

**American Rivers, American Whitewater, the Center for Environmental Law and Policy, the North Cascades Conservation Council, Cascade Chapter, Water and Salmon Committee of the Sierra Club, and the Columbia River Bioregional Education Project**

February 26, 2010

Ms. Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street North East  
Washington, DC 20426

Electronic Filing

**RE: ENLOE HYDROELECTRIC PROJECT, PROJECT NO. 12569-001  
NOTICE OF APPLICATION READY FOR ENVIRONMENTAL ANALYSIS  
AND SOLICITING COMMENTS, RECOMMENDATIONS, TERMS AND  
CONDITIONS, AND PRESCRIPTIONS**

Dear Secretary Bose:

Enclosed for filing in the above referenced proceeding are comments and recommendations for American Rivers, American Whitewater, the Center for Environmental Law and Policy, the North Cascades Conservation Council, Cascade Chapter, Water and Salmon Committee of the Sierra Club, and the Columbia River Bioregional Education Project (collectively, the Conservation Groups) on the Enloe Hydroelectric Project. Copies of this filing have been served on all parties of record to this proceeding. Thank you for consideration of our comments and recommendations. Please contact me at (503) 827-8648 or via email at [bswift@amrivers.org](mailto:bswift@amrivers.org) for further information or if you have any questions.

At this time, due to both the lack of an Environmental Impact Statement (EIS) and the inadequate analysis in the record, this filing contains preliminary comments and recommendations only. The Conservation Groups reserve the right to amend these comments and recommendations based on the results of information and conclusions developed during the Commission's environmental analysis.

Sincerely,

Brett Swift  
American Rivers

Rachel Paschal Osborn,  
Center for Environmental Law and Policy

Thomas O'Keefe  
American Whitewater

Rick McGuire  
North Cascades Conservation Council

Geraldine Gillespie  
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Columbia River Bioregional Education  
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Elaine Packard, Chair  
Water and Salmon Committee  
Cascade Chapter, Sierra Club

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Public Utility District No. 1	)	Project No. 21569-001
Of Okanogan County	)	Enloe Hydroelectric
	)	Project
	)	
Application for New Major License	)	
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AMERICAN RIVERS, AMERICAN WHITEWATER, THE CENTER FOR ENVIRONMENTAL LAW AND POLICY, THE NORTH CASCADES CONSERVATION COUNCIL CASCADE CHAPTER, WATER AND SALMON COMMITTEE OF THE SIERRA CLUB, AND THE COLUMBIA RIVER BIOREGIONAL EDUCATION PROJECT  
COMMENTS AND RECOMMENDATIONS IN THE ENLOE HYDROELECTRIC PROJECT LICENSING PROCEEDING

**I. Introduction**

By notice dated December 28, 2009, the Federal Energy Regulatory Commission (hereafter Commission) provided Notice of Application Ready for Environmental Analysis and Soliciting Comments, Recommendations, Terms and Conditions, and Prescriptions on the Final License Application (FLA) of the Public Utility District No.1 of Okanogan County’s (hereafter District or PUD) Enloe Hydroelectric Project, FERC No. 21569-001. American Rivers, American Whitewater, the Center for Environmental Law and Policy, the North Cascades Conservation Council, and the Columbia River Bioregional Education Project (collectively, the Conservation Groups) previously submitted comments to the PUD on its Draft License Application (DLA) on February 4, 2008,<sup>1</sup> as well as submitting comments and study requests to the Commission on October 31, 2008.<sup>2</sup> The Conservation Groups are providing additional comments and recommendations in response to the Commission’s December 2009 notice. It is our view that the project is not ready for environmental analysis. However, we have included preliminary recommendations based on the information to date.

**II. Comments**

The information presented by the PUD in both the FLA submitted on August 21, 2008, and in response to Additional Information Request (AIR) period,<sup>3</sup> remains

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<sup>1</sup> Comments of American Rivers, et. al. under P-12569. FERC Accession No. 20080204-5080

<sup>2</sup> FERC Accession No. 20081031-5129

<sup>3</sup> On August 21, 2008, the District submitted a final license application for the Enloe Hydroelectric Project, FERC Project No. 12569. On October 28, 2008, the Commission stated that the license application was accepted, but was not ready for environmental analysis. On that same day, the Commission requested additional information from the District to be completed and filed with the Commission within 90 days (“October 28 Letter Order”). On January 26, 2009, the District submitted initial responses to the Commission’s AIRs. The District filed responses to the remaining AIRs on February 28, 2009. On May 7,

insufficient to allow for a comprehensive and adequate assessment of the proposed project, to fully evaluate project impacts, or to move forward with the Commission's environmental analysis.

The Conservation Groups (and their members) have an interest in protecting the environmental, recreational, and other values of a fully connected and continuously flowing Similkameen River system. Our interests include adequate assessment of the historic range of anadromous salmonids; fish passage; sufficient year-round flow necessary to protect aquatic resources and other designated beneficial uses; water quality; the need for power and value of generation; and aesthetic and recreational values. In both our February and October 2008 comments, which we incorporate by reference, the Conservation Groups identified numerous issues which remained (and still remain) unaddressed in this proceeding, and for which the PUD has failed to provide adequate assessments. Without adequate information on these key issues it is impossible to know the full environmental, recreational and power generation value of this project or to proceed with a comprehensive environmental analysis.

Public stakeholder meetings were held on April, 28, 2008 and January 15, 2009 in Oroville, Washington. PUD staff and consultants participated in both meetings and Commission staff participated in the January meeting. The questions and concerns raised in these meetings by interested stakeholders were similar to the fundamental issues raised previously in Conservation Group comments: fish passage, fish entrainment, year-round minimum flows, and the need for power.<sup>4</sup> As stated above, these questions have yet to be adequately addressed. The PUD has not conducted the necessary studies and little effort has been expended to include public, non agency stakeholders in either the study development (for the few undertaken) or the subsequent discussions addressing these issues. Absent additional information related to these issues, the project is not ready for the Commission to proceed with its environmental analysis.

*A. The Proposed Operations of the Enloe Hydroelectric Project Must Be Clearly Defined Before An Environmental Analysis Can be Completed*

A fundamental requirement of any license application is a clear and comprehensive description of how the proposed project will be operated. For this project, the FLA falls

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2009, the Commission issued a second set of AIRs to be completed by July 21, 2009 ("May 2009 AIRs"). On June 18, 2009, the Commission granted an extension to complete AIR Nos. 3, 4, 6, 10, and 11. The District submitted responses to AIR Nos. 1, 2, 5, 7, 8, 9, and 12 on July 21, 2009. The District submitted responses to AIR Nos. 3, 4, 6, 10, and 11 on September 21, 2009. On October 14, 2009, the Commission requested clarification on Item 11 - Side Channel Development. On October 23, 2009, the District submitted a request for an extension of time to complete Request for Clarification (1). On October 28, 2009, the Commission extended the due date to file clarification to items (1)(c), (1)(d), and (1)(e) until December 14, 2009. The District filed a response to Request for Clarification (1)(a), (1)(b), and (2) on November 13, 2009, and filed the remaining responses to the Request for Clarifications on December 14, 2009.

