminary talking ideas and recommendations. On February 18 Tim Vore and Jim Fredericks meet and discuss appropriate revisions to include in the revised draft.

January 29, 2010: Tim Vore sends Jim Fredericks of IDFG drafts of the Fishery Five-Year Plan and AWP for comment and discussion.

January 14, 2010: Meeting with IDFG and Tim Vore to describe further details of the Five-Year Plan and the AWP. Recommendations are discussed and incorporated into the Plan and AWP.

October 26, 2009: Tim Vore meets with USFWS to discuss the general layout and sections of the proposed 5-year plan and the general specifics of the proposed Marble Creek Splash Dam Passage and I&E AWP.

October 21, 2009: Meeting with IDEQ and IDFG to discuss overall process to proceed with development of plans. Preliminary comments and recommendations are discussed.

September 25, 2009: Tim Vore and Robert Steed (IDEQ) discuss and review a working draft of the 5-year Plan and 2010 Annual Work Plan.

September 15, 2009: Tim Vore and Jim Fredericks meet at IDFG office to discuss 5-Year Plans and Annual Work Plans.

July 16, 2009: Tim Vore sends a preliminary incomplete working draft of a five year fishery protection and enhancement plan to Jim Fredericks and Melo Maiolie for discussion, comments and suggestions.

June 30, 2009: Meeting with Tim Vore, Jim Fredericks and Melo Maiolie to review an outline of the 5-year plan and suggest revisions.

APPENDIX B

Agency Consultation and Avista Responses

Idaho Department of Fish and Game

March 25, 2010

Chip Corsi
Idaho Department of Fish & Game
2750 Kathleen Ave.
Coeur d'Alene, ID 83814

RE: Federal Energy Regulatory Commission's Spokane River Project, (FERC Project No. 2545) License, Appendix A, Section VII(A) Exhibit 1 Certification Conditions Draft Fishery Protection and Enhancement Plan

Dear Mr. Corsi:

On June 18, 2009 the Federal Energy Regulatory Commission (FERC) issued a new license for the Spokane River Hydroelectric Project, FERC Project No. 2545. Ordering Paragraph D of the FERC License incorporated the *Idaho Department of Environmental Quality Certification under Section 401 of the Federal Clean Water Act (Issued on June 5, 2008 and filed on June 19, 2008)*(Certification). The conditions pertaining to the Certification can be found in Appendix A of the License.

The Certification requires Avista to consult with the Idaho Department of Fish and Game during the development of the enclosed Five-Year Fishery Protection and Enhancement Plan, 2010 to 2014 (Plan). Additionally, Exhibit 1 of the Certification states that you consult with the Idaho Department of Environmental Quality and U.S. Fish and Wildlife Service regarding this Plan.

With this, we request your comments and/or your approval of the Plan by April 23, 2010. This will allow us to return the Plan to you by the June 1, 2010 deadline. If you have any questions regarding the Plan, feel free to call me at (509) 495-4998 or in my absence please contact Tim Vore at (509) 495-8612.

Sincerely,

Speed Fitzhugh

Elvin "Speed" Fitzhugh
Spokane River License Manager

Enclosure

C: Jim Fredericks

From: Corsi,Charles [mailto:charles.corsi@idfg.idaho.gov]
Sent: Tuesday, May 18, 2010 5:31 PM
To: Vore, Tim
Subject: FW: 5-year fish plan

Hi Tim,

Here's the feedback from RFM Jim Fredericks. Bottom line is we are comfortable with the plan (see minor suggested edits below), and are anxious to see things move forward.

Let me know if you need a more formal response.

Cheers!
Chip

From: Fredericks,Jim
Sent: Tuesday, May 18, 2010 12:37 PM
To: Corsi,Charles
Subject: FW: 5-year fish plan

Charles,
Tim has consulted with Melo, Ryan, and me throughout the process, so I have very few comments at this point. I think the plan looks like it will enable us to effectively implement good mitigation projects.

I have a few minor comments—all with the objective of insuring the plan is sufficiently flexible to implement an action (including acquire a piece of property) in a given year. Ideally, and as the plan suggests, actions will generally be identified one year, and then implemented the following year(s). In certain circumstances (i.e., land acquisitions) it all may need to be carried out in one year. To that end, I suggest the following:

- p. 6 under Year One (2010) - Insert words "and/or implemented" in the sentence "New and/or additional projects may be indentified and/or implemented as opportunities arise…..
- Insert "and/or implemented" into each of the following years (two through five).

Also, I think it would be beneficial to insure we have language in the plan that speaks to the value of key habitat areas (side channels, cold water refugia). This may help expedite/justify acquisitions or easements as they come available.

I suggest adding the following statement to the end of the first paragraph under section 5.1 "*An emphasis will be placed on restoring and protecting particularly valuable areas such as key spawning sites or areas with groundwater upwelling that provide critical cold water refugia*."

That's all the comments I have. Tim is eager to get our formal response so he can finalize the plan (needs to be done by June 1).

Jim Fredericks
Regional Fishery Manager, Panhandle Region
Idaho Department of Fish and Game
2885 W. Kathleen Ave.
Coeur d'Alene ID 83815
(208) 769-1414
jim.fredericks@idfg.idaho.gov

Avista Responses to Idaho Department of Fish & Game

Comment number 1: I have a few minor comments—all with the objective of insuring the plan is sufficiently flexible to implement an action (including acquire a piece of property) in a given year. Ideally, and as the plan suggests, actions will generally be identified one year, and then implemented the following year(s). In certain circumstances (i.e., land acquisitions) it all may need to be carried out in one year. To that end, I suggest the following:

- p. 6 under Year One (2010) - Insert words "and/or implemented" in the sentence "New and/or additional projects may be indentified and/or implemented as opportunities arise…..
- Insert "and/or implemented" into each of the following years (two through five).

