



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

**TRUST WATER RIGHT**  
**REPORT OF EXAMINATION**  
*Change of Purpose, Season and Place of Use*  
**WRTS File No.: CG3-21081C@3**

PRIORITY DATE May 3, 1973	CLAIM NO.	PERMIT NO.	CERTIFICATE NO. G3-21081C(A)
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NAME OF PARTY CONVEYING RIGHT TO TRUST WATER RIGHTS PROGRAM  
Bryan and Christy Boesel

ADDRESS/STREET PO Box 18	CITY/STATE Malott, WA	ZIP CODE 98829-0018
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**TRUST WATER RIGHT ATTRIBUTES**

SOURCE  
Okanogan River

TRIBUTARY OF (IF SURFACE WATERS)  
Columbia River

MAXIMUM CUBIC FEET PER SECOND 0.08	MAXIMUM GALLONS PER MINUTE 36	MAXIMUM ACRE FEET PER YEAR 22.5
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QUANTITY, TYPE OF USE, PERIOD OF USE

22.5 acre-feet per year for the purpose of instream flows in the monthly quantities stated below:

Month	Acre-Feet	Gallons per Minute
January	0.49	4
February	0.38	3
March	0.31	2
April	0.27	2
May	1.27	9
June	2.97	22
July	4.68	34
August	4.96	36
September	3.62	27
October	1.91	14
November	0.98	7
December	0.66	5
<b>Total</b>	<b>22.5</b>	

**HISTORIC POINT OF DIVERSION OR WITHDRAWAL**

APPROXIMATE LOCATION OF HISTORIC DIVERSION / WITHDRAWAL

1360 feet south and 1505 feet west from the north quarter corner of Section 20, T. 32 N., R. 25 E.W.M.

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION) SW¼NW¼	SECTION 20	TOWNSHIP 32 N.	RANGE [E. or W.] W.M. 25 E.	WRIA 49	COUNTY Okanogan
PARCEL NUMBER 3225200005	LATITUDE 48.26254	LONGITUDE -119.72647		DATUM NAD 83	

**AFFECTED REACHES -- DESCRIPTION OF PLACE OF USE**  
[See Attachment 1 for map of the trust water right location]

**Primary Reach:** None

**Secondary Reach:** Beginning at the mouth of the Okanogan River at the confluence with the Columbia River, continuing down the Columbia River to its confluence with the Pacific Ocean.

**TRUST WATER RIGHT TERM**

BEGIN DATE N/A	END DATE Permanent
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**PORTION OF WATER RIGHT  
NOT PLACED INTO TRUST**

**WRTS File No.: CG3-21081C@3**

PRIORITY DATE	CLAIM NO.	PERMIT NO.	CERTIFICATE NO.
May 3, 1973			G3-21081C(A)

NAME		
Bryan and Christy Boesel		
ADDRESS/STREET	CITY/STATE	ZIP CODE
PO Box 18	Malott	WA

**WATER RIGHT ATTRIBUTES**

SOURCE		
A Well		
TRIBUTARY OF (IF SURFACE WATERS)		
Okanogan River		
MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE	MAXIMUM ACRE FEET PER YEAR
	139*	64.1*

QUANTITY, TYPE OF USE, PERIOD OF USE

139 gallons per minute and 64.1 acre-feet per year, from April 1 to October 1, for the irrigation of 8 acres.

\*Change Application No. CG3-21081C@2 proposes to transfer an additional 30 acre-feet per year, 65 gallons per minute to Okanogan County PUD. Its approval would reduce the water right at the original place of use to 34.1 acre-feet per year, 74 gallons per minute. Of that, the consumptively used portion shall not exceed 27 acre-feet per year.

