File No. CS4-MVID@156
WR Doc ID 5921321

State of Washington
Department of Ecology
Office of Columbia River
DRAFT REPORT OF EXAMINATION FOR TRUST WATER RIGHT

Changed Place of Use and Changed Purpose of Use of Water Right Claim (WRC) 003935 with priority date of 1908.

PRIORITY DATE	WATER RIGHT NUMBER	BEGIN TRUST TERM	END TRUST TERM
1908	WRC 003935	TWRA execution date	Permanent

WATER RIGHT OWNER	SITE ADDRESS (IF DIFFERENT)
Methow Valley Irrigation District PO Box 860 Twisp, WA 98856	

Purpose and Quantity

Trust water right for the purpose of instream flow and mitigation of out-of-stream uses, with quantities allocated to primary and second reaches in the following manner. "Primary reach" means that portion of a water body that benefits from both the former consumptive use and former return flow waters of a water right.

Reach	Flow	April	May	June	July	August	September	October	Total Annual, Peak Monthly
Primary	Qi (cfs)	4.38	7.34	8.94	10.93	9.14	6.24	4.72	10.93
Primary	Qa (ac-ft)	130.18	450.63	530.74	670.94	560.79	370.52	140.20	2854
Consumptive Use Quantity	Qi (cfs)	2.39	4.00	4.87	5.95	4.98	3.40	2.57	5.95
Consumptive Use Quantity	Qa (ac-ft)	70.92	245.48	289.12	365.49	305.48	201.84	76.37	1554.70

Trust Water Right Place of Use

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

REACH	WATERBODY	RIVER MI	TWN	RNG	SEC	QQ Q	LATITUDE	LONGITUDE
Begin Primary Reach	Twisp River	5.2	33N.	21E.W.M.	10	SW¼ SE¼	48°22'15"N	120°11'41"W
End Primary Reach	Methow River	27.9	32N.	22E.M.W.	16	SE¼ SE¼	48°16'0"N	120°5'57"W

1. Consumptive use is expected to be fully utilized via the MVID Water Bank within the primary reach. Therefore, no additional secondary reach location is authorized.
2. Latitude/Longitude Coordinates may approximate reach segments. Datum: NAD83/WGS84

Proposed Works

Water historically diverted will be left instream in the Methow River and will be conveyed to Ecology's trust water program with a trust water rights agreement to establish the MVID Water Bank. The

consumptive use and a portion of the nonconsumptive use is intended to serve as mitigation for new water rights to be issued to MVID for beneficial use for the realigned district facilities.

Development Schedule

BEGIN PROJECT	COMPLETE PROJECT	PUT WATER TO FULL USE
October 1, 2014	October 1, 2016	October 15, 2017

Note: Completion of construction for the realigned district facilities is anticipated to be completed in 2016. Therefore, the first full year of trusted water put to beneficial use shall occur in 2017, after construction is complete and after new mitigated permits are issued to MVID from the MVID water bank. Although, the project is expected to yield phased instream flow benefit during construction.

Provisions

Trust Water Right Management

This trust water right will be managed as provided by the Department of Ecology and MVID Trust Water Right Agreement (TWRA) dated DATE, which establishes the MVID Water Bank.

Overlap with Twisp Change Authorization CS4-WRC003935

This authorization will create a temporary water right overlap of 138 acre-feet associated with existing 2001 change authorization CS4-WRC003935. 138 acre-feet of this trust water authorization shall not be exercised in addition to the 2001 change authorization CS4-WRC003935. If change authorization CS4-WRC003935 subsequently cancels, this provision shall not apply.

Real Estate Excise Tax

This decision may indicate a Real Estate Excise Tax liability for the seller of water rights. The Department of Revenue has requested notification of potentially taxable water right related actions, and therefore will be given notice of this decision, including document copies. Please contact the state Department of Revenue to obtain specific requirements for your project. Phone: (360) 570-3265. The mailing address is: Department of Revenue, Real Estate Excise Tax, PO Box 47477, Olympia, WA 98504-7477. Internet: http://dor.wa.gov/. E-mail: REETSP@DOR.WA.GOV.

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 the proposed change of purpose of use to instream flow and mitigation for out-of-stream uses and the associated change of place of use to the primary reach will not impair existing rights; and that there will be no detriment to the public interest.

Therefore, I ORDER approval of Trust Water Right Application No. CS4-MVID@156, 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 the 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.

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- 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.

Street Addresses	Mailing Addresses
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503 **Pollution Control Hearings Board** 111 Israel Rd SW Ste 301 Tumwater, WA 98501	**Department of Ecology** Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608 **Pollution Control Hearings Board** PO Box 40903 Olympia, WA 98504-0903

Signed at Yakima, Washington, this _____ day of _____ 2014.

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Mark C. Schuppe, Operations Manager
Office of Columbia River

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Investigator's Report

INVESTIGATOR'S REPORT ORGANIZATION

A draft Investigator's Report was authored by Dan Haller, P.E. of Aspect Consulting as part of a front-loaded application process, which was subsequently reviewed, amended, and formatted for use by Ecology as part of the formal decision-making process for the Methow Valley Irrigation District (MVID) Instream Flow Improvement Project. This Report is organized as follows:

- Background
  - MVID History
  - MVID Litigation History and 2011 Settlement Agreement
  - MVID Instream Flow Improvement Flow Project Description
  - Summary of Existing MVID Water Rights
  - MVID – Twisp Purchase and Sale Agreement
- Legal Requirements for Proposed Changes
- Investigation (Methow River, Twisp River, and Alder Creek Water Rights)
  - Past Tentative Determinations and Regulatory Actions
  - Water Use Based on Measured Diversions
  - Aerial Photo Review
  - Water Duty
  - Perfection, Relinquishment, Abandonment, and Waste
  - Consumptive Use
  - Consideration of Public Comments
  - Impairment
  - Public Interest
- Findings and Conclusions
- Recommendations
- Appendices
  - Appendix A: SEPA Checklist
  - Appendix B: MVID – Twisp Purchase and Sale Agreement
  - Appendix C: TWRA

BACKGROUND

MVID History

The MVID historically encompassed an area of approximately 2,276 acres of land on the floor of the Methow Valley, generally between the Towns of Twisp and Carlton. MVID utilizes two canals to divert and transport water. The west canal diverts water from the Twisp River at River Mile (RM) 4.3 and serves lands lying west of the Methow River. The east canal diverts water from the Methow River at RM 44.8 and serves lands lying east of the Methow River.

The MVID system was constructed at the turn of the 20th Century and supplied water to orchards and other lands that principally used flood irrigation methods. Many orchards were severely damaged by cold weather in 1968 and were cut down. The majority of current water use in the District is for alfalfa, grass hay, pasture, lawn, and orchard. Sprinkler systems are now commonly used throughout the District.

During the 1980s and 1990s, MVID evaluated several alternatives to improve their water use efficiency and provide more reliable water service to its patrons. During 2000, 115 applications for change were processed by the Department of Ecology (Ecology) for those individuals that were conditionally excluded

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from the District and converted to individual wells. Ten of the applications were denied and 105 applications were approved, totaling approximately 712.7 acres of irrigation. These changes provided reliable water supply to those users at the lower ends of both canals, however these exclusions reduced the number of assessed acres and MVID patrons.

MVID Litigation History and 2011 Settlement Agreement

From the early 1980s to the present time, MVID and Ecology have been both litigants and funding partners with respect to the use of MVID's water from the Twisp and Methow Rivers. The litigation phase of the Ecology-MVID relationship was most intense from 2002 to 2011. In 2002, Ecology issued Administrative Order No. 02WRCR-3950 to MVID limiting its diversions from the Twisp River to 29 cubic feet per second (cfs) and 7,367 acre-feet annually and limiting its diversion from the Methow River to 24 cfs and 5,829 acre-feet annually, which MVID appealed to the Pollution Control Hearings Board (PCHB). This case, called *MVID I*[1] in subsequent legal challenges, presents a history of MVID's formation, its service to its members, and improvements it has made to its canal system over time (see Findings of Fact #I through #XL VIII, which are incorporated by reference in this Report).

The PCHB agreed with Ecology's waste order in the *MVID I* case, but made further findings that Ecology had not complied with all of the anti-waste requirements in RCW 90.03.005, which states in part:

> *Further, based on the tenet of water law which precludes wasteful practices in the exercise of rights to the use of waters, the department of ecology shall reduce these practices to the maximum extent practicable, taking into account sound principles of water management, the benefits and costs of improved water use efficiency, and the most effective use of public and private funds, and, when appropriate, to work to that end in concert with the agencies of the United States and other public and private entities.*

The PCHB ruled:

> *Ecology's Order DE 02WRCR-3950 issued to MVID is fully affirmed as a waste violation and MVID's appeal of its terms is denied. Ecology is further directed to re-examine the MVID irrigation system with the goal of issuing a supplemental order adequate to address excessive conveyance losses in light of any funding options available. Clarification of the Order should be made to assure any water being diverted by MVID for use on the Barkley lands is not also being diverted from the Barkley Irrigation Co. diversion.*

While this case was further appealed by MVID, Ecology's order was ultimately upheld in Okanogan County Superior Court. Ecology issued a subsequent Administrative Order DE 03WRCR-5904 in response to the PCHB's directive in *MVID I*. This second waste order was appealed by MVID and became known as *MVID II*[2]. The PCHB and Okanogan Superior Court upheld the second waste order, requiring the following:

- The 2003 Order DE 03WRCR-5904 set interim limits governing diversions from April 1, 2004, through September 15, 2006, and final limits governing diversions after September 15, 2006.

- The interim limits authorize MVID to divert from the Twisp River into the MVID West Canal at a maximum rate of 21 cfs up to a total of 5,161 acre-feet annually. The MVID diversion from the Methow River into the MVID East Canal is allowed at a maximum rate of 20 cfs up to a total of 4,909 acre-feet per year, less inflow from the Barkley Irrigation Company Canal (Barkley Canal).