Avista Response: *The sentence in years 1 through 5 has been changed to read: "New and/or additional projects may be identified and/or implemented as new opportunities arise for fishery protection and enhancement. Any that are identified will be evaluated in accordance with the Plan and considered for implementation".*

Comment number 2: I suggest adding the following statement to the end of the first paragraph under section 5.1 "*An emphasis will be placed on restoring and protecting particularly valuable areas such as key spawning sites or areas with groundwater upwelling that provide critical cold water refugia*."

Avista Response: *The sentence has been added to the end of the first paragraph in section 5.1 "Tributary Habitat Conservation, Enhancement and Reconnection".*

Idaho Department of Environmental Quality

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

2110 Ironwood Parkway • Coeur d'Alene, Idaho 83814 • (208) 769-1422

C.L. "Butch" Otter, Governor
Toni Hardesty, Director

May 13, 2010

Chip Corsi
Idaho Department of Fish and Game
2885 W. Kathleen Ave
Coeur d'Alene, ID 83815

Subject: Idaho DEQ comments and recommendation on Avista's Five-Year Fishery Protection and Enhancement Plan, Spokane River Hydroelectric Project FERC Project No. 2545.

Dear Chip:

The March 25, 2010 draft of the Five-year Fishery Protection and Enhancement Plan has been received and reviewed. The Idaho Department of Environmental Quality (DEQ) finds the plan consistent with the requirements of State of Idaho Section 401 Water Quality Certification for the Post Falls Hydroelectric Development.

As required by Section B in Exhibit 1 of the 401 Certification, DEQ has consulted on the contents of this draft and determined that no modifications are necessary. Please bring any significant modifications resulting from United States Fish and Wildlife consultation to DEQ's attention.

Agreement with the contents of this work plan by DEQ does not constitute approval under DEQ's 401 certification authority for any necessary federal permits needed to execute this project. Similarly, DEQ has not evaluated this project as it relates to the issuance of Idaho Department of Water Resources or Idaho Department of Lands permits.

If you have any questions regarding the Plan, feel free to call me at (208)769-1422

Sincerely,

Dan Redline
Regional Administrator
Idaho Department of Environmental Quality

c: Robert Steed

U.S. Fish and Wildlife Service

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Northern Idaho Field Office
11103 East Montgomery Drive
Spokane, Washington 99206

April 19, 2010

Chip Corsi
Idaho Department of Fish and Game
2750 Kathleen Avenue
Coeur d'Alene, ID 83814

Subject: Spokane River Hydroelectric Project (FERC No. 2545), Draft Fishery Protection and Enhancement Plan (Appendix A, Section VII (A) Exhibit 1), Reference No. 14420-2010-CPA-0010 (File No. 503.0005)

Dear Mr. Corsi:

This letter comprises the U.S. Fish and Wildlife Service's (Service) response to your March 31, 2010, e-mail with the attached Five Year Fishery Protection and Enhancement Plan (Five Year Plan) and 2010 Annual Work Plan (Annual Plan) pertaining to Avista's Spokane River Hydroelectric Project (Project). The Five Year Plan dated March 25, 2010, and the undated Annual Plan, were prepared by Avista Corporation (Avista), to comply with the Federal Energy Regulatory Commission's (FERC) License for the Project.

The Service supports the proposal described in the Annual Plan to provide fish passage for federally listed threatened bull trout (*Salvelinus confluentus*) and westslope cutthroat trout (*Oncorhynchus clarki lewisi*) in Marble Creek. We are also providing the following comments and recommendations for consideration during the preparation of the final Plans:

1. Section 5.3, Monitoring, Management and Restoration Plans, Page 11: *"Monitoring, management or restoration plans will be developed as appropriate . . . . Monitoring and management insures project effectiveness, that actions are producing the intended results . . . ."* The Service recommends that Avista implement detailed monitoring plans and adaptive management concepts for each project to help ensure the success of the stream restoration activity. The duration of the monitoring plan and contingency measures

should be clearly indicated in the Annual Plan. We recommend several accepted monitoring protocols, including the following:

a. *Part 654, Stream Restoration Design National Engineering Handbook*, developed by the Natural Resources Conservation Service. Chapter 16 (section 654.1600) of the Handbook pertains to Maintenance and Monitoring.
b. *Monitoring the Vegetation Resources in Riparian Areas (General Technical Report RMRS-GTR-47),* developed by the U.S. Forest Service.

2. Section 6.0, Endangered Species Act, Page 12: *"The USFWS was consulted with on threatened and endangered species and their critical habitats during the re-licensing of the Project, which includes the Post Falls HED"* For clarity, we recommend rewording and rearranging the sentence above in the following manner; *"During the re-licensing of the Project,* ***FERC consulted with*** *the USFWS* ***in regard to*** *threatened or endangered species and their critical habitats* ***that may be affected by the Project,*** *which includes Post Falls HED."*

3. Appendix C, Fishery Project Ranking Criteria, Area enhancement, Page 17: For clarity, the Plan should include definitions of *"Direct association to Post Falls HED"* as opposed to *"Within Post Falls HED Project boundary."* These terms appear to be similar.

4. Appendix C, Fishery Project Ranking Criteria, Fish species, Page 17: To avoid uncertainty, we suggest that the Plan include a definition or list of *"target fish species"* and *"native fish."*

5. Appendix C, Fishery Project Ranking Criteria, Recreational Benefit, Page 18: *"Project provides direct recreational benefit for native species or reduces impact on native species (2pts)"* To facilitate clarity, we suggest modifying this criterion in the following manner *"Project provides direct recreational benefit for native species or* ***facilitates recovery of native species"***

Thank you for the opportunity to provide our comments and recommendations on Avista's draft Five Year and Annual Plans. We look forward to working with your staff during the implementation of the Plans during the course of the new license. If you have any questions, please contact Rick Donaldson of my staff at the Northern Idaho Field Office, at 509-893-8009.

