

Oregon DEQ Division 33 Review Summary Sheet



Application Information

Applicant Name:	Richard Todd	Application Number:	G-18717
Basin & Sub-basin:	Willamette Basin, Clackamas Subbasin	Requested Water Amount:	0.10 CFS
Nearest Surface Water:	Mosier Creek and Martin Creek	Nearest Receiving Waterbody:	Clear Creek, Clackamas River
Proposed Use:	Nursery use for 14.50 acres	Requested Period of Use:	Year round

Division 33 Geographic Area

☒ Lower Columbia ☐ Upper Columbia ☐ Statewide	
Upper and Lower Columbia Basins only: Based upon the review completed below, does the proposed use comply with existing state and federal water quality standards or may conditions be applied to bring the use into compliance?	☐ No ☒ Yes ☐ Insufficient data
Statewide: Will the proposed use result in water quality impacts that will cause either "loss" or "net loss" of essential habitat of sensitive threatened or endangered (ST&E) fish species? (Note: the presence of ST&E fish species is determined by Oregon Department of Fish and Wildlife.)	☐ No ☐ Yes ☐ Insufficient data

Recommended Pre-Proposed Final Order Actions

1.
2.
3.
Mitigation Obligation ☐ No ☒ Yes
Prior to issuance of a Proposed Final Order, the applicant shall submit a mitigation proposal that is of no less volume and rate than the permitted use. The proposal shall include water that is sourced upstream of the point of diversion or appropriation, or the uppermost point on the stream at which the potential for surface water interference occurs. If a surface water right is used for mitigation, it shall be instream for the July 1 – September 30 time period and of similar water quality. The applicant should contact their OWRD caseworker to discuss flow mitigation options.

Recommended Permit Conditions

1. Water Quality: All water use under this permit shall comply with state and federal water quality laws. The permittee shall not violate any state and federal water quality standards, shall not cause pollution of any waters of the state, and shall not 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. The use may be restricted if the quality of source stream or downstream waters decrease to the point that those waters no longer meet existing state or federal water quality standards.
2. Agricultural Water Quality Management Area Rules: The permittee shall comply with basin-specific Agricultural Water Quality Management Area Rules described in Oregon Administrative Rule Chapter 603-095. The permittee shall protect riparian areas, including through irrigation practices and the management of any livestock, allowing site capable vegetation to establish and grow along streams, while providing the

following functions: shade (on perennial and some intermittent streams), bank stability, and infiltration or filtration of overland runoff.		
3.		
4.		
Additional Reviewer comments ☐ No ☒ Yes		
[Use this space to describe any of the following: reasoning to substantiate permit conditions; examples of additional information that may allow or disallow the use; and why any variations to the standard Division 33 review process were necessary. Designate conditions related to Division 310 with an asterisk.] Water quality data, modelling and research has shown that withdrawals decrease the capacity of streams to assimilate pollutant loads. Thus, withdrawals potentially result in increased pollutant concentrations and warmer streams temperatures. Pollutants and parameters of concern associated with the health of sensitive, threatened or endangered fish species include: temperature, dissolved oxygen, turbidity, fine sediment, toxics, algae and pH and nutrient loading. The Clackamas River is downstream of the point of diversion and has an approved Temperature TMDL to protect cold water needs for ST&E species. To reduce the impacts of reduced flows from this basin, mitigation is recommended.		
Interagency consultation: [Describe any substantial interagency consultation. Who was contacted and what was discussed?] 03/05/2020: DEQ's Clean-up Program was contacted to see if there were any contamination concerns (email attached). A heating oil tank located on a property ~500 meters away was decommissioned in 2003-04. There are no concerns at this time.		
<table border="1"> <tr> <td>DEQ review prepared by: Roxann Nayar</td> <td>Date complete: March 22, 2020</td> </tr> </table>	DEQ review prepared by: Roxann Nayar	Date complete: March 22, 2020
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ODA Review Request