<sup>4</sup> On October 31 2008, Conservation Groups requested additional studies on 1.Fish Passage, Historical Range of Anadromous Fish and Habitat Suitability, 2.Aquatic Resources and Habitat Flow, 3.Aesthetic Flow Evaluation, 4.Recreation Needs Analysis, and 5.Value of Generation.

short in providing that description in a number of critical areas, including instream flow, ramping rates, and operations during unscheduled outages. The FLA describes operations for the Enloe Project that will result in dewatering the river directly below the dam for up to eight months per year (outside of high flows during the “spring-summer freshet.” In our DLA comments, the Conservation Groups opposed an operational regime that removes all or most of the flow from the river and fails to meet water quality standards. The PUD, however, has not made any changes to instream flow provisions since the Draft. The FLA repeats that normally there is sufficient flow to operate at full capacity during the spring/summer freshet and that for the rest of the year output would be regulated according to flow in the river. (FLA, p. A-1). It also states the headworks divert a “portion” of streamflow from the Similkameen River and convey it to the intake. (FLA, p. A-6).

The FLA also falls short in identifying ramping rate restriction necessary to avoid and minimize adverse impacts, including direct mortality and injury to juvenile fish and the loss of eggs. The PUD proposes to synchronize the use of its proposed crest gates with the operation of the project’s future powerhouse to avoid flow fluctuations below the project, however, there is insufficient data regarding specific operations or ramp rate criteria to which the PUD will adhere.

In addition, the FLA does not provide adequate discussion of how the crest gates will be operated during unscheduled outages to ensure continuous flow in the river.

On July 21, 2009 the PUD expanded its response to the Commission’s AIR; however this additional information still does not address continuous flow in the river, or ramping rates. Absent a clear understanding of how the project is to be operated with regard to instream flows and ramping rates, the project is not yet ready for environmental analysis.

### *B. An Environmental Analysis Must Adequately Address Water Quality Impacts*

#### Sufficient Year-round and Daily Flows

Water must be provided to the Similkameen River, including the reach below Enloe Dam, at all times and in sufficient amounts to adequately protect aquatic resources in the river and other designated beneficial uses. The Washington Administrative Code establishes minimum stream flows for the Similkameen River; minimum instream flows range from a low of 400 cubic feet per second (cfs) in January and February to highs of 3,400 cfs in late May and June<sup>5</sup>. The instream flow related information provided by the PUD in its FLA and responses to AIR’s does not comply with the requirements set forth in the Washington Administrative Code<sup>6</sup> and would result in violations of state water quality standards.<sup>7</sup> In its response to the Commission’s July 2009 supplemental AIR

<sup>5</sup> [WAC 173-549-020](#).

<sup>6</sup> [Chapter 173-201A WAC](#), Water Quality Standards For Surface Waters Of The State Of Washington

<sup>7</sup> “No project will be approved that will by nature of its operation cause a perennial river or stream to be dewatered at any time during the year, except in those situations where it is clear that overriding

request<sup>8</sup>, the PUD described operating flexibility, redundancy, and bypass capacity regarding flow fluctuations in the event of an unplanned outage – but failed to adequately address the key issue of instream flows through the project.

The Conservation Groups recommend that the Commission include in its environmental analysis an evaluation of a flow regime that complies with existing Washington state law, as required for any license issued by the Commission. In addition to meeting existing state minimum flows for the river, established seasonal instream flow between 400 and 3,400 cfs in the bypass and over Similkameen Falls would provide (1) adequate depth, substrate, cover and velocity, (2) adequate flow for resident fish species, and (3) is close to existing midwinter flows.

Ensuring adequate flows in the Similkameen River below Enloe Dam is not a new concept. As early as 1991 the Columbia River Inter-Tribal Fish Commission (CRITFC), in reviewing a previous DLA, stated “[i]f the applicant dewater 800 feet of the river below the dam, all salmonid life history stages which utilize the reach will be limited by loss of habitat. Spawning and juvenile rearing habitat will be affected as well as holding areas for [adult] migrating salmon.”<sup>9</sup> Likewise, the US Fish and Wildlife Service (USFWS) recommended during the 1991 consultation process the “[d]evelopment of a minimum flow release to maintain water quality in the 800 foot bypass reach.”<sup>10</sup> More recently, in its May 7, 2009 Additional Information Request AIR Item 5 (Project Operations), the Commission recognized the need for flows, stating that “...we have identified the issue of any need for minimum flow releases to the bypass reach and for a flow continuation bypass for those times when the powerhouse would be out of service.”

Section 401 of the Clean Water Act establishes that “[a]ny applicant for a Federal license or permit to conduct any activity . . . which may result in any discharge into the navigable waters, shall provide the licensing or permitting agency a certification from the State in which the discharge originates . . .” (33 U.S.C. §1341(a)(1)). The Act further states that any certification provided pursuant to section 401 shall set forth any effluent limitations and other limitations, and monitoring requirements necessary to assert that any applicant for a Federal license or permit will comply with [§ §1311, 1312, 1316, 1317] and with any other appropriate requirement of State law set forth in such certification, and shall become a condition on any Federal license or permit subject to the provisions of this section. (33 U.S.C. §1341(d)). In sum, before a federal agency, in this case the Federal Energy Regulatory Commission, may issue a license for any project that may result in a discharge to navigable waters, the state must certify that the proposed project will comply with applicable state water quality standards.

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considerations of the public interest will be served.” Washington Water Resources Program – Hydropower Standard Operating Procedures (SOP).

<sup>8</sup> PUD’s Response to Additional Information Requests, July 21, 2009, Item 5 (Project Operations), Page 8. FERC Accession No. 20090721-5076.

<sup>9</sup> CRITFC Comments on Draft License Application May 14, 1991. 2.8.2.2 Effects of Project Operations on River Flows.

<sup>10</sup> USFWS Comments on Draft License Application, April 29, 1991. Instream Flows, page 3.

Prior to issuance of a Clean Water Act Section 401 water quality certification, Washington's Department of Ecology (Ecology) must find that there is reasonable assurance that the proposed action – licensing of the Enloe Hydroelectric Project – will comply with state water quality standards. This requires compliance with (1) existing or potential beneficial uses of the waterbody, (2) specific numeric and narrative criteria needed to support the designated beneficial uses; and (3) an anti-degradation component.

No hydroelectric projects in Washington have been built and operated with “zero” instream flow. Any flow regime for the project should reflect the current state of the science that calls for providing natural variability in flow regimes in order to ensure the ecological integrity of any river system. This principle is reflected in a number of recent and on-going relicensings here in the Northwest, including a “comprehensive approach” to ensure that adequate flows will be available on the Sultan River to meet the needs of anadromous and resident fish at different times of the year, and to support adequate habitat and to improve channel function (Henry M. Jackson Project-2157). Addressing the impacts of a project on flow is critical; the Conservation Groups oppose issuance of a final license that does not require adequate daily and year round flows.

