

DEQ DIVISION 33 APPLICATION REVIEW SHEET

Recommendations for Water Right Applications that may affect the Habitat of Sensitive, Threatened or Endangered Fish Species, OAR 690-33-310 through 340.

Application #: G 18311 **Applicant's Name:** Christina Arapolu and Sandra Thorne, Easy Valley Farm LLC

1) Is there a connection to a 303(d) listed water quality limited water body? NO YES

Explain: Evans Creek is a tributary to the Rogue River. The lower and middle Rogue River is listed for fecal coliform, pH, dissolved oxygen, temperature, and mercury. A temperature and bacteria TMDL exists for the Rogue Basin

Rogue 2008 TMDL Parameter Reductions
<p><input checked="" type="checkbox"/> Temperature: Beneficial uses impaired include fish and aquatic life, and fishing.</p> <p>OAR 340, Division 41 provides numeric and narrative temperature criteria. Figures 271A, 271B specify where and when the criteria apply. Biologically based numeric criteria applicable to the Rogue Basin, as measured using the seven day average of the daily maximum stream temperature include: 13.0°C during times and at locations of salmonid and steelhead spawning. 16.0°C during times and at locations of salmon and trout rearing and migration designated as core cold water habitat 18.0°C during times and at locations of salmon and trout rearing and migration.</p> <p>Human caused temperature increases from: (1) warm water discharge to surface waters (2) increased solar radiation loading, and (3) flow modification that affects natural thermal regimes.</p> <p>Peak temperatures typically occur in mid-July through mid-August. On the Rogue River, the period of exceedance of the water quality standard and applicability of allocations is from April 1- October 31 but anthropogenic heat loads are of concern throughout the year.</p>

303(d) 2012 Water Quality Limitations

Water Body (Stream/Lake)	River Miles	Parameter	Season	Criteria	Beneficial Uses	Status
Evans Creek	0 to 19.1	Biological Criteria	Year Round	Biocriteria: Waters of the state must be of sufficient quality to support aquatic species without detrimental changes in the resident biological communities.	Aquatic life	Cat 5: Water quality limited, 303(d) list, TMDL needed
Evans Creek	0 to 19.1	Fecal Coliform	FallWinterSpring	Fecal coliform median of 14 organisms per 100 ml; no more than 10% > 43 organisms per 100 ml	Water contact recreation	Cat 4A: Water quality limited, TMDL approved
Evans Creek	0 to 19.1	Fecal Coliform	Summer	Fecal coliform log mean of 200 organisms per 100 ml; no more than 10% > 400 per 100 ml	Water contact recreation	Cat 4A: Water quality limited, TMDL approved
Rogue River	0 to 27.2	Fecal Coliform	Year Round	Fecal coliform median of 14 organisms per 100 ml; no more than 10% > 43 organisms per 100 ml	Shellfish growing	Cat 5: 303(d) TMDL needed
Rogue River	68.3 to 94.9	pH	Summer	pH 6.5 to 8.5	Water contact recreation; Resident fish and aquatic life; Salmonid fish spawning; Salmonid fish	Cat 5: 303(d) TMDL needed

					rearing; Anadromous fish passage	
Rogue River	83.4 to 90.9	pH	Fall, winter, spring	pH 6.5 to 8.5	Water contact recreation; Resident fish and aquatic life; Salmonid fish spawning; Salmonid fish rearing; Anadromous fish passage	Cat 5: 303(d) TMDL needed
Rogue River	94.9 to 110.7	Fecal Coliform	Summer	Fecal coliform log mean of 200 organisms per 100 ml; no more than 10% > 400 per 100 ml	Water contact recreation	Cat 4A: Water quality limited, TMDL approved
Rogue River	33.8 to 131.8	Dissolved Oxygen	October 15 - May 15	Spawning: Not less than 11.0 mg/L or 95% of saturation	Salmon and steelhead spawning	Cat 5: Water quality limited, 303(d) list, TMDL needed
Rogue River	0 to 124.8	Temperature	Year Round (Non-spawning)	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	Salmon and trout rearing and migration	Cat 4A: Water quality limited, TMDL approved
Rogue River	0 to 216.8	Mercury	Year Round	Table 40 Human Health Criteria for Toxic Pollutants	Human health	Cat 5: Water quality limited, 303(d) list, TMDL needed

2) What is the potential for this use to impact a water quality limited water body: HIGH MEDIUM LOW

Explain: The ground water review indicates that the proposed groundwater use is hydraulically connected to surface water. According to OWRD's Water Availability Model, surface water is not available at any time of the year. Withdrawal could affect quantity and quality in critical summer months when temperatures are already too warm. Evans Creek and the Rogue River have an ISWR. Based on water availability, the cumulative withdrawal is likely to cause ecological harm from June through October. Water managers have identified harm occurring when 6-35 percent of daily flow is withdrawn¹.