- The final limits contained in Order DE 03WRCR-5904 reduce diversions from the Twisp River into the West Canal to a maximum rate of 11 cfs and a total of 2,716 acre-feet annually. The diversion from the Methow River into the East Canal remains at 20 cfs and 4,909 acre-feet

[1] See PCHB 02-071 & 074, http://www.eho.wa.gov/searchdocuments/2003%20archive/pchb%2002-071%20final.htm.
[2] See PCHB #04-005, http://www.eho.wa.gov/searchdocuments/2005%20archive/pchb%2004-005%20final.htm.

annually (less Barkley inflow). The MVID would have to make capital improvements to targeted aspects of its irrigation system to achieve the final diversion limits.

2011 Settlement Agreement

It took many years for the litigation described above to work its way through the PCHB and the court system, with *MVID II* eventually reaching the Washington State Court of Appeals. In 2010, while the *MVID II* case was before the Court of Appeals, Ecology and MVID began settlement discussions that ultimately would result in a new collaborative relationship and dispose of all the pending court cases. In March 2011 with the signing of a Settlement Agreement[3], all litigation between Ecology and MVID was concluded. The principle feature of the Settlement Agreement is a compliance schedule for MVID to meet limits for diversions from the West Canal that were established in *MVID II*, summarized in Table 1 below.

Table 1 – West Canal Compliance Schedule

Year	West Canal Instantaneous Diversion Limit, Qi (cfs)			Qa (acre-feet)
	April 15 to June 15	June 16 to August 31	September 1 to October 15	Annually
2010	17	17	17	5,161
2011	16	17	15	4,500
2012	16	17	15	4,500
2013	16	17	14	4,000
2014	14	15	13	3,500
2015	12	13	11	3,000
2016	11	11	11	2,716

The 2011 Settlement Agreement required more immediate compliance with the Court-ordered limits on diversions from the East Canal that were set in *MVID II*, but did provide a 2 cfs enforcement discretion "relief valve" for the 2011, 2012, and 2013 irrigation seasons during the months of July and August due to uncertainty about accuracy of measuring flow in the Barkley Canal (Settlement Agreement, Page 2, #5). This Settlement Agreement has prompted MVID's new evaluation of comprehensive improvements to its canal system.

Project Description

In 2012, MVID signed a Memorandum of Agreement with the Washington Water Project of Trout Unlimited to provide technical assistance on the MVID Instream Flow Improvement Project (MVID Project). The purpose of the MVID Project is to improve the MVID delivery system near Twisp, Washington with resulting benefits to instream flows and fish habitat in the Twisp River, Methow River, and Alder Creek, improved service for MVID members, and additional public water supply for the Town of Twisp (also an MVID member). A comprehensive description of the MVID Project is provided in Alternative 5 of the *Methow Valley Irrigation District Alternatives Evaluation Report*, Anchor QEA (August 2013)[4], with additional detail and updated descriptions of changes since August 2013 in Section 11 of the MVID Project SEPA Checklist (Appendix A). The following is a general project overview:

- West Canal: The West Canal will be reconfigured into shorter pressurized pipe systems (North Satellite Systems) serving approximately 141 assessed acres supplied by MVID production wells, with the remainder of former west canal members served by individual or group wells. A new end spill/drain will be created for system flushing and route any in-season operational water to the Methow River. The existing diversion structure on the Twisp River will be abandoned.
- East Canal: Portions of the East Canal will be converted to a pressurized pipe system, with several individual or group well conversions. Some laterals will be rehabilitated to improve

[3] See Ecology file, and on-line at http://www.ecy.wa.gov/programs/wr/cro/mvid.html or www.mvid.org.
[4] See www.mvid.org

efficiency. New East Canal spills will be created at the end of the system and near the canal/pipe interchange to route operational water (e.g. Barkley spill that currently enters the MVID East Canal) to the Methow River.

- Alder Creek: The Alder Creek diversion structure will be abandoned and formerly-diverted quantities will remain in the creek.
- Town of Twisp: 262 acre-feet is currently authorized under change authorization CS4-SWC945 for use for irrigation in Twisp. This quantity will continue to be conveyed through the new system by MVID for irrigation in Twisp, subject to a lease between MVID and Twisp. 138 acre-feet is currently authorized under change authorization CS4-WRC003935 for irrigation in Twisp. This quantity is subject to a Purchase and Sale Agreement (PSA) between MVID and Twisp (Appendix B).

Three trust water right applications are being reviewed concurrently by Department of Ecology (Ecology) to implement the MVID Project; these applications are nos. CS4-MVID@155 (SWC 945), CS4-MVID@156 (S4-003935CL) and CS4-118277CL (S4-118277CL).

On September 9, 2013, MVID filed three water right change applications requesting authorization to change purpose of use, change place of use, and place the subject water right into Washington State's Trust Water Right Program (TWRP). The purpose of this change application and the other two related change applications is to create a water bank and to provide instream flow benefits. The MVID water rights will be conveyed to Ecology's TWRP and be managed as provided by a trust water rights agreement negotiated between Ecology and MVID. MVID has applied for two new water rights (S4-33097 and G4-33098) to appropriate surface water and groundwater mitigated by the 3 above mentioned trust water right changes. For a more detailed project description see the SEPA checklist in Appendix A.

MVID Water Right Summary

The MVID diverts water from the Twisp and Methow Rivers to serve lands within the district, located within Okanogan County. In 2013, the district assessed 1,368.01 acres. MVID has historically struggled to provide reliable service to all of its members each year, particularly those at the south end of two long irrigation canals: the West Canal (served by the Twisp River diversion and the Alder Creek diversion) and East Canal (served by the Methow River diversion).

MVID holds three water rights. Attributes of these water rights are summarized in Table 2. The water rights authorizing diversions from the Twisp and Methow rivers were the direct subject of the waste orders and court cases *MVID I* and *II*, while Alder Creek was not. The Alder Creek right is also not included in the 2011 Settlement Agreement. However, as discussed later in this Report, Alder Creek is indirectly associated with the previous court cases and orders because it shares a common place of use with those water rights, geographically down canal where Alder Creek and the West Canal intersect. All three of the water rights are subject to metering orders. The requirement to meter Alder Creek diversions began in 2010.

Table 2 – Summary of Water Rights Attributes

Water Right	Source	Priority Date	Qi (cfs)	Qa (ac-ft)	Purpose of Use	Period Of Use	Place of Use
Claim 003935	Twisp River	1908	120	--	Irrigation of 705 acres	April 15 – October 15	MVID lands described, see claim
Certificate SWC 945	Methow River	August 22, 1919	150	--	Irrigation, power, and domestic supply	April 1 – November 15 (application) April 1 – September 30 (Proof)	Lands within the MVID, lying east of the Methow River
Claim 118277	Alder Creek	1914	2	360	Irrigation	April 15 – October 15	MVID lands described, see claim

Tables 3, 4, and 5 summarize the proposed changes to Certificate SWC 945, Claim 003935, and Claim 118277, respectively.

Table 3 – Summary of Change Application No. CS4-MVID@155 (SWC 945)

Attributes	Proposed
Applicant	Methow Valley Irrigation District
Application Received	September 9, 2013
Instantaneous Quantity	20 cubic feet per second
Annual Quantity	4,909 acre-feet per year
Source	Methow River
Point of Diversion[5]	NE¼, NE¼, Section 25, T. 34 N., R. 21 E.W.M.
Purpose of Use	Mitigation for out-of-stream uses and Instream Flow
Period of Use	April 15 to October 15
Place of Use	Methow River from point of diversion at RM 44.8 to termination of east canal at approximately RM 26.

Table 4 – Summary of Change Application No. CS4-MVID@156 (Claim 003935)

Attributes	Proposed
Applicant	Methow Valley Irrigation District
Application Received	September 9, 2013
Instantaneous Quantity	11 cubic feet per second
Annual Quantity	2,716 acre-feet per year
Source	Twisp River
Point of Diversion	SW¼, SE¼, Section 10, T. 33 N., R. 21 E.W.M.
Purpose of Use	Mitigation for out-of-stream uses and Instream Flow
Period of Use	April 15 to October 15
Place of Use	Twisp River from confluence with Methow River to point of diversion at RM 5.2. Methow River from termination of West Canal at RM 27.9 to confluence with Twisp River.

Table 5 – Summary of Subject Application No. CS4-118277CL (Claim 118277)

Attributes	Proposed
Applicant	Methow Valley Irrigation District
Application Received	September 9, 2013
Instantaneous Quantity	2 cubic feet per second
Annual Quantity	360 acre-feet per year
Source	Alder Creek
Point of Diversion	NE¼, NW¼, Section 3, T. 32 N., R. 22 E.W.M.
Purpose of Use	Mitigation for out-of-stream uses and Instream Flow
Period of Use	April 15 to October 15
Place of Use	Alder Creek from confluence with Methow River to RM 0.3.

[5] The actual location of the point of diversion is SW¼, NW¼ of Section 30, T34N, R22 E.W.M. MVID applied to Ecology for authorization to change this point of diversion location in 1971.

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MVID – Twisp Purchase and Sale Agreement

In 2001, MVID leased 400 acre-feet to the Town of Twisp, and Ecology approved two change applications associated with the lease in June 2002: applications CS4-SWC945 and CS4-WRC003935. The 400 acre-feet leased to the Town of Twisp was comprised contractually of two 200-acre-foot portions of these two water rights. However, the 2001 water right changes divided these amongst MVID's Twisp and Methow River rights in proportion to the acreages MVID has served under Certificate No. 945 and Claim No. 003935, 262 acre-foot (from Certificate SWC945, Methow River) and 138 acre-foot (from Claim 003935, Twisp River). These two rights continued to be for seasonal irrigation and were changed to be withdrawn from the Town's wells for use within the Twisp service area. Both change authorizations remain in valid development schedules. These two 2001 change authorizations will cancel when new water rights are issued to MVID and/or the Town of Twisp for municipal use from the MVID water bank. Until such time, there will be a temporary water right overlap of 138 acre-feet associated with existing 2001 change authorization CS4-WRC003935 and an overlap of 262 acre-feet associated with existing 2001 change authorization CS4-SWC945. Four hundred (400) acre-feet of these trust water authorizations shall not be exercised in addition to the 2001 change authorizations.

