Water Right Conditions Tracking Slip

Groundwater/Hydrology Section

FILE # G-17479

ROUTED TO: Water Rights

TOWNSHIP/
RANGE-SECTION: 5S/2W-35cb

CONDITIONS ATTACHED? [✓] yes [ ] no

REMARKS OR FURTHER INSTRUCTIONS:

Reviewer: Mike Ewart

WATER RESOURCES DEPARTMENT

MEMO Sept. 26, 2001

TO: **Application G-** 17479

FROM: **GW:** Mike Zwart
(Reviewer's Name)

SUBJECT: **Scenic Waterway Interference Evaluation**

_____YES
The source of appropriation is within or above a Scenic Waterway
✓ NO

_____YES
Use the Scenic Waterway condition (Condition 7J)
✓ NO

_____Per ORS 390.835, the Ground Water Section is **able** to calculate ground water interference with surface water that contributes to a Scenic Waterway. The calculated interference is distributed below.

_____Per ORS 390.835, the Ground Water Section is **unable** to calculate ground water interference with surface water that contributes to a scenic waterway; **therefore, the Department is unable to find that there is a preponderance of evidence that the proposed use will measurably reduce the surface water flows necessary to maintain the free-flowing character of a scenic waterway.**

DISTRIBUTION OF INTERFERENCE

Calculate the percentage of consumptive use by month and fill in the table below. If interference cannot be calculated, per criteria in 390.835, do not fill in the table but check the "unable" option above, thus informing Water Rights that the Department is unable to make a Preponderance of Evidence finding.

Exercise of this permit is calculated to reduce monthly flows in _____ Scenic Waterway by the following amounts expressed as a proportion of the consumptive use by which surface water flow is reduced.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

PUBLIC INTEREST REVIEW FOR GROUND WATER APPLICATIONS

TO: Water Rights Section Date **September 26, 2011**

FROM: Ground Water/Hydrology Section **Michael Zwart**
Reviewer's Name

SUBJECT: Application G- **17479** Supersedes review of _____
Date of Review(s)

PUBLIC INTEREST PRESUMPTION; GROUNDWATER

OAR 690-310-130 (1) *The Department shall presume that a proposed groundwater use will ensure the preservation of the public welfare, safety and health as described in ORS 537.525.* Department staff review ground water applications under OAR 690-310-140 to determine whether the presumption is established. OAR 690-310-140 allows the proposed use be modified or conditioned to meet the presumption criteria. **This review is based upon available information and agency policies in place at the time of evaluation.**

A. GENERAL INFORMATION: Applicant's Name: **Karnily Kalugin** County: **Marion**

A1. Applicant(s) seek(s) **0.23** cfs from **one** well(s) in the **Willamette** Basin, **Pudding River** subbasin Quad Map: **Gervais**

A2. Proposed use: **Irrigation, 18.65 acres** Seasonality: **March 1 to October 31**

A3. Well and aquifer data **(attach and number logs for existing wells; mark proposed wells as such under logid):**

Well	Logid	Applicant's Well #	Proposed Aquifer*	Proposed Rate(cfs)	Location (T/R-S QQ-Q)	Location, metes and bounds, e.g. 2250' N, 1200' E fr NW cor S 36
1	**Proposed**	**1**	**Alluvium**	**0.23**	**5S/2W-35 NW-SW**	**2040' N, 300' E fr SW cor S 35**
2						
3						
4						
5						

* Alluvium, CRB, Bedrock

Well	Well Elev ft msl	First Water ft bls	SWL ft bls	SWL Date	Well Depth (ft)	Seal Interval (ft)	Casing Intervals (ft)	Liner Intervals (ft)	Perforations Or Screens (ft)	Well Yield (gpm)	Draw Down (ft)	Test Type
1	**178**				**150±**	**0-37±**	**0-141±**	**121-150±**	**142-149±**			

Use data from application for proposed wells.

