



State of Washington  
**TRUST WATER RIGHT**  
**AMENDED REPORT OF EXAMINATION**

File NR: CS4-07213J(B)  
 WR DOC ID: 4846740

Add Purpose of Use

Change Place of Use

**PRIORITY DATE**  
 1888

**TRUST TERM**  
 Permanent

**WATER RIGHT NUMBER**  
 Beaver Creek Adjudicated Certificate 213,  
 Certificate of Change, Volume 3, page 1121

**APPLICANT:**  
 Robert and Mary Campbell  
 126 Upper Beaver Creek Rd  
 Twisp, WA 98856-9759

**FILE NUMBER**  
 CS4-07213J(B)

Cecilia Campbell  
 109 Upper Beaver Creek Rd  
 Twisp, WA 98856-9759

**REMARKS:** This change reflects Ecology's purchase of late season water rights from Robert and Mary Campbell and Cecelia Campbell. This change is part of a project to eliminate diversions under Certificates 213, 214, 216, and 217, from August 1<sup>st</sup> through September 15<sup>th</sup>.

**Purpose and Quantity**

Instream flows in the following quantities are attributed to the Primary and Secondary Reaches of Beaver Creek.

|                       | Primary Reach |             | Secondary Reach |             |
|-----------------------|---------------|-------------|-----------------|-------------|
|                       | Qa<br>(ac-ft) | Qi<br>(cfs) | Qa<br>(ac-ft)   | Qi<br>(cfs) |
| <b>August 1-31</b>    | 31.45         | 0.511       | 12.27           | 0.225       |
| <b>September 1-15</b> | 15.09         | 0.511       | 8.18            | 0.225       |
| <b>Total</b>          | 46.54         |             | 20.45           |             |

**Place of Use (See Map in Attachment 1)**

**Primary Reach** – Approximately 2.4 miles of Beaver Creek beginning at the point of diversion for the Batie Ditch, within the SW¼SE¼ of Section 35, T. 34 N., R. 22 E.W.M. at river mile 6.4, extending downstream to river mile 4.

**Secondary Reach** – Approximately 4 miles of Beaver Creek Beginning at the end of the primary reach at river mile 4, and extending downstream to the confluence of Beaver Creek and the Methow River.

**PORTION OF WATER RIGHT  
 NOT BEING TRANSFERRED TO INSTREAM FLOWS  
 WRTS File #: CS4-07213J(A)**

| PRIORITY DATE | WATER RIGHT NUMBER  |
|---------------|---|
| 1888          | Beaver Creek Adjudicated Certificate 213,<br>Certificate of Change, Volume 3, page 1121 |

REMARKS:

**Purpose and Quantity**

Irrigation of 25.57 acres:  
 0.511 cfs, 93.19 ac-ft/yr from May 1 through July 31.

**Source Location**

| COUNTY   | WATERBODY    | TRIBUTARY TO | WATER RESOURCE INVENTORY AREA |
|----------|--------------|--------------|-------------------------------|
| Okanogan | Beaver Creek | Methow River | 48                            |

**POINT OF DIVERSION**

SW¼SE¼ of Section 35, T. 34 N., R. 22 E.W.M.

**Place of Use**

E½NW¼ and the NW¼NE¼ of Sec. 11, and the SW¼SE¼ of Sec. 2, all within T. 33 N., R. 22 E.W.M.

**Measurement of Water Use**

|   |  |
|---|--|
| How often must water use be measured?                 | Monthly  |
| How often must water use data be reported to Ecology? | Annually, by January 31st of each calendar year. |
| What volume should be reported?                       | Total Annual Volume                              |
| What rate should be reported?                         | Monthly Peak Rate of Diversion in cfs.           |

**Provisions Related to the Portion of the Water Right Being Retained**

No water shall be diverted under Certificate 213 from August 1<sup>st</sup> through September 15<sup>th</sup>.

**Water Measurement**

An approved measuring device must 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 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 Regional Office. If you do not have Internet access, you can still submit hard copies by contacting the Regional Office for forms to submit your water use data.

#### **Easement Right of Way**

Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the records of water use that are kept to meet the above provisions, and to inspect at reasonable times any measuring device used to meet the above provisions.

#### **Fish Screening Criteria**

The intake(s) shall be screened in accordance with Department of Fish and Wildlife (WDFW) screening criteria (pursuant to RCW 77.57.010, RCW 77.57.070, and RCW 77.57.040). If you have questions about screening criteria contact WDFW at:

Department of Fish and Wildlife  
Attention: Habitat Program  
600 Capitol Way N  
Olympia, WA 98501-1091

Phone: (360) 902-2534  
Website: <http://www.wdfw.wa.gov/reg/regions.htm>

No dam or weir shall be constructed in connection with this diversion.

