STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

REPORT OF EXAMINATION
To Appropriate Public Waters of the State of Washington

APPLICATION DATE	APPLICATION NO.
September 11, 2007	S4-35153

NAME

Public Utility District No. 1 of Chelan County (Chelan PUD)

ADDRESS/STREET	CITY/STATE	ZIP CODE
PO Box 1231	Wenatchee WA	98807

PUBLIC WATERS TO BE APPROPRIATED

SOURCE

Columbia River (Lake Entiat)

TRIBUTARY OF (IF SURFACE WATERS)

Pacific Ocean

MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE	MAXIMUM ACRE-FEET PER YEAR
350		231,670

QUANTITY, TYPE OF USE, PERIOD OF USE

Up to 350 cubic feet per second and 231,670 acre-feet per year for spawning, incubation, emergence, and rearing flows; and spawning and rearing habitat; year round non-consumptive use, as needed.

LOCATION OF DIVERSION

APPROXIMATE LOCATION OF DIVERSION

Approximately 2,500 feet north of the common southern corner of Sections 29 and 30.

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP	RANGE	WRIA	COUNTY
NW¼SW¼	29	27 N.	23 E.W.M.	47	Chelan
NE¼SE¼	30	27 N.	23 E.W.M.		

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED
[Attachment 1 shows location of the authorized place of use and point(s) of diversion or withdrawal.]

The NW¼SW¼ and the SW¼NW¼ of Section 29, T. 27 N., R. 23 E.W.M and the NE¼SE¼ of Section 30, T. 27 N., R. 23 E.W.M. (Parcel No.'s 272329320050 and 272329230100).

DESCRIPTION OF PROPOSED WORKS

Surface water will be diverted from the head of the Chelan Falls Powerhouse tailrace channel (located in the Lake Entiat Pool) by up to five 150 horsepower pumps into a diversion canal. The water will then travel approximately 1,120 feet upstream to an outlet structure on Reach 4 of the Chelan River. The outlet structure will be located just downstream from the mouth of the Chelan River gorge. Following release, the water will travel down the Chelan River channel to the confluence with the tailrace and Columbia River (Lake Entiat).

DEVELOPMENT SCHEDULE

BEGIN PROJECT BY THIS DATE	COMPLETE PROJECT BY THIS DATE	WATER PUT TO FULL USE BY THIS DATE
Complete	December 31, 2011	December 31, 2025

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MEASUREMENTS, MONITORING, METERING AND REPORTING

1. **Meter Installation**
   An approved measuring device shall be installed and maintained for each of the sources authorized by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use", WAC 173-173. http://www.ecy.wa.gov/programs/wr/measuring/measuringhome.html

2. **Record Weekly, Report Annual Totals**
   Water use data shall be recorded weekly and maintained by the property owner. The maximum rate of diversion/withdrawal and the annual total volume shall be submitted to the Department of Ecology by January 31st of each calendar year.

3. **Electronic Reporting**
   Recorded water use data shall be submitted via the Internet. To set up an Internet reporting account, contact the Central Region Office. If you do not have Internet access, you can still submit hard copies by contacting the Central Region Office for forms to submit your water use data.

4. **Metering Rule Description And Petition Info**
   WAC 173-173 describes the requirements for data accuracy, device installation and operation, and information reporting. It also allows a water user to petition the Department of Ecology for modifications to some of the requirements. Installation, operation and maintenance requirements are enclosed as a document titled “Water Measurement Device Installation and Operation Requirements”. http://www.ecy.wa.gov/programs/wr/measuring/measuringhome.html

DEPARTMENT OF FISH AND WILDLIFE

5. **Fish Screening Criteria**
   The intake(s) shall be screened in accordance with Department of Fish and Wildlife screening criteria (pursuant to RCW 77.57.010, RCW 77.57.070, and RCW 77.57.040). Contact the Department of Fish and Wildlife, 600 Capitol Way N, Olympia, WA 98501-1091. Attention: Habitat Program, Phone: (360) 902-2534 if you have questions about screening criteria.

6. **Fish Rearing**
   A permit from the Department of Fish and Wildlife may be needed to raise fish in any state waters: http://www.wdfw.wa.gov/reg/regions.htm.