**LOCATION OF DIVERSION/WITHDRAWAL**

APPROXIMATE LOCATION OF DIVERSION--WITHDRAWAL					
1360 feet south and 1505 feet west from the north quarter corner of Section 20, T. 32 N., R. 25 E.W.M.					
LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP	RANGE [E. or W.] W.M.	WRIA	COUNTY
SW $\frac{1}{4}$ NW $\frac{1}{4}$	20	32 N.	25 E.	49	Okanogan
PARCEL NUMBER	LATITUDE	LONGITUDE	DATUM		
3225200005	48.26254	-119.72647	NAD 83		

**RECORDED PLATTED PROPERTY**

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)
3		

**LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS USED**  
[See Attachment 2 for a map of the place of use and point(s) of diversion or withdrawal]

Government Lot 3 EXCEPT the south 660 feet, and EXCEPT the NE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ , within Section 20, T.32 N., R. 25 E.W.N., and EXCEPT rights of way and EXCEPT that portion lying below and in a generally northwesterly direction from the Project Boundary line for the Wells Hydroelectric Power Project said line being at an elevation of 805.0 feet above sea level, United States Coast and Geodetic Survey (corrected 1947).

**DESCRIPTION OF WATER SYSTEM**

Irrigation within Parcel No. 3225200013 from a well (10 in diameter, 100 feet deep) located in Parcel No. 3225200005.

**DEVELOPMENT SCHEDULE**

BEGIN PROJECT BY THIS DATE	COMPLETE PROJECT BY THIS DATE	WATER PUT TO FULL USE BY THIS DATE
Started	Completed	In Use

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**PROVISIONS**

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**Provisions related to the Trust Water Right:**

In the event that any future projects intend to use this trust water right for mitigation, a more detailed hydrogeologic analysis must be provided by the applicant.

**Provisions related to the portion of the water right NOT placed into trust:**

**GENERAL**

1. If this change application No. CG3-21081C@3 and change application No. CG3-21081C@2 are approved, only 74 gallons per minute, 34.1 acre-feet per year for the purpose of irrigating 8 acres will be authorized at the original place of use. Of that, the consumptively used portion shall not exceed 27 acre-feet per year.
2. **Other Water Right Appurtenant to Place of Use**  
This decision, when issued, disallows other water rights with a common place of use to be used on Lot 3, Parcel No. 3225200013, specifically, Certificate No. 3987 issued to J.H. Ribbe, which includes this parcel in the place of use description.
3. **Easement 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 Change Authorization by the Department of Ecology 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.
4. **Conservation**  
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.

**MEASUREMENTS, MONITORING, METERING AND REPORTING**

5. **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>
6. **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.
7. **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.
8. **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>

**SCHEDULE AND INSPECTIONS**

9. **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.
10. **Project Completion**  
The water right holder shall file the notice of project completion 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 Superseding Certificate will reflect the extent of beneficial use within the limitations of the change authorization. Elements of the project completion inspection may include, as appropriate, the source(s), system instantaneous capacity, beneficial use(s), annual quantity, place of use, and compliance with provisions.

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**FINDINGS OF FACT AND ORDER**

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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 change of water right as recommended will not be detrimental to existing rights or detrimental to the public interest.

Therefore, I ORDER the requested change of place and purpose of use under Trust Water Right Application No. CG3-21081C@3, be approved subject to existing rights and the provisions specified above.

You have a right to appeal this decision. To appeal this you must:

- File your appeal with the Pollution Control Hearing Board within 30 days of the "date of receipt" of this document. Filing means actual receipt by the Board during regular office hours.
- Serve your appeal on the Department of Ecology within 30 days of the "date of receipt" of this document. Service may be accomplished by any of the procedures identified in WAC 371-08-305(10). "Date of receipt" is defined at RCW 43.21B.001(2).

Be sure to do the following:

- Include a copy of this document that you are appealing with your Notice of Appeal.
- Serve and file your appeal in paper form; electronic copies are not accepted.