ODA review requested: ☐ No ☒ Yes	Date review sent to ODA: March 13, 2020
ODA reviewer: Paul Measles and Margaret Matter	ODA review date: March 13, 2020
ODA comments ☐ No ☐ N/A ☒ Yes	
[ODA: enter the results of your review here. Designate conditions related to Division 310 with an asterisk.] PM: This application intends to use water pumped from well CLAC 17036. This well is filed as a domestic well. Also, it is poorly constructed and may be causing intermingling of two aquifers. The well log shows that only 11 bags of bentonite were used to seal 160 feet of borehole. That's not nearly enough. The well is screened in the lower aquifer. There have been many wells in the Mosier area that drain the upper aquifer into the lower one, causing problems for the municipal water supply. MM: Second to bringing the up to standards, the issue of potential significant interference needs to be addressed. Surface water is available that the applicant could store to release later in the year.	

Antidegradation Policy:

The purpose of DEQ's Antidegradation Policy (OAR 340-041-0004(1)) is to guide decisions that affect water quality to prevent unnecessary further degradation from new or increased point and nonpoint sources of pollution, and to protect, maintain, and enhance existing surface water quality to ensure the full protection of

all existing beneficial uses. Oregon's Antidegradation Policy allows exemptions and conditions for new or increased water use.

1. Temporary Use or Net Benefit

Does the applicant propose a temporary use in response to an emergency, a restoration activity that the DEQ has determined provides a net ecological benefit, or a temporary (lasting less than six months) use to protect human health and welfare, for which the applicant has demonstrated that they will minimize adverse effects to threatened and endangered species? ☒ No ☐ Yes

If yes, recommend approval of the application and identify conditions necessary to protect water quality for the habitat of ST&E fish species. You may skip to Question 7.

2. Outstanding Resource Water

Does the applicant propose withdrawing directly from an **Outstanding Resource Water** with critical habitat for ST&E fish species? ☒ No ☐ Yes

If yes, then prior to permit issuance, the applicant must provide suitable flow mitigation. You may skip to question 7.

3. Water Quality Limited

Is this source **Water Quality Limited** or a tributary to a water quality limited water body? Note: limit downstream review to 6th field HUC for parameters that diminished flow can affect (temperature, dissolved oxygen, pH, etc.). ☐ No ☒ Yes

Integrated Report 303(d) List Summary Table

Water Body (Stream/Lake)	River Miles	Parameter	Season	Criteria	Beneficial Uses	Status
Clackamas River	0-83.2	Biological Criteria	Year Round	Biocriteria	Aquatic Life	TMDL Needed
Clackamas River	0-22.9	Temperature	Summer	Rearing 17.8C	Anadromous Fish Passage, Salmonid Rearing	TMDL Approved
Clackamas River	0-8	Dissolved Oxygen	Oct 15- May 15	Spawning		TMDL Needed

Analysis: [If the answer to question 3 is yes, then describe how the use does or does not comply with existing state and federal water quality standards, and how the use may affect ST&E fish species habitat.]

The Clackamas River is the receiving waterbody downstream of the point of diversion, where Clear Creek joins the river at river mile 8.15. At this river mile, the following listings related to hydromodification are listed for the Clackamas River: Biological Criteria and Temperature.

A TMDL for Temperature was approved and Oregon's stream temperature standards are based on the life cycle needs of salmonids and other resident fish and aquatic life. Stream temperatures that exceed the standards can disrupt the life cycles of a sensitive, threatened, or endangered fish species, and may even cause death. Water temperatures are influenced by solar radiation, stream shade, ambient air temperatures, channel morphology, groundwater inflows, precipitation, and flow duration, timing, frequency and volume.

From the mouth of the Clackamas River to the confluence at Clear Creek (river mile 8.15), the river is designated for salmon and trout rearing and migration. Spawning season temperature requirements extend from October 15-May 15 (13C). The rest of the season is considered Core Cold Water Habitat (16C), except during spawning season, which may begin as early as September 1 and go until June 15 (13C).