7. **HPA**
   The applicant must obtain Hydraulic Project Approval from the Washington Department of Fish and Wildlife for all construction activities occurring within the high water mark of the Columbia River and its tributaries. Please contact the Department of Fish and Wildlife, 3860 Chelan Hwy N., Wenatchee, WA 98801-9625 or by telephoning Bob Steele at (509) 662-0503.

SCHEDULE AND INSPECTIONS

8. **Authority To Access Project**
   Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the project location, and to inspect at reasonable times, records of water use, wells, diversions, measuring devices and associated distribution systems for compliance with water law.

9. **Project Completion**
   The water right holder shall file the notice of Proof of Appropriation of water (under which the certificate of water right is issued) when the permanent distribution system has been constructed and the quantity of water required by the project has been put to full beneficial use. The certificate will reflect the extent of the project perfected within the limitations of the water right. Elements of a proof inspection may include, as appropriate, the source(s), system instantaneous capacity, beneficial use(s), annual quantity, place of use, and satisfaction of provisions.

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FINDINGS OF FACT AND ORDER

Upon reviewing the investigator's report, I find all facts, relevant and material to the subject application, have been thoroughly investigated. Furthermore, I find the appropriation of water as recommended will not be detrimental to existing rights or to the public interest.

Therefore, I ORDER the approval of Application No. S4-35153 subject to existing rights and the provisions specified above.

YOUR RIGHT TO APPEAL

You have a right to appeal this decision to the Pollution Control Hearing Board (PCHB) within 30 days of the date of receipt of this decision. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do the following within 30 days of the date of receipt of this decision:

- File your appeal and a copy of this decision with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this decision on Ecology in paper form - by mail or in person. (See addresses below.) E-mail is not accepted.

You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

ADDRESS AND LOCATION INFORMATION

Street Addresses	Mailing Addresses
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey WA 98503	**Department of Ecology** Attn: Appeals Processing Desk PO Box 47608 Olympia WA 98504-7608
Pollution Control Hearings Board 4224 – 6th Avenue SE Rowe Six Building 2 Lacey WA 98503	**Pollution Control Hearings Board** PO Box 40903 Olympia WA 98504-0903

For additional information visit the Environmental Hearings Office Website: http://www.eho.wa.gov . To find laws and agency rules visit the Washington State Legislature Website: http://www.leg.wa.gov/CodeReviser .

Signed at Yakima, Washington, this _____ day of _____ 2010.

_____

Derek I. Sandison, Director
Office of Columbia River

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BACKGROUND

Project Description

On September 11, 2007, Public Utility District No. 1 of Chelan County (Chelan PUD) filed Application No. S4-35153 with the Washington State Department of Ecology (Ecology) for a water right permit to appropriate public surface water. The applicant requested authorization for an instantaneous diversion (Qi) of 350 cubic feet per second (cfs) and 253,557.5 acre-feet per year (ac-ft/yr) cumulative annual diversion volume (Qa).

The purpose of use for water requested under Application No. S4-35153 is habitat enhancement, including spawning, incubation, emergence, and rearing in Reach 4 of the Chelan River. The appropriation would support conditions mandated by the Federal Energy Regulatory Commission's (FERC) relicensing of the Lake Chelan Hydroelectric Project. The project is within the state's Water Resource Inventory Area (WRIA) 47.

Table 1
Summary of Application No. S4-35153

Attributes	*Proposed*
Applicant	Public Utility District No. 1 of Chelan County
Priority Date	September 11, 2007
Instantaneous Quantity	350 cfs
Annual Quantity	231,670 ac-ft/yr
Source	Lake Entiat (Columbia River)
Point of Diversion	NW¼, SW¼, Section 29 and the NE¼SE¼ of Section 30, T. 27 N., R. 23 E.W.M.
Purpose of Use	Habitat Enhancement and Fish Propagation
Period of Use	Year-round
Place of Use	Chelan River (Reach 4)

Legal Requirements for Application Processing

The following requirements must be met prior to processing a Water Right Application:

- **Public Notice**
  Notice of the proposed appropriation was published in the *Wenatchee World* of Wenatchee, Washington, on January 16 and 23, 2009. No protests were received by Ecology.

- **State Environmental Policy Act (SEPA)**
  A SEPA review of the proposed diversion was completed by Chelan PUD and concluded with a Determination of Nonsignificance issued on September 10, 2007.