Sincerely,

/s/ Rich Torquemada

Assistant Project Leader

2

Avista Responses to the U.S. Fish and Wildlife Service

Comment number 1:
Section 5.3, Monitoring, Management and Restoration Plans, Page 11: *"Monitoring, management or restoration plans will be developed as appropriate . . . . Monitoring and management insures project effectiveness, that actions are producing the intended results . . . ."* The Service recommends that Avista implement detailed monitoring plans and adaptive management concepts for each project to help ensure the success of the stream restoration activity. The duration of the monitoring plan and contingency measures should be clearly indicated in the Annual Plan. We recommend several accepted monitoring protocols, including the following:

a. *Part 654, Stream Restoration Design National Engineering Handbook,* developed by the Natural Resources Conservation Service. Chapter 16 (section 654.1600) of the Handbook pertains to Maintenance and Monitoring.
b. *Monitoring the Vegetation Resources in Riparian Areas (General Technical Report RMRS-GTR-47),* developed by the U.S. Forest Service.

Avista Response: *Detailed monitoring plans will be developed as appropriate to meet the project objectives. Plan objectives will focus on fish response to the project. The detailed monitoring plans will include adaptive management concepts and will reference or include protocols found in a. and b, above as appropriate to meet objectives. Through the annual consultation, the U.S. Fish and Wildlife Service will be able to help ensure success of any activities.*

Comment number 2:
Section 6.0, Endangered Species Act, Page 12: *"The USFWS was consulted with on threatened and endangered species and their critical habitats during the re-licensing of the Project, which includes the Post Falls HED"* For clarity, we recommend rewording and rearranging the sentence above in the following manner; *"During the re-licensing of the Project,* ***FERC consulted with*** *the USFWS* ***in regard to*** *threatened or endangered species and their critical habitats* ***that may be affected by the Project,*** *which includes Post Falls HED."*

Avista Response: *The text in section 6 has been revised according to the recommendation.*

Comment number 3:
Appendix C, Fishery Project Ranking Criteria, Area enhancement, Page 17: For clarity, the Plan should include definitions of *"Direct association to Post Falls HED"* as opposed to *"Within Post Falls HED Project boundary."* These terms appear to be similar.

Avista Response: *Direct association means either within the Project boundary or directly associated, such as projects to protect or enhance migratory fish that reside within the Project boundary during a portion of their life cycle or areas adjacent to the Project boundary. Within the Project boundary is specific to within the FERC Post Falls Hydroelectric operating Project boundary. The following language has been added in Appendix C for clarification:*

Directly associated with the Project

a) *Refers to fishery protection and enhancement projects that lie within or immediately adjacent to the FERC Project boundary, or*
b) *Fishery protection and enhancement projects for migratory fish that spend a portion of their life cycle within the Project boundary.*

Comment number 4:
Appendix C, Fishery Project Ranking Criteria, Fish species, Page 17: To avoid uncertainty, we suggest that the Plan include a definition or list of *"target fish species"* and *"native fish."*

Avista Response: *Native fish are defined in Exhibit 1 of Appendix A to include westslope cutthroat trout, bull trout, and wild rainbow trout. The native fish species are identified at the bottom of Appendix C. The word "target" has been replaced with "native".*

Comment number 5:
Appendix C, Fishery Project Ranking Criteria, Recreational Benefit, Page 18: *"Project provides direct recreational benefit for native species or reduces impact on native species (2pts)"* To facilitate clarity, we suggest modifying this criterion in the following manner "*Project provides direct recreational benefit for native species or* ***facilitates recovery of native species"***

Avista Response: *The text has been revised to read: "Project provides direct recreational benefit for native species or improves conditions for native species (2pts)". The text offered by the USFWS suggests all native species need recovery, which is not accurate. For example, wild rainbow trout and westslope cutthroat trout are not listed as threatened or endangered; therefore, are not subject to U.S. Fish and Wildlife recovery efforts.*

APPENDIX C

Fishery Project Ranking Criteria

Fishery Project Ranking Criteria (17 total points)
Five-Year Fishery Protection and Enhancement Plan

Project and Total Points:

Reviewer (IDFG, IDEQ, Avista, USFWS):

- Area enhancement project will encompass (3 points):

    1. Direct association to Post Falls HED* (3 pts).
    2. Within Post Falls HED FERC Project boundary (2 pts).
    3. Adjacent to HED Project boundary-within basin (1 pt).
    4. Not in HED Project basin (project ineligible).

- Fish species (i.e. resources) that are expected to benefit from the project (4 points):

    1. Multiple species - Adfluvial bull trout and westslope cutthroat trout (above Post Falls HED) (4 pts).
    2. Single species – Adfluvial bull trout, westslope cutthroat or fluvial redband rainbow trout (Spokane R. below Post Falls HED) (3 pts).
    3. Fluvial or resident westslope cutthroat trout (2 pts).
    4. Indirect benefit to native fish* (1 pt).
    5. No native fish species will benefit (project ineligible).

- Expected benefits relative to cost (2 points):

    1. Project benefits exceed costs (2 pts).
    2. Project benefits about equal to cost (1 pt).
    3. Project costs exceed benefits (project ineligible).

- Project consistency with existing fishery management/recovery plans (2 points):

    1. Project is consistent with existing fishery management plans, recovery plans, and/or designated beneficial uses (2 points).
    2. Project is not consistent with existing fishery management or recovery plans goal and objectives (Project ineligible).

- Cost sharing or in-kind services (2 points): Percent of the project that will be funded from other (non Avista funding) revenue sources and/or in-kind services.

    1. Greater than or equal to 25% of the total project cost (2 points).

- Project provides recreational benefit (2 points):

    1. Project provides direct recreational benefit for native species or improves conditions for native species (2 pts).

    2. Project provides recreational benefits, without direct benefit to native species (1 pt).

- Project has monitoring component (2 points):

    1. Project has well defined monitoring component that will help determine effectiveness (2 pts).

** Foot Notes:*

Directly associated with the Project:

a) Refers to fishery protection and enhancement projects that lie within or immediately adjacent to the FERC Project boundary, or

b) Fishery protection and enhancement projects for migratory fish that spend a portion of their life cycle within the Project boundary.