To protect water quality needs for ST&E species and meet water quality temperatures, protecting cold water temperatures for fish is critical. The following conditions are recommended.

Recommended Conditions: [Consider if water quality can be protected by limiting the rate and quantity of water used, period of use, or by including other permit conditions.]

Mitigation, Water Quality

4. Total Maximum Daily Load Summary

Are there TMDLs established for parameters identified as being affected by flow modification? ☐ No ☒ Yes

Analysis: [List TMDL, identify the load allocation, and if flow modification is a contributing factor. Describe how the use does or does not comply with existing state and federal water quality standards and how the use may affect ST&E fish species habitat.]

From the mouth of the Clackamas River to the confluence at Clear Creek (river mile 8.15), the river is designated for salmon and trout rearing and migration. Spawning season temperature requirements extend from October 15-May 15 (13C). The rest of the season is considered Core Cold Water Habitat (16C), except during spawning season, which may begin as early as September 1 and go until June 15 (13C).

Recommended Conditions: [Consider if water quality can be protected by limiting the rate and quantity of water used, period of use, or by including other permit conditions.]

Mitigation, Water Quality

5. Cumulative Withdrawals Effects

Is it likely that the proposed activity, together with existing withdrawals in the OWRD's Water Availability Basin (WAB), will lower water quality and impair aquatic life? ☐ No ☒ Yes

Water Availability Summary Table

Percent of natural flow = (consumptive use/natural stream flow)*100. See Appendix for detailed instructions.

[Water Availability Basin]: Clear Creek > Clackamas River > At Mouth Willamette Basin

Watershed ID	Exceedance Level	Month	Natural Stream Flow	Consumptive Use	Expected Stream Flow	Reserved Stream Flows	Instream Requirement	Net Water Available	Percent of Flow
82	50	JAN	303	1.31	302	0	0	302	0
82	50	FEB	256	1.22	255	0	0	255	0
82	50	MAR	189	0.843	188	0	0	188	0
82	50	APR	202	0.99	201	0	0	201	0

82	50	MAY	152	2.7	149	0	0	149	2
82	50	JUN	65.2	3.75	61.4	0	40	21.4	6
82	50	JUL	22	6.46	15.5	0	40	-24.5	29
82	50	AUG	10.5	5.28	5.22	0	20	-14.8	50
82	50	SEP	9.63	2.28	7.35	0	20	-12.6	24
82	50	OCT	11.2	0.913	10.3	0	0	10.3	8
82	50	NOV	88.9	0.881	88	0	0	88	1
82	50	DEC	336	1.38	335	0	0	335	0
82	50	ANN	99100	1700	97400	0	7260	93300	2

Monthly flow in Cubic Feet per Second (CFS). Annual flow in Acre Feet (AF). Highlight months that exceed 20% of percent of flow.

[Water Availability Basin]: Willamette River > At Mouth Columbia River

Watershed ID	Exceedance Level	Month	Natural Stream Flow	Consumptive Use	Expected Stream Flow	Reserved Stream Flows	Instream Requirement	Net Water Available	Percent of Flow
181	50	JAN	51100	2700	48400	0	1500	46900	5
181	50	FEB	49100	7970	41100	0	1500	39600	16
181	50	MAR	42400	7550	34900	0	1500	33400	18
181	50	APR	36400	7200	29200	0	1500	27700	20
181	50	MAY	28300	4430	23900	0	1500	22400	16
181	50	JUN	15800	2360	13400	0	1500	11900	15
181	50	JUL	7980	2310	5670	0	1500	4170	29
181	50	AUG	5530	2070	3460	0	1500	1960	37
181	50	SEP	5740	1700	4040	0	1500	2540	30
181	50	OCT	8390	735	7660	0	1500	6160	9
181	50	NOV	24400	1040	23400	0	1500	21900	4
181	50	DEC	52800	1360	51400	0	1500	49900	3
181	50	ANN	19700000	2480000	17300000	0	1090000	16200000	13

6. Flow Modification Compliance with State and Federal Water Quality Standards

Based on responses to questions 3, 4, and 5, is the use in compliance with state and federal water quality standards or can compliance with state and federal water quality standards be assured, and ST&E habitat loss prevented by limiting the amount diverted, period of use, or by imposing permit condition(s)?