#### **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 there will be no impairment of existing rights and that there will be no detriment to the public interest.

Therefore, I ORDER approval of Change Application No. CS4-07213J(B), subject to existing rights and the provisions specified above.

#### **YOUR RIGHT TO APPEAL**

You have a right to appeal this Order to the Pollution Control Hearings Board (PCHB) within 30 days of the date of receipt of this Order. 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 Order:

- File your appeal and a copy of this Order 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 Order 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.

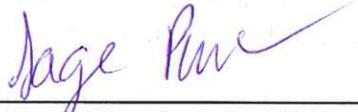
**ADDRESS AND LOCATION INFORMATION**

| Street Addresses  | Mailing Addresses  |
|---|--|
| <b>Department of Ecology</b><br>Attn: Appeals Processing Desk<br>300 Desmond Drive SE<br>Lacey WA 98503 | <b>Department of Ecology</b><br>Attn: Appeals Processing Desk<br>PO Box 47608<br>Olympia WA 98504-7608 |
| <b>Pollution Control Hearings Board</b><br>1111 Israel Road SW, Ste 301<br>Tumwater WA 98501            | <b>Pollution Control Hearings Board</b><br>PO Box 40903<br>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 31 day of July, 2014.

Robert F. Barwin, Acting WR Section Mgr by



Robert F. Barwin, Acting Section Manager  
Water Resources Program/CRO

If you need this document in an alternate format, please 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

#### Project Overview

On June 17, 2011 Robert and Mary Campbell, and Cecelia Campbell (Campbells) filed several applications with the Washington State Department of Ecology (Ecology) to transfer portions of their water rights to trust. These applications correspond to the sale and lease of water rights by the Campbells to Trout Unlimited (TU), a nonprofit corporation working on behalf of Ecology to increase flows in Beaver Creek during times of critically low flows. To this end, TU purchased and leased the late season water from four water rights: Beaver Creek Adjudicated Certificates 213, 214, 216, and 217. The project seeks to eliminate the diversion of water for these rights from August 1 April 30th (the beginning of the following irrigation season). This report specifically addresses change application No. CS4-07213J(B) which pertains to Beaver Creek Adjudicated Certificate 213. TU permanently acquired (purchased) the late season water associated with 25.57 acres of irrigation. It is the task of this investigator to recommend whether this water may be transferred to instream flows. The following table lists all applications involved in this project:

| Applicant | Application No.  | Certificate No. | Transaction for Late Season Water |
|-----------|------------------|-----------------|-----------------------------------|
| Campbells | CS4-07213J(B)    | 213             | Purchase                          |
| Campbells | CS4-07214J(A)(b) | 214             | 20 Year Lease                     |
| Campbells | CS4-07214J(B)    | 214             | Purchase                          |
| Campbells | CS4-07216J(B)    | 216             | Purchase                          |
| Campbells | CS4-07217J(A)(b) | 217             | 20 Year Lease                     |
| Campbells | CS4-07217J(B)    | 217             | Purchase                          |

Significant efforts are being made to restore flows in Beaver Creek because it was historically a steelhead stream and could produce up to 10% of the Methow River run if fully functional (Mark Cookson, WDFW), with spawning and rearing as the major biological function. In the 2001 Methow Subbasin Plan, Beaver Creek is listed as a critical tributary and instream flow is identified as a limiting factor. In addition, this project will address several of the strategies identified in the 2004 Methow Subbasin Plan:

- Increase the survival of summer steelhead and bull trout at all juvenile summer and winter rearing life stages.
- Support resident and anadromous fishes similar to an undisturbed watershed of similar size, geology and geography.
- Protect key habitat and channel conditions by restoring and maintaining habitat processes.
- Protect healthy areas and restore degraded riparian zones to a more natural condition.

Increasing flows will lower stream temperatures in summer months, which is especially needed in the lower reaches of the Methow River. Higher flows also dilute toxic materials or other contaminants entrained in the stream.