On February 25, 2014, MVID and Twisp executed a Purchase and Sale Agreement (PSA) to permanently integrate their mutual planning responsibilities within the Twisp service area. Key elements include:

- Reservation of 262 acre-feet for irrigation use in the Twisp service area to be supplied under the redesigned MVID system.
- Sale of 138 acre-feet to Twisp for municipal use in Twisp, with said quantity determined to be surplus to MVID Member irrigation needs in Twisp.
- Preservation of an asserted Determined Future Development (DFD) dating to the 2002 Change Authorizations and 2001 Leases.

LEGAL REQUIREMENT FOR APPLICATION PROCESSING

The following requirements must be met prior to processing a trust water right application:

Water Resources Statutes and Case Law

These applications and consideration of the changes of purpose and place of use relies on several pertinent sections in the trust water statute, RCW 90.42. Ecology is acting in several capacities on this project, including a funder, a regulator, and a water supply developer. The following are some of the relevant statutory authorities. The standard under these statutes requires a tentative determination of the extent and validity of the subject water right:

- RCW 90.03.380(1) states that a water right that has been put to beneficial use may be changed. The point of diversion, place of use, and purpose of use may be changed if it would not result in harm or injury to other water rights.
- The 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*.
- RCW 90.42.040 states a water right acquired by the state shall be placed in the state trust water rights program to be managed by Ecology.
- RCW 90.42.040(4)(a) states that exercising a trust water right may be authorized only if Ecology determines neither existing water rights nor the public interest will be impaired at the time the trust water right is established.
- RCW 90.42.100(1) states that Ecology is authorized to use the TWRP for water banking purposes.
- RCW 90.42.100(2)(a) states that water banking may be used to mitigate for any beneficial use under chapter 90.03, 90.44 or 90.54 RCW, consistent with any terms and conditions established

by the transferor, except that return flows from water rights authorized in whole or in part for any purpose shall remain available as part of total water supply available and to satisfy existing rights for other downstream uses and users.

- RCW 90.42.100(2)(b) states that water banking may be used to document water right transfers to and from the TWRP.
- RCW 90.42.040(5) requires that prior to creating or exercising a trust water right, a notice containing pertinent information be sent to all appropriate state agencies, potentially affected local governments and federally recognized tribal governments, and other interested parties.
- RCW 90.90.020 directs Ecology to develop new water supplies to improve instream flow and out-of-stream uses, including irrigation (i.e. MVID) and municipal use (i.e. Twisp).

Public Notice

Notice of the proposed applications were published in Methow Valley News, Okanogan County, Washington, on November 20 and 27, 2013. The public notice described all three trust water right application CS4-MVID@155,CS4-MVID@156 and CS4-118277CL, along with the two new water right applications (S4-33097 and G4-33098). One protest was received in advance of the 30-day comment period and is addressed in the Consideration of Protests and Comments section below. A copy of the affidavit of publication and the protest is on file with Ecology. Notice under trust statute RCW 90.42.040(5) was also sent to interested parties; a copy of that letter and mailing list is also on file with Ecology.

State Environmental Policy Act (SEPA)

This project required SEPA review under WAC 197-11-310. Ecology and Okanogan County, acting as co-lead agencies for this project, reviewed a SEPA checklist prepared by the applicant (Appendix A). A SEPA threshold determination was issued on April XX, 2014.

Expedited Processing

This application qualifies for expedited processing under WAC 173-152-050(2)(c)(ii) whereby water right change applications may be processed prior to applications submitted at an earlier date when the proposed water use requires a change or transfer of water into the state trust water right program in accordance with chapter 90.38 or 90.42 RCW, if that transfer provides a substantial environmental benefit. This project will provide significant instream flow benefit, as well as provide habitat and fish passage benefits.

INVESTIGATION

Ecology's Policy 1120 *Conducting Tentative Determinations*[6] provides guidance on Ecology's methods for making a tentative determination of the extent and validity of water rights during a review of change applications. Generally, a review of multiple sources of water use data is prescribed to formulate an understanding of historic use over the life of the water right. For irrigation water rights, meter use and review of aerial photography is common. Aspect Consulting provided an initial Technical Memorandum titled *Evaluation of Methow Valley Irrigation District (MVID) Water Rights* (Aspect Consulting, January 16, 2014) which summarized much of the available water use information for MVID (see Ecology file). The following sections describe Ecology's investigation of MVID's historical water use.

Past Tentative Determinations and Regulatory Actions

The Washington State Supreme Court, in *Okanogan Wilderness v. Town of Twisp and Department of Ecology*, 133 Wn.2d 769, 947, P.2d 732 (1997), found that applications for change may be granted only to the extent the water has been historically put to beneficial use. They also found that the existence

[6] http://www.ecy.wa.gov/programs/wr/rules/images/pdf/pol1120.pdf.

and quantification of a water right must be determined, including whether or not the water right has been lost for non-use before the Department can approve a change or transfer of the water right.

When making a tentative determination on a water right, Ecology generally evaluates the period of beneficial use since the last time Ecology evaluated the right. Although Ecology's decisions are tentative and not final until a water right is confirmed in a superior court adjudication, Ecology generally does not disturb or re-evaluate previous decisions when evaluating an application on a subsequent change. This Report adopts this common practice, and therefore a summary of previous Ecology tentative determinations is appropriate.

Ecology has made formal decisions relating to the extent and validity of the Twisp and Methow River water rights numerous times, but has never formally evaluated MVID's Alder Creek water right. For example, beginning in 1998, as part of a plan to realign portions of MVID's service area, Ecology processed 115 change applications to exclude members and move them to wells. Ecology also issued two waste orders, in 2002 and 2003, that evaluated MVID water use.

The 1998 Ecology change decisions were termed "tentative determinations" at the time, but only included an evaluation of on-farm water use, and not canal losses or spills. The waste orders were not termed "tentative determinations" and were done under the provision of the water code requiring prevention of waste (RCW 90.03.005) rather than the surface and groundwater change statutes where case law indicates that tentative determinations are triggered (i.e. RCW 90.03.380 and RCW 90.44.100).

None of these former administrative actions represent a "tentative determination" as described today under Policy 1120. This evaluation will include a more holistic evaluation of on-farm use and canal losses. This difference is because Ecology's understanding of when and how to perform tentative determinations has evolved in response to a myriad of court cases[7] where this issue has been litigated. Ecology acted based on several court decisions to adopt Policy 1120 in 2004, which occurred after all previous Ecology administrative actions on MVID water rights had occurred.

While there is not a fixed tentative determination for the Twisp and Methow River water rights under current Ecology methodology (and not at all for the Alder Creek water right), it is appropriate to use elements of both the previous on-farm tentative determinations and the waste orders (evaluating canal losses) in deriving this current tentative determination. In other words, the foundational pieces are there, but they have not been aggregated together. Additionally, Ecology must look at the intervening period of use since it last evaluated the water rights (e.g. generally the time from 2000 to present) to see if any significant changes have occurred.

Metered Water Use

MVID has metered its diversions from the Twisp and Methow Rivers since 2001 and from Alder Creek since 2011. The following sections summarize available metered water use data:

- <u>Methow River Water Right S4-SWC945</u>

  Table 6 summarizes Methow River diversions into the East Canal under Certificate SWC 945. The comments column provided in Table 6 includes notes from Ecology's metering records regarding problems encountered in the years when metering data is available. Since 2001, MVID diverted more water in nearly every year than the non-wasteful limits set by the Washington State Court of Appeals 20 cfs and 4,909 acre-feet.

[7] See *Rettkowski v. Department of Ecology*, 219 122 Wn. 2d 219, 858 P. 2d 232 (1993); *R.D. Merrill v. Pollution Control Hearings Board* 137 Wn. 2d 118, 969 P.2d 459 (1999); *Okanogan Wilderness League v. Town of Twisp* 133 Wn. 2d 769, 947 P. 2d 732 (1997) and *Public Utility District No. 1 of Pend Oreille County v. Department of Ecology* 70372-8 (2002).

Although MVID has coordinated with Ecology on various means to measure and control Barkley Spill into the MVID East Canal, reliable historical metering data for Barkley Spill are not available. The proposed design for the East Canal will include a means of routing Barkley Spill back to the Methow River instead of running in the length of the East Canal.

Table 6 – Methow River (Certificate SWC 945) Diversions

Year	Qi (cfs)	Qa (ac-ft)	Comments
	24	**5,829**	**2002 Order (*MVID I)***
	20	**4,909**	**2003 Order Interim Levels *(MVID II)***
	20	**4,909**	**2003 Order Final Levels (East Diversion Less Barkley Canal Inflow) (*MVID II)***
			Note: Metering data from 2001-2012 do not include Barkley Canal Inflow
2001	30	5,885.1	
2002	22	4,929.9	
2003	21	4,247.5	
2004	20	no data	Personal communications between MVID ditchmaster Bob Sims, Reclamation staff Greg Knott and Ecology Water Master suggest peak diversions were 20 cfs for the East Canal. USGS gages were removed in 2003, and Reclamation installed and calibrated new gages and rating curves in 2004/2005.
2005	20	no data	Personal communications between MVID ditchmaster Bob Sims, Reclamation staff Greg Knott and Ecology Water Master suggest peak diversions were 20 cfs for the East Canal. USGS gages were removed in 2003, and Reclamation installed and calibrated new gages and rating curves in 2004/2005.
2006	22.92	4,403.0	A meter problem occurred for East Canal diversions for several months during the irrigation season; potentiometer replaced, records from 7/28 to 9/6 suspect.
2007	20.86	4,746.0	
2008	11.78	2,766.9	Personal communication between Ecology Water Master and Bunny Morgan says data is accurate and that low flows attributed to reduced demand during cold summer.
2009	26.8	no data	Metering information for 2009 also showed peak cfs for July 24, 2009, of 58.21. This number is believed to be a glitch based on this number being the only number exceeding the peak flow cfs rate of 22.92 documented on July 6, 2006.
2010	16.76	3,236.4	
2011	23.7	5,282.3	Flood water entering canal not considered an overage per Ecology 2011 email correspondence with MVID.
2012	19.64	5,168.3	Qi and Qa are based on 2012 MVID metering data.
2013	11.93	4,592.4	Cold wet spring led to reduced demand.