#### Additional Water Quality Issues

The FLA references some of the criteria at issue with the licensing of the project, but fails to include all the relevant standards that must be met. WAC 173-201A-600 identifies the designated uses in the Similkameen River: salmonid spawning, rearing and migration; primary contact recreation; domestic, industrial and municipal water supply; stock watering; wildlife habitat; harvesting; commerce and navigation; boating; and aesthetic values. In addition, the lower Similkameen has been identified as needing additional spawning and incubation protection under WAC 173-201A-200(1)(c)(iv). The FLA contains limited analysis of the various designated uses, focusing on three criteria related to salmonid use. These include temperature, dissolved oxygen, and total dissolved gas.

The FLA and subsequent AIR responses fall short with regard to water quality in several regards. First, the limited analysis set forth in the FLA focuses on existing conditions rather than potential impacts of the project. For example, there is no analysis of how an increase in reservoir storage volume may affect reservoir temperatures as well as lower river temperatures. At a minimum, the PUD should model the proposed scenarios, followed by implementation of a comprehensive monitoring program during the life of any new license. Second, the limited analysis of project impacts on total dissolved gas (TDG) precludes the ability to make any conclusions regarding those overall impacts. The study conducted by the PUD is too limited in scope – it analyzes a few days in the spring but fails to consider potential effects on TDG during times of higher temperatures. The PUD assumes that TDG issues will be resolved by running the water through the turbines and bypassing the falls. However, there is no analysis or modeling of this proposed action. Third, with regard to water temperature, the FLA continues to assert that the project will not violate Washington state water quality standards because it will not result in an increase of .3°C above natural background conditions in the river. This conclusion does not appear to be supported by the data

provided in Attachment B to Appendix E.2.1 of Exhibit E of the FLA. Attachment B sets forth 7DADMax Temperatures in the Similkameen River. While it is not entirely clear where the measurements were taken – River 1, River 2, River 4, River 6 – we assume that they represent temperature measuring points within the Project area. The data in this Appendix identify multiple violations of the .3°C limitation.

In addition to ensuring protection of the designated uses, the Environmental Protection Agency's regulations implementing the Clean Water Act require that states adopt anti-degradation policies to ensure that existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected. (40 C.F.R. 131.12). Washington's anti-degradation policy is set forth in Part III of Washington's water quality standards for surface waters for the State of Washington, Chapter 173-201A WAC. The state's anti-degradation policy calls for restoration and maintenance of the highest possible quality of the surface waters of Washington. The policy requires that existing uses be maintained and protected, with no degradation that interferes with or injures such existing uses. (WAC 173-201A-310). Project operations described in the FLA that will result in dewatering the river directly below the dam for up to eight months per year (a reach that is currently watered) is wholly inconsistent with the anti-degradation requirements.

Finally, as noted in the January 13, 2006 letter from the Washington Department of Ecology to Okanogan County PUD, the state requires no net loss of wetlands. The FLA and subsequent AIR responses acknowledge that wetlands will be lost as a result of the increased reservoir storage, but fails to identify how that impact will be addressed and how the no net loss requirement will be met.

*C. An Environmental Analysis Must Adequately Assess Historic Range of Anadromous Salmonids*

The Commission's environmental analysis should determine the unresolved nature of the issue of historic range rather than adopting the PUD's assertion that Similkameen Falls serve as a complete barrier to anadromous fish. The previous record does not support such a finding and the PUD has not undertaken any additional study during the current licensing process to counter the inconclusive nature of the data.

Okanogan PUD has tried to relicense the Enloe Hydroelectric Project three times prior to the current effort. In each of the previous proceedings, the issue of fish passage at the project has played a central role. Significant documentation regarding the question of fish passage makes it clear that there is no conclusive evidence that Similkameen Falls served as a barrier to fish passage.

The record is replete with information calling into question the PUD's assertions. In its November 1991 filing, the Columbia River Inter-Tribal Fish Commission stated that it disagreed with the PUD's assertion that natural falls have historically represented the upper terminus of anadromous fish migration. It identified several studies that documented salmon and steelhead well into the Canadian Similkameen Basin. (CRITFC

Petition to Intervene and Request for Studies, November 27, 1991). The Confederated Tribes of the Colville Reservation similarly questioned the PUD's assertion, noting that there is strong evidence that salmon utilized at least part of the Similkameen River above the Enloe Project before the dam was built. (Confederated Tribes of the Colville Reservation Petition for Leave to Intervene, November 25, 1991). The U.S. Department of Interior argued that "while the evidence at this time may not be clear that anadromous fish ever ascended the Similkameen River above Enloe Falls, neither is there clear evidence to the contrary." (U.S. Department of Interior Request for Rehearing and Finding of No Significant Impact, March 1, 1993, p. 5) Even FERC stated that it found that "the evidence was inconclusive as to . . . the historic presence of anadromous fish above the falls prior to the dam's construction." (FERC, Order on Rehearing, Rescinding License, Denying License Application, and Terminating Stay, February 23, 2000). More recently, a report prepared for the Colville Tribes, Department of Fish and Wildlife, states that "photographic interpretations of the falls suggest possible passage" and that "[t]he presence of redband trout upstream of Enloe Dam . . . gives strong evidence that at certain times these falls were likely passable by Interior Columbia River Redband Steelhead. (Aterburn, K. Kistler, and C. Fisher, Barriers to Anadromous Fish in the Okanogan Basin, January 2007). In addition, the National Marine Fisheries Service recently adopted its recovery plan for Upper Columbia listed stocks. In NMFS' response to comments, the agency stated:

"NMFS agrees with the commenter that there is a possibility that steelhead once made it past the natural barrier where Enloe Dam is presently located. Studies show that many miles of high quality habitat exist in the Similkameen River above Enloe Dam. If passage were provided, the upper Similkameen River could become an important area for recovery of the Okanogan steelhead population, especially if actions in other areas of the Okanogan watershed are not successful. NMFS will wait for discussions to be completed with FERC, tribal governments, and others before providing a final position on passage." (NMFS Responses to Public Comments on the Proposed Upper Columbia Spring Chinook Salmon and Steelhead Recovery Plan, September 2007).

The need to resolve the issue of the historic extent of fish runs in the Similkameen River prior to construction of Enloe Dam has been around for years. For example, the National Marine Fisheries Service, in its June 1, 1992 filing in one of the previous attempts to relicense the project, stated that "[d]espite the clear potential for anadromous fisheries in the Similkameen River Basin, there is an unresolved issue of the presence of anadromous fish in the Similkameen River Basin prior to construction of Enloe Dam." (National Marine Fisheries Service Comments, Recommendations, and Fishway Prescriptions and Conditions, June 1, 1992, p. 3). This sentiment is repeated throughout the history of licensing efforts at the Enloe Project. Nonetheless, the PUD has failed to conduct scientific studies that would help resolve the issue.