**Table 1: Attributes of Certificate No. 213 and the Proposed Changes**

| Attributes                             | Existing  | Proposed  |
|--|---|---|
| Name                                   | B.J. Batie  | Trust Portion: Department of Ecology<br>Retained Portion: Robert and Mary Campbell, Cecelia Campbell, and the Methow Salmon Recovery Foundation |
| Priority Date/ Change Application Date | Priority Date – 1888 (Class 2)  | Application Date – June 17, 2011  |
| Instantaneous Quantity                 | 0.51 cfs  | Trust Portion: 0.51 cfs in the late season  |
| Purpose of Use                         | Irrigation of 25.57   | Trust Water Portion: Instream Flow<br>Retained Portion: Crop Irrigation, Stock and Domestic Use   |
| Period of Use                          | May 1 through September 15  | Trust Portion: Instream Flow (Aug 1 through Sep 15)<br>Remaining Portion: Crop Irrigation (May 1-July 31)                                       |
| Place of Use                           | E $\frac{1}{4}$ NW $\frac{1}{4}$ and the NW $\frac{1}{4}$ NE $\frac{1}{4}$ of Sec. 11, and the SW $\frac{1}{4}$ SE $\frac{1}{4}$ of Sec. 2, all within T. 33 N., R. 22 E.W.M. | Trust Water Portion: Instream flow in Beaver Creek<br>Remaining Portion: No change  |
| Point of Diversion                     | SW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 35, T. 34 N., R. 22 E.W.M.   | Trust Water Portion: no diversion<br>Remaining Portion: no change   |

**Legal Requirements for Proposed Change**

The following is a list of requirements that must be met prior to authorizing any change to a water right.

- **Public Notice**

Notice of the proposed appropriation was published in the Methow Valley News of Twisp, Washington, on November 16<sup>th</sup> and November 23<sup>rd</sup>, 2011. The protest period ended on December 24, 2011. One protest letter was received; see the *Protests and Comments* section below.

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

This project required a SEPA review under WAC-197-11-800(4). Ecology, acting as the SEPA lead agency, determined that this project will not have a probable significant adverse impact on the environment and issued a Determination of Non-significance (DNS) on January 17, 2012. No comments were received.

- **Water Resources Statutes and Case Law**

Transferring a water right to the Trust Water Right Program is governed by RCW 90.42.

Washington Supreme Court has held that Ecology, when processing an application for change to a water right, is required to make a tentative determination of extent and validity of the claim or right. This is necessary to establish whether the claim or right is eligible for change. *R.D. Merrill v. PCHB and Okanogan Wilderness League v. Town of Twisp*.

This application qualifies for expedited processing under WAC 173-152-050(3)(a) whereby water right change applications may be processed prior to applications submitted at an earlier date when the proposed water use, if approved, would substantially enhance or protect the quality of the natural environment.