- <u>Twisp River Water Right Claim 003935</u>

  MVID has struggled to maintain reliable meter records for its diversions on the West Canal, despite technical assistance from Reclamation. Calibration issues and equipment failures were often the cause. Nevertheless, there is a sufficient record of data to observe trends regarding total use from the Twisp River under Claim 003935.

  Since 2001, MVID diverted more water each year than the non-wasteful limits set by the Washington State Court of Appeals 11 cfs and 2,716 acre-feet. Since 2010 when MVID began negotiating cessation of litigation activities, which culminated in the 2011 Settlement

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Agreement, annual diversions have been less than the interim limits set by the Court, and conform to the compliance schedule shown in Table 1. Periodic exceedances of the prescribed instantaneous quantity have occurred, primarily associated with demand for water returning in areas with formerly-unreliable service. MVID continues to work to manage its diversions within the ordered limits.

Table 7 – Twisp River (Claim 003935) Diversions

Year	Qi (cfs)	Qa (ac-ft)	Comments
	29	**7,367**	**2002 Order (*MVID I*)**
	21	**5,161**	**2003 Order Interim Levels (*MVID II*)**
	11	**2,716**	**2003 Order Final Levels (*MVID II*)**
2001	25	5,894.5	
2002	27	5,873.2	
2003	27	6,232.7	No water in river Sept and Oct; ditch master lost the daily measures; district able to deliver 12-13 cfs on the west side during this time.
2004	21	no data	Personal communications between MVID ditchmaster Bob Sims, Reclamation staff Greg Knott and Ecology Water Master suggest peak diversions were 21 cfs for the West Canal. USGS gages were removed in 2003, and Reclamation installed and calibrated new gages and rating curves in 2004/2005.
2005	21	no data	Personal communications between MVID ditchmaster Bob Sims, Reclamation staff Greg Knott and Ecology Water Master suggest peak diversions were 21 cfs for the West Canal. USGS gages were removed in 2003, and Reclamation installed and calibrated new gages and rating curves in 2004/2005.
2006	32.35	5,597.0	A meter problem occurred for West Canal diversions for several months during the irrigation season; potentiometer replaced, records from 7/22 to 8/17 suspect.
2007	26.64	6,247.9	West Canal improvements constructed (about 1 mile of canal replaced with pipe).
2008	22.64	5,783.1	
2009	22.92	no data	Metering information for 2009 showed peak cfs for July 24, 2009 of 58.21. This number is believed to be a glitch since it is the only number exceeding the peak flow cfs rate of 22.92 documented on July 6, 2006.
2010	18.47	5,030.6	
2011	18.5	3,626.3	Potentiometer malfunction resulted in peak hourly spikes likely not reliable. Potentiometer replaced. Cold wet spring/summers led to reduced demand.
2012	19.35	4,232.4	Cold wet spring/summers led to reduced demand. Potentiometer malfunction resulted in peak hourly spikes likely not reliable.
2013	18.21	3,523.2	Cold wet spring led to reduced demand.

- <u>Alder Creek Water Right Claim 118277</u>

  Limited data is available for Alder Creek. MVID located archived metering records for a weir on Alder Creek from 1991. That data showed average monthly flows from May to September of approximately 1.1 cfs (67 acre-feet per month) with the exception of August where flows dropped to approximately 0.12 cfs for much of the month (about 10 acre-feet), or a total of approximately 275 acre-feet. Peak daily flows were not available, but are expected to be higher than average monthly flows.

  MVID installed a measuring device and provided Alder Creek metering data in 2011. Table 8 was created by aggregating the daily cfs data to monthly volumes, and identifying the peak diversion in each month. Recorded peak flows at least equaled 2 cfs one day each month.

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Table 8 – Alder Creek (Claim 118277) Diversions

May - October 2011 Metering data		
Month	**Peak Qi (cfs)**	**Qa (acre-ft)**
May	2	48.43
June	2	98.21
July	2	118.84
August	2	123.00
September	2	119.04
October	2	3.97
Total	**2**	**511.49**

- Twisp Metered Water Use

  Since the 2001 change authorizations were approved, Twisp has utilized a portion of the 400 acre-feet authorized under CS4-SWC945 and CS4-WRC003935. Twisp reports its metered water use every year to Ecology. Twisp reports well production data to DOH annually also. Based on Twisp's metered water use data, Table 9 summarizes the Town's total use.

  In order to estimate use under the 2001 change authorizations, Ecology evaluated the Town's use relative to its water right portfolio. Twisp holds 224 acre-feet of municipal water rights that can be used year-round. The water leased from MVID can only be used for seasonal irrigation use. Aspect Consulting analyzed the Town's water use from 2009 to 2012 to determine how municipal and irrigation water use varied. Copies of water use figures from 2009 to 2012 are provided in Ecology files. Winter use is attributed solely to the Twisp's municipal rights. Summer use is predominately irrigation. About 47% of Twisp's water use occurs from October to May each year, with 53% occurring from June to September (irrigation season). Irrigation in May and October was charged to winter use and assumed to balance the summer indoor demand.

Table 9 - Town of Twisp Water Use

Year	Well Production (Total ac-ft)	Municipal Use (ac-ft)	Irrigation Use (ac-ft)
2001	343	161	182
2002	337	158	179
2003	286	134	152
2004	473	222	251
2005	341	160	181
2006	351	165	186
2007	323	152	171
2008	351	165	186
2009	239	112	127
2010	204	96	108
2011	243	114	129
2012	207	97	110

Aerial Photography Review

Aerial photography along with estimates of crop water duty can be used to estimate water use. Many historic images are available for the area served by MVID.

In the late 1990s, Ecology processed 115 change applications, as part of a plan to realign portions of MVID's service area. Comprehensive sets of photos used by Ecology in those decisions were aerial photos from 1954 and 1983.

The next comprehensive aerial photo review occurred in support of Ecology's 2002 and 2003 waste orders. In those analyses and subsequent court cases, Ecology relied on comprehensive color imagery from 1995.

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The Aspect Technical Memo (2014) summarized these older aerial photograph analyses and incorporates new photos from 2005, 2006, 2007, 2009, and 2011, as well as field and helicopter reconnaissance from 2012.

A summary of this data is provided in the following sections.

1954 and 1983 Aerial Photos

In the 115 change applications Ecology processed in the late 1990s, metering data was unavailable so Ecology relied almost exclusively on aerial photo imagery coupled with estimates of crop water duty for estimates of beneficial use. The first comprehensive sets of photos used by Ecology in those decisions were aerial photos from 1954 and 1983.

Detailed descriptions on how Ecology used these aerial photos were presented at the *MVID I* trial. Copies of the trial transcript in Ecology's file provide detail on the methodology. Pages 144 to 175 summarize testimony from Ecology witnesses Jim Lyerla and Ron Dixon. A summary of the key points in the transcript is provided below:

- Photos from 1954 were black and white aerial images.
- Photos from 1983 were color aerial images.
- The 1954 and 1983 flights were selected as they provided two points in time separated by a long period of time to judge changes in irrigation practices and because they covered the entirety of the MVID service area.
- Mylar was overlaid on the aerial images and field shapes were drawn corresponding to irrigated and possibly irrigated areas on the photos.
- Fields that were irrigated in either 1954 or 1983 were added to the Mylar tracings.
- The Mylar tracings were converted to GIS shape files.
- The sum of the 1954 and 1983 irrigated acres were used as the basis for the 115 tentative determinations to move MVID members to wells.

MVID I Finding of Fact XXXI summarizes the results on this aerial photo analysis:

> *Ecology began its tentative determination by examining the amount of area MVID has historically irrigated. Aerial photographs, MVID assessment records, and county parcel lists evidenced a maximum of approximately 1,250 acres irrigated in any given year. Because the historic irrigation did not always occur on the same 1,250 acres, the various lands irrigated at one time or another totaled nearly 1,600 acres. The acreage considered in the acreage calculation included approximately 40 acres referred to as the "easement lands."*

Ecology coupled the acreage calculations above with an estimate of on-farm water duty to derive the amount of water each of the 115 excluded members would receive in their change authorizations.

MVID I Findings of Fact XXXI – XXXIII summarize the water duty attributed to each acre of land excluded:

> *In establishing the tentative determination, Ecology began with an annual water duty of 4.0 acre-feet per acre for 1,250 acres, which generated an annual historic use figure of 5,000 acre-feet of water per year.*
>
> *In calculating the quantity of water attributed to each excluded MVID member, Ecology had to determine how to assign the historic water use of 5,000 acre-feet per year to the acreage within the District. One method would recognize 4.0 acre-feet per acre for each parcel receiving water, thereby excluding some of the 1,600 acres. A second option would assign a proportionate share of the 5,000 acre-feet to each of the 1,600 acres, which would result in an allocation of approximately 3.08 acre-feet per acre. MVID's representative advised Ecology that the District would prefer to follow the latter option and apply the 5,000 acre-feet across all 1,600 acres historically irrigated.*

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> *During the same period Ecology was processing the change applications for excluded members, MVID filed its own change application to transfer 400 acre-feet of MVID water to the Town of Twisp pursuant to a lease. The 400 acre-feet of water leased to Twisp would no longer be available to allocate to MVID lands. Excluding it from the calculations yielded a final on-farm water allocation of 2.83 acre-feet per acre per year. MVID members seeking exclusion from the District were, accordingly, assigned 2.83 acre-feet per acre from the MVID rights.*

So Ecology's tentative determinations in the late 1990s reflected distribution of the estimated annual water deliveries to the farm turnouts across all 1600 acres that had been irrigated over the 30 plus year period evaluated. The resulting "on farm" water duty of 2.83 acre-feet/acre was the basis for quantifying excluded members. Later these determinations were relied on to determine the diversion rates from the Twisp and Methow Rivers that were reasonably efficient. See orders DE-02 WRCR-3950 and DE 03WRCR-5904. Copies of the GIS shape files used by Ecology based on the Mylar tracings remain available, and the total acreage is 1,239.9 acres, which tracks with "approximately 1,250 acres" identified in *MVID I.*

<u>1990 Klohn Leonoff Report</u>

The next evaluation of irrigated MVID acres took place in 1990, when MVID hired engineering firm Klohn Leonoff to evaluate and recommend improvements for canal infrastructure. *MVID I* Findings of Fact X-XI describe this effort and the report is available in Ecology's files:

> *The Department issued Order DE 88-C386 to MVID in 1988, requiring the District to obtain the information necessary to develop a workable rehabilitation plan or curtail water use. The Order gave MVID the option to: (1) retain a registered professional engineer to prepare an engineering report of the MVID facilities and operations, or (2) reduce diversions for the 1989 irrigation season by 25 percent of the instantaneous diversion rate. The Order also required the District to install measuring devices at the headworks of the West and East Canals and to maintain diversion records.*
>
> *MVID chose to obtain the engineering analysis and retained Klohn Leonoff Consulting Engineers to perform the required study. The Klohn Leonoff study was completed in January 1990, and contained a comprehensive review of the District facilities and operation.*

Color aerial imagery and field reconnaissance were used to delineate irrigated acres in 1989. Klohn Leonoff found 445.5 acres being irrigated that year from the East Canal and 330.6 acres from the West Canal, or approximately 776 acres total.