☐ No ☒ Yes

- If yes:

Recommended Conditions: [If water quality can be protected by modifying or limiting the amount diverted, period of use, or other permit conditions, then select appropriate condition from the conditions list.]

Mitigation, Water Quality, Agricultural Water Quality Management Area Rules

- If no, can **flow mitigation** ensure compliance with state and federal water quality standards and prevent loss of ST&E habitat? ☐ No ☒ Yes

7. Compliance with other State and Federal Water Quality Standards

ORS 468B.025 prohibits pollution of waters of the state. Are there additional water quality impairments that would result from this proposed used by degrading surface water or groundwater quality?

☐ No ☒ Yes

If water quality can be protected by applying permit conditions, then select all appropriate conditions from the standardized menu of conditions.

Recommended conditions: [List conditions]

Water Quality, Agricultural Water Quality Management Area Rules

PRE-PROPOSED FINAL ORDER ACTIONS

DEQ requests that the applicant provide suitable replacement water as mitigation for anticipated impacts to water quality and more specifically the habitat of sensitive, threatened, and endangered fish species. Additional mitigation may be required from other Interagency Review Team members (for example: OWRD may require mitigation for periods when water is not available). Surface water flow mitigation is unlikely to provide the same benefit that groundwater can provide to gaining stream reaches. However, if groundwater mitigation is unavailable within the same aquifer, surface water mitigation may provide suitable mitigation.

Flow Mitigation Obligation:

Prior to issuance of a Proposed Final Order, the applicant shall submit a mitigation proposal that is of no less volume and rate than the permitted use. The proposal shall include water that is sourced upstream of the point of diversion or appropriation, or the uppermost point on the stream at which the potential for surface water interference occurs. If a surface water right is used for mitigation, it shall be instream for the *month - month time period* and of similar water quality. The applicant should contact their OWRD caseworker to discuss flow mitigation options.

Riparian: If the riparian area is disturbed in the process of developing, modifying or repairing a point of diversion under this water use permit, the permittee shall be responsible for restoration and enhancement of such riparian area in accordance with the Oregon Department of Fish and Wildlife's Habitat Mitigation Policy described in Oregon Administrative Rule OAR Chapter 635-415. Prior to development, modification or repairs at the point of diversion, the permittee shall submit, to the Oregon Water Resources Department, either a Riparian Mitigation Plan approved in writing by Oregon Department of Fish and Wildlife (ODFW) or a written declaration from ODFW that riparian mitigation is not necessary. The permittee shall maintain the riparian area for the life of the permit and subsequent certificate per the approved Riparian Mitigation Plan. The permittee is hereby directed to contact the local Oregon Department of Fish and Wildlife Fish Biologist prior to development of the point of diversion.

Water Storage Construction: The applicant shall locate the reservoir outside of the stream's natural channel. *identify waterbody and set back to prevent stream capture and justification for distance selected.*

(Note to reviewer: The 1200C permit requires a 50-foot setback, which is cited from the National General Construction Permit OAR-660-023-0090(5). Requiring the storage reservoir to be outside of the mapped 100 year floodway may also be a protective buffer.)

STANDARIZED MENU OF CONDITIONS

Water Quality: All water use under this permit shall comply with state and federal water quality laws. The permittee shall not violate any state and federal water quality standards, shall not cause pollution of any waters of the state, and shall not 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. The use may be restricted if the quality of source stream or downstream waters decrease to the point that those waters no longer meet existing state or federal water quality standards.