## INVESTIGATION

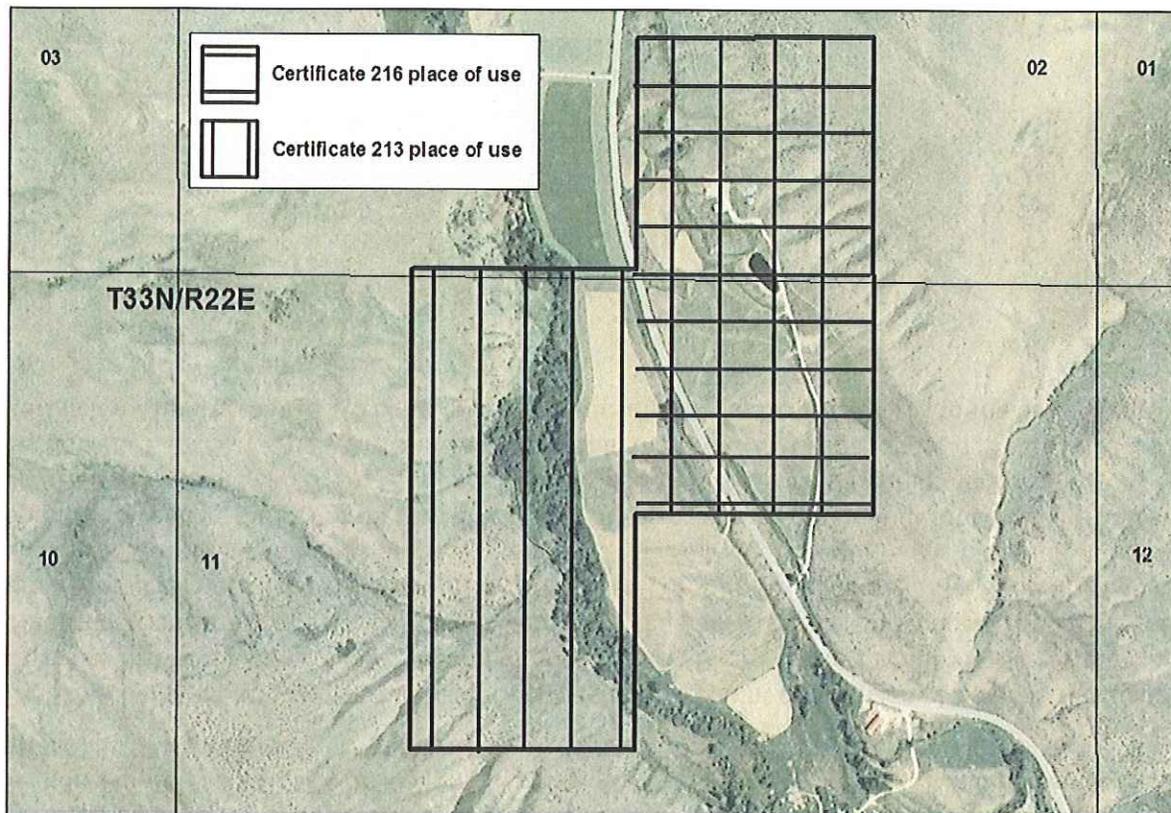
### History of Water Use

Beaver Creek and its tributaries were adjudicated in Okanogan Superior Court. Final Decree No. 3935 was issued on September 20, 1921. Certificate 213 was issued to B.J. Batie and authorized water to be diverted from 4 points along Beaver Creek. On August 26, 1970, Certificate of Change, Volume 3, page 1121 was issued that constrained the right to only one diversion point within the SW $\frac{1}{4}$ SE $\frac{1}{4}$  of Section 35, T. 34 N., R. 22 E.W.M., although it appears there may have been a de facto change in point of diversion to the NE $\frac{1}{4}$ SE $\frac{1}{4}$  of Section 35, T. 34 N., R. 22 E.W.M. This point of diversion supplies the Batie Ditch. The additional points of diversion originally authorized for Certificate 213 were also authorized under Certificates 214, 216 and 217: a point within SE $\frac{1}{4}$ SW $\frac{1}{4}$  of Section 2, T. 33 N., R. 22 E.W.M., a point within the SW $\frac{1}{4}$ SW $\frac{1}{4}$  of Section 18, T. 34 N., R. 23 E.W.M., and a point within the SW $\frac{1}{4}$ NE $\frac{1}{4}$  of Section 24, T. 34 N., R. 22 E.W.M. Ecology's Methow River Basin Watermaster, Susan Burgdorff-Beery stated that the Campbells have historically used the Batie Ditch for delivery of all their water rights.

Certificate 213 is a class 2 right that authorizes 0.51 cfs for the irrigation of 27.57 acres within the E $\frac{1}{2}$ NW $\frac{1}{4}$  and the NW $\frac{1}{4}$ NE $\frac{1}{4}$  of Sec. 11, and the SW $\frac{1}{4}$ SE $\frac{1}{4}$  of Sec. 2, all within T. 33 N., R. 22 E.W.M. The Campbells also rely on Certificate 216 to irrigate additional acreage within the place of use for Certificate 213. Certificate 216 is a Class 5 right for the irrigation of 28.1 acres within NW $\frac{1}{4}$ NE $\frac{1}{4}$  of Section 11, and the SW $\frac{1}{4}$ SE $\frac{1}{4}$  of Section 2, T. 33 N., R. 22 E.W.M. Certificate 213 and 216 authorize a total of 53.67 acres (see Figure 1 below).

The Campbells' application lists the Batie Ditch as their only point of diversion. However, the Campbells have also historically diverted water through the Red Shirt Ditch. Ecology's Methow River Basin Watermaster, Susan Burgdorff-Beery also stated that the Campbells have historically used the Batie Ditch for delivery of all their water rights: Certificates 213, 214, 216, and 217. The Batie Ditch point of diversion is located within the SW $\frac{1}{4}$ SE $\frac{1}{4}$  of Section 35, T. 34 N., R. 22 E.W.M. The following additional points of diversion, by way of the Red Shirt Ditch, are also authorized under Certificates 214, 216 and 217: a point within SE $\frac{1}{4}$ SW $\frac{1}{4}$  of Section 2, T. 33 N., R. 22 E.W.M., a point within the SW $\frac{1}{4}$ SW $\frac{1}{4}$  of Section 18, T. 34 N., R. 23 E.W.M., and a point within the SW $\frac{1}{4}$ NE $\frac{1}{4}$  of Section 24, T. 34 N., R. 22 E.W.M. Certificate 213 was changed to consolidate all diversions, under Certificate 213 to the Batie Ditch.