**1. To file your appeal with the Pollution Control Hearings Board:**

Mail appeal to:	OR	Deliver your appeal in person to:
The Pollution Control Hearings Board PO Box 40903 Olympia WA 98504-0903		The Pollution Control Hearings Board 4224 – 6th Ave SE Rowe Six, Bldg 2 Lacey WA 98503

**2. To serve your appeal on the Department of Ecology:**

Mail appeal to:	OR	Deliver your appeal in person to:
The Department of Ecology Appeals & Application for Relief Coordinator PO Box 47608 Olympia WA 98504-7608		The Department of Ecology Appeals & Application for Relief Coordinator 300 Desmond Dr SE Lacey WA 98503

**3. And send a copy of your appeal packet to:**

Mark Schuppe  
Department of Ecology  
Central Regional Office  
15 W. Yakima Ave, Suite 200  
Yakima, WA 98902

*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 \_\_\_\_\_ 2009.

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Mark Schuppe, Acting Section Manager  
Water Resources Program  
Central Region Office

**INVESTIGATOR'S REPORT**

**BACKGROUND**

**Description and Purpose of Proposed Change**

Bryan and Christy Boesel submitted two applications to the Department of Ecology (Ecology) on March 24, 2008. The applications were accepted and assigned numbers CG3-21081C@2 and CG3-21081C@3. This report addresses application No. CG3-21081C@3, in which the Boesel's have requested to transfer 30 acre-feet per year (ac-ft/yr) to the Trust Water Right Program for the purpose of instream flows.

These applications qualify for expedited processing under WAC 173-152-050(3)(a) whereby they may be processed prior to applications submitted at an earlier date when one of the proposed water uses, if approved, would substantially enhance or protect the quality of the natural environment.

**Attributes of Certificate No. G3-21081C(A) and Proposed Change**

Attributes	Documented:	Proposed in Application:
<b>Name</b>	Bryan and Christy Boesel	Bryan and Christy Boesel
<b>Priority Date   Date of Application for Change</b>	May 3, 1973	March 24, 2008
<b>Instantaneous Quantity</b>	239.2 gallons per minute	65 gallons per minute
<b>Annual Quantity</b>	108.9 acre-feet per year	Trust: 30 acre-feet per year
<b>Source</b>	A well	Okanogan River
<b>Point of Diversion/Withdrawal</b>	1360 feet south and 1505 feet west from the north quarter corner of Sec. 20, T. 32 N., R. 25 E.W.M. <sup>1</sup>	None
<b>Purpose of Use</b>	Irrigation of 25.44 acres	Instream Flows
<b>Period of Use</b>	April 1 to October 1 for irrigation; continuous for domestic supply	Continuous
<b>Place of Use</b>	Government Lot 3 EXCEPT the south 660 feet, and EXCEPT the NE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ , within Section 20, T.32 N., R. 25 E.W.M. and EXCEPT rights of way and EXCEPT that portion lying below and in a generally northwesterly direction from the Project Boundary line for the Wells Hydroelectric Power Project said line being at an elevation of 805.0 feet above sea level, United States Coast and Geodetic Survey (corrected 1947).	Trust: Okanogan River, Columbia River

<sup>1</sup> While the original certificate referenced the historic point of diversion using the center of the section, this point is not surveyed; therefore, the north quarter corner is used as the reference point in all subsequent documents.

## Legal Requirements for Proposed Change

The following is a list of requirements that must be met prior to authorizing the proposed change in place of use and purpose of use.

- **Public Notice**

RCW 90.42.040(5) requires that public notice be given in the areas that the proposed trust water will be or could be exercised. Therefore, a notice was published in five counties adjacent to the Okanogan and Columbia Rivers:

- Notice was published on May 22, 2008 and May 28, 2008 in the Omak-Okanogan County Chronicle, a general circulation newspaper in Okanogan County. The 30-day protest period ended on June 28, 2008. No protests or comments were received.
- Notice was published on June 5, 2008 and June 12, 2008 in the White Salmon Enterprise, a general circulation newspaper in Klickitat County. The 30-day protest period ended on July 12, 2008. No protests or comments were received.
- Notice was published on June 5, 2008 and June 12, 2008 in the Wenatchee World, a general circulation newspaper in Chelan County. The 30-day protest period ended on July 12, 2008. No protests or comments were received.
- Notice was published on June 5, 2008 and June 13, 2008 in The Columbian, a general circulation newspaper in Clark County. The 30-day protest period ended on July 13, 2008. No protests or comments were received.
- Notice was published on June 5, 2008 and June 12, 2008 in the Tri Cities Herald, a general circulation newspaper in Benton County. The 30-day protest period ended on July 12, 2008. No protests or comments were received.