A4. **Comments: The proposed construction information is estimated from the nearby well log included with the file. Actual construction may vary somewhat.**

A5. ☒ **Provisions of the Willamette** Basin rules relative to the development, classification and/or management of ground water hydraulically connected to surface water ☐ **are**, *or* ☒ **are not**, activated by this application. (Not all basin rules contain such provisions.)
Comments: _____

A6. ☐ **Well(s) #** _____, _____, _____, _____, _____, tap(s) an aquifer limited by an administrative restriction.
Name of administrative area: _____
Comments: _____

B. GROUND WATER AVAILABILITY CONSIDERATIONS, OAR 690-310-130, 400-010, 410-0070

B1. **Based upon available data**, I have determined that ground water* for the proposed use:

a. ☐ **is** over appropriated, ☐ **is not** over appropriated, *or* ☒ **cannot be determined to be** over appropriated during any period of the proposed use. * This finding is limited to the ground water portion of the over-appropriation determination as prescribed in OAR 690-310-130;

b. ☐ **will not** *or* ☐ **will** likely be available in the amounts requested without injury to prior water rights. * This finding is limited to the ground water portion of the injury determination as prescribed in OAR 690-310-130;

c. ☐ **will not** *or* ☐ **will** likely to be available within the capacity of the ground water resource; or

d. ☒ **will, if properly conditioned**, avoid injury to existing ground water rights or to the ground water resource:
   i. ☒ The permit should contain condition #(s) **7C**;
   ii. ☐ The permit should be conditioned as indicated in item 2 below.
   iii. ☐ The permit should contain special condition(s) as indicated in item 3 below;

B2. a. ☐ **Condition** to allow ground water production from no deeper than _____ ft. below land surface;

b. ☐ **Condition** to allow ground water production from no shallower than _____ ft. below land surface;

c. ☐ **Condition** to allow ground water production only from the _____ ground water reservoir between approximately_____ ft. and_____ ft. below land surface;

d. ☐ **Well reconstruction** is necessary to accomplish one or more of the above conditions. The problems that are likely to occur with this use and without reconstructing are cited below. Without reconstruction, I recommend withholding issuance of the permit until evidence of well reconstruction is filed with the Department and approved by the Ground Water Section.

Describe injury –as related to water availability– that is likely to occur without well reconstruction (interference w/ senior water rights, not within the capacity of the resource, etc): _____

B3. **Ground water availability remarks: The proposed well will develop the Willamette aquifer (Woodward, Gannett and Vaccaro, 1998). Saturated sands and gravels are confined beneath almost 100 feet of Willamette Silt near the proposed well location. Nearby observation wells MARI 2666 and MARI 3054 display seasonal fluctuations of about 40 feet but the seasonal highs are relatively stable over the period of record.**

C. GROUND WATER/SURFACE WATER CONSIDERATIONS, OAR 690-09-040

C1. **690-09-040 (1):** Evaluation of aquifer confinement:

Well	Aquifer or Proposed Aquifer	Confined	Unconfined
1	**Alluvial sands and gravels**	☒	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐

Basis for aquifer confinement evaluation: **The aquifer is confined to semiconfined below the Willamette Silt.**

C2. **690-09-040 (2) (3):** Evaluation of distance to, and hydraulic connection with, surface water sources. All wells located a horizontal distance less than ¼ mile from a surface water source that produce water from an unconfined aquifer shall be assumed to be hydraulically connected to the surface water source. Include in this table any streams located beyond one mile that are evaluated for PSI.

Well	SW #	Surface Water Name	GW Elev ft msl	SW Elev ft msl	Distance (ft)	Hydraulically Connected? YES	NO	ASSUMED	Potential for Subst. Interfer. Assumed? YES	NO
1	1	**Unnamed trib. Pudding Riv.**	160±	165	1400	☒	☐	☐	☐	☒
1	2	**Pudding River**	160±	108	12600	☒	☐	☐	☐	☒
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐

Basis for aquifer hydraulic connection evaluation: **The head relationship suggests hydraulic connection with the unnamed tributary and discharge of groundwater at lower elevations. Because the Willamette Silt is not locally incised to its base, the efficiency of local groundwater discharge is likely low. Nonetheless, published studies have demonstrated that the alluvial aquifer is hydraulically connected to surface water.**