(Water Availability – EVANS CR > ROGUE R - AT MOUTH - ROGUE BASIN)

Watershed ID	Exceedance Level	Month	Natural Stream Flow	Consumptive Use	Expected Stream Flow	Instream Requirement	Net Water Available	Percent of Flow
70987	50	JAN	437	1.5	435	170	265	0
70987	50	FEB	486	2	484	170	314	0
70987	50	MAR	352	1.4	351	170	181	0
70987	50	APR	211	2.76	208	170	38.2	1
70987	50	MAY	105	4.23	101	105	-4.22	4
70987	50	JUN	62.1	5.84	56.3	62.1	-5.84	9
70987	50	JUL	31	7.72	23.3	31	-7.73	25
70987	50	AUG	20.7	6.42	14.3	20.7	-6.41	31
70987	50	SEP	18.6	4.28	14.3	75	-60.7	23
70987	50	OCT	28.1	1.58	26.5	150	-123	6
70987	50	NOV	74	0.425	73.6	150	-76.4	1
70987	50	DEC	244	0.832	243	170	73.2	0
70987	50	ANN	124000	2360	122000	86900	51800	2

Monthly flow in Cubic Feet per Second (CFS). Annual flow in Acre Feet (AF).

¹ Richter, B. D., Davis, M. M., Apse, C. and Konrad, C. (2012), A Presumptive Standard for Environmental Flow Protection. River Res. Applic., 28: 1312–1321. doi:10.1002/rra.1511

3) If the answer to question (2) is HIGH or MEDIUM, will the proposed use still result in diminution of water quality for the habitat of sensitive, threatened, or endangered fish species? NO YES

If YES, how?

Temperature and dissolved oxygen are a flow-related parameter. When streamflow is reduced, heat capacity is reduced. As a waterbody heats up, dissolved oxygen concentrations decline. By reducing streamflow, this use is likely to exacerbate the temperature and dissolved oxygen impairments. The assimilative capacity of a waterway is flow dependent.

The waterbody is already limited for temperature in critical summer months. Any additional heat would further impact this habitat. Flow reductions may impact the assimilative capacity of the waterbody, increasing the concentration of some TMDLs and 303(d) listings.

4) Can conditions be applied to mitigate the impact of the use?

NO YES; recommend from Menu of Conditions and skip to question 7.

Permit should not be issued without flow mitigation. Additional mitigation may be required from other IRT members (example: OWRD may require mitigation for periods when water is not available.)

Surface flow mitigation is unlikely to provide the same benefit groundwater provides to gaining stream reaches. However, if groundwater mitigation is unavailable within a mile of the well location, surface water mitigation will provide suitable mitigation.

Mitigation obligation: 0.15 CFS within Evans Creek. Mitigation water must be obtained for the July 1 - October 31 time period. Applicant should contact the OWRD caseworker to discuss flow mitigation options.

Flow mitigation condition: Prior to water use under this permit, the applicant must provide mitigation water that is of no less volume than the amount identified in the permit. The mitigation flow must be sourced upstream of the groundwater use and must affect the impacted reach for the July 1- October 31 time period.

WQ: The use may be restricted if the quality of the source stream or downstream waters decrease to the point that those waters no longer meet state or federal water quality standards due to reduced flows.

Prohibited Activities: If the Department of Environmental Quality notifies OWRD, the pollution of waters of the state is occurring and it is determined the permit holder is not in compliance with ORS 468B.025(1), OWRD shall withhold waters. Permittee may not cause pollution of any waters of the state, or place or cause to be placed any wastes in a location where such wastes are likely to escape or be carried into the waters of the state by any means, per ORS 468B.025(1).

Agricultural Management Plans: Permittee shall comply with basin specific Agricultural Management Plan rules in OAR 603-095.

Pond releases: Permittee shall not release polluted stored water into waters of the state, unless under emergency situations. For routine maintenance, the Permittee must land apply stored water or provide treatment prior to releasing. Permittee must comply with OAR 340-041 and ensure that water quality standards are not violated by releases from storage.

Compliant Flow Restrictor – Applicant shall install an OWRD approved flow restrictor.

1200-C: Permittee shall obtain a valid 1200-C Stormwater Discharge Permit for construction projects that disturb an acre or more of land.

* If the application is amended in a way that may affect water quality, DEQ shall be notified and given the opportunity to submit updated comments and conditions.

5) If conditions cannot be identified to offset impacts, would the proposed use affect the Habitat of Sensitive, Threatened, or Endangered Fish Species? NO YES

If YES, please explain:

6) If a permit is issued, are there any conditions you would like to see included in the permit?

Refer to conditions listed in question 4.