This issue needs to be resolved prior to the Commission taking any action on the PUD's license application. One way to resolve the issue is to require the PUD to undertake the studies set forth in the [January 8, 2008 letter to Dan Boettger, Okanogan](#)

[Public Utility District from Virginia Butler](#),<sup>11</sup> Portland State University as well as to review and address more recent studies, including two 2010 paleolimnological reports with isotopic signatures characteristic of marine-derived nitrogen found in cores taken above Enloe Dam, evidence that there were anadromous fish above the dam historically.<sup>12</sup> Finally we recommend that the Commission look at available historical notes, such as the July 1889 excerpt from the Benedict Gubser Diary that quotes: “Judge and I spent most of the day at the Falls, fishing. They are about a mile below Shanks Bend. Saw salmon and a good many large eels trying to get up over the falls, which are 25 ft high.”<sup>13</sup>

Also relevant to the question of the historic range of anadromous fish are the impacts of mining that took place in the Similkameen River, beginning in the 1860s. The Commission’s Environmental Analysis should include and consider how mining has negatively affected conditions, including water quality, and so may have limited the historical range. The intensive mining and tailings deposits undoubtedly had an adverse impact on the health of the Similkameen River, including any fish species that inhabited it. This information is critical to inform the issue of fish presence above the Falls and the historical record reveals that anadromous fish runs in the Similkameen River may have been destroyed by decades of extensive mining.<sup>14</sup> Mining in the Similkameen River Basin began in 1860. Enloe Dam was built 60 years later, circa 1920. Local historian, Ann Briley, writing for both the Gazette Tribune and the Wenatchee World, posted stories declaring it the opinion of fish experts in both Canada and the US, that 60 years of mining destroyed the fish runs on the Similkameen before Enloe Dam was built. Enloe Dam then became a barrier to fish recolonizing the river.<sup>15</sup> In a personal letter [to her] a spokesman for the British Columbia Fish and Wildlife branch of the Ministry of Environment wrote in 1974, “There used to be a salmon run on that river, but mine tailings made the runs untenable.”<sup>16</sup> Briley’s archives are held by the Okanogan Historical Society.

An Environmental Analysis should also describe the impacts associated with increased pool behind Enloe Dam that would inundate abandoned mine sites, of which

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<sup>11</sup> <http://www.hydroreform.org/sites/www.hydroreform.org/files/Butler%20Submittal%202008.pdf>

<sup>12</sup> Paleolimnological Investigations in the Palmer Lake watershed, Okanogan County, WA, Phase #1 report, by Jesse Ford, Oregon State University, for Columbia River Intertribal Fish Commission, 5 January 2010. See also, Further reflections concerning “Paleolimnological Investigations in the Palmer Lake watershed, Okanogan County, WA: Phase #1 report,” also by Jesse Ford, Ph.D, Dept. Fisheries and Wildlife, Oregon State University, 10 February 2010 which states that “In my professional judgement, there is definitely enough evidence to warrant extreme caution in accepting the alternative hypothesis of no pre-dam anadromous salmon. Early results suggest that the evidence seems to be pointing in the opposite direction.”

<sup>13</sup> Hard copy available from the Okanogan County Historical Society

<sup>14</sup> (Draft) Mining in the Similkameen River Basin: A Timeline, Compiled by Jere Gillespie & Carol Coleman, 2/6/2010. (attached)

<sup>15</sup> Briley, Ann. “The runs were made untenable., but falls most likely not the culprit.” Feb 29, 1986. 3 pages, 2 photographs of the first powerhouse on the Similkameen, 1903-06. Gazette Tribune: Okanogan Valley Life section.

<sup>16</sup> Briley, Ann. Similkameen salmon: a victim of mining, dam? Wenatchee World, May 1, 1995. p. 10. Briley cites (col3, para2)

there are many in the Similkameen River corridor, releasing contaminants into the waterway. The Washington Department of Natural Resources maintains an inventory of abandoned sites, which should be consulted as part of the environmental analysis.

Finally, the problem of inundation of abandoned mine sites emphasizes the need to integrate Shankers Bend project impacts into the Enloe Dam environmental analysis (see Section G below). If Shankers Bend is necessary to Enloe Dam feasibility, and we believe it is, then analysis of the three Shankers Bend options on release of mine waste into the Similkameen River is key to understanding Enloe Dam impacts.

#### *D. An Environmental Analysis Must Provide Critical Context Regarding Fish Passage*

The FLA excludes information, including federal law, critical to the fundamental question of fish passage at the Enloe Hydroelectric Project. The Conservation Groups request that the Commission's Environmental Analysis evaluates the issues surrounding fish passage and present a scientific rationale in support of their findings and conclusions. We urge the Commission to address, study, and provide a scientific and comprehensive answer regarding this on-going question of fish passage.

The Okanogan PUD has simply dismissed this fundamental issue of fish passage by stating that there is a consensus that fish passage would not be appropriate above Similkameen Falls. Importantly, at the January 2010 stakeholder meeting, attendees, including Commission staff, agreed that there was not "unanimous consensus" regarding resolution of the fish passage issue at Enloe Dam. Commission staff affirmed their need to analyze passage as part of their analysis of the PUD's proposal.<sup>17</sup> We strongly urge the Commission to do so before taking action on the license application.

Okanogan PUD has made three previous attempts to relicense the Enloe Hydroelectric Project. In each instance, FERC rescinded licenses that had been issued, the most recent on February 23, 2000. In part, the rescission was a result of unresolved fish resource issues, including fish passage. As FERC noted in its September 13, 1996 Order Issuing License, "[t]he obstruction to fish passage at Enloe Dam has long been recognized, and several efforts to address this problem have been undertaken during the last 20 years." (FERC, Order Issuing License, February 23, 1996). The issue of historic access above the falls has played an important role in this critical discussion, but is not the only factor informing the discussion. The Commission's Environmental Analysis should provide a much more comprehensive discussion of the fish passage issue including relevant legislation. A good summary of it can be found both in FERC's 1996 Order Issuing License and in the 1996 National Marine Fisheries Service' Comments, Recommendations, and Fishway Prescription and Conditions.

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<sup>17</sup> Transcripts of SD1 Public Meeting, FERC Accession No. 20090115-4017, 1/15/2009. "15 MS. RODMAN: Okay. ... You're correct, [16] there is not a 100 percent consensus on that issue. [17] Two, to a certain extent that is within the [18] effects of, you know, development of any proposed [19] project on fisheries. And it is on the record, and we [20] will have to analyze that as part of our study of this [21] proposal.