Agricultural Water Quality Management Area Rules: The permittee shall comply with basin-specific Agricultural Water Quality Management Area Rules described in Oregon Administrative Rule Chapter 603-095. The permittee shall protect riparian areas, including through irrigation practices and the management of any livestock, allowing site capable vegetation to establish and grow along streams, while providing the following functions: shade (on perennial and some intermittent streams), bank stability, and infiltration or filtration of overland runoff.

Flow Restrictor: The permittee shall install a flow control valve on the diversion system to limit use to the permitted rate. The valve shall be in place, functional, and verified by the Certified Water Rights Examiner before a certificate is issued. The valve or a suitable replacement shall remain in place for the life of the water right.

Limit Rate: Water withdrawal shall be limited to *Enter CFS or AF for the defined period, or a month by month rate or volume.*

Limit Period of Use: Water use shall be limited to the period: *start date through end date.*

(Note to reviewer: Do not split the irrigation season. Require mitigation if water is not available during the requested time period.)

Limit Diversion: The permittee shall not divert water under this water use permit unless streamflow in the *waterbody name* is at or above *CFS* cubic foot per second, as determined at Gaging Station ID *.*

Off-Channel Stored Water Releases: The permittee shall not release polluted water from this off-channel reservoir into waters of the state except when the release is directed by the State Engineer to prevent dam failure.

On-Channel Reservoir: The permittee shall design and operate the water storage facility such that all waters within and below the reservoir meet water quality criteria. The permittee shall develop a reservoir operations plan that details how water quality criteria and standards will be met. A Certified Water Rights Examiner shall verify that the reservoir operations are consistent with the plan before a certificate is issued. The reservoir operator shall maintain a copy of the plan and make it available for review upon request.

Restrict Reservoir Release: To prevent pollution downstream, the permittee shall not release water from the reservoir when the flow at Gaging Station ID *(gage name)* is below the Mean Daily Discharge of *CFS* (discharge which was equaled or exceeded for 90% percent of the time) except when the release is directed by the State Engineer to prevent dam failure.

Live Flow: Once the allocated volume has been stored, permittee shall pass all live flow downstream at a rate equal to inflow, using methods that protect instream water quality.

Lining: The permittee shall line the reservoir with *include material or allowable infiltration rate* to minimize seepage and protect groundwater quality per Oregon Administrative Rule 340-040. The liner is to be in place, inspected, and approved by the Certified Water Rights examiner prior to storage of water.* If the liner fails, the water user shall replace it within one calendar year.

Site-Specific Condition: The permittee shall

* OAR 690-410-0010(2)(a), OAR 690-310-0120, OAR 690-310-0140

Appendix: General Overview, Instructions for Water Availability Analysis, and Process Flow Chart

General Overview

The purpose of OAR Chapter 690, Division 33 is to aid the Oregon Water Resources Department (OWRD) in determining whether a proposed use will impair or be detrimental to the public interest with regard to listed sensitive, threatened, or endangered (ST&E) fish species. Oregon's stream temperature, dissolved oxygen (DO), pH and several other water quality standards are based on the life cycle needs of salmonids and other resident fish and aquatic life. Exceeding the standards can disrupt the life cycle of a ST&E fish species and may cause death. In addition, OWRD must consider water quality impacts as part of a public interest review, OAR 690-310-0120. Water quality impacts and conditions unrelated to ST&E species should be noted as "Division 310" in the recommendations to OWRD. The DEQ's Water Right Application Review Procedures document contains a full description of the review process.