Native fish species are: bull trout, westslope cutthroat trout, wild rainbow trout.

Attachment 1

2010 Annual Work Plan: Marble Creek Splash Dam Passage Project

2010
ANNUAL WORK PLAN
Fishery Protection and Enhancement

Spokane River Project, FERC No. 2545-091
Post Falls Hydroelectric Development
FERC License Appendix A

Title: Marble Creek Splash Dam Passage Project

Introduction and Background: On June 18, 2009 the Federal Energy Regulatory Commission (FERC) issued a new License (License) for the Spokane River Project that includes the Post Falls Hydroelectric Development (HED) (FERC 2009). Ordering paragraph D of the FERC License incorporated the Idaho Department of Environmental Quality's (IDEQ) Certification Conditions under Section 401 of the Federal Clean Water Act (IDEQ 2008). The conditions can be found in Appendix A of the License. Appendix A, Exhibit 1, B of the License states that Avista shall consult with Idaho Department of Fish and Game (IDFG), IDEQ, and the U.S. Fish and Wildlife Service (USFWS) annually to implement the measures of the approved *Five-Year Fishery Protection and Enhancement Plan 2010 to 2014* (Avista 2010). This Annual Work Plan (AWP) has been developed in consultation with the IDFG, IDEQ and USFWS to meet the requirements of the five-year plan for measures to implement in 2010.

Project Description: This Annual Work Plan (AWP) is expected to enhance multiple native salmonids and their habitats in Idaho associated with the Post Falls HED. The project will identify and implement fish passage measures at blockages in the Marble Creek Drainage, a tributary to the St. Joe River (see Figure 1 and Appendix B in attached DuPont 2008). The project focuses on passage for adfluvial and fluvial native westslope cutthroat trout and bull trout to allow them to re-colonize the high quality habitat in upper Marble Creek.

Restoration and passage to quality tributary stream habitat is important in the protection and enhancement of native salmonids (Avista 2010; FERC 2007; PBTTAT 1998). Tributary habitat conservation and enhancement is identified as an important protection and enhancement activity (Section 5) in the *Five-Year Fishery Protection and Enhancement Plan 2010 – 2014 (Avista 2010).* Upstream passage past four splash dams on Marble Creek, a tributary of the St. Joe River in Idaho, has been identified as critical to the re-colonization of bull trout in the upper reaches and tributaries where high quality bull trout habitat exists (USFWS 2009, 2002; DuPont 2008; PBTTAT 1998). DuPont (2008) identified two splash dams, referred to as splash dams 2 and 3 that did not provide passage in 2003. These barriers prevent movement of bull trout and westslope cutthroat trout into several streams, most notably Delaney Creek, Freezeout Creek, Duplex Creek and upper Marble Creek. This project will develop alternatives to provide passage past splash dams 2 and 3 while maintaining the historical significance of the area. The splash dams are located on U.S. Forest Service property, so close coordination with the US Forest Service will be required.

Priority: This project provides benefits for multiple adfluvial and fluvial native salmonid species through passage into currently blocked tributary habitat. Native westslope cutthroat trout and bull trout spend a portion of their life directly associated to the Hydroelectric Project area.

Bull trout are listed as threatened under the Endangered Species Act and the Marble Creek drainage has recently been proposed as critical habitat for bull trout (USFWS 2009). This Project is identified as a critical factor for bull trout restoration and addresses the License requirement to include at least one enhancement project that improves bull trout habitat within the first five-years.

Specific 2010 Annual Work Plan Tasks: This project is expected to occur over multiple years and will include several tasks. Specific tasks for 2010 include:

Task 1: Coordinate efforts with the US Forest Service, IDFG, and USFWS to determine preliminary project steps. Select a professional consultant and/or environmental engineer with historical background (or access to an archeologist or historical services to complete an assessment) to identify alternatives that may be used to provide passage around dams 2 and 3 while maintaining their historical significance (an archeological assessment was complete in 1982). Complete a field review and site survey of the splash dams.

Task 2: Though consultation with the cooperating parties and professional consultant or environmental engineer, develop alternatives and recommendations to provide passage of bull trout and westslope cutthroat trout past splash dams 2 and 3. The consultant or engineer will prepare a technical memorandum that includes a schematic design and measured drawing, estimated costs, permitting requirements including any ESA consultation, cultural resource review and recommended strategies to implement a desired passage program.

Schedule: Implementation will begin upon approval of the Five-Year Fishery Protection and Enhancement Plan and after consultation for this AWP is complete.

Task 1: Fall 2010
Task 2: Fall/Winter 2010

2010 Estimated Budget Summary Funds Allocated: Estimated

Task 1	
Consultant Review Existing Data	$1,500
Consultant Site Visit, Survey, Topography	$12,600
Task 2	
Consultant Developed Conceptual Alternatives	$16,400
Total 2010 Obligation	**$30,500**

References:

Avista. 2010. Five-Year Fishery Protection & Enhancement Plan 2010 to 2014. Draft in process. Avista Corporation. Spokane, WA.

DuPont, J. 2008. Marble Creek Bull Trout Passage Assessment. Idaho Department of Fish and Game, 2007 Panhandle Region. Coeur d'Alene, ID.

FERC. 2009. Order Issuing New License and Approving Annual Charges for use of Reservation lands. Project Nos. 2545-091. US Federal Energy Regulatory Commission. Washington DC

FERC. 2007. Final Environmental Impact Statement Spokane River and Post Falls Hydroelectric Projects. US Federal Energy Commission. Washington DC

IDEQ. 2008. Idaho Department of Environmental Quality Certification Under Section 401 of the Federal Clean Water Act. Issued June 5, 2008. Idaho Department of Environmental Quality. Idaho.