- **Water Resources Statutes and Case Law**
  Chapters 90.03 and 90.44 RCW authorize the appropriation of public water for beneficial use and describe the process for obtaining water right. Laws governing the water right permitting process are contained in RCW 90.03.250 through 90.03.340. Based on the provisions of RCW 43.21A.690 and RCW 90.03.265, this application has been processed by Aspect Consulting, LLC (Aspect Consulting) under Ecology Cost-Reimbursement Agreement No. ASP11 (master contract No. C0500006).

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INVESTIGATION

In consideration of this application, Aspect Consulting reviewed available documents pertaining to the application's site conditions, projected water usage and demand, and the potential effect on existing water right holders. This included the information submitted by the applicant and pertinent Ecology records. The review also included documents generated from the lengthy FERC relicensing process, including numerous reports commissioned by the Chelan PUD. Most notably, the review included the Lake Chelan Settlement Agreement and the 401 Water Quality Certification (Ecology 2004a). Attachment B to the Settlement Agreement (Chelan PUD 2003) includes the Chelan River Biological Evaluation and Implementation Plan (CRBEIP). The CRBEIP provides the biological basis for the proposed mitigation measures to be implemented using the requested water right.

A site visit was performed on April 22, 2008. Tyson Carlson of Aspect Consulting met with Waikele Hampton, Staff Environmental Specialist for the Chelan PUD. The site visit included inspection of the proposed point of diversion and place of use, and an interview with the applicant.

Using this information, Aspect Consulting evaluated water availability and potential effects of the proposed appropriation on existing groundwater and surface water rights. Each of the four requirements specified in RCW 90.03.290 were individually examined and are presented below.

Instream Flow Requirements

To provide for preservation of wildlife, fish, aesthetic, and other environmental values, and navigational uses, Chapter 173-563 Washington Administrative Code (WAC) defines minimum instantaneous and minimum weekly average flows throughout the year at seven main stem Columbia River locations. However, Chapter 173-563 WAC instream flow rules do not apply to applications for new Columbia River water rights for which Ecology makes a decision on or after July 27, 1997. WAC 173-563-020(4) states:

> "Any water right application considered for approval or denial after July 27, 1997 will be evaluated for possible impacts on fish and existing water rights. The department will consult with appropriate local, state, and federal agencies and Indian tribes in making this evaluation. Any permit which is then approved for the use of such waters will be, if deemed necessary, subjected to instream flow protection or mitigation conditions determined on a case-by-case basis through the evaluation conducted with the agencies and tribes."

Consultation

During the early stages of the application process, Ecology conducted agency consultations regarding the pending Water Right Application, as required by Chapter 173-563-080 WAC. Consultation was sought from National Marine Fisheries Service (NMFS), Washington Department of Fish and Wildlife (WDFW), the United States Fish and Wildlife Service, and local Native American tribes, including the Colville Confederated Tribes and the Confederated Tribes and Bands of the Yakama Nation. Letters of support were received from all parties.

Ecology consulted with the U.S. Bureau of Reclamation (Reclamation) who controls all unappropriated waters of the Columbia River above Priest Rapids Dam – including all tributaries and groundwater that are in continuity. Reclamation subsequently granted a release of water for the subject application in a letter received July 26, 2007.

Columbia River Consultation was also conducted according to WAC 173-563-020(4). Ecology sent a letter describing Application No.'s S4-35138 and S4-35153 on June 11, 2010 to all appropriate local, state, and federal agencies and Indian Tribes. Only comments of support were received.

Project Description

The Lake Chelan Hydroelectric Project is located on the Chelan River, just east of the City of Chelan, Washington. Originally constructed in 1927, the project consists of a dam, a power tunnel, and the powerhouse. Water is diverted from Lake Chelan, conveyed to the powerhouse 2.2 miles via the power tunnel, and then discharged to the tailrace and into the Columbia River. The nearly 400 foot drop in elevation powers two generators capable of producing 58,000 kilowatts.

The Chelan PUD operates the Lake Chelan Hydroelectric Project under a license from FERC. The license has recently undergone the renewal process and was issued under license No. 637 on November 6, 2006. The new authorization is the third license for the Lake Chelan Hydroelectric Project, and the second Section 401 Water Quality Certification. The previous licenses did not require a minimum flow in the Chelan River, thus the bypass reach (the portion between the dam and the confluence with the Columbia River) has largely been dry for the last 76 years.