- **State Environmental Policy Act (SEPA)**

In accordance with WAC 197-11-800(4), WAC 197-11-305, and RCW 43.21C.030(2)(c), this water right change application is categorically exempt from environmental review under SEPA.

- **Water Resources Statutes and Case Law**

State law provides that a water right may be changed if the change can be made without detriment or injury to existing rights, and to the extent the right is valid and has been beneficially exercised without a break of more than five consecutive years.

Trust water rights are governed state-wide by RCW 90.42 and, in the Yakima River Basin, by RCW 90.38. The statutes limit the portion of a water right eligible for transfer to the Trust Water Right Program (TWRP) to the extent the water right was exercised in the five years prior to application. A water right accepted into the TWRP may not be enlarged. When a portion of a water right is accepted in the TWRP, the portion remaining with the landowner and the portion in trust together may not exceed the greatest amount exercised within the last five years before application. Any trust water right found to impair an existing water right will be modified to prohibit impairment.

## INVESTIGATION

### History of Water Use

Certificate No. G3-21081C was issued to W.M. and Doris A. Lauterbach on October 16, 1975. Bryan and Christy Boesel purchased a portion of the Lauterbach's property in May of 2004. In an effort to delineate ownership of the property and water rights on the Lauterbach property, the Baines Title Company issued the *Barr Well Ownership, Water Right Allocation, and Easement Agreement* on May 24, 2004. This document states that the AgFirst Farm Credit Bank retained 25.44 acres of irrigation, which was later taken over by the Boesels.

The property appurtenant to Certificate No. G3-21081C lies within the Colville Confederated Tribes Reservation boundary. On October 7, 2005, Bryan and Christy Boesel filed application No. 10-07-05-407G with the Collville Confederated Tribe to transfer 15 acres of irrigation under Certificate No. G3-21081C to a development at Crescent Bar in Grant County. The Tribes' Water Administrator, Lois Trevino, initially authorized the transfer of a portion of the Boesel's water right in a letter dated November 2, 2005. But in a subsequent letter dated March 3, 2006, Ms. Trevino revoked that approval citing that the Boesel's transfer would need to be processed by Ecology since the water right was issued by the State of Washington. Based on this letter and the Boesel's non-member status, it is assumed that this property did not retain federal water rights<sup>2</sup>.

On March 28, 2006, the Boesel's submitted Water Right Change Application No. CG3-21081C@1 to transfer 15 acres of irrigation to Riverview at Crescent Bar LLC (later changed to Sunsera LLC) for irrigation of their golf course. The Boesel's withdrew this application on January 19, 2008. On April 2, 2008, the Boesel's submitted change application Nos. CG3-21081C@2 and CG3-21081C@3 (this report). Change application No. CG3-21081C@2 proposes to transfer 30 ac-ft/yr, 65 gallons per minute (gpm) to Okanogan County PUD for dust control. These applications state that the Boesels intend to retain 34.1 ac-ft/yr, 74 gpm to irrigate 8 acres.

On February 27, 2009, the Boesel's applied to temporarily donate 60 ac-ft/yr, 74 gpm to the TWRP. The application was given No. CG3-21081C@4. The donation expires on April 1, 2010, or as soon as Ecology issues decisions for application Nos. CG3-21081C@2 and CG3-21081C@3. At that time, the remaining water that has not been transferred will be retained by the Boesels at the original place of use.

In June of 2009, Ecology performed an administrative division of the water right upon request of all the property owners within the place of use of Certificate of Water Right No. G3-21081C. The Boesel's portion of the water right is now represented by certificate No. G3-21081C(A). Copies are available upon request.