The two main categories of Division 33 reviews are based on the geographic distribution of ST&E fish species:

- **For Proposed Uses in the Columbia River Basin**, reviews must determine whether a proposed use complies with existing state and federal water quality standards. Upper Columbia applications specifically require applicants to provide evidence that the proposed use complies with existing state and federal water quality standards. Geographic scope: Columbia River Basin (includes all waters that ultimately drain into the Columbia River).
- **For Proposed Uses Statewide**, review is conducted under the "Statewide review" procedure. Statewide reviews must determine whether a proposed use may affect ST&E fish species habitat. The statewide review procedure is intended to identify permit conditions that can prevent the "loss" or "net loss" of essential habitat of ST&E fish species. When permit conditions cannot be identified that meet this standard, then the DEQ recommends denial of the permit. Geographic scope: all areas outside the Columbia River Basin where OWRD determines ST&E fish species are present.

Instructions for Populating the Water Availability Summary Table using data from OWRD's WAB (Section 5)

- Open OWRD's Water Availability Reporting System.
- Search for the water availability basin of interest. Select 50% exceedance. The 50% exceedance stream flow is the stream flow that occurs at least half of the time.
- The water availability analysis will display a nested list of watersheds that contain the POD. Select the highest nesting order WAB that contains the POD.
- Download to an Excel spreadsheet. Percent of flow is calculated using this equation:

$$\text{Percent of Flow} = \frac{\text{Consumptive Use}}{\text{Natural Stream Flow}} * 100$$

You may choose to add the proposed rate (or storage amount) to the consumptive use.

Instructions for Water Availability Analysis

To complete Section 6, review and consider the cumulative impact of consumptive withdrawals using the **OWRD WAB**. All water withdrawals and the following factors should be considered when conducting a water availability analysis.

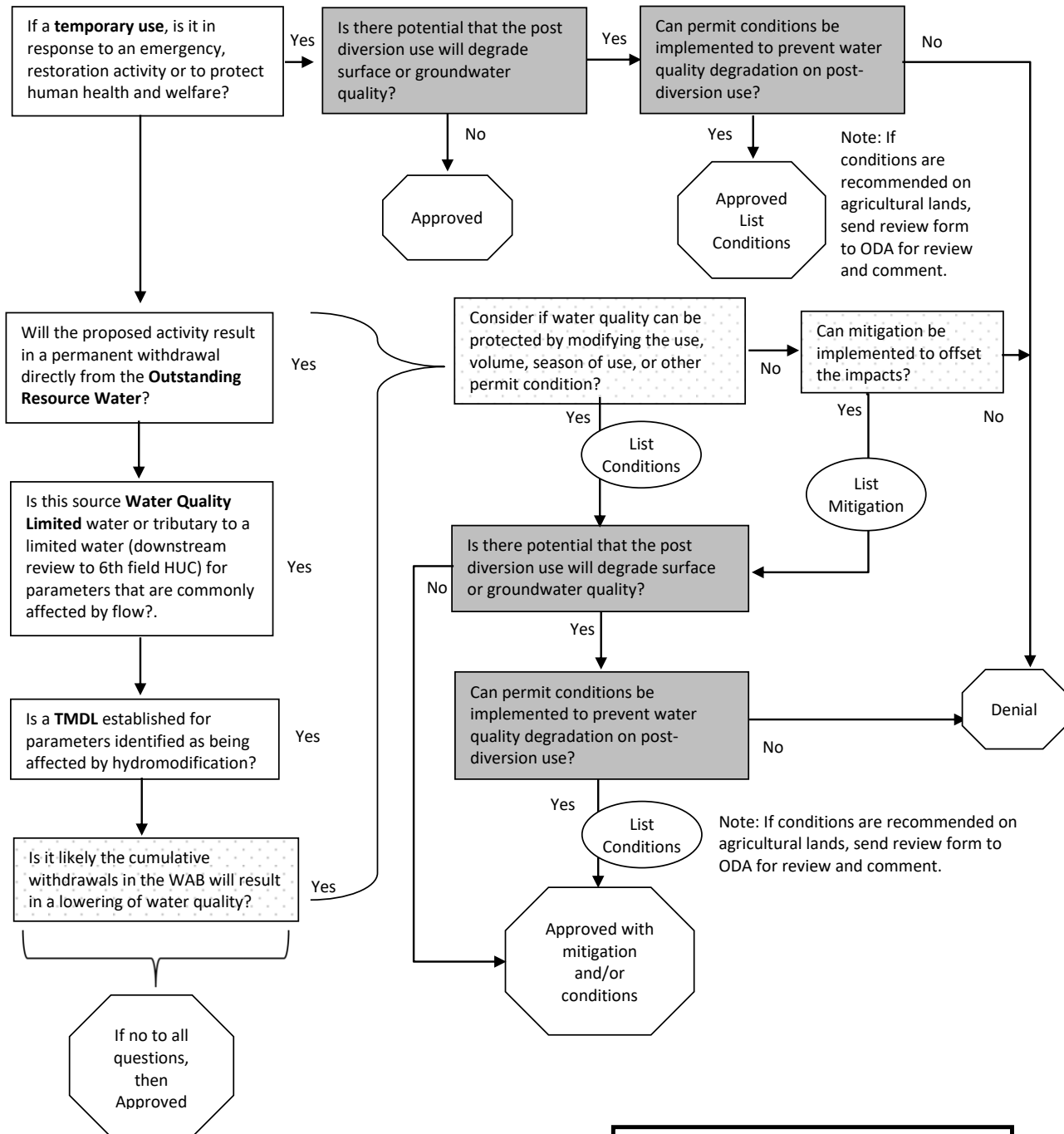
- **Instream Flow**: Consider the percent of natural flow left instream in each month (see right-most column in Table 1). Based on best professional judgment, evaluate if the cumulative withdrawal is likely to cause