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The current FERC license requires habitat modifications and maintenance of minimum flows in the Chelan River as conditions for continued operation of the Lake Chelan Hydroelectric Project. The water requested under Application No. S4-35153 is intended to increase water depths and velocities for summer steelhead and Chinook spawning habitat, maintain instream flows during incubation, and manage temperatures during critical rearing periods. In concert, required minimum instream flows for Reach 4 of the Chelan River have been set at 80 cfs, year round. During times critical to fish habitat (e.g. March 15 to May 15 and October 15 to November 30), the required minimum instream flows increase to 320 cfs. It is anticipated that 80 cfs will be provided by release of water from lake storage at the dam. The additional 240 cfs will be pumped from the tailrace. However, if habitat monitoring indicates that the upper reaches (Reaches 1 to 3) of the river do not require year round flow (and if target instream flows are adjusted accordingly), then the Chelan PUD would pump the entire 80 to 320 cfs from the tailrace to satisfy the Reach 4 instream flow (depending on time of year) and would not release water from lake storage specifically to improve year round instream flows.

Under the proposed operation, the maximum diversion for maintenance of instream flows would be 320 cfs. As a contingency for head control and pump tolerance, the Chelan PUD has requested an additional 30 cfs, resulting in a maximum requested instantaneous diversion rate of 350 cfs.

Site Description

The proposed point of diversion is located near the head of the tailrace channel, a small embayment located on the western bank of Lake Entiat, created by the impoundment of the Columbia River behind the Rocky Reach Dam. The proposed point of diversion is located in the NW¼SW¼ of Section 29, and the NE¼SE¼ of Section 30 in T. 27 N., R. 23 E.W.M. Surface water will be diverted by up to five 150 horsepower (hp) pumps into a diversion canal. The water will then travel approximately 1,120 feet upstream to an outlet structure. The outlet structure will be located just downstream from the mouth of the Chelan River gorge, on Reach 4 of the Chelan River. Following release, the water will travel down the river channel to the confluence with the tailrace and Columbia River. The confluence is approximately 1,000 feet east of the original point of diversion.

The Chelan River is divided into 4 major reaches stretching from the dam at the head of Lake Chelan to the confluence with the Columbia River. The first reach extends from the dam to the upper end of the Chelan River Gorge. Reach 1 is relatively low gradient and is relatively wide. The river narrows in Reach 2, in the upper portion of the gorge, until the gradient increases and is confined by steep bedrock walls in Reach 3. Reach 4 is the alluvial fan extending from the mouth of the gorge to the confluence with the tailrace (Columbia River).

Except for a few pools sustained by groundwater in Reaches 1, 2, and 3, historic operation of the Chelan River Hydroelectric Project provided no year round habitat for resident or anadromous fish species.

Lake Chelan

Chelan PUD maintains a surface water elevation in Lake Chelan of between 1,100 and 1,079 feet (USGS). The lake is typically drawn down to allow flood control and storage of spring snowmelt. Release of water usually beings in October, with the lowest lake level typically occurring in April. The lake is refilled in May and June with a goal to reach elevation 1,098 by June 30. The lake is maintained above elevation 1,098 through September 30. When inflow to the lake exceeds the hydraulic capacity of the powerhouse, water is spilled over the spillway into the bypassed reach of the Chelan River. Spills typically occur in May and June.

In total, Lake Chelan contains 677,400 acre-feet of usable storage, of which 65,000 acre-feet is reserved for irrigation and municipal and domestic water supplies. Lake Entiat has a storage capacity of 382,000 acre-feet and a maximum discharge rate of 995,000 cfs.

The CRBEIP describes the proposed management of Lake Chelan levels under the new FERC license. The lake level management regime is intended to balance the needs of the native fish resources with the social benefits of recreation – both on Lake Chelan and along the bypass reaches of the Chelan River – and electricity generation. Under the proposal (summarized in Table 7-1 of the CRBEIP) the lake would remain full during the recreation season of July to September. Lake drawdown would begin in September to expose alluvial deposits at the mouths of lake tributaries to seasonal rains, while the spring refill schedule will provide access to the tributaries for spring spawning cutthroat trout and achieve usable lake levels for recreation. The proposed management plan is also intended to maintain sufficient storage capacity to attenuate high runoff releases to the Chelan River, thus preventing scouring of fish habitat.