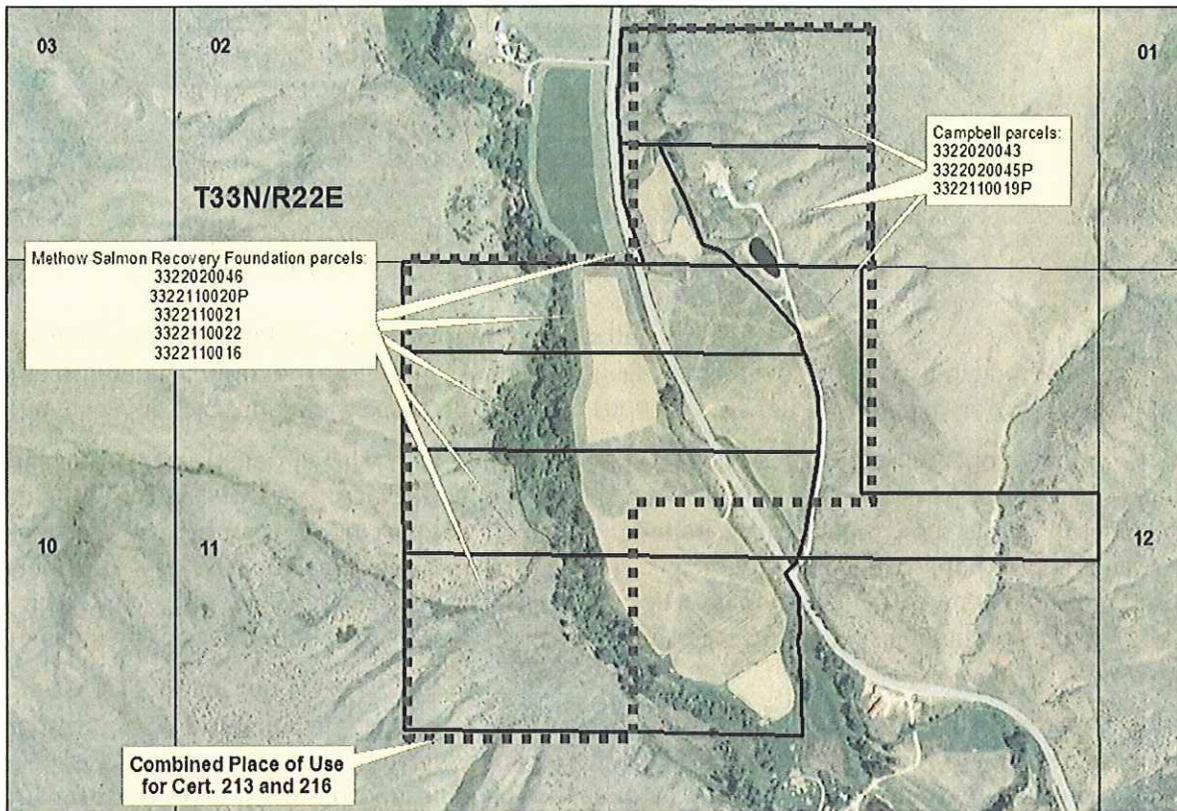
Figure 1: Water Right places of use.



In 2003, the Campbells entered into the Irrigation Efficiencies Grant Program (IEGP) and received funding to install center pivot sprinklers on most of their irrigated acreage. The Campbells submitted applications to temporarily transfer the savings from the new sprinklers to the Trust Water Right Program for portions of Certificates 213, 214, 216, and 217. These applications were accepted by Ecology, but no formal transfer was completed. The contract expired in 2012.

In February of 2011, the Methow Salmon Recovery Foundation (MSRF) purchased several parcels along Beaver Creek including the acres historically irrigated under Certificates 213 and 216 (See Figure 2 below). Within the 160-acre place of use, the Campbells still own parcels that intersect the water right places of use. The purchase and sale agreement between MSRF and the Campbells stated that the property being sold included the water rights that were appurtenant to the land, but that the late season water rights had been sold or leased. The Campbells and TU executed the *Agreement to Convey Water Rights from Beaver Creek* on April 12, 2011. The purchase and sale agreement between MSRF and the Campbells was completed in November of 2011.

**Figure 2:** Parcel ownership and place of use outline.



### Site Visit

On April 12, 2012, Steven Hughes of Hart Crowser Consulting (hired on behalf of Ecology) met with Aaron Penvose of TU to observe the original point of diversion from Beaver Creek, the Batie Ditch, irrigated lands, and irrigation methods.

Water diverted from Beaver Creek flows into the Batie Ditch, travels along the valley edge on the eastern side of the creek for several miles to a turnout for the irrigation system used at the authorized place of use for Certificate 213. Alfalfa and grass mix is the predominate crop, but in some years there is a rotational crop or "green crop" planted. At the time of the site visit, which was conducted prior to the irrigation season, no water was being diverted.

### Tentative Determination of the Extent and Validity

To change a water right, Ecology must make a tentative determination as to the extent and validity of the right. Under RCW 90.14.160, any portion of a water right not exercised for a period of five successive years, without sufficient cause, shall be relinquished and revert to the state.

To assess the extent and validity of Certificate No. 213, past irrigation practices and water use were evaluated. Susan Burgdorff-Beery, Ecology's Watermaster, indicated that records for Beaver Creek were not kept after 2006. Due to limited water use records, aerial photographs of the site provided a better indicator of extent and validity of the right. Aerial photographs from 1964, 1974, 1989, 2000, 2005, 2006, 2009, and 2011 were reviewed to identify the extent of irrigated lands within the authorized place

of use. Certificate 213 and 216 authorize a total of 53.67 acres. A total of 48.2 acres appear to have been historically irrigated within the authorized 160-acre place of use under Certificate 213 and 216.