impairment to aquatic life or water quality. Water quality standards are established to protect aquatic life. In scientific literature, researchers have identified ecological harm occurring when flows are reduced by [>6-35% of daily flow](#)¹. Consider the seasonality of any listings and season of withdrawal to determine impact for each month of the year.

- **Antidegradation:** Rule 340-041-0004 applies: withdrawals cannot cumulatively increase a waterbody's temperature by more than 0.5 degrees Fahrenheit or cause a 0.1 mg/l decrease in dissolved oxygen from the upstream end of a stream reach to the downstream end of the reach so long as it has no adverse effects on threatened and endangered species. See OAR [340-041-0004\(3\)-\(5\)](#) for a description in rule of activities that do not result in lowering of water quality.
- **Flow modification:** Consider if cumulative withdrawals are contributing to flow modification and a likely limiting factor in the waterbody at certain times of the year. Temperature and dissolved oxygen are flow-related parameters. When streamflow is reduced, assimilative capacity is reduced. As a waterbody heats up, dissolved oxygen concentrations decline. Reduced stream flows (including groundwater inputs to streamflow), exacerbate temperature and/or dissolved oxygen impairments.
- **Temperature:** Increases in temperature or a reduction in dissolved oxygen adversely impacts ST&E fish. Fish require different temperature and concentrations of dissolved oxygen based on species and life history stage. Oregon's temperature and dissolved oxygen limits are based on the most sensitive species and the life history stage of those species at the location and season of concern. Additional heat or reduction in dissolved oxygen concentrations will further impact these species habitat. Reduced flows can also increase the concentrations of phosphorous, bacteria, pesticides and metals.

¹ Richter BD, Davis MM, Apse C, Konrad C. 2011. *Short Communication, A Presumptive Standard For Environmental Flow Protection*. River Research and Applications. Published online in Wiley Online Library (wileyonlinelibrary.com), DOI: 10.002/rra.1551

DEQ Water Right Review Flow Chart



Each yes will need to be explained by how the use does not comply with existing state and federal water quality standards and how the use may affect sensitive, threatened or endangered fish species habitat.

Note: Review based on DEQ's anti-degradation rule (340-041-0004).