

File No.: G4-33123
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State of Washington AMENDED REPORT OF EXAMINATION FOR WATER RIGHT APPLICATION

PRIORITY DATE
 August 29, 2014

WATER RIGHT NUMBER
 G4-33123

MAILING ADDRESS
 Yakama Nation
 PO Box 151
 Toppenish, WA 98948

SITE ADDRESS
 20 Grizzly Mountain Road
 Winthrop, WA 98862

Quantity Authorized for Withdrawal

WITHDRAWAL RATE	UNITS	ANNUAL QUANTITY (AF/YR)
9,000	GPM	8,700

Purpose

PURPOSE	WITHDRAWAL RATE		UNITS	ANNUAL QUANTITY (AF/YR)		PERIOD OF USE (mm/dd)
	ADDITIVE	NON-ADDITIVE		ADDITIVE	NON-ADDITIVE	
Fish Propagation	9,000		GPM	8,700 (non consumptive)		Continuous

Source Location

COUNTY	WATERBODY	TRIBUTARY TO	WATER RESOURCE INVENTORY AREA
Okanogan	Groundwater	Methow River	48-Methow

SOURCE FACILITY/DEVICE	PARCEL	TWN	RNG	SEC	QQ Q	LATITUDE	LONGITUDE
2 Infiltration Galleries	Federal Land	35N	20E	10	SESE	48°32'32.44"N	120°19'18.89"W

Datum: WGS84

Place of Use (See Map: Attachment 1)

PARCELS

3520150013 and 3520150010

LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE

A natural and constructed side channel of the Methow River, located in the NE¼ of Section 15, Township 35 North, Range 20 East of the Willamette Meridian (E.W.M.).

Proposed Works

The proposed Fender Mill Side Channel Enhancement Project will include a point of withdrawal, conveyance pipe, and modified sections of a native and artificially constructed side channel to the Methow River. The point of withdrawal will consist of two infiltration galleries, each constructed of three 80 linear foot sections of 16-inch diameter well screen buried adjacent to the mainstem Methow River channel. The infiltration galleries will collect shallow groundwater in hydraulic continuity with the Methow River at a designed maximum rate of 20.0 cubic-feet per second (cfs) or approximately 9,000 gallons per minute (gpm). A 16- to 30-inch-diameter high density polyethylene (HDPE) pipe will convey water approximately 800 feet from the infiltration galleries to the discharge point located at the head of the side channel. The side channel is approximately 2,200-feet long, constructed to provide pool and riffle habitat with large wood structures. At the downstream end of the side channel, water will converge with the mainstem Methow River.

Development Schedule

BEGIN PROJECT	COMPLETE PROJECT	PUT WATER TO FULL USE
Begun	December 31, 2018	December 31, 2025

Measurement of Water Use

How often must water use be measured?	Monthly
How often must water use data be reported to Ecology?	Annually (Jan 31)
What volume should be reported?	Total Annual Volume
What rate should be reported?	Annual Peak Rate of Withdrawal (cfs)

Provisions

Measurements, Monitoring, Metering and Reporting

An approved measuring device shall be installed and maintained for each of the sources identified by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use", WAC 173-173, which 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 (Ecology) for modifications to some of the requirements.

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

Easement and Right-of-Way

The water source and/or water transmission facilities are not wholly located upon land owned by the applicant. Issuance of a water right authorization by this department does not convey a right of access to, or other right to use, land which the applicant does not legally possess. Obtaining such a right is a private matter between applicant and owner of that land.

Water Use Efficiency

Use of water under this authorization shall be contingent upon the water right holder's maintenance of efficient water delivery systems and use of up-to-date water conservation practices consistent with established regulation requirements and facility capabilities.

The Methow River is subject to base flows established under WAC 173-548-020 requiring the following minimum instream flows. This water right will divert water from the main channel to the side channel; both within the Upper Methow River. This is a nonconsumptive appropriation and will be monitored to ensure there is no change of base flows as measured at the Upper Methow River monitoring gage:

Month	Day	Upper Methow (12.4473.89)
Jan.	1	120
	15	120
Feb.	1	120
	15	120
Mar.	1	120
	15	120
Apr.	1	199
	15	300
May	1	480
	15	690
Jun.	1	790
	15	790

Month	Day	Upper Methow (12.4473.89)
Jul.	1	694
	15	240
Aug.	1	153
	15	100
Sep.	1	100
	15	100
Oct.	1	122
	15	150
Nov.	1	150
	15	150
Dec.	1	135
	15	120

Proof of Appropriation

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 permit. 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.