Water Availability Basin the well(s) are located within: **Pudding R > Molalla R – ab Mill Cr (151).**

C3a. **690-09-040 (4):** Evaluation of stream impacts for each well that has been determined or assumed to be **hydraulically connected and less than 1 mile** from a surface water source. Limit evaluation to instream rights and minimum stream flows that are pertinent to that surface water source, and not lower SW sources to which the stream under evaluation is tributary. Compare the requested rate against the 1% of 80% *natural* flow for the pertinent Water Availability Basin (WAB). If Q is not distributed by well, use full rate for each well. Any checked ☒ box indicates the well is assumed to have the potential to cause PSI.

Well	SW #	Well < ¼ mile?	Qw > 5 cfs?	Instream Water Right ID	Instream Water Right Q (cfs)	Qw > 1% ISWR?	80% Natural Flow (cfs)	Qw > 1% of 80% Natural Flow?	Interference @ 30 days (%)	Potential for Subst. Interfer. Assumed?
1	1	☐	☐	**73532B**	**36.0**	☐	**67.3**	☐	**<25%**	☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐

C3b. **690-09-040 (4):** Evaluation of stream impacts by total appropriation for all wells determined or assumed to be **hydraulically connected and less than 1 mile** from a surface water source. **Complete only if Q is distributed among wells.** Otherwise same evaluation and limitations apply as in C3a above.

	SW #		Qw > 5 cfs?	Instream Water Right ID	Instream Water Right Q (cfs)	Qw > 1% ISWR?	80% Natural Flow (cfs)	Qw > 1% of 80% Natural Flow?	Interference @ 30 days (%)	Potential for Subst. Interfer. Assumed?
			☐			☐		☐		☐
			☐			☐		☐		☐
			☐			☐		☐		☐
			☐			☐		☐		☐

Comments:

C4a. **690-09-040 (5):** Estimated impacts on **hydraulically connected surface water sources greater than one mile** as a percentage of the proposed pumping rate. Limit evaluation to the effects that will occur up to one year after pumping begins. This table encompasses the considerations required by 09-040 (5)(a), (b), (c) and (d), which are not included on this form. Use additional sheets if calculated flows from more than one WAB are required.

Non-Distributed Wells												
Well SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS												
Interference CFS												
Distributed Wells												
Well SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS												
Interference CFS												
	%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS												
Interference CFS												
	%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS												
Interference CFS												
	%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS												
Interference CFS												
	%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS												
Interference CFS												
	%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS												
Interference CFS												
(A) = Total Interf.												
(B) = 80 % Nat. Q												
(C) = 1 % Nat. Q												
(D) = (A) > (C)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
(E) = (A / B) x 100	%	%	%	%	%	%	%	%	%	%	%	%

(A) = total interference as CFS; (B) = WAB calculated natural flow at 80% exceed. as CFS; (C) = 1% of calculated natural flow at 80% exceed. as CFS; (D) = highlight the checkmark for each month where (A) is greater than (C); (E) = total interference divided by 80% flow as percentage.

Basis for impact evaluation: **This section likely applies and an interference calculation could be made. However, the requested rate is itself less than 1% of the flows of the Pudding River, so there is no need to spend the time to complete this task.**

C4b. **690-09-040 (5) (b) The potential to impair or detrimentally affect the public interest is to be determined by the Water Rights Section.**

C5. ☐ **If properly conditioned**, the surface water source(s) can be adequately protected from interference, and/or ground water use under this permit can be regulated if it is found to substantially interfere with surface water:

i. ☐ The permit should contain condition #(s)_____;

ii. ☐ The permit should contain special condition(s) as indicated in "Remarks" below;

C6. **SW / GW Remarks and Conditions**_____

References Used: **Local well logs; local groundwater reviews; Hydrogeologic Framework of the Willamette Lowland Aquifer System, Oregon and Washington, USGS Professional Paper 1424-B, by Woodward, Gannett and Vaccaro, 1998; Geologic Framework of the Willamette Lowland Aquifer System, Oregon and Washington, USGS Professional Paper 1424-A, by Gannett and Caldwell, 1998; Ground-Water Hydrology of the of the Willamette Basin, Oregon, USGS Scientific Investigations Report 2005-5168, by Conlan, et al, 2005.**