In addition to changing the lake level management regime, the CRBEIP contain a number or recreational improvements and enhancements for public access and use of Lake Chelan.

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Chelan River Instream Flow Requirements
As mandated by the Settlement Agreement and specified in Table 7-3 of the CRBEIP, minimum instream flows are specified for all months of the year in the Chelan River. The flows are intended to establish a functional aquatic ecosystem supportive of native fish species in Reaches 1, 2, and 3, while provide enhanced conditions for salmon spawning and rearing in Reach 4. Table 7-3 of the CRBEIP is summarized below.

Table 7-3 of the CRBEIP

Reach	Dry Year		Average Year		Wet Year	
1, 2, and 3	80 cfs	(all months)	80 cfs Ramp up to 200 cfs [1] 200 cfs Ramp down to 80 cfs [1]	(July 16 - May 14) (May 14) (May 15 - July 15) (July 16)	80 cfs Ramp up to 320 cfs [1] 320 cfs Ramp down to 80 cfs [1]	(July 16 to May 14) (May 14) (May 15 - July 15) (July 16)
4	80 cfs (spill) + 240 cfs (pumped)	March 15 to May 15 and Oct 15 to Nov 30	320 cfs	Combination of spill & pumping March 15 to May 15 and Oct 15 to Nov 30. Incubation flow, as needed.	320 cfs	Combination of spill & pumping March 15 to May 15 and Oct 15 to Nov 30. Incubation flow, as needed.

[1] Changes in flow are constrained to ramping rates specified in Table 7-6 of the CRBEIP.

Specified instream flows range from 80 to 320 cfs, depending on season and river reach. Additional allowance is made whether the year is defined as a wet, dry, or average water year. The minimum specified flow for Reach 4 is 80 cfs year round and ramps up to 320 during periods of critical habitat (March 15 to May 15 and October 15 to November 30).

Specified ramping rates between changes in flows are specified in Table 7-6 of the CRBEIP. The purpose of the ramping rates is to protect aquatic organisms from rapid fluctuations in water levels and to prevent fish from being stranded when flows decrease. During the period when fry may be present, ramping rates are constrained to a stage change of approximately two inches per hour.

In addition to the specified instream flows, channel modifications will be completed to provide an additional two acres of spawning and rearing habitat for anadromous salmonids. The process for developing final habitat modification design is outlined in Table 7-11 of the CRBEIP.

Water Quality
Lake Chelan is considered an ultra-oligotrophic lake, with a total Maximum Daily Load (TMDL) for phosphorus – the primary limiting nutrient for algal growth. Other water quality concerns include non-point bacterial input and pesticides. In addition, water temperature upstream of the project's intake was identified as exceeding the temperature criteria for Class A water bodies during the summer months.

The instream flows recommended by the CRBEIP for the Chelan River were established following multiple studies and extensive discussion examining the effect of various flow regimes on instream habitat for native and introduced fish species. The studies included an analysis of limiting factors such as water temperature, food resources, and barriers to anadromous fish. The studies observed that water entering the Chelan River from Lake Chelan is naturally warm in the summer, often exceeding the salmonid preference limit of 18 degrees Celsius from June through September. Therefore, the proposed flow regime in the CRBEIP evaluated measures to moderate the warming of water temperatures in the Chelan River to the extent feasible while maintaining and protecting existing beneficial uses.

It was concluded that diversion of water through the power tunnel provides cooler summer water temperatures to the tailrace than if the water came directly from the Chelan River under natural flows. This is because water passing through the Chelan River channel is exposed to increased thermal energy from solar radiation and exposure to warm air temperatures. Conversely, water passed through the underground power tunnel is not subject to the same thermal loading. Therefore, combined flows – water diverted from the tailrace channel mixing with water released from Lake Chelan – would be below the temperature that would otherwise occur from natural flows in the Chelan River. Therefore, the combined flows may be used to reduce temperatures during the day and evening from exceeding a critical level (e.g. ultimate upper incipient lethal temperature).