Schedule and Inspections

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.

Findings of Facts

Upon reviewing the investigator's report, I find all facts, relevant and material to the subject application, have been thoroughly investigated. Furthermore, I concur with the investigator that water is available from the source in question, that there will be no impairment of existing rights, that the purpose(s) of use are beneficial, and that there will be no detriment to the public interest.

Therefore, I ORDER approval of Application No. G4-33123, 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 Hearings 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 all of 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 1111 Israel Road SW, Suite 301 Tumwater WA 98501	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 16th day of September, 2015.

Danielle Squeachs

Danielle Squeachs for Sage Park

Sage Park, Section Manager
Water Resources Program/CRO

If you need this document in a format for the visually impaired, call the Water Resources Program at 509-575-2490. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

INVESTIGATOR'S REPORT

BACKGROUND

On August 29, 2014, the Yakama Nation filed application No. G4-33123 with the Washington State Department of Ecology (Ecology) to appropriate public groundwater to supply a proposed fish enhancement project in a side channel of the Methow River. This project is referred to in this report as the Fender Mill Side Channel Enhancement Project. The applicant proposes to withdraw up to 20 cubic-feet per second (cfs) or about 9,000 gallons per minute (gpm) during high-flow. The purpose of use is for fish propagation (non consumptive), year round.

The proposed Fender Mill Side Channel Enhancement Project is located in a natural meander of the Methow River, in the Methow River Basin Water Resource Inventory Area (WRIA 48), approximately eight miles northwest of Winthrop. The channel will be graded to include improved pool and riffle habitat and large wood structures along the approximate 2,200-foot long side channel. Water withdrawn will be conveyed through a buried pipe and discharged to the side channel to supplement flow and create perennial habitat for juvenile Endangered Species Act (ESA)-listed anadromous fish.

Compared to the mainstem Methow River, groundwater supported side channels are generally cooler in the summer and warmer in the winter. This is beneficial to juvenile fish, allowing them to find refuge from stressful warm temperatures in the summer, and grow more quickly in warmer groundwater supported reaches in the winter.

Table 1
Summary of Application No. G4-33123

<i>Attributes</i>	<i>Proposed</i>
Applicant	Yakama Nation
Application Received	August 29, 2014
Instantaneous Rate	9,000 gallons per minute
Annual Quantity	10,000 ac-ft
Source	Groundwater in continuity with the Methow River
Point of Withdrawal	SE¼SE¼, Section 10, T. 35 N., R. 20 E.W.M.
Purpose of Use	Fish Propagation
Period of Use	Year Round
Place of Use	Side channel of the Methow River within the NE¼ of Section 15, T. 35 N., R. 20 E.W.M.

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 *Omak Chronicle* of Omak, Washington on November 26 and December 3, 2014. No protests were received by Ecology.
- **State Environmental Policy Act (SEPA)**
Application No. S4-33123 required a SEPA review under WAC 197-11-800(4) because the instantaneous quantity is greater than the 2,250 gpm categorically exempt threshold. The Washington Department of Fish and Wildlife (WDFW), acting as the SEPA lead agency for this project, determined that it will not have a probable significant adverse impact on the environment and issued a Determination of Nonsignificance on October 15, 2014. No comments were received.
- **Water Resources Statutes and Case Law**
Chapter 90.03 and 90.44 RCW authorize the appropriation of public water for beneficial use and describes the process for obtaining a 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. ASP017 (master contract No. C1000185).

Priority Processing

The Yakama Nation requested that Application No. G4-33123 be processed under WAC 173-152-050(2)(c), 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 concurrent use of groundwater and surface water is given by Ecology's Water Resources Program, Policy POL-1020 (Ecology 1991). The policy defines water use as nonconsumptive when "water captured is returned in close proximity to the source immediately after use" and direct hydraulic continuity between the source and point of discharge is unequivocal. Likewise, WAC 173-152-020 defines nonconsumptive use as a water use is where "...there is no diminishment in the overall amount or quality of water in the water source."

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 new use will provide for significant environmental benefit. Application No. G4-33123 will directly support multi-agency fisheries enhancement objectives by diverting water into the enhanced side channel to create perennial side channel habitat for rearing ESA-listed juvenile salmonids. Based on this information, Ecology has concluded that the subject application also meets the environmental enhancement/protection criterion for priority processing under WAC 173-152-050(2)(c).