<u>1996 Montgomery Water Group Water Supply Facility Plan</u>

In 1994, MVID hired the Montgomery Water Group to develop alternatives for improving the canal system. As part of this analysis, they updated irrigated acres based on aerial imagery and field reconnaissance, concluding that a total of 873 acres were irrigated in 1995 (*MVID II).* A copy of this report is available in Ecology's files.

<u>1995 Aerial Imagery, Realignment and 2002-2003 Waste Orders</u>

In 2000, MVID was on schedule to make substantial improvements to its canal system and realign its boundaries to a smaller footprint of 930 assessed acres (*MVID I*, Finding of Fact XXXIV).

> *In April 2000, the MVID Board adopted Resolution 00-07, which formally excluded all lands below and south of Wagoner Road on the east side of the Methow River, and all lands below and south of Booth Canyon on the west side of the Methow from the District's boundaries. This exclusion left approximately 881 acres of irrigable land served by the MVID canals.*

However, later in 2001, MVID notified Ecology it would not proceed with the preferred alternative. After a notice of violation, Ecology issued Administrative Order No. 02WRCR-3950 to MVID on April 29, 2002 limiting MVID diversions. The basis for the order was 1995 aerial imagery. The 1995 photo was a

high-resolution color aerial photo that could be readily compared with GIS parcel mapping and assessed acres. The order relied on estimated canal losses.

In response to the direction by the PCHB in its *MVID I Decision*, Ecology re-evaluated MVID's canal system and issued Administrative Order No. 03WRCR-5904 in December 2003. This order also relied on the 1995 aerial photography. The 1995 photo appeared to correlate well with the excluded parcels associated with the 115 change applications approved three years earlier. This analysis resulted in a total of 881 acres of irrigated land (455 acres from the West Canal and 426 acres from the East Canal). This is the last formal evaluation of irrigated acres completed by Ecology, and 881 acres is referenced in more contemporary correspondence as the presumed status quo of MVID member irrigation use. However, the 881 acres was not a formal limit ordered by Ecology in the 2002-2003 Waste Orders. Rather, it was an assumption in the engineering analyses on which the quantities in the orders were based.

2007 Canal Management Plan

In 2007, Montgomery Water Group and IRZ Consulting prepared a *Canal Management Plan* for MVID. Irrigated acres were again evaluated using field reconnaissance as part of canal seepage testing. In 2007, 457.4 acres were irrigated from the East Canal and 345 acres from the West Canal, or 802.4 acres total.

2013 MVID Analysis, with Trout Unlimited and Reclamation Technical Assistance

In an effort to determine "current" irrigation by MVID members and develop water delivery alternatives for the current MVID Instream Flow Improvement Project, MVID, with technical assistance from Trout Unlimited (TU) and the US Bureau of Reclamation (Reclamation), evaluated recent aerial imagery augmented with field reconnaissance. MVID's assessment roll was joined with the Okanogan County Assessor's Office layer for mapping using the parcel numbers as unique identifiers. The team evaluated land within each parcel and determined whether it was irrigable and irrigated.

To analyze a parcel's suitability for irrigation (irrigable vs. non-irrigable), a low-level 2006 high-resolution photo, supplemented with LIDAR for detail work, was used. Land was categorized as non-irrigable if it included 1) steep slope topography, 2) river side channels or wetlands, or 3) roads and structures. Of the remaining land portions with irrigable suitability, current land use (irrigated or non-irrigated) was evaluated using photos from 2009 and 2011, along with aerial photos of the district taken from a helicopter in fall of 2012. This data was provided to MVID in 2013 and included in the Aspect Technical Memo (2014).

Once the irrigable/non-irrigable and irrigated/non-irrigated categories were evaluated for each parcel, these acreages were then compared to the MVID assessed acreages. Differences between irrigable and assessed were used to help identify which parcels might warrant further scrutiny.

The data suggests that 357.5 acres was irrigated from the East Canal and 343.6 acres from the West Canal, or 701 acres total. The irrigable acreage was determined to be about 1,100 acres.

However, based on continuing improvements in MVIDs existing system and increased reliability, and following notification in 2013 that the system would likely be further improved, approximately 23 members notified MVID that they resumed irrigation on their parcels in 2013. The estimated acreage returned to production in 2013 totals 116 acres. The estimated area irrigated in 2013 is approximately 817 acres.

Summary of acreage estimates from previous assessments

Table 10 compiles the aerial photography data summarized in the sections above. The <1984 data are the estimates from the 1954 and 1983 images. 1989 data are from the Klohn Leonoff Report. The 1995 data are from the Ecology engineering analyses prepared for the waste orders. They are corroborated by the 1995 Montgomery Water Group plan which estimated 873 acres in 1995. The 2007 data are from the Canal Management Plan. The 2013 data are from the MVID/TU/Reclamation evaluation.

Table 10: Aerial Photography Summary

Canal	<1984	1989	1995	2007	2013*
East	796.8	445.4	426.1	457.4	357.5
West	443.1	330.6	455.2	345	343.6
Total	**1239.9**	**776**	**881.3**	**802.4**	**701.1**

* Approximately 23 members notified MVID that they resumed irrigation on their parcels in 2013 in addition to the 701.1 acres estimated by TU and Reclamation, and verified by MVID.

Ecology evaluation of aerial photography and satellite imagery from 2005 – 2013

Ecology also performed an analysis of irrigated lands using sources available with the agency such as aerial photography and Land Satellite Imagery. The analysis was done for the period 2005 to 2013. Aerial photography data is available for the years 2005, 2006, 2009 and 2011 and Land Satellite Imagery data is available for the years 2007, 2008, 2010 and 2013.

The analysis was a combination of two-step process to estimate the total irrigated acreage. First was to find the irrigated lands using the Ecology's 1983 assessed parcel layer included both irrigated and possibly irrigated parcels, which was adapted to issue the waste order in 2002. The second step was to find the irrigated lands within MVID place of use but outside of 1983 assessed parcels. Parcels excluded from the district during the late 1990's were not part of the assessment. Table No. 11 summarizes the total acres irrigated for the years 2005 – 2013 following this methodology.

Table 11: Ecology Aerial Photography & Satellite Imagery Summary

Parcels	2005	2006	2007	2008	2009	2010	2011	2013
Total acres	**843**	**843**	**818**	**771**	**805**	**796**	**792**	**781**

Water Duty

The Washington State Supreme Court in *Ecology v. Grimes* (1993) provided the following guidance on beneficial use and water duty for irrigation rights:

- *"For purposes of appropriated water rights, "beneficial use" has two elements: (1) the purposes or types of activities for which the water may be used and (2) the amount of water that may be used as limited by the principle of 'reasonable use'".*
- *"'Water duty' is the amount of water that, by careful management and use and without wastage, is reasonably required to be applied to a parcel of land for the period of time that is adequate to produce a maximum amount of such crops as ordinarily are grown on the land. Water duty varies according to conditions*."

Water duty was part of the *MVID* I and *MVID* II court cases and provides guidance to Ecology in this ROE. In this project, MVID seeks to use the MVID Water Bank to allow members to resume irrigation at historic water duties. The following excerpt from the *MVID I* decision summarizes how the Court addressed water duty:

> "*In establishing the tentative determination, Ecology began with an annual water duty of 4.0 acre-feet per acre for 1,250 acres, which generated an annual historic use figure of 5,000 acre-feet of water per year.*
>
> *In calculating the quantity of water attributed to each excluded MVID member, Ecology had to determine how to assign the historic water use of 5,000 acre-feet per year to the acreage within the District. One method would recognize 4.0 acre-feet per acre for each parcel receiving water, thereby excluding some of the 1,600 acres. A second option would assign a proportionate share of the 5,000 acre-feet to each of the 1,600 acres, which would result in an allocation of approximately 3.08 acre-feet per acre. MVID's representative advised Ecology that the District*

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would prefer to follow the latter option and apply the 5,000 acre-feet across all 1,600 acres historically irrigated.

During the same period Ecology was processing the change applications for excluded members, MVID filed its own change application to transfer 400 acre-feet of MVID water to the Town of Twisp pursuant to a lease. The 400 acre-feet of water leased to Twisp would no longer be available to allocate to MVID lands. Excluding it from the calculations yielded a final on-farm water allocation of 2.83 acre-feet per acre per year. MVID members seeking exclusion from the District were, accordingly, assigned 2.83 acre-feet per acre from the MVID rights."