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In addition, the EPA is currently working on a TMDL for temperature for the Columbia River, which is known to exceed the preference zone for migrating salmon and steelhead from July to September. The overall goal of the Columbia River TMDL would be to lower the temperatures by reducing thermal loading to the river. Combining flows from the tailrace with natural flow down the Chelan River will help achieve this goal. In addition to temperature, Lake Entiat has three other parameters on Ecology's 303(d) list, including 4,4'-DDE, 4,4'-DDD, and PCB in fish tissue.

APPLICATION EVALUATION

Priority Processing

The Chelan PUD requested that Water Right Application No. S4-35153 be priority processed under WAC 173-152-050(2)(b), commonly known as the Hillis Rule. This rule allows Ecology to prioritize the processing of new Water Right Applications that are nonconsumptive and include qualifying measures that substantially enhance or protect environmental quality in a watershed.

Guidance regarding classification of water uses as nonconsumptive for surface water is given by Ecology's Water Resources Program Policy POL 1020 (Ecology 1991). The policy defines water use as nonconsumptive when "…there is no diversion from the water source or diminishment of the source". Furthermore, an exception is allowed for projects when the "…water is returned to the same pool from which it is diverted and the pool's water elevation is not changed…" POL 1020 also specifies that water use to initially fill or charge the system is allowed, subject to instream flows and existing rights.

Ecology recognizes that certain projects may have a small component of water consumption – such as, through an increase in bank storage or evaporation rate. However, as a matter of policy, Ecology classifies these types of projects as nonconsumptive (Ecology 1991).

The second criterion for priority processing is that the diversion(s) will provide for significant environmental benefit. Water Right Application No. S4-35153 is required to comply with relicensing requirements of the Lake Chelan Hydroelectric project. The new license mandates that the Chelan PUD implement specific measures to establish instream flows in the Chelan River and create useable spawning and rearing habitat in Reach 4 of the Chelan River. The technical basis for the mitigation measures are provided in the CRBEIP. Based on this information, Ecology has concluded that the subject applications also meet the environmental enhancement/protection criterion for priority processing under WAC 173-152-050(2)(b).

Ecology has determined that subject application (No. S4-35153) is nonconsumptive and provides for environmental enhancement; therefore, the Water Right Application is being processed on a priority basis as allowed for under WAC 173-152-050(2)(b).

Four Statutory Tests

This Report of Examination (ROE) evaluates the application based on the information presented above and in referenced FERC relicensing documents. To approve the application, Ecology must issue written findings of fact and determine that each of the following four requirements of RCW 90.03.290 has been satisfied:

1. The proposed appropriation would be put to a beneficial use;
2. Water is available for appropriation;
3. The proposed appropriation would not impair existing water rights; and
4. The proposed appropriation would not be detrimental to the public welfare.

Beneficial Use

In accordance with RCW 90.54.020(1), the proposed appropriation for fish and wildlife maintenance and enhancement represent a beneficial use of water. Together with water released from Lake Chelan, the proposed appropriation will help meet the requirements of the new FERC License. As detailed on the Application for Permit, the point of diversion will be supported by the necessary infrastructure to deliver the full appropriation of water to Reach 4 of the Chelan River. The rate at which the water will be diverted is consistent with the habitat objectives specified in the CRBEIP.

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Availability
Based on the collective information summarized above, we conclude that the quantity of water requested for use in this application is available for appropriation. The point of diversion is located in the powerhouse tailrace – a small embayment of Lake Entiat on the Columbia River. Although the diversion rate is large, it is a relative small percentage of the total discharge of the Columbia River and of the storage capacity of Lake Entiat. In addition the diversion rate is offset with return flow from Reach 4. Therefore, we conclude that the stage of Lake Entiat will not be affected by the proposed diversion. As a contingency for head control and pump tolerance, the Chelan PUD has requested an additional 30 cfs instantaneous diversion rate above the specified 320 cfs needed to satisfy instream flows on the Chelan River.

In addition to the flows specified in the CRBEIP, the applicant has requested flexibility over the 50-year FERC license to meet additional habitat objectives not specified by the CRBEIP. This includes maintaining flows throughout the entire spawning and incubation period for Chinook and steelhead (October to June) and mitigation for high temperatures throughout the summer (June through September). Currently, the CRBEIP only address critical habitat flows March 15 to May 15 and October 15 to November 30. This would effectively allow the applicant flexibility during a worst case scenario, to pump 320 cfs from the tailrace channel year round, equating to 231,670 ac-ft/yr.