Of the total 48.2 acres historically irrigated within the place of use, only 25.57 acres can be attributed to Certificate 213 which is a more senior, class 2 right, and is satisfied first. Certificate 216 authorizes an additional 28.1 acres within the NW¼NE¼ of Section 11, and the SW¼SE¼ of Section 2, T. 33 N., R. 22 E.W.M. Therefore, the 25.57 acres authorized under Certificate 213 is subtracted from the total irrigated acres leaving a balance of 22.63 acres of beneficial use that can be attributed to Certificate 216 (41.2 – 27.57 = 15.63). Of the 25.57 acres being attributed to Certificate 213, approximately 20 acres are located in the E½NW¼ Sec. 11, T. 33 N., R. 22 E.W.M., that is not covered by Certificate 216 (see Figure 1 above).

The instantaneous diversion rate (Qi) awarded in the Beaver Creek Adjudication is 0.02 cfs per acre. Therefore the maximum diversion rate associated with 25.57 acres is 0.511 cfs.

The total volume or total irrigation requirement (TIR) for water historically used under Certificate 213 is estimated to be 139.61 ac-ft/yr. This calculation is based on 0.02 cfs per acre:

$$0.02 \text{ cfs} \times 1.98 \text{ ac-ft/day per cfs} \times 138 \text{ days of irrigation} = 5.46 \text{ ac-ft/yr per acre}$$

$$5.46 \text{ ac-ft/yr} \times 25.57 \text{ acres} = 139.61 \text{ ac-ft/yr}$$

#### Annual Consumptive Quantity Test (ACQ)

RCW 90.03.380(1) requires that Ecology perform an annual consumptive quantity test (ACQ) when investigating a water right change proposing additional uses. New uses may be permitted if the change results in no increase in the annual consumptive quantity of water to be used under the water right. The test states that the future consumptive use cannot exceed the average of the two highest years of the last 5 years of continuous use. Based on recent air photos, approximately 25.57 acres have been consistently irrigated under Certificate 213. The water duty associated with those acres is considered the average use for this test.

To estimate the consumptive use portion (%CU), Ecology relies on the Washington Irrigation Guide (WIG). The WIG data provides the estimated Crop Irrigation Requirement (CIR), which is the amount of water a crop needs in excess of rainfall. The CIR for alfalfa near the Methow Station is 25 inches (2.08 ft) from May to October. The total irrigation requirement (TIR) is the CIR divided by the application efficiency (Ea%), see calculations below. Consumptive use can be estimated using Ecology's Guidance 1210: Table 1 in which Ea% and evaporation (Evap%) are listed by irrigation method.

The following calculations are based on hand-line sprinklers that are assumed to be 75% efficient (Ea%). The estimated consumptive water use under Certificate 213 is 60.09 ac-ft/yr. If the proposed changes are approved, consumptive use cannot exceed this quantity.

$$\begin{aligned} \text{TIR} &= \text{CIR} \div \text{Ea} \\ \text{TIR} &= 2.08 \text{ ft/acre} \div 0.75 \\ \text{TIR} &= 2.77 \text{ ft/acre} \\ \% \text{CU} &= \text{Ea} + \text{Evap} \\ \% \text{CU} &= 75\% + 10\% = 85\% \\ \text{CU} &= \text{TIR} \times \% \text{CU} \\ \text{CU} &= 2.77 \text{ ft/acre} \times 85\% \\ \text{CU} &= 2.35 \text{ ft/acre} \\ \text{CU} &= 2.35 \text{ ft/acre} \times 25.57 \text{ acres} \\ \text{CU} &= 60.09 \text{ ac-ft/yr} \end{aligned}$$

**Trust Water Calculations**

This section describes how the portion of water being transferred to instream flows is calculated. The Campbells sold late season water under Certificate 213 and then applied to transfer that water to instream flows in Beaver Creek. The quantity available to be transferred to instream flows is based on the tentative determination above. The late season water associated with 25.57 acres of irrigation under Certificate 213 is available for transfer.

The following sections describe the primary and secondary stream reaches that benefit from water being transferred to instream flows. Each reach is assigned a volume of water based on fallowing of historically irrigated acres August 1 to September 15<sup>th</sup>.

**Primary Reach**

The primary reach is the portion of the stream that benefits from return flows and what would otherwise be consumed by growing crops. The primary reach extends from the historic point of diversion to the point where return flows historically rejoined the stream adjacent to the southern-most field. The length of the primary reach in Beaver Creek is approximately 2.4 miles long beginning from the point of diversion for the Batie Ditch at river mile 6.4, and extending downstream to river mile 4 (see Attachment 1).