INVESTIGATION

In consideration of this application, Aspect Consulting reviewed available documents pertaining to the application's site conditions, project design documents, projected water usage and demand, and the

potential effect on existing water right holders and instream flows. This included information submitted by the applicant and pertinent Ecology records. Most notably, it included review of the State Environmental Policy Act (SEPA) checklist submitted by WDFW and associated study and design documents including the Methow River - Fender Mill Fish Habitat Project 90% Design Report (Interfluve 2015).

A site visit was performed on September 30, 2014 where Tyson Carlson of Aspect Consulting met with Hans Smith of the Yakama Nation. The site visit included inspection of the proposed point of withdrawal and place of use, including the alignment of the proposed side channel, and an interview with the applicant.

Project Description

The Fender Mill Side Channel Enhancement Project has been under development by the Yakama Nation since 2009 to assist in the recovery of ESA-listed anadromous fish (Upper Columbia Spring Chinook and steelhead). The work has been completed through a restoration-specific Memorandum of Understanding with WDFW and in close coordination with the Methow Subbasin Watershed Action Team. Following the guidance of the Upper Columbia Spring Chinook and Steelhead Recovery Plan (UCSRB 2007), the Yakama Nation is implementing recommendations from the updated Salmon Recovery Plan Biological Strategy (RTT 2014) and the United States Bureau of Reclamation Big Valley Reach Assessment (Reclamation 2008) to restore critical salmon habitat and alleviate priority concerns impairing salmon recovery along the Methow River.

Consistent with the recommendations of the Biological Strategy and the Reach Assessment, the Fender Mill Side Channel Enhancement Project seeks to increase juvenile survival and rearing productivity in the upper Methow River basin by restoring the availability of high quality rearing habitat in the Big Valley Reach.

Construction is anticipated to begin in June 2015. Native plant restoration will begin in October 2015 and end in November 2015. The infiltration gallery will be commissioned in November 2015. A four year adaptive management period is then planned for the period November 2015 through December 2018.

Site Description

The Fender Mill Side Channel Enhancement Project is located on the east side of the Methow River northwest of Winthrop, immediately downstream of the State Route 20 Weeman Bridge. The proposed side channel is on the historic Fender Lumber and Box Company Site. Site features include industrial artifacts, a natural slough (also known as the former Rockview Ditch which has been permanently abandoned), and mill pond.

The site is within the historic Methow River floodplain, containing elements such as relic high flow channels that traverse the current river meander. Photo review (Interfluve 2015) indicates that historic river complexity was frequently renewed with natural channel shifts triggered by flood events on an approximate 10-year recurrence interval. However, logging, land clearing for agriculture or pasture, and development within the floodplain have disrupted river migration. In addition, construction of the Weeman Bridge in 1945 further disconnected a portion of the floodplain by preventing meander migration and side channel development processes. Therefore, in order to increase lost floodplain complexity and improve habitat, the applicant has proposed to capture hyporheic groundwater adjacent to the mainstem Methow River and convey it 800 feet via a buried pipe, then discharge the water as surface flow into a constructed side channel approximately 2,200 feet in length.

The point of withdrawal will consist of two infiltration galleries, each constructed of three 80 linear foot sections of 16-inch diameter well screen buried adjacent to the mainstem Methow River channel. The infiltration galleries will collect shallow groundwater in hydraulic continuity with the Methow River at a rate of 7.0 (3,150 gpm) to 20.0 cfs (9,000 gpm) under gravity flow. Flow rate will vary with river stage, and based on the hydrograph analysis completed by the Yakama Nation, will result in a nonconsumptive annual cumulative withdrawal volume (Qa) of about 8,700 acre-feet/year (ac-ft/yr). The analysis assumed the design flow rate of 20 cfs when river stage is at or above 12.6 feet based on the 24-year mean daily stage, then scaling proportionality to a minimum flow of about 7 cfs at 10 feet. Below 10 feet, flow in the side channel is expected to decrease linearly, until an estimated stage of 3.5 feet where water levels would likely be below infiltration gallery design elevations. The infiltration gallery can be closed to gravity flow with inflatable bladders.