D. WELL CONSTRUCTION, OAR 690-200

D1. **Well #:** _____ **Logid:** _____

D2. **THE WELL does not meet current well construction standards based upon:**
- a. ☐ review of the well log;
- b. ☐ field inspection by _____;
- c. ☐ report of CWRE _____;
- d. ☐ other: (specify) _____

D3. **THE WELL construction deficiency**:
- a. ☐ constitutes a health threat under Division 200 rules;
- b. ☐ commingles water from more than one ground water reservoir;
- c. ☐ permits the loss of artesian head;
- d. ☐ permits the de-watering of one or more ground water reservoirs;
- e. ☐ other: (specify) _____

D4. **THE WELL construction deficiency is described as follows:** _____

D5. **THE WELL**
- a. ☐ **was**, *or* ☐ **was not** constructed according to the standards in effect at the time of original construction or most recent modification.
- b. ☐ I don't know if it met standards at the time of construction.

D6. ☐ **Route to the Enforcement Section.** I recommend withholding issuance of the permit until evidence of well reconstruction is filed with the Department and approved by the Enforcement Section and the Ground Water Section.

THIS SECTION TO BE COMPLETED BY ENFORCEMENT PERSONNEL

D7. ☐ Well construction deficiency has been corrected by the following actions: _____

_____ _____, 200____.

(Enforcement Section Signature)

D8. ☐ **Route to Water Rights Section (attach well reconstruction logs to this page).**

Ground Water

Oregon Water Resources Department
(503)378-8455 • 158 12th St. NE, Salem, OR 97310

Oregon Water Resources Department Hydrograph for State Well MARI 3054, State Observation Well # 614

Oregon Water Resources Department Well Location	6.00S/1.00W-6CCC
Oregon Water Resources Department Logid	MARI 3054
Oregon Water Resources Department Well Tag (Well ID)	----
Oregon Water Resources Department State Observation Well Number	614
Total well depth (feet below land surface)	165
Land surface elevation (feet above mean sea level)	153
Primary use of well	DOMESTIC
Primary aquifer system	Quaternary-Late Tertiary Sediment Aquifers