Late season fallowing will occur for a total of 46 days (August 1 to September 15). The total volume authorized under Certificate 213 is estimated to be a maximum of 46.54 ac-ft/yr, 0.31 cfs. This calculation is based on 0.02 cfs per acre:

$0.02 \text{ cfs} \times 1.98 \text{ ac-ft/day per cfs} \times 31 \text{ days of irrigation in August} = 1.23 \text{ ac-ft} \times 25.57 \text{ acres} = 31.45 \text{ ac-ft}$   
 $0.02 \text{ cfs} \times 1.98 \text{ ac-ft/day per cfs} \times 15 \text{ days of irrigation in Sep.} = 0.59 \text{ ac-ft} \times 25.57 \text{ acres} = 15.09 \text{ ac-ft}$

**Secondary Reach**

The secondary reach is the portion of the stream that benefits only from what would otherwise have been consumed by growing crops. The secondary reach extends from the end of the primary reach to the confluence of the next major tributary, in this case the confluence of Beaver Creek and the Methow River. The secondary reach is approximately 4 miles long beginning at the end of the primary reach at river mile 4, and extending downstream to the confluence of Beaver Creek and the Methow River.

Late season fallowing will occur for a total of 46 days (August 1 to September 15). The WIG states that alfalfa near the Methow Station requires 5.0 inches per acre in August and 3.36 inches per acre in September (or 0.42 ft and 0.28 ft respectively). The consumptive use associated with 25.57 acres of late season irrigation is 20.45 ac-ft/yr, 0.225 cfs based on the following calculations:

| August 1-31                              | September 1-15                           |
|--|--|
| TIR = CIR ÷ Ea                           | TIR = CIR ÷ Ea                           |
| TIR = 0.42 ft/acre ÷ 0.75 = 0.56 ft/acre | TIR = 0.28 ft/acre ÷ 0.75 = 0.37 ft/acre |
| %CU = Ea + Evap                          | %CU = Ea + Evap                          |
| %CU = 75% + 10% = 85%                    | %CU = 75% + 10% = 85%                    |
| CU = TIR x %CU                           | CU = TIR x %CU                           |
| CU = 0.56 ft/acre x 85%                  | CU = 0.37 ft/acre x 85%                  |
| CU = 0.48 ft/acre                        | CU = 0.32 ft/acre                        |
| CU = 0.48 ft/acre x 25.57 acres          | CU = 0.32 ft/acre x 25.57 acres          |
| CU = 12.27 ac-ft                         | CU = 8.18 ac-ft                          |
| Total = 20.45 ac-ft                      |  |

Instantaneous quantity in the secondary reach equals:

$$20.45 \text{ ac-ft/yr} \div 46 \text{ days in the late season} \div 1.98 \text{ ac-ft/day per} = 0.225 \text{ cfs}$$

**Table 2:** Summary of the quantities available for transfer by month.

|                       | Primary Reach |             | Secondary Reach |             |
|-----------------------|---------------|-------------|-----------------|-------------|
|                       | Qa<br>(ac-ft) | Qi<br>(cfs) | Qa<br>(ac-ft)   | Qi<br>(cfs) |
| <b>August 1-31</b>    | 31.45         | 0.511       | 12.27           | 0.225       |
| <b>September 1-15</b> | 15.09         | 0.511       | 8.18            | 0.225       |
| <b>Total</b>          | 46.54         |             | 20.45           |             |

The primary reach quantities were calculated by multiplying the number of acres by the authorized diversion rate of 0.02 cfs/acre. From that total instantaneous rate, the monthly quantity for the primary reach was calculated by dividing the diversion rate by the number of days in the month and by 1.98 ac-ft/day per cfs. The secondary reach quantities were estimated using the WIG. The total water duty for August and September was divided by 46 days and divided by 1.98 ac-ft/day per cfs to get an average instantaneous rate.

### Ditch Operations

The Batie Ditch diversion is utilized to deliver water for Certificates 213, 214, 216, and 217. The Red Shirt Ditch diversion is utilized to deliver water for Certificates 214 and 217. If all the applications requesting to transfer late season water to instream flows are approved, no water will be diverted under these certificates from August 1<sup>st</sup> to September 15<sup>th</sup>. On August 1<sup>st</sup>, the Batie Ditch and Red Shirt Ditch headworks will collectively be reduced by 2.152 cfs for at least the next 20 years. This quantity is based on the tentative determinations for all the changes associated with this project.