A 16- to 30-inch-diameter high density polyethylene (HDPE) pipe will convey water approximately 800 feet from the infiltration galleries to the discharge point located at the head of the side channel. The side channel is approximately 2,200-feet long, constructed to provide pool and riffle habitat with large wood structures. Water will then converge with the mainstem Methow River at the downstream end of the side channel, potentially bypassing up to an approximate 4,100-foot long reach of the Methow River.

This section of the Methow River is known to be a highly gaining reach, influenced by a subsurface valley bedrock constriction that causes the upwelling of groundwater (Konrad and Wagner, 2003). Shallow groundwater conditions in the flood plain alluvium were also characterized to support project feasibility study and design. Initial studies established groundwater elevations, fluctuation with river stage, and estimates of groundwater withdrawal rates from the hyporheic zone near the proposed point of withdrawal. Based on these results, it was concluded that that groundwater is available at suitable elevations to provide adequate flow to the proposed channel (Interfluve 2015).

Agency Consultation Process

Ecology has sought consultation 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 via email received on April 20, 2015.

In addition, Yakama Nation solicited support from basin stakeholders, including those participating in the Methow Subbasin Watershed Action Team. Letters of support for the project were received from Reclamation, United States Fish and Wildlife Service, National Oceanic and Atmospheric Administration (NOAA) Fisheries, and WDFW. All agencies expressed strong support for the project.

Four Statutory Tests

This Report of Examination (ROE) evaluates the application based on the information presented above and in design and SEPA referenced 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 nonconsumptive appropriation for fish maintenance and enhancement is a beneficial use of water. As detailed on the Application for Permit, the point of withdrawal will be supported by the necessary infrastructure to deliver the full appropriation of water to the side channel and allow for its return to the mainstem channel downstream. The rate at which the water will be diverted was determined through detailed site-specific study and design, and will sustain perennial surface water flow in the side channel to support ESA-listed anadromous fish.

Availability

Inspection of the 2013 Water Year data indicate that the Methow River just downstream of the side channel (USGS gage No. 12448500) at Winthrop, had an annual mean discharge rate of 1,310 cfs, with a daily mean ranging from 211 to 10,500 cfs. Low flows are typically associated with late summer (September) and winter (December through March), while high flows are the result of spring runoff. Flows during the 2013 water year are approximately 250 cfs in October, and following a peak event of almost 1,000 cfs in November, drop to about 300 cfs by January and remain relative steady through mid-March. Peak run off flows then increase to almost 10,000 cfs in May, then steadily decrease through the end of the water year.

Throughout the period of record (1912 to present), the lowest annual mean discharge is 430 cfs (2001). The 90 and 50 percent exceedance value(s) for the gage location are 197 and 375 cfs, respectively. On average, the annual runoff is about 885,500 ac-ft/yr. Compared to the period of record, the 2013 Water Year was above average.

Based on these data, the relatively small quantity (about 3.5 percent of the 90 percent value for the entire period of record) of water requested for withdrawal to the side channel would be physically available for nonconsumptive appropriation.

Potential for Impairment

RCW 90.03.290 and RCW 90.44.060 require a determination that a new appropriation will not impair existing rights. There are numerous water right certificates, permits, and claims for the Methow River and wells in continuity. However, there are no groundwater rights located within the interior of the large meander bend of the Methow River, and any drawdown impacts would be attenuated before propagating to the far side.

Based on review of Ecology's Water Right Tracking System (WRTS) database for the subject area, there were two surface water certificates and two claims which received water from the former Rockview Ditch. The two certificates have been changed to a downstream point of diversion. Two change decisions (CS4-SWC1175@1 and CS4-SWC1176@1) describe a primary reach that extends from the former Rockview Ditch point of diversion, downstream to Methow River Mile 55, which includes the entire 4,100 foot reach of the Methow River introduced above. The authorized diversion rate of the two changed certificates totals 1.383 cfs, or about 1 percent of the lowest daily mean discharge on record (134 cfs).

For the two claims: 1) WDFW was granted a change in point of diversion for the Big Valley Ranch Claim No. 038074 (also known as S4-038074CL), and 2) Claim No. 301087 (also known as S4-301089CL) is for 2 cfs and 75 ac-ft/yr for the irrigation of 10 acres with no documented change on record. No other surface water rights are located in or directly adjacent to the bypass reach.

Rockview ditch is abandoned. Most of the water rights from the Rockview ditch have changed the point of diversion elsewhere. WDFW no longer intends to use it. S4-301089CL asserts a right to irrigate 10 acres from the ditch, but clearly they have not done so in at least the last 5 years.