The Similkameen River has long held the promise of providing mitigation for the massive loss of salmon caused by Columbia River mainstem dams. In 1976, Congress, in Title II of the Reclamations Authorizations Act of 1976, directed the Secretary to undertake “measures necessary to provide fish passage and propagation in the Similkameen River” as part of development of the Oroville-Tonasket unit extension, Okanogan-Similkameen division, Chief Joseph Project. Accompanying the legislation was a report of the U.S. Senate Committee on Interior and Insular Affairs (No. 94-1122) that stated that “[F]ishery enhancement will be accomplished by providing access to forty miles of potential spawning and rearing areas in the Similkameen River above the existing Enloe Dam .... Enloe Dam and powerhouse were constructed in the 1920s but use was discontinued in the early 1950's. Alternatives for providing fish passage at Enloe Dam include dam removal or fish laddering.”

A 1977 Bureau of Reclamation study found that removal of Enloe Dam would be the preferred method for accomplishing the requirements of the Act. Much action was taken in the subsequent years regarding this issue. Pursuant to the Pacific Northwest Electric Power Planning and Conservation Act, the Northwest Power Planning Council proposed that the Bonneville Power Administration (BPA) provide funds for passage at Enloe Dam. BPA then undertook a study evaluating several passage alternatives. In 1983 BPA published its Similkameen River Habitat Inventory, and concluded that “[s]molt production from the system was estimated at about 610,000 steelhead trout and between 1.6 million and 4.8 million Chinook salmon. No water quality, temperature or flow problems for anadromous salmonids were evident from the available data and the habitat inventory.”

Throughout the previous FERC proceedings, fish passage has uniformly been recommended and required. In one form or another, it has been supported by federal agencies, tribes and other stakeholders. Dam removal, fish ladders, and constructing the project so that it could later be retrofitted with fish passage facilities have all been discussed. At one point, the U.S. Department of Interior argued that upstream passage at Enloe dam should be considered as off-site enhancement for the mainstem Columbia River anadromous fish losses as well as mitigation for the construction and reactivation of the Enloe Dam Project. It further argued that regardless of the issue of historic habitat, neither the Federal Power Act nor Commission regulations require the historical presence of anadromous fish as justification for a prescription of fish passage. Ultimately, Interior argued that prior to authorizing construction and operation of the project, the Commission should not only assure that the project would be compatible with future installation and operation of fish passage facilities but it must resolve the issue of funding. (U.S. Department of Interior Request for Rehearing and Finding of No Significant Impact, March 1, 1993). Either way, this issue needs to be addressed in the current effort to relicense the project.

*E. An Environmental Analysis Must Provide Sufficient Information on the Need for Power and the Value of Generation*

There is currently insufficient information in the record regarding the need for power and the value of generation. The Conservation Groups have requested this information in the past, but the record continues to contain insufficient information. As such, the Conservation Groups request that the Commission's Environmental Analysis include a comprehensive, detailed look at these issues. This information is necessary to fully understand project economics and allow public, agency (including FERC), tribal and other stakeholders to make an informed decision regarding the value of potential power production and the impacts to the Similkameen River and related resources.

By way of background, as the PUD notes, the original project was decommissioned in 1958 because lower cost energy was available from other sources. In subsequent licensing efforts, the Commission rescinded licenses for this project on the grounds that the anadromous fishery issues had to be resolved before a licensing decision could be made. The Commission noted that the project appeared uneconomic even without construction of a fish ladder.

In its July 2005 Initial Consultation Document, the PUD stated that it believes that it is "feasible to resolve the fish passage issues . . . and therefore, it has a renewed interest in developing the site". ( Project History, p. 2). In support of this, the PUD has referenced a number of new economic factors that it believes increase the value of this project, including: (1) rehabilitating an existing facility; (2) projected generation needs; (3) community benefits from construction and employment; (4) cost of licensing; and (5) value in replacing carbon-fuel energy.

Unfortunately, neither the DLA nor the FLA provide adequate supporting evidence that demonstrates how these factors would change or improve the economics of a new Enloe Hydroelectric Project. Nor does the FLA discuss how the proposed and interrelated (economically and environmentally) Shanker's Bend project would change the hydroelectric operations of the Enloe Project.

In our October 31, 2008 comments, the Conservation Groups requested that the PUD undertake a study on the value of generation at Enloe Dam. Okanogan PUD did not undertake such a study. We therefore request that the Commission now require completion of such a study, due to its importance in creating a fully comprehensive environmental analysis. The purpose of the study would be to provide a detailed analysis of the project economics, with particular consideration given to the cost of measures necessary to provide adequate protection, mitigation, and enhancement. For example, the analysis should include an alternative that includes flows in the bypass reach as well as fish passage. Such analysis is necessary to understand project economics and would allow all interests to accurately weigh the value of potential power production against the impacts to the Similkameen River and related resources. As FERC stated in its February 23, 2000 Order on Rehearing, Rescinding License, Denying License Application, and Terminating Stay "[T]he obligation to construct and operate a fish ladder would significantly increase the costs of a project that already appears to be uneconomical." A

robust study and analysis of project economics that includes a reasonable range of alternatives is necessary to determine whether the project is in the public interest.

Additionally, such a study should include:

- The potential energy savings of the PUD's conservation program, and how it relates to a need for power from Enloe.
- Projected generation needs
- Community benefits from construction and employment
- Value in replacing carbon-fuel energy<sup>18</sup>
- Economic and environmental impacts of the proposed Shanker's Bend project.

With regard to the PUD's specific assertion regarding the project replacing carbon-fuel energy, we disagree. The FLA states that "If a new large capital project were considered to replace market purchases, natural gas or coal-fired generation would be the most likely preferred sources." (FLA, p.D-6). The FLA further states that replacement generation from a natural gas fired power plant or a coal fired power plant would contribute the equivalent of an estimated 20,000 tons of CO<sub>2</sub> per year or the equivalent of 44,000 tons of CO<sub>2</sub> per year, respectively. (FLA, p. D-7). The Conservation Groups are deeply concerned with the problem of climate change and recognize the need to lower carbon emissions, however we view the PUD's statement that this project will leave "no carbon-footprint" and "can contribute to reduced emissions" (FLA, p. D-5) as an overly simplistic consideration of this important issue. The PUD's conclusion assumes that if Enloe Dam is not built, generation would be replaced by coal-fired or natural gas generation. This analysis does not include or refer to any supporting evidence, and fails to consider other perfectly reasonable options. For example, projected power from Enloe operations could be replaced by other sources of energy that emit significantly less carbon than coal, such as solar or wind. Alternatively, its power could be replaced through energy conservation, such as the existing PUD conservation program which successfully saved more than 5,000 MWh in 2004.

### Climate Change Impacts

It goes without saying that the Commission must undertake a comprehensive analysis of the impacts of climate change on the proposed project, both in terms of economics and resources. Due to the serious concerns regarding the economic viability of this project, it is particularly important that the Commission's Environmental Analysis

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<sup>18</sup> Coalition members have questioned the Commission's criteria for evaluating the value of carbon fuel replacement in the past. "While we understand that legislative, scientific, and public interest is now centered on lowering carbon emissions and the societal impacts of global warming, we believe that the Commission's carbon numbers tell only one side of the story. This story is critical enough to require strong and current data, good science, and an information system that fully explains the value of the projects power as well as its role regarding energy production, carbon emissions, and existing or potential conservation or other non-fossil fuel benefits and sources." Comments on the Notice of Availability of Environmental Assessment Morgan Falls Project, FERC Project No. 2237-017, November 29, 2007.

take a hard look at how potential reduced flow in the Similkameen River caused by the warming climate could change the long-term value and impacts associated with Enloe over the term of its license.