PBTTAT. 1998. Draft Coeur d'Alene Lake Basin bull trout problem assessment. Panhandle Bull Trout Technical Advisory Team. Prepared for the State of Idaho. 73 pp.

U.S. Fish and Wildlife Service (USFWS). 2009. Revised bull trout (S*alvelinus confluentus*) Critical Habitat Rule. U.S. Fish and Wildlife Service, Portland, Oregon.

U.S. Fish and Wildlife Service (USFWS). 2002. In bull trout (S*alvelinus confluentus*) draft recovery plan. Chapter 15, Coeur d'Alene Lake Basin Recovery Unit. U.S. Fish and Wildlife Service, Portland, Oregon. 92 pp.

Attached: DuPont 2008

Annual Consultation: Marble Creek Splash Dam Passage Project

March 9, 2010: Tim Vore and Ted Baker meet with Lisa Hawden, Steve Matz and others from the US Forest Service.

January 29, 2010: Tim Vore sends Jim Fredericks draft AWP for review.

January 14, 2010: Meeting with IDFG and Tim Vore to describe further details of the Five-Year Plan and the AWP.

October 26, 2009: Tim Vore meets with USFWS to discuss the general layout of the proposed 5-year plan and the general specifics of the Marble Creek Splash Dam Passage Program and Fisheries I&E AWPs.

October 21, 2009: Meeting with IDEQ and IDFG to discuss overall process to proceed with development of plans.

September, 2009: Tim Vore calls Lisa Hawdon of US Forest Service to discuss program.

September 25, 2009: Tim Vore and Robert Steed (IDEQ) discuss a working draft of the 5-year plan and 2010 Annual Work Plan.

September 15, 2009: Tim Vore, Jim Fredericks meet at IDFG office to discuss 5-Year Plan and Annual Work Plans.

DRAFT

IDAHO DEPARTMENT OF FISH AND GAME
2007 PANHANDLE REGION
MARBLE CREEK BULL TROUT PASSAGE ASSESSMENT

ABSTRACT

Upstream fish passage past four splash dams on Marble Creek, a tributary of St. Joe River, Idaho were assessed on July 23, 2007. Fish passage past these dams is critical to the re-colonization of bull trout in the upper reaches and tributaries of Marble Creek where we believe high quality bull trout habitat occurs. Based on this evaluation it was concluded that two of the four splash dams were likely fish passage barriers while the other two splash dams were not. Two natural drops or falls were also observed which we believe are barriers to migrating fish when stream flows were low. However, during higher flows when bull trout often migrate upstream, these natural drops likely are passable by adult bull trout. Based on this assessment we believe bull trout can access Homestead Creek which we believe provides high quality habitat. Access to Delaney Creek, Freezeout Creek and upper Marble Creek was still blocked by these splash dams in 2007. These steams are believed to have high-quality bull trout spawning and rearing habitat and may be critical to the success of the re-colonization of bull trout in the Marble Creek watershed. Possible alternatives for fish passage around these splash dams should be evaluated.

Authors:

Joe DuPont
Regional Fisheries Biologist

Jacob Hughes
Regional Fisheries Technician

Ned Horner
Regional Fisheries Manager

DRAFT

INTRODUCTION

According to the Federal Draft Bull Trout Recovery Plan, before bull trout recovery can be considered in the Coeur dîAlene Lake basin, the number and distribution of spawning bull trout populations must expand (USFWS 2002). The Draft Bull Trout Recovery Plan lists streams where it is believed that bull trout can re-colonize once current threats are removed. Marble Creek is one of the streams believed to have a high potential for bull trout recovery, but splash dams prevent bull trout from re-colonizing much of Marble Creek. The splash dams were constructed in 1915 and remained in operation until 1931 (USFS 2003). These dams were used to back up water so they would float a raft of logs. Water behind a dam would be released all at once so that the ensuing flush of water would transport the logs down to the next splash dam downstream. This procession would continue downstream until the logs would reach the St. Joe River. In 2003, it was concluded that fish passage above a splash dam 18 km upstream from the mouth of Marble Creek was possible due to its degradation from a flood in 1996 (DuPont et al. In Press). With the destruction of this dam, bull trout potentially had access to over 160 km of stream, some of which appeared to be high quality spawning and rearing habitat at elevations over 1,219 m (DuPont et al. In Press). Upstream from this dam there were still a series of splash dams that could potentially block access of bull trout to these quality spawning and rearing streams. The purpose of this survey was to evaluate these splash dams and determine if upstream fish passage was possible for adult bull trout which would allow them to reach high quality spawning and rearing habitat.

STUDY SITE

Marble Creek flows into the St Joe River about 94 km upstream from its mouth. Marble Creek is about 41 km in length and throughout its watershed there were potentially 10 splash dams that could prevent bull trout from reaching spawning and rearing habitat (Figure 1). Four of these splash dams in particular had the ability to block bull trout from accessing an abundance of high quality spawning and rearing habitat. These four splash dams were located on the main stem of Marble Creek 25.6, 29.5, 30.3 and 40.8 km upstream from the mouth (Figure 1). Over 100 km of 2nd order or larger streams exist above these splash dams. Those tributaries over 1,219 m in elevation are believed to have the most potential in supporting rearing bull trout (Figure 1).

OBJECTIVES

1. Evaluate whether four splash dams on the main stem of Marble Creek were barriers to upstream fish passage of adult bull trout.