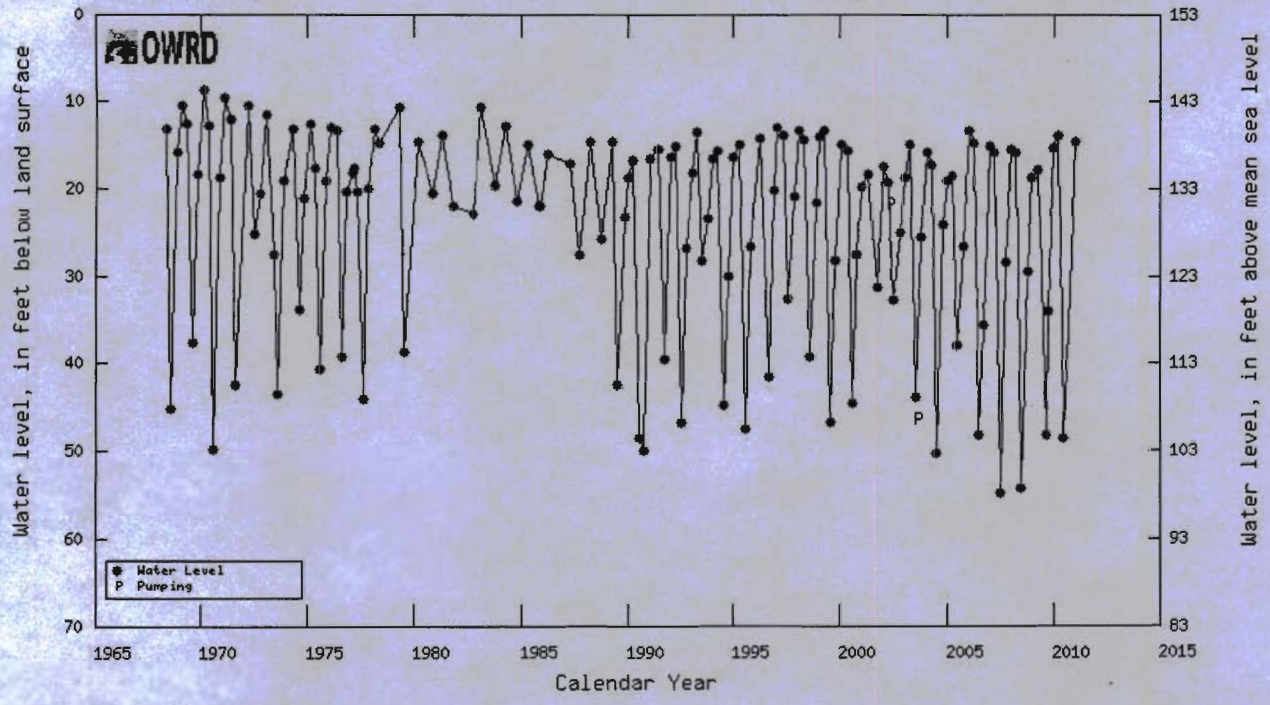

Table showing water-level data for State Well MARI 3054, State Observation Well # 614

Ground Water

Oregon Water Resources Department
(503)378-8455 • 158 12th St. NE, Salem, OR 97310

Oregon Water Resources Department Hydrograph for State Well MARI 2666, State Observation Well # 612

Oregon Water Resources Department Well Location	5.00S/2.00W-25cbd
Oregon Water Resources Department Logid	MARI 2666
Oregon Water Resources Department Well Tag (Well ID)	----
Oregon Water Resources Department State Observation Well Number	612
Total well depth (feet below land surface)	253
Land surface elevation (feet above mean sea level)	180.31
Primary use of well	IRRIGATION
Primary aquifer system	Quaternary-Late Tertiary Sediment Aquifers