The Court recognized that both 4.0 and 2.83 acre-feet/acre were reasonable and non-wasteful water duties for MVID. MVID chose to reduce its water duty to allow it to serve more of its members with less water, and to generate some financial benefits via the Twisp lease. Neither the Court findings, nor Ecology's 2002-2003 Waste Orders prescribe a specific water duty that must be met. Rather, they define the upper limits of non-wasteful diversions to serve MVID members who were using water for irrigation.

Water duty is typically estimated by using published sources of evapotranspiration. The closest weather stations to MVID where evapotranspiration is monitored are Winthrop and Omak. Several published estimates for crop irrigation requirement (i.e. evapotranspiration less effective rainfall) are available in this area. Depending on the published source which all use varying data and methodology, results vary. These include:

<u>Winthrop Stations</u>

- Irrigation Requirements for Washington (1982): Pasture/Turf (26")[8] and Apples w/Cover (32").
- Washington Irrigation Guide (1985): Pasture/Turf (18.61") and Apples w/Cover (23.5").
- Washington Irrigation Guide (2014 Provisional): Grass Mean (28.5") and Apples w/Cover (29.8").

<u>Omak Stations</u>

- Irrigation Requirements for Washington (1982): Pasture/Turf (34") and Apples w/Cover (41").
- Washington Irrigation Guide (1985): Pasture/Turf (26.89") and Apples w/Cover (31.67").
- Washington Irrigation Guide (2014 Provisional): Grass Mean (26.6") and Apples w/Cover (26.8").
- Bureau of Reclamation AgriMet[9] (2013 Data): Grass (29.8 inches).

<u>Methow Stations</u>

- Washington Irrigation Guide (1985): Pasture/Turf (26.49") and Apples w/Cover (31.25")
- Washington Irrigation Guide (2014 Provisional): Grass Mean (26.1") and Apples w/Cover (25.7")

MVID Members irrigate many different crops each year, including grass hay, lawn, garden and apples. Although the 2014 Washington Irrigation Guide data is provisional at this time, its methodology has been peer reviewed and is based on the most comprehensive data set available. The value for grass (28.5") is in the range of the published sources available and amongst the crop types grown by MVID Members.

Another way to consider an appropriate crop irrigation requirement is to consider the relative efficiency of the overall water duty. For example, Ecology's waste order was predicated on an overall assumption of water duty of 2.83 acre-feet / acre. Based on a crop irrigation requirement of 28.5", this would imply an efficiency of 84% which is at the high end of sprinkler efficiency based on Ecology's Consumptive Use

[8] The symbol " represents a water equivalency of acre-inches per acre
[9] http://www.usbr.gov/pn/agrimet/monthlyet.html.

Guidance, GUID 1210[10]. Conversely if the lowest overall duty from the existing Washington Irrigation Guide of 18.61" were selected, that would equate to an on-farm efficiency of 54%, which is below the reasonable range of sprinkler efficiency in GUID 1210. Finally, if the Irrigation Requirements for Washington value of 34" were used, it would equate to an efficiency of 100% for sprinklers, which is not reasonable for most sprinkler irrigation. Ecology selected Grass Mean from the 2014 Provisional Washington Irrigation Guide as a representative crop grown within the district. The crop irrigation requirement of Grass Mean at the Winthrop Station is 28.5" per year.

Given MVID's intent to increase its current water duty from 2.83 acre-feet/acre back to as much as 4 acre-feet/acre, Ecology considered the relative efficiencies and consumptive use of these water duties. In summary, a range of water duties from 2.83 acre-feet to 4 acre-feet for pasture irrigation corresponds to a range of efficiencies spanning 59% to 84% (63% to 88% for apples). Ecology's GUID 1210 provides ranges of sprinkler efficiency across numerous application methods. Generally, an average range of 55% to 85% is common for sprinkler application efficiency. The water duties contemplated in these applications and for the MVID Water Bank fall within this range.

Perfection, Relinquishment, Abandonment, and Waste

Perfection of Alder Creek Claim 118277

Because Ecology has never made a tentative determination for Alder Creek Claim 118277, it must evaluate whether the claim was original perfected consistent with the claim registry requirements.

Claim 118277 was filed by MVID in 1974 during the first claim registry created by the Legislature. Surface water claims are only valid to the extent they represent a vested beneficial use that began before the adoption of the water code in 1917 (or 1932 for riparian rights under the Supreme Court case *Ecology v. Abbott* (1985)).

On the face of the claim under the "legal doctrine on which the right of claim is based", it states: "*Prior or vested use, supported by affidavit signed by Vernon LaMotte and recorded in Book 44, Page 140, Record No. 606496*". According to MVID, Vernon LaMotte was a member of the MVID Board of Directors.

In his affidavit, Vernon LaMotte details the historic diversion and use of water from Alder Creek for irrigation by his family dating back to 1892 in Section 34, Township 33 N. Range 22 E.W.M. This use continued until 1944, when the right was transferred for MVID use.

Vernon LaMotte's affidavit as to the extent and validity of a vested water right for Alder Creek is supported by a notice filed in Okanogan County Book of Water Rights, Volume D, Page 362, which Aspect Consulting retrieved from county records (Aspect Technical Memo (2014)). This notice filed by Vernon's great uncle W. L. LaMotte describes the vested water right from Alder Creek averaging 2.5 cfs for use on the Section 34 lands.

Ecology files contain a 1923 Appleby survey of irrigated lands that overlap the MVID service area. The 1923 Appleby survey supports the presence of 58 acres as presently irrigated and 109 acres as irrigable in Section 34. MVID claimed 100 acres dating to a first use of 1914, although the LaMotte affidavit and notice suggest the priority date could be confirmed as early as 1892. The W. L. LaMotte notice does not expressly indicate a number of acres irrigated, but lists a place of use as a series of quarter-quarter sections totaling over 400 acres.

Water rights typically transfer by deed from one property owner to another, and it is seems clear that the LaMotte family initially perfected a vested surface water right for Alder Creek, then discontinued that use on their parcels when LaMotte transferred the water right to MVID. MVID has to-date been

[10] Guidance 1210 – Determining Irrigation Efficiency and Consumptive Use http://www.ecy.wa.gov/programs/wr/rules/images/pdf/guid1210.pdf.

unable to locate a legal deed transferring the water right to their ownership. However, historic MVID records were stored at the Twisp Town Hall, which burned down and created a gap in critical district records. Other MVID records were stored in a shed in the 1970s, which caved in during a heavy snowstorm and those records were damaged and lost as well. In the absence of an assertion and evidence by a third party, an adjudication court would likely give weight to the contemporaneous filing of the claim by MVID and supporting declaration by Vernon LaMotte (relative of original vested owner and MVID Director) that title to the water right indeed transferred to MVID.

MVID diverts Alder Creek under Claim 118277 into the West Canal. It has been used collectively on MVID lands served by the West Canal, which is a change in place of use from the original claimed quantity. MVID has been operating under the guidance of RCW 90.03.380(3), which allows for transfer of water within its authorized district boundaries.

There is considerable support for the validity of the Alder Creek claim. The extent of the right is less certain, but still supported by the record assembled to-date. The LaMotte notice and 2011 metering records support that a peak flow of 2 cfs or more as claimed seems valid. The claimed quantity of 360 acre-feet could be satisfied by approximately 1.2 cfs average flow over 5 months, which is supported by the 1991 and 2011 data. The 100 acres claimed appears supportable from the 1923 Appleby map and LaMotte notice of the place of use, and it would represent a duty of approximately 3.6 acre-feet/acre, which is consistent with other MVID water rights and water duties discussed above.

Finally, Ecology must determine the interrelationship of the Alder Creek Claim 118277 to the Twisp River Claim 003935. Initially, they served discrete lands and were both apparently primary rights and additive to each other. However, Alder Creek Claim 118277 and Twisp River Claim 003935 serve the same lands within the district. As such, the Alder Creek instantaneous and annual quantities are not additive to those reasonably allowed for diversion under Claim 003935

Abandonment

Abandonment results from intent to abandon a project, or a long-standing period of nonuse that gives rise to a presumption of abandonment. None of MVID's actions have indicated intent to abandon their irrigation rights.

Relinquishment and Waste

MVID has continually diverted at or in excess of its authorized quantities under each water right since the waste orders issued in 2003, which does not give rise to relinquishment concerns. There has not been a period of 5 or more consecutive years when less than the ordered quantities were diverted from the Twisp and Methow Rivers. Alder Creek data is less available; however, MVID asserts that to the extent Alder Creek is available each year, they divert the full claimed quantity.

MVID has used its full authorized water quantities on fewer acres than assumed in the waste order (e.g. 700 to 800 acres instead of 881 acres). When irrigated acres decrease, it may be appropriate to divert proportionately less water (e.g. 700 to 800 acres relative to 881 acres represents a decrease of 10 to 20%). It may also be appropriate to divert the same amount of water at a slightly lower efficiency for the same crops, or at the same efficiency if more intensively irrigated crops are developed. Ecology must consider whether MVID's diversion of water at the ordered quantities represent beneficial use. Water diverted above the ordered quantities is waste under the Court Orders, subject to enforcement discretion by Ecology in the 2011 Settlement Agreement.

From a water budget standpoint, water diverted by MVID is either used on-farm, is spilled, or leaks from its canals. The time period from 2002 to 2013 represents a period of increased regulatory scrutiny by Ecology and increased investment in infrastructure by MVID. Ecology required and monitored metering up to weekly frequency at times, and also required monitoring of spills. Some improvements in canal management and efficiency were made by MVID (e.g. piping, polyacrylamide application) during this

time period. Given this behavior, canal efficiency likely remained the same or slightly improved. Spills likely decreased. The only other portion of the water budget remaining then is on-farm duty.

If 10% to 20% more water were used on-farm (commensurate with a decrease of 10% to 20% in irrigated acreage), that duty would represent a range of 3.1 to 3.4 acre-feet/acre, which is still within the range of beneficial uses described by the PCHB and in previous Ecology decisions.

Relinquishment Exceptions

The only continuous period of non-use greater than 5 years are a portion of the quantities transferred to Twisp under the 2002 change authorizations.