2. Discuss alternatives to providing fish passage past any of the splash dams that were considered barriers.

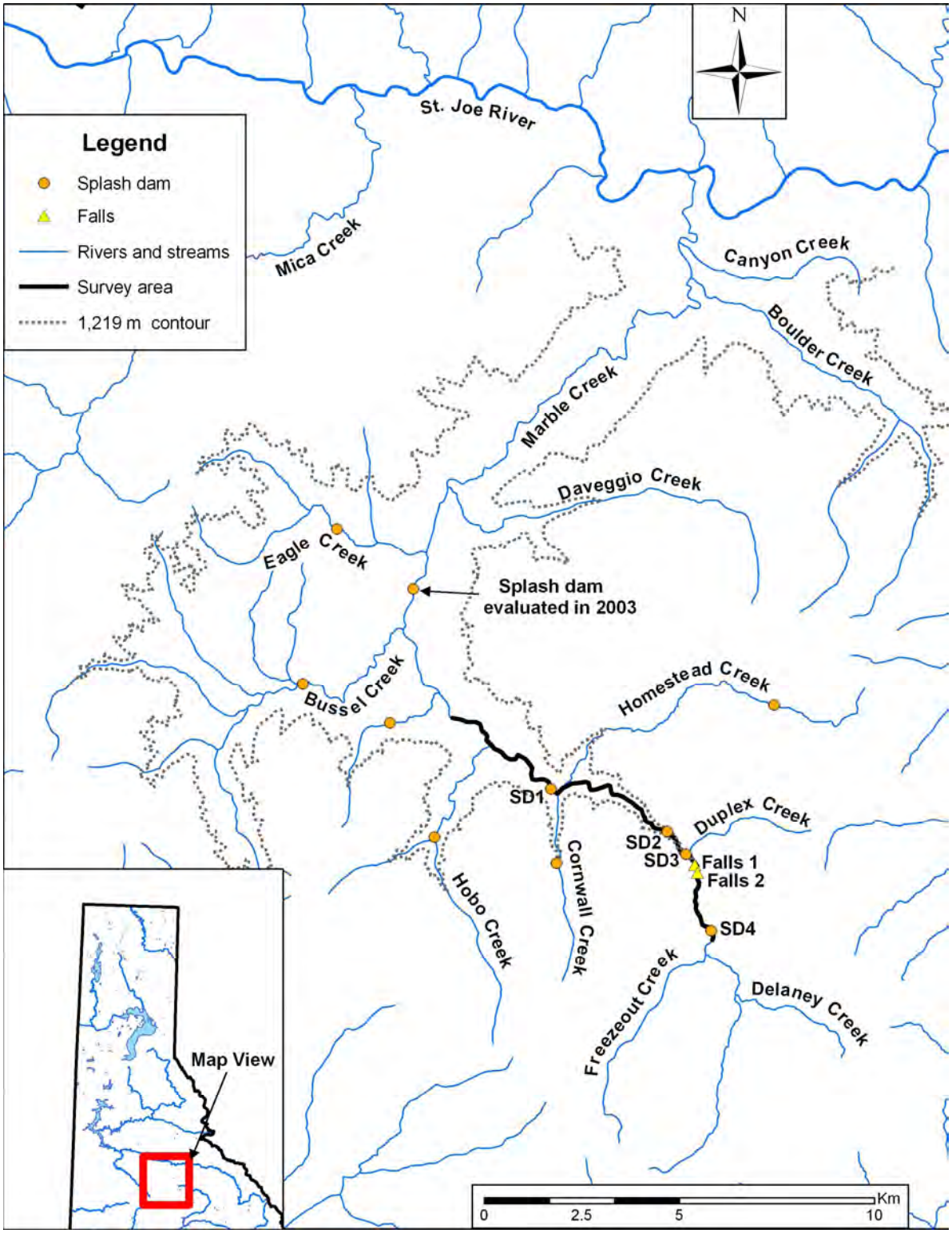

Figure 1. The location of the splash dams in the Marble Creek watershed, Idaho, that have the potential to block bull trout from accessing spawning and rearing habitat, including those splash dams (SD) and falls that were surveyed on July 23, 2007 to assess whether they were fish barriers.

FINDINGS

We surveyed 10.9 km of Marble Creek on July 23, 2007 from the most upstream crossing of Forest Service road 321 to where trail 261 crossed Marble Creek (Figure 1). Four splash dams and two natural falls were documented in this reach of stream and assessed for fish passage (Table 1).

Table 1. The location of splash dams and falls in Marble Creek, Idaho, that were evaluated for fish passage on July 23, 2007.

Structure assessed	Coordinate (Datum: WGS 84)		Km upstream from mouth	Provide passage?
	Latitude	Longitude		
Splash Dam 1	47.10822	-116.06245	25.6	Yes
Splash Dam 2	47.09914	-116.02272	29.5	Probably not
Splash Dam 3	47.09404	-116.01625	30.3	No
Falls 1	47.09163	-116.01317	30.7	Possibly
Falls 2	47.08984	-116.01228	30.9	Possibly
Splash dam 4	47.07668	-116.00719	40.8	Yes

The first splash dam we encountered (Splash Dam 1) did not block fish passage. Over time, Marble Creek had totally eroded around the west side of this splash dam. The new channel did not flow through any part of the splash dam and no sudden drops in elevation occurred.

The second dam (Splash Dam 2) we encountered was over 3m high. Most of the flow cascaded over this dam along its east side (Appendix A). Holding pools did not appear to occur anywhere in this cascade that would allow a bull trout to navigate its way over this drop. Significant flows also occurred through the log structures on the east side of the dam. Although we were doubtful that adult bull trout could navigate through the logs or ascend the cascading falls, it was impossible to determine this with certainty. We were able to crawl into parts of the splash dam, but darkness and splashing water prevented accurate evaluation. This splash dam was constructed by logs ranging from 0.2-1.0 m in diameter which were anchored to each other with spikes and a criss-crossing log pattern. Rocks were placed inside the log structure to help hold it in place. It appeared the reason most of the flow occurred along the east side of the dam was due to natural degradation from past floods and weathering. Those logs that remained in place were relatively large (> 0.7 m in diameter) and appeared to be largely intact. However, these logs would be susceptible to the continual pounding of water and debris carried in the flow which could significantly reduce the life of this structure.

