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 18539 **Applicant's Name:** DAYTON NATURAL MEATS LLC

The application proposed the appropriation of 0.11 CFS of water, further limited to 26.0 AF annually, from Well 1 in Yamhill River Basin for year-round commercial use.

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

Explain: Yamhill River is water quality limited (Table 1). A TMDL exists for the Yamhill Watershed for phosphorus. The temperature TMDL for Yamhill is not complete.

Table 1. 303(d) 2012 Water Quality Limitations

Water Body (Stream/Lake)	River Miles	Parameter	Season	Criteria	Beneficial Uses	Status
Yamhill River	0 to 11.2	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
Yamhill River	0 to 11.2	Chlorophyll a	FallWinterSpring	Reservoir, river, estuary, non-thermally stratified lake: 0.015 mg/l	Aesthetics; Water supply; Water contact recreation; Fishing; Livestock watering	Cat 4A: Water quality limited, TMDL approved
Yamhill River	0 to 11.2	Chlorophyll a	Summer	Reservoir, river, estuary, non-thermally stratified lake: 0.015 mg/l	Aesthetics; Livestock watering; Water supply; Water contact recreation; Fishing	Cat 4A: Water quality limited, TMDL approved
Yamhill River	0 to 11.2	Copper	Year Round	Table 20 Toxic Substances	Aquatic life; Human health	Cat 5: Water quality limited, 303(d) list, TMDL needed
Yamhill River	0 to 11.2	Dissolved Oxygen	January 1 - May 15	Spawning: Not less than 11.0 mg/L or 95% of saturation	Resident trout spawning	Cat 5: Water quality limited, 303(d) list, TMDL needed
Yamhill River	0 to 11.2	E. Coli	FallWinterSpring	30-day log mean of 126 E. coli organisms per 100 ml; no single sample > 406 organisms per 100 ml	Water contact recreation	Cat 5: Water quality limited, 303(d) list, TMDL needed
Yamhill River	0 to 11.2	Fecal Coliform	FallWinterSpring	Fecal coliform log mean of 200 organisms per 100 ml; no more than 10% > 400 per 100 ml	Water contact recreation	Cat 5: Water quality limited, 303(d) list, TMDL needed
Yamhill River	0 to 11.2	Iron	Year Round	Table 20 Toxic Substances	Aquatic life	Cat 5: Water quality limited, 303(d) list, TMDL needed
Yamhill River	0 to 11.2	Lead	Year Round	Table 20 Toxic Substances	Aquatic life	Cat 5: Water quality limited, 303(d) list, TMDL needed
Yamhill River	0 to 11.2	Mercury	Year Round	Table 40 Human Health Criteria for Toxic Pollutants	Human health	Cat 5: Water quality limited, 303(d) list, TMDL needed

Yamhill River	0 to 11.2	pH	May 1 - October 31	pH 6.5 to 8.5	Water contact recreation; Resident fish and aquatic life; Anadromous fish passage; Salmonid fish rearing; Salmonid fish spawning	Cat 4A: Water quality limited, TMDL approved
Yamhill River	0 to 11.2	Phosphorus	May 1 - October 31	Biocriteria: Waters of the state must be of sufficient quality to support aquatic species without detrimental changes in the resident biological communities.	Aesthetics	Cat 4A: Water quality limited, TMDL approved
Yamhill River	0 to 11.2	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 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 use has potential for substantial interference with the Yamhill River. According to the IR, surface water is not available June 1 through September 30, reduced groundwater recharge and resulting streamflow could impact quantity and quality in critical summer months when temperatures are already too warm. Based on water availability, the cumulative withdrawal is likely to cause ecological harm during this time, refer to Table 2. Water managers have identified harm occurring when >6-35 percent of daily flow is withdrawn[1]. In addition, the Yamhill River has an instream water right for pollution abatement.

Table 2. YAMHILL R > WILLAMETTE R - AT MOUTH WILLAMETTE BASIN

Watershed ID	Exceedance Level	Month	Natural Stream Flow	Consumptive Use	Expected Stream Flow	Instream Requirement	Net Water Avail	Percent of flow (consumptive/ natural)
30200801	50	JAN	4210	68.6	4140	31.7	4110	2
30200801	50	FEB	3950	66.3	3880	31.7	3850	2
30200801	50	MAR	2970	42	2930	31.7	2900	1
30200801	50	APR	1660	49.9	1610	31.7	1580	3
30200801	50	MAY	801	66.7	734	31.7	703	8
30200801	50	JUN	338	88.6	249	31.7	218	26
30200801	50	JUL	154	112	42	31.7	10.3	73
30200801	50	AUG	87.4	99.5	-12.1	31.7	-43.8	114
30200801	50	SEP	82.4	64.4	18	31.7	-13.7	78
30200801	50	OCT	146	17	129	31.7	97.3	12
30200801	50	NOV	1380	38.7	1340	31.7	1310	3
30200801	50	DEC	3830	65.4	3760	31.7	3730	2
30200801	50	ANN	1180000	47100	1130000	23000	1110000	4

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

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?

The Yamhill River is identified as Salmon and Trout Rearing and Migration.

[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

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. By reducing groundwater recharge and resulting streamflow, this use is likely to exacerbate the temperature and dissolved oxygen impairments. The assimilative capacity of a waterway is flow dependent. Reduced flows can increase the concentrations of phosphorous, bacteria, pesticides and metals.

Increases in temperature or a reduction in dissolved oxygen adversely impacts sensitive, threatened, and endangered 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. The temperature and dissolved oxygen concentrations of hydrologically connected waterbodies are known to be insufficient for the habitat of sensitive, threatened, and endangered fish. Additional heat or reduction in dissolved oxygen concentrations will further impact these species habitat.

The phosphorus TMDL established criteria to protect the resident fish and aquatic life, water contact recreation, and aesthetic quality. The low flow season is a concern as the assimilative capacity of the waterway is flow dependent.

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

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

Period of Use: DEQ recommends that water withdrawal is limited to the period: November 1 through May 31.

Alternatively, if the period of use cannot be adjusted, DEQ recommends that the applicant shall mitigate anticipated impacts to water quality for the habitat of sensitive, threatened, or endangered fish species by providing suitable replacement water. 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 the same aquifer, surface water mitigation will provide suitable mitigation.

Mitigation obligation: Prior to water use under this permit, the applicant shall provide mitigation water that is of no less volume than the permitted use. Mitigation water shall be sourced upstream of the point of appropriation, or the uppermost point on the stream at which PSI occurs. If surface water is used for mitigation, it shall be instream for the June 1- September 30 time period. The applicant should contact their OWRD caseworker to discuss flow mitigation options.

Water Quality: The use may be restricted if the quality of the source stream or downstream waters decreases to the point that those waters no longer meet existing state or federal water-quality standards due to reduced flow.

Prohibited Activities: Permittee shall 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). If the Department of Environmental Quality determines that pollution of waters of the state is occurring, the permit holder is not in compliance with ORS 468B.025(1), DEQ shall notify OWRD of the violation.

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?

See Question 4.

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

DEQ representative signature: Heather Tugaw Date: March 6, 2018

WRD Contact: **Caseworker**: Kim French Water Rights Division, 503-986-0900 / 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 Not withstanding 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.