Power projections for the project must consider possible changes in flow, including timing and quantity, and greater uncertainty. Snow dominated watersheds such as Enloe are expected to undergo significant climate change impacts. A recent review of streamflow from 43 gages in the Pacific Northwest (1948 to 2006) demonstrates that the driest 25% of the years are becoming substantially drier, resulting in strong and significant declines in annual streamflow at a large majority of gauging stations and that at the upper extent of perennial flow in headwaters (where a number of PUD proposed dams would be built, habitat may be entirely eliminated (affecting summer steelhead, Dolly Varden and Bull Trout). The study reports that this change in dryness is substantial, with most streams showing decreases exceeding 29% and some showing decreases approaching 59%, and that this decrease will affect both rain and snow dominated watersheds.<sup>19</sup>

*F. Sufficient Information Regarding Recreation and Aesthetic Resources Must be Provided in an Environmental Analysis*

Aesthetic Resources

It is key to consider the impacts of a proposed hydropower project on the aesthetic values of the affected river, including instream flows and reservoir levels. The study conducted by the PUD is wholly inadequate to assess project impacts and either the existing or future aesthetic value of flows over Enloe Dam and Similkameen Falls.

The FLA does state that flow over the dam and waterfall would be reduced and even eliminated to zero flow from July to March of each year. As a consequence, Conservation Groups along with BLM, NPS and Ecology requested that the PUD perform more rigorous studies that not only include descriptive comparisons but a potential range of flow scenarios with both visual and audio representation, and a first-hand human comparison of aesthetic qualities at different flows. This comparison would require an evaluation and survey of visitors and the general public. To be comparative with other current and acceptable aesthetic flow methodologies<sup>20</sup> the study would address the technical and economic feasibility of providing aesthetic flows, the time of year when flows would be provided, a range of acceptable aesthetic flow, and how/if flows would impact other resources in the area. The Conservation Groups further request that the

<sup>19</sup> [Declining annual streamflow distributions in the Pacific Northwest United States, 1948–2006](http://www.agu.org/pubs/crossref/2009/2009GL039407.shtml), C. H. Luce1 and Z. A. Holden, published August 22, 2009.  
<http://www.agu.org/pubs/crossref/2009/2009GL039407.shtml>

<sup>20</sup> Please see Whittaker, Shelby and Gangemi (2005 “Recreation and Flows: A Guide for River Professionals” for methodologies to describe and study recreation flows in the area <http://www.nps.gov/ncrc/programs/hydro/flowrec.pdf>. Additional references for aesthetic flow studies can be found online in Scientific Approaches for Evaluating Hydroelectric Project Effects <http://www.hydroreform.org/hydroguide/science/8-3-waterfalls-and-cascades>.

PUD invite BLM, NPS, Ecology and interested stakeholders to participate in the planning and implementation of this study.

Rather than undertake a comprehensive study, the PUD instead provided a brief analysis that evaluated a limited flow between 0 and 100 cfs, a limited timeframe surveying only 21 days during one season in an area where the PUD admits only informal current use occurs, and utilizing artist's renderings rather than photographs and videos to provide an accurate portrayal of the various flows. The PUD aesthetic flow study does not provide sufficient detail or rigor to inform the Commission, the Department of Ecology, and the public of aesthetic flow needs and issues.

The Commission has a long history of requiring adequate aesthetic flows at hydropower projects. Studies in the Northwest considering waterfalls and cascades have been conducted at the Carmen-Smith Hydroelectric Project (FERC Project No. 2242), on the McKenzie River, Oregon; at the Spokane Hydroelectric Project (FERC Project No. 2545), on the Spokane River, Washington; and at the Snoqualmie Falls Hydroelectric Project (FERC Project No. 2493). Numerous aesthetic flow studies have been conducted across the country.

The Department of Ecology also possesses and exercises legal authority to impose flow conditions over Enloe Dam and Similkameen Falls in order to restore and protect the waterfalls as part of the 401 Certification process. Ecology is not only authorized to impose such conditions, but is required to impose conditions that fully satisfy water quality standards, including aesthetic flows. Aesthetic values are uses specifically protected in Washington's water quality standards (WDOE, 2005b). Under WAC 173-201A-260(2)(b) aesthetic values must not be impaired by the presence of materials or their effects, excluding those of natural origin, which offend the senses of sight, smell, touch, or taste (see WAC 173-201A-230 for guidance on establishing lake nutrient standards to protect aesthetics). As noted in the 401 Certification issued by the Department of Ecology to the Spokane River Project: "With respect to Upper Falls Dam, Ecology's authority extends to protection of the aesthetic values of the Spokane River, uses that are explicitly protected under state water quality standards. WAC 173-201A-602 (Table – WRIA 57). Likewise, Ecology's Guidance Manual states that "[a]esthetic impairment can include results of placing river flows through turbines and can include other structural, operational, and indirect effects of dams on the senses." Guidance Manual at 54."<sup>21</sup>

### Recreation Resources

The Final Application contains information from an existing survey of limited recreation users at the site. It also acknowledges that recreation use will be changing in the future due to two major trails being developed (the Greater Columbia Water Trail and the Proposed Nighthawk to Oroville Rail to Trail). However, it does not include an assessment of how this will change future use or what types of facilities would be needed

<sup>21</sup> 401 Certification, Spokane River Hydroelectric Project, FERC License No. 2545, FERC Accession No. 20080610-5077, 6/10/2008.

as required by FERC regulations. *See* 18 C.F.R. § 4.41 which state the license application should address “current *and future* recreation use”. It also provides direction to conduct a recreation needs analysis. The plan should consider recreation trends and accommodate future recreational activities in the recreation proposals.

An assessment of the needs related to the project and potential future use should be identified. Connectivity of trails and facilities is a strong need. This has been outlined in the SCORP. In addition providing opportunities for short walks is important. Access across the dam or other near-by site would allow campers at Enloe Dam to access the new rail-to-trail. In addition, it would be an opportunity for people using the trail to see and learn more about the project

The Conservation Groups requested that the PUD supplement its Recreation Management Plan to include a Recreation Needs Analysis Study and address public access, signage, trails, parking, and campsites. BLM, NPS, American Whitewater, Washington Water Trails, and the Greater Columbia Water Trail Coalition also requested an expanded view of recreation resources.

Outside of agency involvement, the PUD has made no effort to include recreation users in its review of recreational resources. It is interesting to note that they did interview local commercial outfitters as required by the Commission;<sup>22</sup> however insufficient outreach, involvement or interviews were conducted with private paddlers and other recreationists, even though those stakeholders had requested a recreational resources study.