### **Site Visit**

On February 9, 2007, Ecology staff including Kelsey Collins, this report's author, visited the Boesel's property for a field inspection. Bryan Boesel stated that in 2005 he grew hay, but there was no visible crop stubble or sprinkler system due to a foot of snow covering the property. The Boesel's point of withdrawal and source for certificate No. G3-21081C(A) was located and measured. A static water level in the well was measured at 66 feet below the ground surface. The well is located at an elevation of approximately 850 feet.

The Okanogan River elevation adjacent to the Boesel's property was also collected to compare with the static water level in the well. At approximately 790 feet elevation, the river's edge is 60 feet below the ground surface of the well elevation; roughly equivalent to the static water level in the well.

Following the site visit, information was compiled from Ecology records and conversations with the applicant and their attorney. Air photos were used to decipher irrigated acres. The county parcel layer was used to verify land ownership.

### **Extent and Validity**

Air photos of the Boesel's property show it has been irrigated consistently from the time the original certificate was issued to the Lauterbachs until Bryan Boesel bought the property and removed the orchards in 2005. These observations were supported by the *Declaration of Rick DeLapp* submitted by the applicant, in which Mr. DeLapp states that he managed the irrigation of orchard on the Boesel property in 2004. The orchard consisted of approximately 16.5 acres of apples and 5.5 acres of pears. The Boesels decided to remove the orchard after the 2004 season due to old trees and a 30 year old irrigation system consisting of polypropylene pipes between the trees and undercover spinner sprinklers that were too out of date and inefficient. Annual pumping records show the Boesels withdrew and applied their full annual water duty. However, the amount available for transfer also depends on the Annual Consumptive Quantity Test discussed below.

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<sup>2</sup> Ecology is required to identify any federal water rights that may be appurtenant to property cited in a change application. This requirement was established in the Boyd Walton case of the 1980's which states that tribal members have federal water rights on reservation land, but as soon as property is sold to a non-member, they have a reasonable amount of time (in most cases 15 years or less) to continue or establish water use on the property to secure federal water rights.

## Annual Consumptive Quantity Test

RCW 90.03.380(1) states that a purpose of use may be added to a water right if the annual consumptive quantity (ACQ) is not increased. The ACQ is the average of the two highest years within the most recent five-year period of continuous beneficial use of the water right. According to declarations by the applicant and his orchard manager, the most recent period of continuous use of water occurred from 2000 to 2004. The two highest years of water use were 2003 and 2004. Since monthly pumping records were not available, consumptive use was calculated using crop requirement estimates from the U.S. Bureau of Reclamation's Agrimet website. Out of the 94.1 ac-ft/yr withdrawn in 2003 and 2004, the ACQ calculations below show that 72 ac-ft/yr were consumptively used and are, therefore, available for trust.

<b>Crop Type</b>	<b>Number of Acres</b>	<b>CIR÷Ea = TIR</b> TIR (Total Irrigation Requirement) CIR (Crop Irrigation Requirement*) Ea (% Application Efficiency)	<b>TIR × %CU = Consumptive Use</b> TIR (Total Irrigation Requirement) CU (% Consumptive Use)	<b>Total Consumptive Use</b> CU × #of Acres = Total CU
Apples	16.5	2.94 ac-ft/ac ÷ 0.65 = 4.52 ac-ft/acre	4.52 × 0.75 = 3.39 ac-ft/acre	3.39 × 16.5 = 56 ac-ft/yr
Pears	5.5	2.50 ac-ft/ac ÷ 0.65 = 3.84 ac-ft/acre	3.84 × 0.75 = 2.88 ac-ft/acre	2.88 × 5.5 = 16 ac-ft/yr
<b>Total</b>	<b>22.0</b>			<b>72 ac-ft/yr</b>

\*The crop duty is based on estimated duties from Agrimet: <http://www.usbr.gov/pn/agrimet/>.

Based on the ACQ test, the Boesel's applications for change and the portion of the water right they intend to keep on their property can be broken down into the consumptive and non-consumptive quantities.