**Table 3:** Summary of rights being transferred to instream flows.

| Transaction   | Application No.  | Cert. No. | Qa<br>(ac-ft) | Qi<br>(cfs)  |
|---------------|------------------|-----------|---------------|--------------|
| Purchase      | CS4-07213J(B)    | 213       | 46.54         | 0.511        |
| 20 Year Lease | CS4-07214J(A)(b) | 214       | 31.72         | 0.348        |
| Purchase      | CS4-07214J(B)    | 214       | 13.94         | 0.153        |
| Purchase      | CS4-07216J(B)    | 216       | 41.18         | 0.453        |
| 20 Year Lease | CS4-07217J(A)(b) | 217       | 30.66         | 0.337        |
| Purchase      | CS4-07217J(B)    | 217       | 31.84         | 0.350        |
| <b>Total</b>  |                  |           | <b>195.88</b> | <b>2.152</b> |

### Impairment Considerations

The Campbells have agreed to cease diverting water on August 1<sup>st</sup>. Changing the purpose of these late season water rights to instream flows will not result in any increase in consumptive use of water. Rather, the proposed action would decrease future consumptive use. Beginning August 1<sup>st</sup>, water that would otherwise have been used for irrigation will remain instream to benefit flows. Increased flows should not impair or injure other water rights on Beaver Creek.

### Public Interest Considerations

The acquisition of water for instream flows in Beaver Creek is anticipated to improve habitat and survival of listed species in the Upper Columbia ESU.

## Consideration of Protests and Comments

A protest letter was received on December 14, 2011 from Bernard and Dianne Thurlow. Their concerns are outlined and discussed below:

- 1) *There is no way to measure the amount of water diverted from the creek because of the large variation in evaporation losses.*

**Response:** Only the portion of the water right that has been historically used can be transferred to instream flows. Ecology uses the Washington Irrigation Guide (WIG) to approximate water use based on irrigation practices, soils, and crop irrigation requirements. Extensive work has been done by the NRCS to develop specific station data (Methow Station for Beaver Creek crop irrigation requirements) with average monthly precipitation and irrigation requirements by crop type. The WIG data is coupled with GUID-1210, which provides information to evaluate application efficiency ranges, consumptive use, and return flows for crops. These documents allow Ecology to reasonably estimate water usage, including evaporation losses.

- 2) *By leaving water in Beaver Creek and not using it for irrigation you reduce the volume of irrigation water that would eventually infiltrate and be stored in the stream banks. Doing this reduces the volume of water available to discharge from the banks back into the stream during periods of low flow. These actions violate the Referee's Report. The lack of recharge could affect the water availability to the Beaver Creek water users when the creek is normally low, including the fish.*

**Response:** The proposed project is intended to leave water in Beaver Creek during the lowest flow periods. Fluvial recharge occurs primarily when stream flows are high and the water infiltrates to relatively lower ground water through the stream bed and banks. During the base flows periods (late in the summer and fall), groundwater tends to discharge to the stream.

Applying irrigation water heavily in the early and mid-portions of the irrigation season can store water that flows back to Beaver Creek later in the irrigation season. Applying irrigation water late in the season, during Beaver Creek's base flow period, is less effective in supporting Beaver Creek's streamflow than leaving water in Beaver Creek.

Lastly, Ecology lacks the authority to require a water right holder to use its water right to irrigate its lands (PCHB No. 00-189).

- 3) *Our existing water rights shall not be impaired.*

**Response:** A water right cannot be changed if the change would impair any other users. Leaving water instream would not harm another water user's ability to access water (see the Impairment Considerations section above).

## CONCLUSIONS

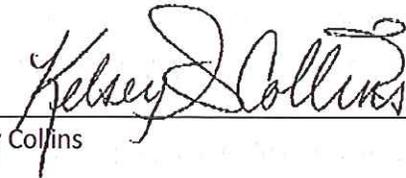
It is the conclusion of this examiner that a total of 0.511 cfs, 46.54 ac-ft/yr may be transferred to instream flows under Certificate 213 and that doing so would not impair existing rights in accordance with RCW 90.42.

**RECOMMENDATIONS**

Based on the information presented above, the author recommends that CS4-07213J(B) be approved in the amounts, and subject to the provisions described in the Order for Report of Examination on pages 1-4 in the following quantities:

|                       | Primary Reach |             | Secondary Reach |             |
|-----------------------|---------------|-------------|-----------------|-------------|
|                       | Qa<br>(ac-ft) | Qi<br>(cfs) | Qa<br>(ac-ft)   | Qi<br>(cfs) |
| <b>August 1-31</b>    | 31.45         | 0.511       | 12.27           | 0.225       |
| <b>September 1-15</b> | 15.09         | 0.511       | 8.18            | 0.225       |
| <b>Total</b>          | 46.54         |             | 20.45           |             |

Report by:

  
Kelsey Collins

August 21, 2013

Date