The third splash dam (Splash Dam 3) we encountered we believe was a total block to upstream fish passage (Appendix B). The majority of flows either occurred over a 3m vertical drop or passed through narrow slots in the logs. We believe the vertical fall is more than bull trout can jump and we did not observe any possible route through the dam. The dam structure was 3m high and spanned the wetted width of Marble Creek. Logs used to construct the splash dam ranged from 0.2-1.0 m in diameter. This dam was constructed similar to Splash Dam 2, but it appeared to be very stable and entirely intact. After nearly 100 years of use, sediment had filled the channel to the top of the dam. This would allow large debris or substrate to pass over the dam during higher flows without causing much damage to the structure.

The 4th splash dam (Splash Dam 4) we encountered was nearly non-existent. The dam had nearly eroded away and provides no potential block to upstream fish passage

Two natural falls in Marble Creek were observed between splash dams 3 and 4. Flows were concentrated into a narrow (1.5 m) channel causing extreme velocities. Large boulders occurred in the plunge pools, restricting the depth and area of where upstream migrating fish would attempt to jump from. The first falls (Falls 1) was cascading, with a total drop of about 3 m. The second falls (Fall 2) was near vertical with an elevation drop of 2.5 m. Based on these characteristics we felt the drop and water velocities were too high and the jumping pool inadequate for bull trout to negotiate these falls during periods of low flows when we conducted our survey. However, based on the moss line in this canyon (see appendix C), during higher flows the drops over these falls would be significantly diminished, the jumping pool would become deeper and multiple routes would be possible for fish to attempt passage. Based on this reasoning, we believe that during periods of higher flows upstream passage for adult bull trout is likely.

DISCUSSION

Based on our survey, we believe two splash dams in Marble Creek are still fish passage barriers and prevent bull trout from reaching streams we believe provide quality spawning and rearing habitat. These barriers will restrict movement of bull trout into several streams over 1,219 m in elevation, most notably are Delaney Creek, Freezeout Creek, Duplex Creek and upper Marble Creek all. Many streams above 1,219 m in elevation in the upper St. Joe River and Little North Fork Clearwater River have been found to have thriving bull trout populations (DuPont et al. In Press).

Bull trout movement into over 160 km of Marble Creek and its tributaries had been blocked by splash dams since their introduction in 1915 (USFS 2003). Bull trout were documented in Boulder Creek, Deveggio Creek, and Eagle Creek in the Marble Creek watershed in the early 1930s (IDFG 1933). All of these streams entered Marble Creek below a splash dam 18 km upstream from the mouth that we believe was a fish passage barrier until 1996. To the best of our knowledge, bull trout were not documented upstream of this splash dam prior to 1996. We do not have records of species present in the Marble Creek drainage prior to 1933, although we believe that bull trout occurred throughout the higher elevations in the Marble Creek watershed prior to the construction of the splash dams. In the flood of 1996, the

splash dam 18 km upstream from the mouth of Marble Creek blew out and was identified as passable to adult bull trout (DuPont et al. In Press). This passage provided the potential for bull trout to migrate upstream to enter potential spawning and rearing streams. Upstream from this splash dam there were no potential barrier for at least 8 km - the location of Splash Dam 1. Several streams enter Marble Creek in this reach of stream, including Bussel Creek, Cranberry Creek and Hobo Creek. All of these streams have reaches that extend above 1,219 m in elevation; however, they all have splash dams on them prior to the 1,219 m elevation mark. Fish passage at those sites are unknown. Nevertheless, a large portion of their habitat that had been inaccessible is now available for bull trout.

Homestead Creek flows into the east side of Marble Creek upstream of Splash Dam 1. Since Splash Dam 1 does not inhibit bull trout movement, nearly all of Homestead Creek, much of which occurs all above 1,219 m, is accessible. Near the headwaters of Homestead Creek another splash dam exists, although it is not known if this dam blocks upstream passage. Cornwall creek also occurs just upstream of Splash Dam 1. Cornwall Creek flows into the western side of Marble Creek, and based on its elevation, is another stream that could potentially provide spawning and rearing habitat for bull trout. Cornwall Creek also has a splash dam on its main reach near the 1,219 m elevation. Fish passage beyond this point is unknown.

The second dam we evaluated (Splash Dam 2) probably blocks upstream fish passage. Considerable flow occurs around and through the east side of the splash dam, but the 3 m drop is probably more that bull trout can handle. With fish passage above this second splash dam improbable, it blocks off 25 km of potential bull trout spawning and rearing habitat. Upstream from this site, all tributaries and the remaining reaches of Marble Creek are above 1,219 m in elevation. The largest tributary between Splash Dams 2 and 3 is Duplex Creek, which potentially provides bull trout spawning and rearing habitat. The stream gradient in Duplex Creek would probably limit bull trout use to the lower half, assuming no natural barriers occur. No known man made barriers occur in Duplex Creek to restrict bull trout movement. The logs that support Splash Dam 2 appeared stable, although where the majority of the flow occurs they must endure a continual pounding of water and debris. This process could significantly reduce the life of this structure and makes its susceptible to failure from future flood events.

Splash Dam 3 occurs about 2.3 km upstream of Duplex Creek. This splash dam completely blocks all upstream fish passage. We crawled around the splash dam evaluating its structure and it appeared in very good shape and entirely intact. Floods will likely have minimal impacts because sediment build up on the upstream side of the dam allows substrate and other debris to flow over the splash dam with minimal contact. Based on its stability and resistance to flood impacts, Splash Dam 3 could potentially pose as a fish barrier for the next 100 years. If fish passage is desired in the near future above this splash dam, alternative passage routes would have to be developed. Upstream of Splash Dam 3 is Freezeout Creek, Delaney Creek and the upper reaches of Marble Creek. These streams are above 1,219 m in elevation and contain what we believe to be the best bull trout spawning and rearing habitat in the Marble Creek watershed.

Splash Dam 4 poses no threat to fish passage. Degraded over time, the splash dam is nearly gone and provides no obstacle for migrating fish.

Because two of the splash dams we evaluated are believe to be fish barriers and could potentially block passage for another 100 years, effort should be made to correct them.