	<b>Consumptive Use</b>	<b>Non Consumptive Use</b>	<b>Total</b>
<b>Boesels (G3-21081C(A))</b> (retained portion)	27 ac-ft/yr	7.1 ac-ft/yr	34.1 ac-ft/yr
<b>Application No. CG3-21081C@2</b> (transfer to Okanogan County)	22.5 ac-ft/yr	7.5 ac-ft/yr	30.0 ac-ft/yr
<b>Application No. CG3-21081C@3</b> (transfer to instream flows—this report)	22.5 ac-ft/yr	7.5 ac-ft/yr	30.0 ac-ft/yr
<b>Total</b>	<b>72.0 ac-ft/yr</b>	<b>22.1 ac-ft/yr</b>	<b>94.1 ac-ft/yr</b>

## Other Rights Appurtenant to the Place of Use

Certificate No. 3987, issued to J.H. Ribbe, describes the Boesel's parcel as part of its place of use. The Report of Examination for the Lauterbach certificate No. G3-21081C, states that, "The permit when issued shall be subject to existing rights including surface water certificate #3987 and surface water permit S3-00512P, which are appurtenant to the lands herein described. The total diversion from all sources for the irrigation of these lands shall not exceed 203 acre-feet per year." At first glance this provision seems to limit the Lauterbach certificate to less than a full duty for the lands described, but a previous provision listed only on the Report of Examination indicates the certificate was intended to provide the 47.44 acres with a full water duty. Furthermore, Water Right Permit No. S3-00512P was cancelled since the Lauterbach certificate was issued as a replacement so they could irrigate from a well instead of a surface water diversion. Surface Water Certificate No. 3987 was issued for the entire Ribbe estate, including the parcel the Boesel's own, but has not been utilized on this property. Therefore, the Boesel's 22 acres will be excluded from certificate No. 3987 as this place of use was recognized to have a full water duty under Certificate of Water Right No. G3-21081C.

## HYDROGEOLOGIC EVALUATION

A hydrologic evaluation of this project was completed on July 10, 2009 (available upon request). The following information is an excerpt from the results section of this report:

The *Well Pumping Depletion Model* was used to approximate depletion from the Okanogan River due to pumping at the Boesel's well. The results of the model indicate that the effects of pumping reach the river within the first month, reach a maximum in August, and decrease gradually into the late fall after the pump is turned off. The effects on the river follow a pattern similar to the well's pumping schedule, however, the magnitude is less and the timing is shifted approximately 6-8 weeks later because of groundwater lag. The groundwater time lag (residual effects) following the termination of pumping suggests that effects on the river drop to within 5% of the total seasonal volume pumped by around the beginning of November. This suggests the system likely achieves a complete recovery prior to the onset of the next irrigation season.

Based on the model's estimate of pumping effects, the total volume depleted from the Okanogan River over the course of one irrigation season is approximately 25 ac-ft. However, this analytical model generally over predicts the amount of water depleted from the river due to pumping when there are variations between the model assumptions and the actual groundwater-surface water system.

In the event any future projects intend to use this trust water right for mitigation, a more detailed hydrogeologic analysis must be provided by the applicant.

**Water Quantities Available for Transfer**

While the ACQ Test discussed above is unrelated to the hydrogeologic analysis, it effectively identifies a lesser amount that is available for transfer. Even though the model indicates that approximately 25 out of 30 ac-ft/yr was depleted from the river due to pumping, only 22.5 ac-ft/yr is available for transfer based on what was consumptively used in the past (ACQ). If, for example, the well was located farther from the river and the model predicted that less than 22.5 out of 30 ac-ft/yr had been depleted from the river, then the issue of the model's generous predictions would need to be addressed.

The amount of water available to be transferred under application No. CG3-21081C@3 is 22.5 ac-ft/yr, which is approximately 9% less than what the depletion model predicted. In an effort to manage any future use of this water right, the 22.5 ac-ft/yr is distributed throughout the year. The monthly depletion rates from the model were decreased by 9%.