7) Your recommendation under OAR 690-033-0330 (2): Approval with conditions
 Approval without conditions
 Denial

DEQ Representative Signature: Heather Tugaw Date: May 2, 2017

WRD Contact: **Caseworker:** Lisa Graham, Water Rights Division, 503-986-0808 / Fax 503-986-0901

MENU OF CONDITIONS FOR WRD, ODFW, DEQ AND AG

The following condition will be included in any permit issued unless ODFW explicitly requests that it be omitted:

The permittee shall not construct, operate or maintain any dam or artificial obstruction to fish passage in the channel of the subject stream without providing a fishway to ensure adequate upstream and downstream passage for fish, unless the permittee has requested and been granted a fish passage waiver or exemption through the Oregon Department of Fish and Wildlife. The permittee is hereby directed to contact an Oregon Department of Fish and Wildlife Fish Passage Coordinator before beginning construction of any in-channel obstruction.

- fishself** The permittee shall install, maintain, and operate fish screening and by-pass devices consistent with current Oregon Department of Fish and Wildlife (ODFW) standards. Fish screening is to prevent fish from entering the proposed diversion while by-pass devices provide adequate upstream and downstream passage for fish. The required screen and by-pass devices are to be in place and functional prior to diversion of any water. Permittee shall obtain written approval from ODFW that the installation of the required screen and by-pass devices meets the state's criteria or the permittee shall submit documentation that ODFW has determined screens and/or by-pass devices are not necessary.
- fishapprove** The permittee shall install, maintain, and operate fish screening and by-pass devices consistent with current Oregon Department of Fish and Wildlife (ODFW) standards. Fish screening is to prevent fish from entering the proposed diversion while by-pass devices provide adequate upstream and downstream passage for fish. The required screen and by-pass devices are to be in place and functional, and approved in writing by ODFW prior to diversion of any water. The permittee may submit evidence in writing that ODFW has determined screens and/or by-pass devices are not necessary.
- fishdiv33** If the riparian area is disturbed in the process of developing a point of diversion, the permittee shall be responsible for restoration and enhancement of such riparian area in accordance with ODFW's Fish and Wildlife Habitat Mitigation Policy OAR 635-415. For purposes of mitigation, the ODFW Fish and Wildlife Habitat Mitigation Goals and Standards, OAR 635-415, shall be followed.
- The use may be restricted if the quality of the source stream or downstream waters decrease to the point that those waters no longer meet existing state or federal water quality standards due to reduced flows.
- The permittee shall install, maintain, and operate fish screening and by-pass devices consistent with current Oregon Department of Fish and Wildlife (ODFW) standards. Fish screening is to prevent fish from entering the proposed diversion while by-pass devices provide adequate upstream and downstream passage for fish. The required screen and by-pass devices are to be in place and functional, and approved in writing by ODFW prior to diversion of any water. The permittee may submit evidence in writing that ODFW has determined screens and/or by-pass devices are not necessary.
- fishmay** Notwithstanding that ODFW has made a determination that fish screens and/or by-pass devices are not necessary at the time of permit issuance, the permittee may be required in the future to install, maintain, and operate fish screening and by-pass devices to prevent fish from entering the proposed diversion and to provide adequate upstream and downstream passage for fish.
- b52** Water may be diverted only when Department of Environmental Quality sediment standards are being met.
- b5** The water user shall install and maintain adequate treatment facilities meeting current DEQ requirements to remove sediment before returning the water to the stream.
- b51a** The period of use has been limited to _____ through _____.
- b57** Before water use may begin under this permit, a totalizing flow meter must be installed at each diversion point.
- b58** Before water use may begin under this permit, a staff gage that measures the entire range and stage between full reservoir level dead pool storage must be installed in the reservoir. The staff gage shall be United States Geological Survey style porcelain enamel iron staff gage style A, C, E or I. Additionally, before water use may begin under this permit, if the reservoir is located in channel then weirs or other suitable measuring devices must be installed upstream and downstream of the reservoir, and, a gated valve outlet must be installed. A written waiver may be obtained from the local Watermaster if in his judgment the installation of the weir(s) will provide no public benefit.
- futile call** The use of water allowed herein may be made only at times when waters from the (NAME OF SURFACE WATER) would not otherwise flow into a tributary of the _____ River or sufficient water is available to satisfy all prior rights, including rights for maintaining instream flows.
- riparian** If the riparian area is disturbed in the process of developing a point of diversion, the permittee shall be responsible for restoration and enhancement of such riparian area in accordance with ODFW's Fish and Wildlife Habitat Mitigation Policy OAR 635-415. For purposes of mitigation, the ODFW Fish and Wildlife Habitat Mitigation Goals and Standards, OAR 635-415, shall be followed.
- wq** The use may be restricted if the quality of the source stream or downstream waters decrease to the point that those waters no longer meet existing state or federal water quality standards due to reduced flows.
- fence** The stream and its adjacent riparian area shall be fenced to exclude livestock.
- blv** Water must be diverted to a trough or tank through an enclosed water delivery system. The delivery system must be equipped with an automatic shutoff or limiting flow control mechanism or include a means for returning water to the stream source through an enclosed delivery system. The use of water shall not exceed 0.10 cubic feet per second per 1000 head of livestock.