A portion of the Methow and Twisp water rights are the subject of the 2002 Change Authorizations CS4-SWC945 and CS4-WRC003935, which remains in good standing and authorizes irrigation use in the Town of Twisp. Based on the Town's diversion data, they have only exercised a portion of the 2002 change authorization quantities. MVID and Twisp assert that the 2002 Change Authorizations represent a determined future development (DFD), which remain in effect today under the 2014 PSA.

RCW 90.14.140(2)(c) states a water right not used for more than 5 years is not relinquished if it is claimed for a determined future development (DFD) to take place within 15 years of the last beneficial use of water under the water right. In order to be valid, a determined future development plan must satisfy a series of tests as established in case law[11], including*:*

- The plan must be determined and fixed within five years of the last beneficial use of the water.
- The party exercising the plan must have equity in the water right.
- The plan must remain fixed.
- Affirmative steps must be taken to implement the plan within 15 years.

In this instance, the nonuse of the 400 acre-feet began in approximately 2002, which is coincident with the execution of a lease and change applications to move this water to Twisp. Both parties, MVID and Twisp, have equity interests in the subject water right, and have negotiated a Purchase and Sale Agreement to further cement a long-standing regional relationship. MVID and Twisp have continually renewed the lease and worked toward coordinating their respective service areas with these change authorizations, which is evidence that the plan has remained fixed. Significant quantities of water have been put to use under these authorizations which is evidence of affirmative steps, and 15 years has not yet elapsed.

Consumptive Use

RCW 90.42.080(5) states "The provisions of RCW 90.03.380 and 90.03.390 … do apply to transfers of water rights under this subsection except that the consumptive quantity of a trust water right acquired by the state and held or authorized for use by the department is equal to the consumptive quantity of the right prior to transfer into the trust water right program." RCW 90.03.380 has an explicit application through annual consumptive quantity (ACQ), however ACQ does not apply to these transfers because acres are not being added nor is a purpose of use being added. RCW 90.03.380 has an implicit application by consumptive use not causing impairment to existing water rights. These transfers are following consumptive use methodologies and Ecology guidance described below, therefore the requirement in RCW 90.42.080(5) is met. As a result, consumptive use is not being diminished as a result of these subject change authorizations.

Ecology Guidance 1220[12] provides guidance to quantify the amounts of water in the secondary reach of a trust water right based on consumptive use. The consumptive use associated with these water rights

[11] E.g., *R.D. Merrill Company v. Pollution Control Hearings Board; City of Union Gap and Ahtanum Ridge Business Park LLC v. Washington State Department of Ecology;* and *Protect Our Water v. Islanders for Responsible Water Management (Interveners), State of Washington, Department of Ecology, and King County Water District No. 19.*

[12] Guidance 1220 – Guidance for Processing and Managing Trust Water Rights.

would serve as an offset to the consumptive use associated with the permits Ecology would approve for MVID, Twisp, and individual MVID members who elect to use their own wells. Therefore, a consumptive use analysis is required in this ROE. Ecology's general practice of calculating consumptive use is described in Ecology's Policy 1210[13], Procedure 1210[14] and Guidance 1210.

Consumptive use can be estimated by accounting for consumption from the following diversionary elements of each water right, which are summarized further in the following sections:

- Consumptive on-farm use.
- Consumptive canal/conveyance losses.
- Consumption from use by the Town of Twisp.

The time period from which to quantify the consumptive use is prescribed by the type of permitting action. Ecology GUID 1210 *Determining Irrigation Efficiency and Consumptive Use* specifies that if impairment is the criteria triggering a consumptive use determination, then the highest year in the period of record may be selected. Given the beneficial use analysis contained herein, Ecology chose the beneficial use from 1995 that is embodied in the 2002-2003 Waste Orders.

<u>Consumptive On-Farm Use for 881 acres under Claim 003935 (Twisp River), Certificate 945 (Methow River), and Claim 118277 (Alder Creek)</u>
Based on the holdings in *MVID I* and Ecology's Guidance 1210, consumptive use for the on-farm portion of MVID's rights is based on 28.5" crop irrigation requirement, 2.83 acre-feet/acre total use, 881 acres, and %CU = 93.9%, or 2,341 acre-feet[15].

- Certificate SWC945 represents 426.1÷881.3 of 2,341 acre-feet, or 1,131.8 acre-feet.
- Claim 003935 represents 455.2÷881.3 of 2,341 acre-feet, or 1,209.1 acre-feet.
- Claim 118277 is not allocated a consumptive use (already allocated to Claim 003935) and will retain a primary reach benefit only in Alder Creek.

<u>Consumptive Canal Losses under Claim 003935 (Twisp River) and Certificate 945 (Methow River)</u>
Some leaks in the East and West Canals are consumed by riparian vegetation and ponds adjacent to the canal, and some becomes return flow hydrating shallow groundwater and the Methow River. According to Ecology's Policy 1210, Ecology describes consumptive use as "Water that is transpired by plants at the place of use, water that escapes from a reasonably efficient conveyance system or from the place of use but does not become return flows, and water that is contained within a product or within a production byproduct." When lands were excluded and canals shortened in the 1990's and early 2000's, a decrease in riparian vegetation along the canals occurred.

Anchor QEA was hired by Trout Unlimited to estimate what portion of reasonable canal efficiency contributes to riparian vegetation, is associated with MVID irrigation diversion, and is likely to cease following implementation of this project. Anchor QEA calculated consumptive loss associated with evaporation from open water surfaces and transpiration by plants along the canals using aerial photography and field verification of vegetation type with the assistance of MVID staff. MVID completed a *Vegetation Survey* in 2013 and Anchor QEA completed a *Technical Memo* on August 19, 2013, summarizing this analysis. Anchor estimated that 83.7 acres of surrounding vegetation is associated

[13] Policy 1210 – Policy for the Evaluation of Changes to Enable Irrigation of Additional Acreage or the Addition of New Purposes of Use to Existing Water Rights.
[14] Procedure 1210 – Calculating and Applying the Annual Consumptive Quantity.
[15] E.g., 28.5" / 12 = 2.375 ac-ft/ac, which equate to an efficiency of 83.9%. Using the 10% Evap. value for sprinklers from GUID 1210, this is a 93.9% CU, which is 2.66 ac-ft/ac consumptive water duty. This consumptive water duty times 881 acres is 2,341 acre-feet.

with MVID canal leakage, with an associated consumptive use of 240.6 acre-feet. An additional 28.7 acre-feet was estimated from direct evaporation of canal surfaces, and 25.7 acre-feet from associated ponds/marshes. In total, Anchor QEA found approximately 295 acre-feet of consumptive use in their evaluation. The East Canal portion is estimated at 73.6 acre-feet and the West Canal portion at 221.4 acre-feet.

The TWRA contains an Adaptive Management Protocol for verifying the consumptive use estimates contained in the 2013 TU Vegetation Survey and 2013 Anchor QEA Evapotranspiration Report. This Protocol includes the following elements patterned after the 2013 analyses:

- Assessment of condition of east side and west side water delivery infrastructure.
- Aerial photo review.
- Field verification and GPS recording of affected vegetation, wetlands, and ponds.
- Characterization of vegetation type.
- Evapotranspiration estimates.

This analysis is anticipated to be completed in 2019. Ecology's exercise of the trust water rights will be conservative in the interim period. Following completion of the Adaptive Management Protocol, Ecology would exercise the trust water rights in accordance with the results.

Twisp Lease

The 2001 Change Authorizations do not specify an explicit consumptive use, but one may be estimated from the authorizations, which specifies irrigation within the Town of Twisp. Ecology's GUID-1210 provides estimates of consumptive use as a function of different methods of sprinkler application. For sprinklers, 85 percent consumptive use is common (75% application efficiency). However, Twisp has a progressive rate schedule with an overage charge for high water use, which will tend to improve irrigation scheduling and efficiency. Ecology selects a 90% consumptive use estimate for the 400 acre-feet authorized results in 360 acre-feet, split 235.8 acre-feet of consumptive use for Certificate SWC 945 and 124.2 acre-feet consumptive use for Claim 003935.

Total Consumptive Use

Based on the analysis above, the total consumptive includes:

- Certificate SWC 945: 1,131.8 acre-feet of on-farm use, 73.6 acre-feet of riparian/canal evaporation use, and 235.8 acre-feet of Twisp irrigation use, or **1,441.2** acre-feet.
- Claim 003935: 1,209.1 acre-feet of on-farm use, 221.4 acre-feet of riparian/evaporation use, and 124.2 acre-feet of Twisp irrigation use, or **1,554.7** acre-feet.
- Claim 118277: No consumptive use in addition to Claim 003935, primary reach benefit only in Alder Creek.

Ecology typically manages consumptive use on a monthly time-step. Apportioning the consumptive use using Washington Irrigation Guide pasture demand curves (Winthrop), provides the monthly consumptive use estimates shown in Table 12 for Certificate SWC 945 equivalent to 1,441.2 acre-feet. To calculate the primary reach quantity, an estimate of Barkley Inflow was necessary. The 2003 Waste Order was based on an engineering analysis performed by Dan Haller dated December 16, 2003. In Appendix A of that document, the on-farm and canal losses associated with the 412 acres of Barkley lands were estimated at 1,965.2 acre-feet. Deducting these quantities from the 4,909 acre-feet diversion authority in the 2003 Waste Order leaves approximately 2,944 acre-feet attributable to MVID. The instantaneous quantities were allocated assuming continuous diversion of the monthly quantities (e.g. Monthly Qa / Days / 1.98).