The monthly instantaneous quantities were calculated assuming a constant pumping rate over the entire month. This calculation was done for each month of the year. For example, 4.96 ac-ft are available in the month of August. 4.96 ac-ft is equal to approximately 1.6 million gallons. 4.96 ac-ft of water could be diverted at a constant pumping rate of 36 gpm over the month of August (1.6 million gallons divided by 31 days, 24 hours, and 60 minutes).

Month	Acre-feet per month	Gallons per month	Gallons per minute
		ac-ft × 325851 gallons	gal ÷ (31 days × 24 hrs × 60 min)
January	0.49	159,667	4
February	0.38	123,823	3
March	0.31	101,014	2
April	0.27	87,980	2
May	1.27	413,831	9
June	2.97	967,777	22
July	4.68	1,524,983	34
August	4.96	1,616,221	36
September	3.62	1,179,581	27
October	1.91	622,375	14
November	0.98	319,334	7
December	0.66	215,062	5
<b>Total</b>	<b>22.5 ac-ft/yr</b>		

**Impairment**

Impairment is an adverse impact to the physical availability of water for a beneficial use that is entitled to protection, i.e. a water right. Prior to exercising a trust water right, a public comment period must take place, and the right must be shown not to impact existing water rights. One of the purposes of the hydrologic evaluation was to determine how the Boesel's water use impacted the Okanogan River and compare that to the proposed changes to the water right. To avoid impairment, the only water available to be transferred to the river is water that has historically been depleted from the river due do pumping.

**Trust Water Place of Use**

The place of use of a trust water right for instream flows is defined within a primary and secondary reach. The primary reach is the portion of a water body that benefits from both the former consumptive use and return flow waters. It is the reach between the original diversion point and the point where the last return flows reenter the stream or river. The secondary reach is the portion of a water body that received return flow waters while the water right was exercised for its original out-of-stream purpose. Therefore, the secondary reach only benefits from the former consumptively used portion of the trust water right. It is the reach downstream from the point where return flows from the historic use under the water right reentered the stream or river.

[RCW 90.42.020(2) and RCW 90.38.010(2)]

There is no primary reach identified for this project since water was historically withdrawn from a well 830 feet from the river and not diverted from surface water. The beginning of the secondary reach is the point at which ground water that was once pumped from the Boesel's well returns to the Okanogan River. It is difficult to determine an exact point along the Okanogan River where groundwater that is not pumped from the Boesel's well will be present in the river. The applicant has requested that Ecology forgo additional research by making a very conservative estimate of the starting point of the secondary reach. Therefore, the secondary reach is defined as the confluence of the Okanogan and Columbia Rivers, extending down the Columbia River, and ending at the Pacific Ocean.

**Public Interest Considerations**

There were no protests or comments received during the comment period following public notice of this project. Transferring water to instream flows is consistent with WAC 173-522 and RCW 90.54.

**CONCLUSIONS**

In accordance with Chapters 90.03 and 90.44 RCW, the author makes a tentative determination that Certificate of Water Right No. G3-21081C(A) is a valid right and is eligible for change. Approval of change application No. CG3-21081C@3, as provisioned above, will not cause impairment of existing water rights and not enlarge the original water right and will not be detrimental to public interest.

**RECOMMENDATIONS**

Based on the above investigation and conclusions, I recommend that change application No. CG3-21081C@3 be approved in the amounts and within the limitations listed below and subject to the provisions listed in the Report of Examination.

**Trust Water Right Attributes**

There is no primary reach for this project.