However, preserving the historical significance of the splash dams is a big concern as numerous people appear to visit these sites based on the trails that lead to them. Any work done on or around these splash dams would require approval by the U.S. Forest Service, which would entail NEPA analysis and approval from the State Historic Preservation Office. One possible solution would be to blast away the failing east side of Splash Dam 2, and to create a channel around the west side of Splash Dam 3. This type of action would remove the fish passage problem, but would still preserve the majority of these splash dams and their historical significance.

We encountered two natural falls between Splash Dams 3 and 4 that could potentially pose a fish barriers to adult bull trout. The first fall was cascading with a total elevation drop of approximately 3 m (Appendix C). The second fall had a 2.5 m vertical drop. Both of these falls occurred in a narrow (1.5 m) bed rock canyon. During higher flows we believe the drops to these falls would be significantly reduced and several possible routes would be available. During these conditions, we believe adult bull trout (> 500 mm) would be able to pass these falls.

RECOMMENDATIONS

1. Discuss with the Forest Service techniques that could be used to provide fish passage around splash dams 2 and 3 while maintaining their historical significance.

2. Assess whether the splash dams in Homestead Creek and Hobo Creek prevent bull trout from reaching quality spawning and rearing habitat.

3. Periodically assess the condition of the splash dams to determine if fish passage has changed.

4. Periodically assess the fishery in those tributaries of Marble Creek where we believe bull trout can successfully re-colonize. If these streams are not re-colonized by bull trout in 10 years, it may be wise to discuss the possibility of re-introducing bull trout into areas where we believe high quality habitat occurs.

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Appendix A.

Looking upstream at Splash Dam 2 in Marble Creek, Idaho, on July 27 2007..

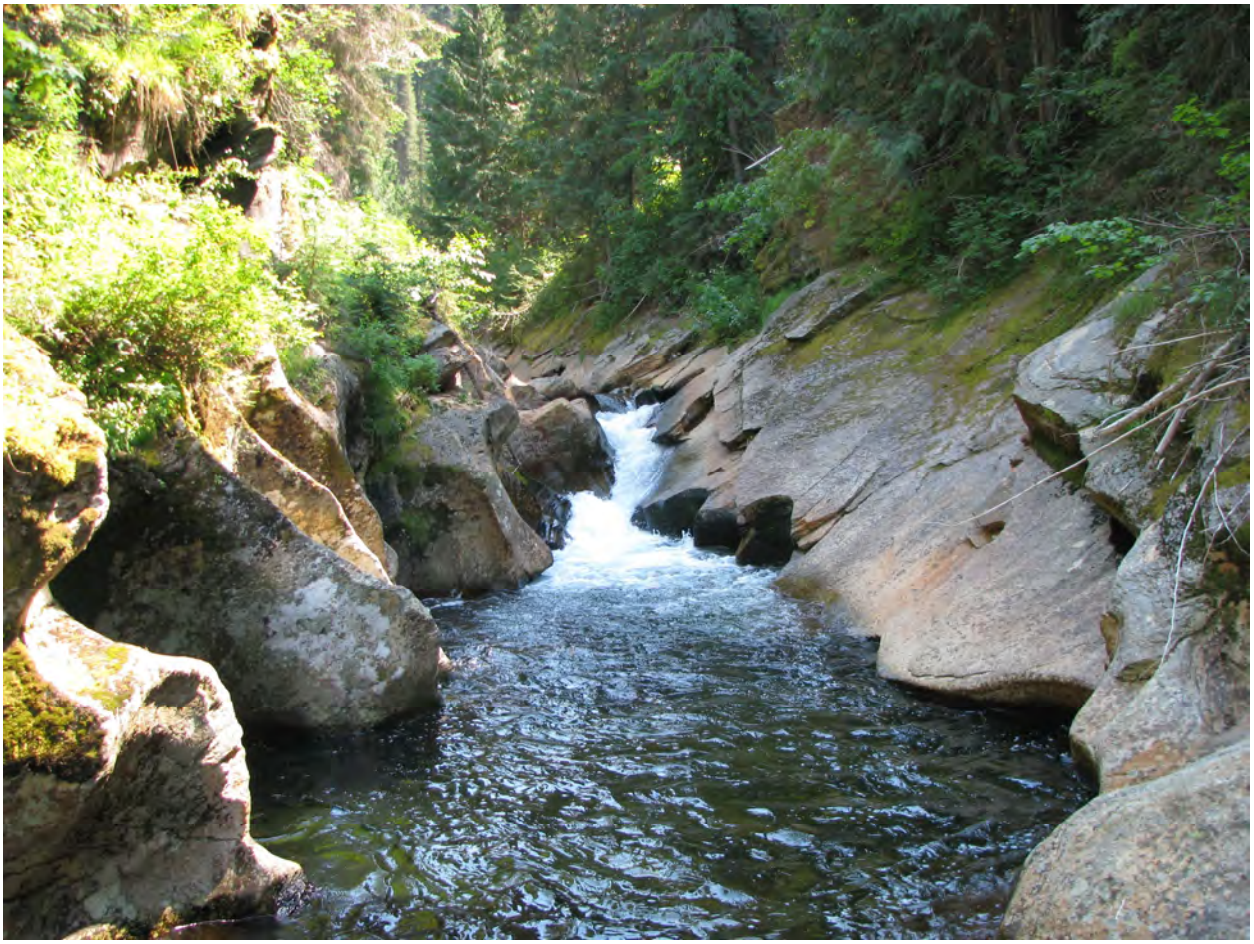
Appendix B.

Looking upstream at Splash Dam 3 in Marble Creek, Idaho, on July 27 2007.

Appendix B (continued).

A top view of Splash Dam 3, looking upstream in Marble Creek, Idaho, on July 27 2007.

Appendix C.



View of Falls 1 in Marble Creek, Idaho on July 23, 2007.

Attachment 2

Coeur d'Alene Lake Fisheries Public Education and Outreach Program

To be attached upon approval