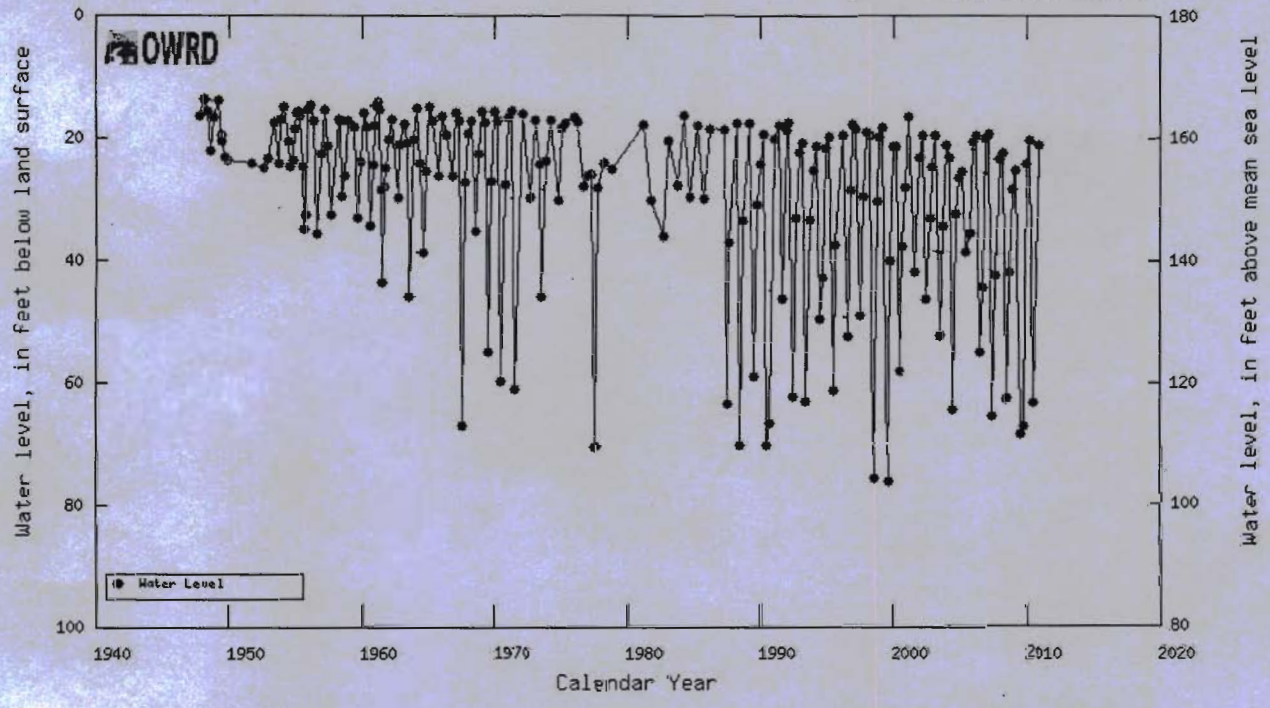

Table showing water-level data for State Well MARI 2666, State Observation Well # 612

Water Availability Calculation

Monthly Streamflows in Cubic Feet per Second
Storage at 50% Exceedance in Acre-Feet

Month	Natural Stream Flow	Consumptive Uses and Storages	Expected Stream Flow	Reserved Stream Flow	Instream Flow Requirement	Net Water Available
JAN	1,040.00	73.30	967.00	0.00	36.00	931.00
FEB	1,180.00	71.00	1,110.00	0.00	36.00	1,070.00
MAR	1,010.00	47.40	963.00	0.00	36.00	927.00
APR	787.00	42.60	744.00	0.00	36.00	708.00
MAY	425.00	52.40	373.00	0.00	36.00	337.00
JUN	224.00	72.30	152.00	0.00	36.00	116.00
JUL	109.00	112.00	-2.99	0.00	36.00	-39.00
AUG	71.00	92.40	-21.40	0.00	36.00	-57.40
SEP	67.30	54.10	13.20	0.00	36.00	-22.80
OCT	91.60	14.00	77.60	0.00	36.00	41.60
NOV	363.00	38.80	324.00	0.00	36.00	288.00
DEC	957.00	72.60	884.00	0.00	36.00	848.00
ANN	706,000.00	44,900.00	661,000.00	0.00	26,100.00	637,000.00

Detailed Report of Consumptive Uses and Storage

Consumptive Uses and Storages in Cubic Feet per Second

Month	Storage	Irrigation	Municipal	Industrial	Commercial	Domestic	Agricultural	Other	Total
JAN	54.20	0.00	2.89	0.33	0.04	0.28	13.60	2.00	73.30
FEB	51.60	0.00	2.89	0.33	0.04	0.28	13.90	2.00	71.00
MAR	25.10	0.64	2.89	0.33	0.03	0.28	13.10	5.00	47.40
APR	17.00	3.98	2.89	0.33	0.03	0.28	13.10	5.00	42.60
MAY	8.56	27.30	2.89	0.33	0.03	0.28	9.01	4.00	52.40
JUN	0.24	55.00	8.67	0.33	0.03	0.28	3.84	4.00	72.30
JUL	0.00	94.80	8.67	0.33	0.03	0.28	3.84	4.00	112.00
AUG	0.00	75.30	8.67	0.33	0.03	0.28	3.84	4.00	92.40
SEP	0.00	36.90	8.67	0.33	0.03	0.28	3.84	4.00	54.10
OCT	0.00	2.64	2.89	0.33	0.03	0.28	3.84	4.00	14.00
NOV	21.90	0.00	2.89	0.33	0.03	0.28	11.40	2.00	38.80
DEC	52.40	0.00	2.89	0.33	0.04	0.28	14.70	2.00	72.60

Detailed Report of Reservations for Storage and Consumptive Uses

Reserved Streamflow in Cubic Feet per Second

No reservations were found for this watershed.