#### *G. An Environmental Analysis Must Consider the Proposed Shanker’s Bend Project*

The Commission has been very clear that the preliminary permit for Shanker’s Bend (FERC Project No. 12804) does not indicate a valid project. “[F]rom our point of view, there is no project. [17] There’s only an idea that an engineer has that this [18] might be a very good spot to build one. [19] We issue hundreds of preliminary permits [20] for projects that never get built.”<sup>23</sup>

While the Shankers Bend project may not come to fruition, it has ripened into a definitive proposal that should be factored into the analysis of the proposed Enloe project. Okanogan PUD issued the Similkameen River Appraisal Level Study in April 2009, narrowing the Shankers Bend project alternatives to three. It is therefore a relatively simple matter to integrate environmental analysis of the Enloe Dam and Shankers Bend projects. The need for such analysis is compounded by several facts, including that the two projects occupy the same river, are located only a few miles from each other, will impact each other’s operations, and are proposed by the same project proponent. Moreover, it appears that the Enloe Dam project may not be able to achieve economic feasibility without construction of the Shankers Bend project to function as a storage

<sup>22</sup> January 21, 2009 Enloe Record of Correspondence, Dave Wallace, Jet Ski Rentals, Extreme Adventures.

<sup>23</sup> FERC Public Comment SD1, Accession No. 20090115-4017, page 6.

reservoir for Enloe. Given these intimate operational linkages, it would be inappropriate and a disservice to the public to perpetuate the notion that the two projects are not linked and therefore do not require integrated environmental analysis.

Consideration of projects in a piecemeal fashion has contributed to the decline of salmon and steelhead stocks in the Columbia River basin and is no longer the manner in which analysis is conducted. Importantly, it runs counter to FERC's call for comprehensive basin analysis.

While we realize that the Shanker's Bend Project is not certain to occur, there is no question that it would dramatically change production capabilities, economic worth, and the operations of the proposed Enloe Project as well as on the resources of the Similkameen River. In fact, the preliminary permit application for Shanker's Bend states that the two projects will be operated in conjunction. Nonetheless, Okanogan PUD opts to exclude any analysis of the two projects in the FLA, other than to assert that they are compatible. The impacts of the two dams must be considered together, not in a piecemeal fashion. We urge the Commission's Environmental Analysis to provide a better understanding of the status of Shanker's Bend. Given the interrelated nature of the proposed projects, it is premature to move forward on the Enloe Hydroelectric Project.

Moreover, absent consideration of both projects, the Commission will be unable to take a watershed approach, to adequately assess cumulative impacts as required under the National Environmental Policy Act, and to make the necessary findings under the Federal Power Act. The FPA requires that the project adopted "shall be such as in the judgment of the Commission will be best adapted to a *comprehensive plan* for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce, for the improvement and utilization of water-power development, for the adequate protection, mitigation, and enhancement of fish and wildlife (including related spawning grounds and habitat), and for other beneficial public uses, including irrigation, flood control, water supply, and recreational and other purposes. (16 U.S.C. § 803(a)(1)).

*H. Environmental Analysis should include an analysis of project operations, power generation, and economics should a water right be denied.*

In the discussion of permits necessary for operation of the Enloe Hydroelectric Project, Okanogan PUD acknowledges that it will need to apply for and receive an additional water right for 600 cfs in order to fully develop the Project. As the WA Department of Ecology states in its January 13, 2006 letter to the PUD, there is no guarantee that a water right will be issued. This statement is consistent with the current status of water right applications in the Columbia Basin. The Columbia River and most of its tributaries, including the Similkameen River, are de facto closed to new water right appropriations. Those water rights that are being granted are required to demonstrate mitigation that fully offsets consumptive use of water as well as loss of public interest values (e.g., fish habitat, water quality, recreation, etc.) caused by new appropriations. Further, Washington State has established instream flows in the Similkameen and Okanogan Rivers that are not being met every year and which are treated like

appropriative water rights. These instream flow regulations would likely prevent the grant of new water rights to Okanogan PUD that deplete or otherwise adversely affect instream flows. See WAC 173-549-020.<sup>24</sup>

The Department of Ecology's caution that new water rights for the project are not guaranteed is an understatement. It is inconceivable that the PUD would be able to obtain 600 cfs in water rights that would cause any level of disruption of hydrology or evaporative loss in the Similkameen River or downstream in the Okanogan and Columbia Rivers. Moreover, the PUD has not yet applied for water rights for the Enloe project and any future application would be at the end of a list of hundreds of applications for water that would divert from or affect the Columbia River.

Given these circumstances, any Environmental Analysis should include a complete evaluation of the impacts of the project on instream flows in the Similkameen, Okanogan and Columbia Rivers sufficient to support water rights determinations.<sup>25</sup> Given the doubts surrounding the PUD's ability to obtain new water rights to support the Enloe project, any Environmental Analysis should also evaluate project operations, power generation, and economics to consider a scenario in which new water rights are denied to the Enloe project and, under those circumstances, the feasibility and probability that the project could move forward.

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<sup>24</sup> In Hubbard v. Department of Ecology, 86 Wn.App. 119 (1997), the Washington Court of Appeals held that new groundwater rights that intercept even "negligible" quantities of water that would feed instream flows in the Okanogan River were appropriately conditioned be curtailed when such flows fall below regulatory targets.

<sup>25</sup> In order to grant a water right, the WA Department of Ecology must evaluate water availability (legal and physical), beneficial uses, and impacts on the public interest (including environmental factors). RCW 90.03.290.

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Public Utility District No. 1 of	)	Project No. 12569-001
Okanogan County	)	
	)	Enloe Hydroelectric
	)	Project
Application for New Major License	)	
_____	)	

**CERTIFICATE OF SERVICE**

I hereby certify that I have this 26th day of February 2010, served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

\_\_\_\_\_  
Carla R. Miner  
Stewardship Assistant  
American Whitewater

## ATTACHMENT

Compiled by Jere Gillespie & Carol Coleman  
 Revised Feb 6, 2010  
 Okanogan WA 98840  
 4 pages.

**Draft**

## Mining in the Similkameen River Basin: A Timeline

### Introduction

The historical record reveals that anadromous fish runs in the Similkameen River may have been destroyed by decades of extensive mining. Mining in the Similkameen River Basin began in 1860. Enloe Dam was built 60 years later, circa 1920.

The Similkameen Mining District was established in 1860. The lower Similkameen River was among the most lucrative placer mining areas in the Okanogan of Washington State (Bruce Wilson, "Late Frontier"). At times hundreds of placer miners lined the river bed panning for gold. Later on, hard rock mining was established, in both British Columbia and the U.S., with metals tailings refuse disposed of directly to the Similkameen River.

A.J. Splawn, the first Caucasian man in the Yakima Valley, wrote in 1917 that the trail from the Dalles in Oregon through Goldendale was mostly filled with men heading up to the Similkameen country gold mines. Later on, the Moses Columbia Indian Reservation was revoked due to pressure from Similkameen mining interests, among others (Dr. Robert H. Ruby).