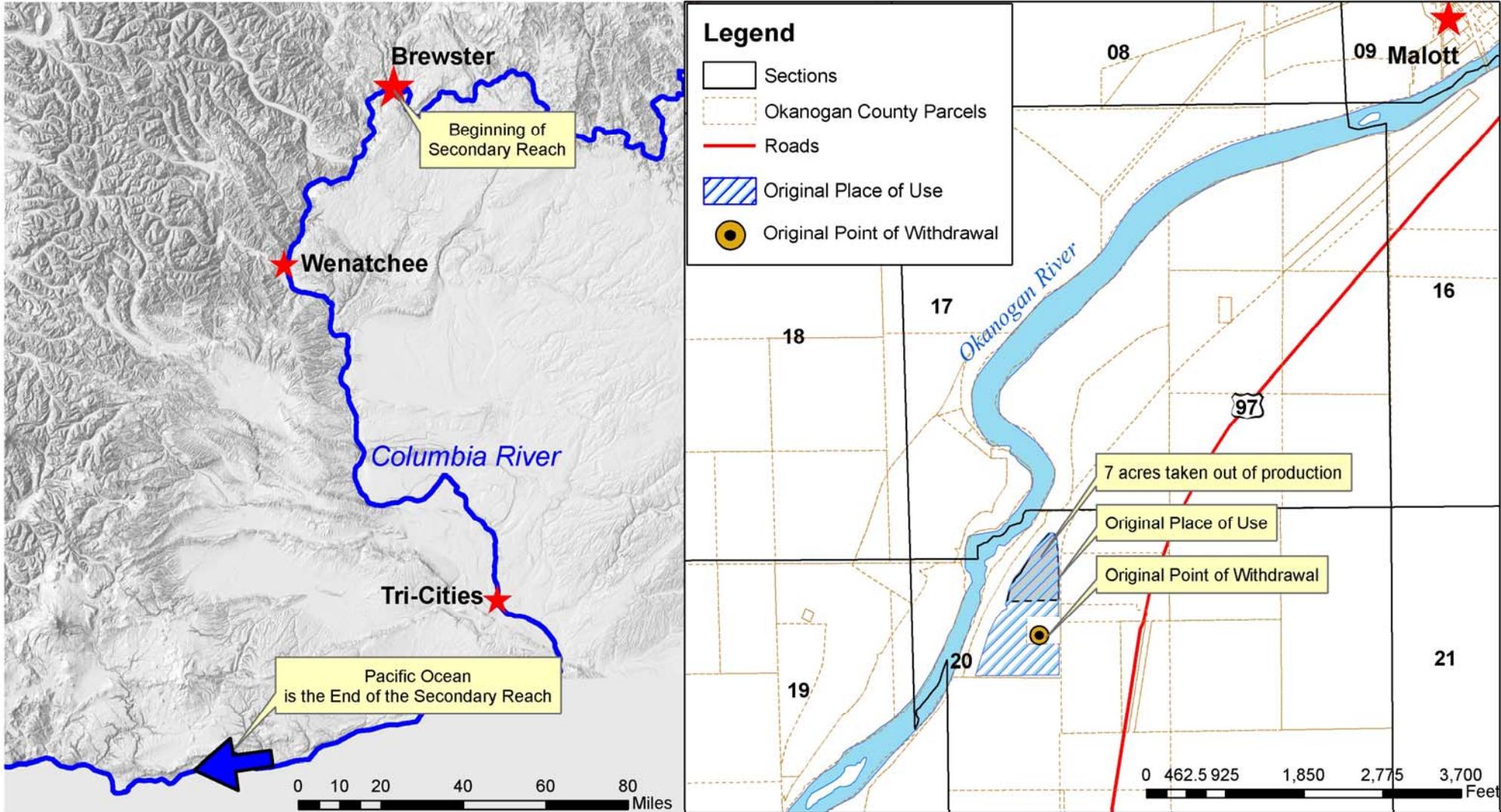
The secondary reach has a maximum instantaneous rate of 0.08 cubic feet per second (cfs), 36 gpm, and a maximum annual quantity of 22.5 ac-ft/yr distributed in monthly proportions throughout the year as listed on page 1. The secondary reach begins at the confluence of the Okanogan and Columbia Rivers and extends down the Columbia River to the mouth of the Pacific Ocean for instream flow purposes.

Report by: \_\_\_\_\_  
Kelsey Collins, Water Resources Program

\_\_\_\_\_  
Date



Bryan and Christy Boesel  
CG3-21081C@3  
Section 20, T. 32 N., R. 25 E. W. M.  
WRIA 49 - Okanogan County



Attachment 1

Comments:  
Place of use and points of withdrawal/diversions are as defined on the cover sheet under the heading 'LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED.'