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Table 12: Methow Certificate SWC 945 Estimated Total and Consumptive Use

Reach	Flow	April	May	June	July	August	September	October	Total Annual, Peak Monthly
Primary	Qi (cfs)	4.92	8.25	10.04	12.28	10.25	7.01	5.30	12.28
Primary	Qa (ac-ft)	146.24	506.21	596.20	753.69	629.95	416.22	157.49	3206
Consumptive Use Quantity	Qi (cfs)	2.21	3.71	4.51	5.52	4.61	3.15	2.38	5.52
Consumptive Use Quantity	Qa (ac-ft)	65.74	227.56	268.01	338.81	283.18	187.10	70.80	1441.20

Table 13: Twisp Claim 003935 Estimated Totals and Consumptive Use

Reach	Flow	April	May	June	July	August	September	October	Total Annual, Peak Monthly
Primary	Qi (cfs)	4.38	7.34	8.94	10.93	9.14	6.24	4.72	10.93
Primary	Qa (ac-ft)	130.18	450.63	530.74	670.94	560.79	370.52	140.20	2854
Consumptive Use Quantity	Qi (cfs)	2.39	4.00	4.87	5.95	4.98	3.40	2.57	5.95
Consumptive Use Quantity	Qa (ac-ft)	70.92	245.48	289.12	365.49	305.48	201.84	76.37	1554.70

Table 14: Alder Creek Claim 118277 Estimated Total Use

Reach	Flow	April	May	June	July	August	September	October	Total Annual, Peak Monthly
Primary	Qi (cfs)	0.55	0.93	1.13	1.38	1.15	0.79	0.60	1.38
Primary	Qa (ac-ft)	16.42	56.84	66.95	84.63	70.74	46.74	17.68	360

Tables 12, 13 and 14 document the quantities of water valid for transfer for Certificate SWC 945, Claim 003935 and Claim 118277 respectively.

Primary Reach

The primary reach for Certificate SWC 945 is that portion of the Methow River from the East Canal Diversion (RM 45) to the end of the East Canal (RM 34.3).

The primary reach for Claim 003935 is that portion of the Methow River from the termination of the West Canal Diversion (RM 27.9) to the confluence with the Twisp River. The primary reach for the Twisp River is from the confluence with the Methow River to RM 5.2 on the Twisp River.

The primary reach for Claim 118277 is from the confluence of Alder Creek and the Methow River to the RM (0.3) on Alder Creek.

Secondary Reach

Because all consumptive use is intended by MVID to be reappropriated via the MVID Water Bank, no secondary reach is specified.

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Potential for Impairment

Under RCW 90.42.040(4)(a), a trust water right certificate cannot be created if it would impair existing water rights. Further, RCW 90.42.080(5) provides that RCW 90.03.380 applies in evaluation of trust water right applications (which do not involve donations for instream flows). RCW 90.03.380 requires that a water right change cannot be approved if it would cause injury to other existing water rights. In considering impact to existing water right holders and the instream flows established under the Methow Basin Instream Flow Rule, one must consider actual river operations, particularly in drought years when water availability issues are most acute. In the context of this application, there are four classes of water uses that must be considered:

- Water right holders with priority dates senior to August 22, 1919 (the priority date of Certificate SWC945);
- Uninterruptible water right with priority dates junior to August 22, 1919;
- The instream flow water rights established through adoption of the State's December 28, 1976 Methow River Basin Instream Flow Rule; and
- Interruptible water rights with priority dates junior to the State's December 28, 1976 Instream Flow Rule.

In principle, creation of the MVID Water Bank by putting water instream cannot cause impairment to any of these classes of water users. New appropriations from the MVID Water Bank should also not cause impairment provided there is no increase in consumptive use; however, those considerations will be addressed in evaluating MVID's applications for new permits based on the trust water rights they seek to create (S4-33097 and G4-33098).

Water rights senior to the subject water rights will not be impaired by this trust decision, because water availability will increase or remain neutral to those users. These senior users can also call against these rights in times of shortage. Water rights junior to these subject rights, but senior to the instream flow rule will also not be impaired, because their availability will not decrease. The State Instream Flow will benefit from increased water availability under this decision, because more water will remain instream; however, that benefit will be between control stations so no change in river regulation will occur. Junior water users will not bear any risk of increased curtailment, because the MVID Water Bank will run on consumptive use equivalents and their availability will not decrease. Finally, no 3rd party can require MVID to maintain an inefficient system even if they benefit from transitory return flows. They can benefit from them while they exist, but retaining them instream and not diverting them in the first place cannot constitute impairment.

In sum, approval of this application would not cause impairment of other existing water rights.

Public Interest

Under RCW 90.42.040(4)(a), a trust water right certificate cannot be created if it would impair the public interest. The proposed appropriation provides for many benefits to the public interest, including:

- Benefits to instream flow and fish life on the Twisp River;
- Benefits to habitat associated with abandoning of the push-up dam and in-river work on the Twisp River.
- Benefits to instream flow and fish life in the Methow River.
- Benefits to instream flow and fish life in Alder Creek.
- Increased efficiency, which will improve system reliability for MVID Members.
- Increased water duty for MVID Members which closer matches their historic irrigation behavior, and is in the range of reasonable water duties upheld in previous Court rulings.

- Mitigation for out-of-stream uses, which will provide reliable water supply to assessed MVID Members who were not able to reliably irrigate.
- Mitigation for out-of-stream uses providing increased municipal supply for the Town of Twisp.

Consequently, approval of this application would not be contrary to the public interest.

Consideration of Protests and Comments

On November 7, 2013, a letter of protest was received on behalf of the Okanogan Wilderness League (OWL). This letter was sent by OWL prior to the public notice publication dates (November 20 and 27, 2013) for the three trust water applications discussed in this report (CS4-MVID@155, CS4-MVID@156 and CS4-118277CL). Because OWL's representative expected to be out of the country during the time the public notice would issue, OWL filed their protest prior to actual publication of the public notice.

The letter cited several concerns (paraphrased below, see Appendix D), which Ecology addresses below:

- *The change applications are premature because a trust water agreement is not finalized*. The Trust Water Agreement will define the relationship between Ecology and MVID once it is executed. There is no procedural requirement establishing whether a change of water right precedes execution of a trust water right management agreement or if it follows.
- *A maximum of 720.5 acres is authorized for current MVID irrigation.* The 2002 and 2003 Waste Orders were confirmed by the PCHB and are based on 881 acres irrigated. No acreage limit was specified in the Waste Orders. The investigation section of this report describes several different sources of data about MVID's water use and aerial photo and satellite images reviewed to make a determination of the extent of MVID's water right under the two claims (Twisp River and Alder Creek) and Methow River certificate that are proposed for changes of purpose of use.
- *SEPA and NEPA procedural concerns*. SEPA is complete and NEPA is not triggered by this project. Ecology and Okanogan County are co-leads on SEPA. An SEPA determination was issued by Ecology and Okanogan County on April XX, 2014.
- *The project as proposed is not cost*-effective. This change authorization is permissive and putting water into trust allows multiple final design options. The project went through a Value Engineering Study to determine how to maximize public investments. Funding agencies will make their own decisions on project viability following availability of design and engineer's estimates.
- *Efforts to increase water duty should be abandoned*. This change authorization would result in a change of purpose to instream flow. The MVID Water Bank will be operated on a principle of balancing consumptive use associated with new permits with the consumptive use available within the Water Bank. Although MVID has not yet settled on its allocation framework, the range of options it is considering are within the range previously recognized as non-wasteful by Ecology, the PCHB, and the Okanogan County Superior Court. On-farm water duty can be increased provided it does not impair existing water rights.
- *Fisheries benefits on the Twisp River can be obtained for less money.* Project funding decisions will be made by Ecology and other funders following availability of final design and engineer's estimates.
- *Resolution of the Buckley Claim may hinder implementation of the project.* MVID and Mr. Buckley entered into a Water Delivery Memorandum of Agreement (MOA) in May 2012. This MOA does not prevent implementation of this project.
- *Instream flows will not be improved by the project.* While the overall operation of the MVID water bank will be neutral to instream flow downstream from MVID's service area, the project will provide local instream flow and/or habitat improvements a) in the Twisp River between the current diversion and the confluence with the Methow River, b) in the Methow River downstream of the Twisp River to the lower boundary of the MVID, and c) in Alder Creek below

the current point of diversion. Funders are aware that consumptive use will be reappropriated by the MVID Water Bank to serve MVID irrigation uses.

- *MVID's Alder Creek Claim is not valid.* The Alder Creek Claim is documented by a 1910 County filing by William LaMotte, the 1923 Appleby pre-adjudication survey which identifies then-irrigated lands, a 1974 declaration by Vernon LaMotte, and miscellaneous MVID measurement records. MVID also consulted with its current and past ditch masters and they are not aware of any interruption in Alder Creek diversions.
- *Negotiations with Twisp are uncertain.* The changes of MVID's water right for Twisp were approved in 2002. Twisp and MVID negotiated a purchase and sale agreement for a portion of the 400 ac-ft covered by the two water right change authorizations.
- *Wasted water will be converted to new acres.* Ecology's tentative determinations within these Reports of Examination of MVID's water rights were performed consistent with the earlier rulings on waste. Waste, as defined in the decisions of the PCHB and Superior Court, has not been considered or recognized as a beneficial use within these tentative determinations.

FINDINGS AND CONCLUSIONS

Tentative Determination and Consumptive Use

Ecology tentatively determines that the water rights are valid for change in the amounts described on the face sheets of this Report. Alder Creek Claim 118277 represents a valid claim for 2 cfs and 360 acre-feet for irrigation purposes. Certificate SWC 945 represents a certificate for 12.28 cfs and 3,206 acre-feet for irrigation purposes. Claim 003935 represents a valid claim for 10.93 cfs and 2,854 acre-feet for irrigation purposes. No quantity has been relinquished or abandoned since 2003, when Ecology last evaluated Certificate SWC 945 and Claim 003935.

Consumptive use for each water right is summarized on the face sheets of this Report.

Impairment

No water right, either publicly or privately held, will be impaired as a result of this change authorization.

Public Interest

The public interest will not be harmed as a result of this change authorization.

Procedural Compliance

Ecology finds that the procedural requirements for this change authorization have been met, including all required notices.

RECOMMENDATION

Based on the information presented above, the authors recommend that a change be authorized to change the purpose of use and place of use attributes of Certificate SWC 945, Claim 003935, and Claim 118277 in the amounts described, limited, and provisioned on the Face Sheets of this Report.

Report by: _____

Daniel R. Haller, P.E. Date
Aspect Consulting, LLC

Report by: _____

Melissa Downes, Office of Columbia River Date
Department of Ecology

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