Local historian, Ann Briley, writing for both the Gazette Tribune and the Wenatchee World, posted stories declaring it the opinion of fish experts in both Canada and the US, that 60 years of mining destroyed the fish runs on the Similkameen before Enloe Dam was built. Enloe Dam then became a barrier to fish recolonizing the river.

### Timeline

1850s.

Gold rush in the Pacific Northwest. Gold found in the Similkameen River and tributary streams. Trails and road built through the Hope Mountains, B.C., to facilitate mining travel to the interior, by British Columbia premier, James Douglas. [Barlee]

1858.

Shankers Bend gold discovery, 3 miles upstream of Squantl (Similkameen) Falls. Placer mining attracted hundreds of miners into the bed of the river to pan for gold. Mercury, aka "quick silver" used to purify the gold; stream bed becomes like concrete. [Briley, Palmer M. Prospector]

Town of Oroville established at the confluence of Similkameen and Okanogan Rivers; Oro means gold.

1860.

Okanogan and Similkameen Mining District organized. In 1873, reorganized as the Similkameen Mining District. In 1874, renamed the Mount Chopaka and Similkameen Mining District (Ruby).

1885.

Town of Granite established on Granite Creek, tributary to Tulameen, Similkameen Rivers above Princeton. Settler, W.H. Holmes writes of Granite Creek: "every 100 feet or so, a wooden water wheel, carrying water into and out of stream for placer mining. According to Princeton Star, 62 companies operating on Granite Creek for platinum and gold. Hydraulic mining does extensive damage to stream bed. Granite becomes 3<sup>rd</sup> largest town in B.C. [Barlee; Princeton Web Team].

1887.

Nuggets weighing 4-5 troy pounds found on Boulder Creek. 3 nuggets, 1-2 troy pounds found on Bear Creek previous year (both tributaries of upper Similkameen). [Barlee, Map p.21]

1894

Report to the Minister of Mines, Similkameen Division. British Columbia:

... "the yield of gold and platinum continues to decrease, although a large number of claims have been taken up for hydraulic mining." said Hugh Hunter, Mine Recorder, Similkameen Division.

... "Mining in the rivers and creeks has not been a success this year, as the extreme high water prevented the building of wing-dams until late in the season," Said Hugh Hunter.

... "The Similkameen Gold Point Hydraulic Mining Co. has secured 320 acres, and is working the lower benches by means of a bucking hydraulic. Mr. W. J. Waterman, the principal owner in this company, informed me that from three hours of actual washing he obtained 5 oz. of gold, besides platinum. He is looking for a big wash-up at the end of the season, and next season proposes mining on a larger scale," said Hugh Hunter, Mine recorder, Similkameen Division.

1894, cont.

"1600 acres of land and 7.5 miles of creek were leased for gold mining on the banks of The Similkameen and its tributaries. At least 23 men were employed in mining activities." --Annual Report of the Minister of Mines 1894, Province of British Columbia.

1896.

Hedley Nickleplate property is located; the beginning of hard rock mining in B.C. This mine one of richest in British Columbia. [Barlee]

1890's

Kaaba Texas Mine started near Nighthawk, WA. (upstream from Similkameen Falls). The mine changed hands many times, but produced lead, zinc, silver, gold, and copper. Tailings were discharged directly into the Similkameen River until 1946. -- (EPA Superfund Fact Sheet, Kaaba- Texas Mine Removal, Nighthawk, WA. Jan 2000)

1899.

Cyanide plant ready for operation at Hedley Nickelplate mine. [Barlee]  
Tailings ponds located streamside.

During the next two decades, R.H. Gibson, Keremeos, B.C. wrote to B.C. fisheries agencies many times, complaining that Nickelplate mine dumps their "refuse" (i.e., tailings) into Similkameen River, turning it white. 20 miles downstream, fish appear on shore, forced out of the river by the mine waste. [Briley, WW. 1995]  
Ann Briley reports that children could not swim the Similkameen when river running white (Okanogan Valley Tribune Feb. 29, 1996). [Briley]

1903.

Palmer Mt. Prospector, a newspaper near Loomis, reports on the development of the first power plant on the U.S. side of Similkameen: Summary: To facilitate mining development on the Similkameen River, J.M Hagerty gains rights to develop a power plant at the site of Similkameen Falls. Hagerty, citing the ore potential along the Similkameen as "one of the richest in the world", establishes the Similkameen Falls Power and Development Company. He lists a half dozen newly found mines near Shankers Bend in his prospectus.

1917

A.J. Splawn family publishes his book, Kamiakin, Last Hero of the Yakamas. Splawn wrote that in the 1870s, the trail from the Dalles in Oregon through Goldendale was mostly filled with men heading up to the Similkameen county gold mines.

1920.

Enloe Dam constructed just upstream of Enloe Falls, preventing upstream migration of anadromous fish. [Okanogan PUD]

1920-30s

Granby Mining Company mines copper for 40 years near Princeton. Coal is mined at nearby Blakeburn, producing a ton a coal per minute at its peak.

1941

333 men were employed by gold mines in the Headly area. 108 Free miner certificates were granted for the Similkameen District. Several active coal mines in the Princeton area. --Annual report for the Minister of Mines of the Province of British Columbia 1941

1946

Okanogan Health Dept. requires Kaaba Texas Mine to stop discharging tailings into the Similkameen River and use settling ponds. The settling ponds frequently failed and spilled into the Similkameen River. --(EPA Superfund Fact Sheet, Kaaba Texas Mine Removal, Nighthawk WA. Jan. 2000)

1984

EPA testing of tailings at Kaaba Texas Mine, indicate lead, cadmium, silver, copper and zinc. -- (EPA Super Fund Fact Sheet Kaaba Texas Mine Removal, Nighthawk, WA. Jan 2000)

1991

EPA testing of soil and sediments showed concentrations of arsenic, cadmium, copper, lead, silver, cyanide and zinc. Heavy metals migrating to wetlands. -- (EPA Super Fund Fact Sheet Kaaba Texas Mine Removal, Nighthawk, WA. Jan 2000)

1999

EPA conducts clean up of Kaaba Texas Mine tailings by moving them and burying them further away from the river. -- (EPA Super Fund Fact Sheet Kaaba Texas Mine Removal, Nighthawk, WA. Jan 2000)

2002

WA. Dept. of Ecology conducts tests on sediment from Palmer Lake. High arsenic levels are detected. DOE states "the level of arsenic contaminations in the sediments is potentially significant, both with regard to aquatic life and as a chronic source of arsenic to the Similkameen River. The arsenic is believed to come from mining activity in British Columbia Canada." WA. Dept. of Ecology also conducts mercury testing in fish and sediments in Palmer Lake and finds it. -- (WA. Dept. of Ecology Publication # 02-03-058 Dec. 2002) -- (WA. Dept. of Ecology, Publication # 03-03-026 June 2003)

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