The need for year round flow will be based on ongoing habitat monitoring conducted throughout the 50-year FERC licensing period. To allow flexibility in future operations, the applicant has requested a corresponding 50-year development schedule to the water right permit. It is Ecology's opinion that a 50-year development schedule is excessive and the applicant should be able to anticipate future operational needs after approximately 15 years. If at the end of the 15-year development period the applicant still has not fully defined the operational demands of the facility, they shall consult with Ecology and request an extension to the schedule. However, it is noted that the subject appropriation will be used for reserve water supply to satisfy flow objectives of the project – as a required by the governing FERC license – which fulfills the statutory requirement of sufficient cause, as defined by RCW 90.14.140(2)(b), and is not subject to relinquishment through nonuse.

No administrative or regulatory closures are identified that affect the availability of water requested under this application.

Potential for Impairment
RCW 90.03.290 and RCW 90.44.060 require a determination that a new appropriation will not impair existing rights. Numerous water right certificates, permits, and claims are present on Lake Entiat or downstream on the mainstem of the Columbia River, in addition to the numerous permitted points of withdrawal utilizing aquifers in continuity with the Lake Entiat. However, because the proposed appropriation is nonconsumptive, water returns to the same pool from which it was diverted, and the stage of Lake Entiat will not be affected, no impairment of surface water or groundwater rights is expected to occur.

The point of diversion is located approximately 1,000 feet upstream of the confluence of Reach 4. Because the point of diversion and point of return flow is in the same pool, and the stage will not be affected by the proposed appropriation, no reach of the Columbia River will be impaired.

Public Welfare
No protests to the application were received. The proposed appropriation will support the relicensing requirements of the Chelan Hydroelectric Project. During the consultation process, letters of support were received from NMFS, WDFW, the United States Fish and Wildlife Service, and local Native American tribes.

CONCLUSIONS

The conclusions based on the above investigation are as follow:

1. The proposed appropriation for habitat enhancement of Reach 4 of the Chelan River is a beneficial use of water.
2. The quantity of water requested for non-consumptive use in this application is available for appropriation Lake Entiat, Columbia River.
3. The proposed non-consumptive appropriation will not impair existing water rights.
4. The proposed appropriation will not be detrimental to the public interest.
5. Following consultation, Ecology has determined no instream flow protection or mitigation conditions are deemed necessary.

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RECOMMENDATION

I recommend approval of Water Right Application No. S4-35153 and issuance of a permit to allow a non-consumptive appropriation of surface water from the tailrace channel located on Lake Entiat (Columbia River) for spawning, incubation, emergence, and rearing at a maximum instantaneous withdrawal rate (Qi) of 350 cfs and a cumulative annual volume of 231,670 ac-ft/yr. The period of use will be year round, as needed.

The amount of water granted is a maximum limit that shall not be exceeded and the water user shall be entitled only to that amount of water within the specified limit that is beneficially used and required.

Report by: Tyson D. Carlson, LHG, Aspect Consulting, LLC _____ Date _____

REVIEWED BY: Kelsey Collins, Water Resources Program _____ Date _____

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If you need this publication in an alternate format, please call Water Resources Program at 360 407-6600. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

CITATIONS

Chelan PUD 2003. Lake Chelan Comprehensive Plan; Chapter 7 – Chelan River Biological Evaluation and Implementation Plan; Attachment B to the Lake Chelan Settlement Agreement; Lake Chelan Hydroelectric Project, FERC Project No. 637. October 8, 2003.
Ecology 1991. Water Resources Program Policy POL 1020; Consumptive and Nonconsumptive Water Use. October 31, 1991.
Ecology 2004a. Lake Chelan Hydroelectric Project (FERC No. 637); 401 Certification – Order No. 1233. June 1, 2004.
Ecology 2004b. Water Resources Program Policy POL 1021; Priority Processing – Water Budget Neutral Projects. January 21, 2004.
Washington Administrative Code (WAC) Chapter 170-563 1998. Instream Resources Protection Program for the Main Stem Columbia River in Washington State. March 30, 1998.