Detailed Report of Instream Flow Requirements

Instream Flow Requirements in Cubic Feet per Second

Application #	Status	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
MF151A	CERTIFICATE	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
IS73532B	CERTIFICATE	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00
IS73533A	CERTIFICATE	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
IS73534A	CERTIFICATE	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00
Maximum		**36.00**	**36.00**	**36.00**	**36.00**	**36.00**	**36.00**	**36.00**	**36.00**	**36.00**	**36.00**	**36.00**	**36.00**

Water Availability Calculation

Monthly Streamflows in Cubic Feet per Second
Storage at 50% Exceedance in Acre-Feet

Month	Natural Stream Flow	Consumptive Uses and Storages	Expected Stream Flow	Reserved Stream Flow	Instream Flow Requirement	Net Water Available
JAN	1,120.00	78.30	1,040.00	0.00	80.00	962.00
FEB	1,260.00	76.40	1,180.00	0.00	80.00	1,100.00
MAR	1,080.00	58.50	1,020.00	0.00	80.00	942.00
APR	834.00	51.30	783.00	0.00	80.00	703.00
MAY	448.00	60.20	388.00	0.00	80.00	308.00
JUN	231.00	81.80	149.00	0.00	60.00	89.20
JUL	111.00	126.00	-14.80	0.00	50.00	-64.80
AUG	71.60	104.00	-32.30	0.00	40.00	-72.30
SEP	67.90	60.90	6.97	0.00	40.00	-33.00
OCT	91.50	16.80	74.70	0.00	60.00	14.70
NOV	364.00	44.80	319.00	0.00	80.00	239.00
DEC	1,010.00	77.70	932.00	0.00	80.00	852.00
ANN	748,000.00	50,500.00	698,000.00	0.00	48,900.00	654,000.00

Detailed Report of Consumptive Uses and Storage

Consumptive Uses and Storages in Cubic Feet per Second

Month	Storage	Irrigation	Municipal	Industrial	Commercial	Domestic	Agricultural	Other	Total
JAN	48.80	0.00	3.13	0.33	1.34	0.32	19.10	5.40	78.30
FEB	46.50	0.00	3.13	0.33	1.34	0.32	19.40	5.40	76.40
MAR	25.70	0.71	3.13	0.33	1.33	0.32	18.50	8.40	58.50
APR	17.30	4.42	3.13	0.33	1.33	0.32	16.10	8.40	51.30
MAY	8.64	30.60	3.13	0.33	1.18	0.32	12.00	4.00	60.20
JUN	0.26	61.50	9.27	0.33	1.03	0.32	5.15	4.00	81.80
JUL	0.00	106.00	9.27	0.33	1.03	0.32	4.64	4.00	126.00
AUG	0.00	84.40	9.27	0.33	1.03	0.32	4.63	4.00	104.00
SEP	0.00	41.40	9.27	0.33	1.03	0.32	4.63	4.00	60.90
OCT	0.00	2.95	3.09	0.33	1.03	0.32	5.11	4.00	16.80
NOV	19.20	0.00	3.09	0.33	1.33	0.32	15.10	5.40	44.80
DEC	47.20	0.00	3.13	0.33	1.34	0.32	20.10	5.40	77.70

Detailed Report of Reservations for Storage and Consumptive Uses

Reserved Streamflow in Cubic Feet per Second

No reservations were found for this watershed.

Detailed Report of Instream Flow Requirements

Instream Flow Requirements in Cubic Feet per Second

Application #	Status	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
IS69998A	CERTIFICATE	80.00	80.00	80.00	80.00	80.00	60.00	50.00	40.00	40.00	60.00	80.00	80.00
IS73532A	CERTIFICATE	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00
Maximum		**80.00**	**80.00**	**80.00**	**80.00**	**80.00**	**60.00**	**50.00**	**40.00**	**40.00**	**60.00**	**80.00**	**80.00**

Detailed Reports for Watershed ID #151

PUDDING R > MOLALLA R - AB MILL CR
WILLAMETTE BASIN
Water Availability as of 9/26/2011

Watershed ID #: 151
Date: 9/26/2011

Exceedance Level: 80%
Time: 4:02 PM

Application G-17479, Karnily Kalugin