There is also an instream flow rule for the Methow River Basin established as part of an Instream Resources Protection Program (IRPP), chapter 173-548 WAC to protect water quality, wildlife, fish, and other environmental values, as well as aesthetics, recreation and navigation, and to meet certain future out-of-stream water needs. The IRPP defines minimum instantaneous flows in reaches defined by seven control stations throughout the Basin. The program effectively limits, and in some cases prohibits, the further issuance of consumptive water rights that could affect instream flows in these specified stream management units.

As defined by the IRPP, the control point (stream gage station) that defines the stream management unit that includes the side channel and the application under consideration, is 12.4473.89 (Methow River near Winthrop), extends from the confluence with Little Boulder Creek downstream to the Chewack River (Upper Methow). Minimum instream flows in WAC 173-548-020(2) for this stream management unit are specified year round and fluctuate seasonally from a low of 100 cfs from August 15th through September 30th to a high of 790 cfs from June 1st through June 30th.

The subject application requests to capture shallow groundwater in the hyporeic zone of the Methow River and direct it into the side channel. This shallow groundwater will be retained in the connected floodplain and returned to the main channel of the Methow River.

Public Welfare

No protests to the application were received. The proposed appropriation will support ongoing salmon recovery efforts in the Methow River Basin. The project is consistent with recommendations established in regional salmon recovery planning as codified in Chapter 77.85 RCW, which indicate fish survival and recovery are public interests. In addition, letters of support for the project were received from stakeholder agencies including Reclamation, United States Fish and Wildlife Service, NOAA Fisheries, and WDFW.

CONCLUSIONS

The conclusions based on the above investigation are as follows:

1. The proposed appropriation for the purpose of fish propagation for the Fender Mill Side Channel Enhancement Project is a beneficial use of water;
2. The quantity of water requested for nonconsumptive use in this application is available for appropriation;
3. The proposed nonconsumptive appropriation will not impair instream flows or senior water rights; and
4. The proposed appropriation will not be detrimental to the public interest.

CITATIONS

Ecology 1991. Water Resources Program Policy POL-1020, Consumptive and Nonconsumptive Water Use. October 31, 1991.

Ecology 2004. Water Resources Program Policy POL-1021, Priority Processing – Water Budget Neutral Projects. January 21, 2004.

Interfluve 2015. Methow River – Fender Mill Fish Habitat Project, 90% Design Report. Submitted to Yakama Nation Fisheries. March 2015.

Konrad, C.P., Drost, B.W., and Wagner, R.J., 2003, Hydrogeology of the unconsolidated sediments, water quality, and ground-water/surface-water exchanges in the Methow River Basin, Okanogan County, Washington: U.S. Geological Survey Water-Resources Investigations Report 03-4244, 137 p.

RTT 2013. A Biological Strategy to Protect and Restore Salmonid Habitat in the Upper Columbia Region, A draft report to the Upper Columbia River Salmon Recovery Board from the Upper Columbia River Regional Technical Team. 2013.

UCSRB 2007. Upper Columbia Spring Chinook Salmon and Steelhead Recovery Plan, Upper Columbia Salmon Recovery Board. August, 2007.

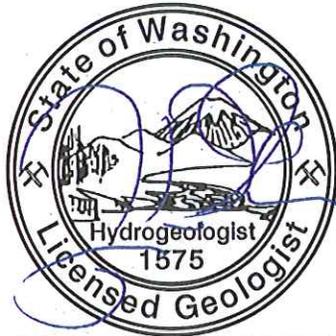
Reclamation 2008. Big Valley Reach Reach Assessment, Okanogan County, Washington United States Department of the Interior Bureau of Reclamation. August, 2008.

Washington Administrative Code, chapter 170-548 1976. Instream Resources Protection Program for the Methow River Basin, Water Resource Inventory Area (WRIA) 48. December 28, 1976.

RECOMMENDATION

I recommend approval of Application for Water Right No. G4-33123, and issuance of a permit to allow a nonconsumptive appropriation of groundwater in continuity with the Methow River for fish propagation at a maximum instantaneous withdrawal rate (Qi) of 9,000 gpm and a cumulative annual volume (Qa) of 8,700 ac-ft/yr. The period of use would be year round.

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
Tyson D. Carlson, LHG, Aspect Consulting, LLC

Date

Reviewed by: Kelsey S. Collins
Kelsey S. Collins, Water Resources Program

9/10/15
Date