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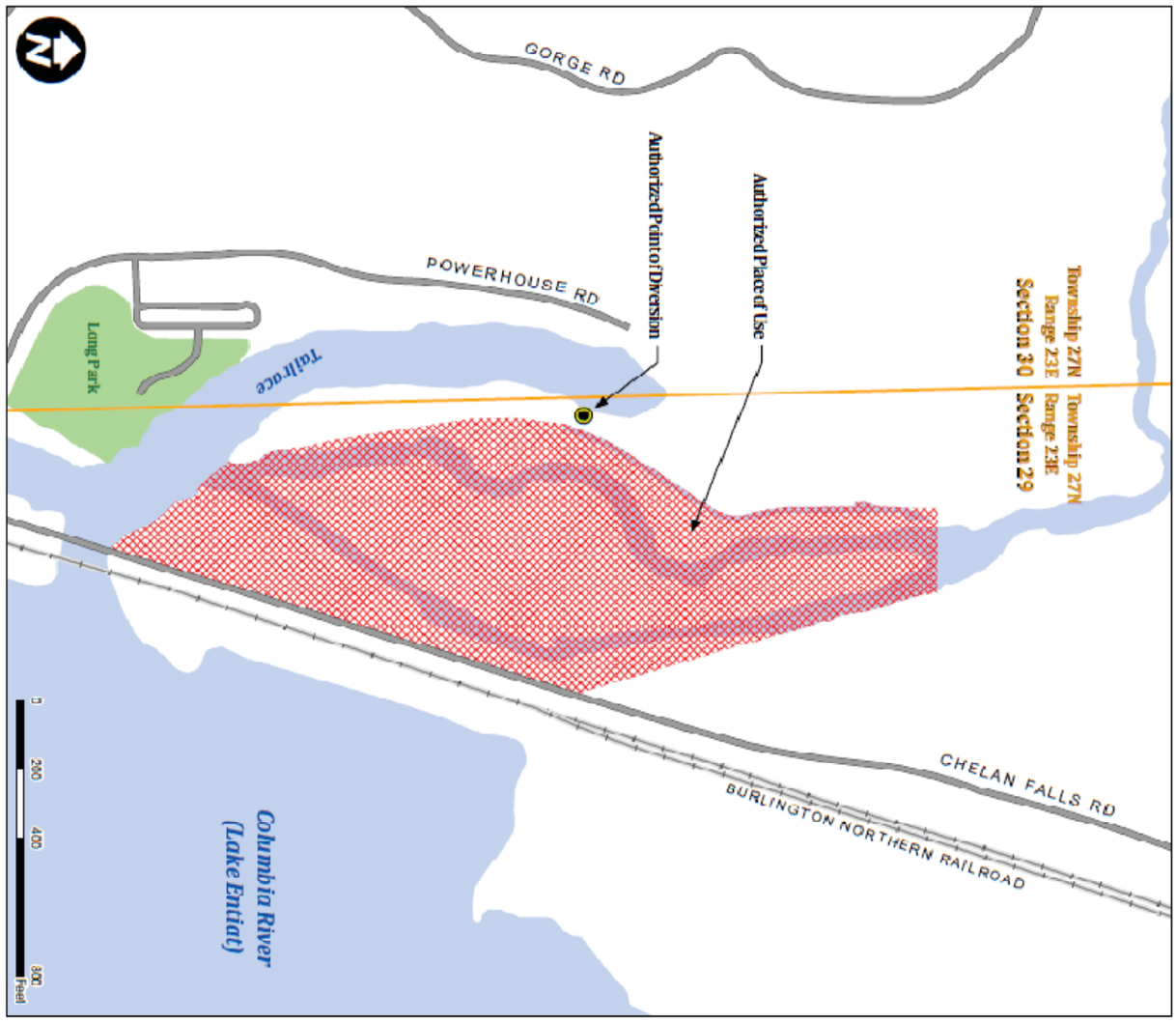
Attachment 1



Comments: *Place of use and point of diversion are defined on the cover sheet under the heading "LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED."*

Legend

- Authorized Point of Diversion
- Authorized Place of Use
- Water Body or Watercourse
- Roads
- Railroads
- Section Lines
- Park

Chelan PUD No. S4-35153

T27N R23E, Sec 29 & 30
WRIA 47, Chelan County, Washington

Aspect consulting earth + water www.aspectconsulting.com a mentoring company

Date:	Mar 2010
Drawn By:	TDC
Reviewed By:	RVA
Revision:	-
PROJECT NO.	090180
ATTACHMENT NO.	1

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