

May 2022

2022 Water Quality Integrated Report  
*Public Comments*



This document was prepared by  
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Water Quality Assessments  
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# 1. Introduction

This document contains the text or links to the text of all comments received during the public comment period held from Jan. 12, 2022 through Friday, Feb. 11, 2022 for the draft 2022 Integrated Report. For DEQ’s response to the comments please see the “IR 2022 Response to Comment” document available online at <https://www.oregon.gov/deq/wq/Pages/proposedIR.aspx>.

## 2. List of Commenters

<b>Commenter</b>	<b>Acronym</b>
Bureau of Land Management	BLM
Clackamas Water Environmental Services	CWES
Clean Water Services	CWS
Deschutes River Alliance	DRA
David Waltz	DW
East Fork Irrigation District	EFID
Environmental Protection Agency	EPA
Farmers Irrigation District	FID
Forest Waters Coalition	FWC
Klamath Irrigation District	KID
Northwest Environmental Advocates	NWEA
Oregon Coordinating Council on Ocean Acidification and Hypoxia	OCCOAH
Oregon Department of Fish and Wildlife	ODFW
Oregon Farm Bureau & Oregon Forest Industries Council	OFT & OFIC
Raymond Kinney	RK
Save Our Siletz River	SOSR
United States Forest Service, Pacific Northwest Region	USFSPNR
Willamette Riverkeeper	WR



# 3. Comments from Bureau of Land Management

Subject: Proposed Listing in La Pine Area

Date Received: Feb. 11, 2022

Thank you for the opportunity to submit comments regarding proposed ODEQ listings in the La Pine area. After a review of the data, I would submit the following:

The HUC 12s Town of La Pine- Long Prairie (OR\_WS\_170703020609\_05\_102365 ) and West Long Prairie(OR\_WS\_170703020606\_05\_102362) and waterways Long Prairie Slough and Unnamed Trib to Long Prairie Slough have proposed water quality listings based on sample points OSF-02 and OSF-09. These locations should not be listed.

The rationale given for listings at these locations is due to biocriteria. This determination is based on a sample of aquatic macro-invertebrates taken at these sites compared to a modeled expectation of macro-invertebrate presence.

It was brought to my attention (Anna Smith, BLM Hydrologist, personal communication) that the sampling method used by the BLM (Reachwide) at several locations does not fit the criteria for the PREDATOR model, which the listing is based on. Out of a subsample of monitoring locations that was done on BLM lands, only OSF-07 (where the Targeted Riffle sampling method was used) fits the criteria of the model (Table 1). Any sampling that uses the Reachwide method should not be used as criteria for impairment listing.

This situation may occur for other potential listing locations.

Table 1. Sampling locations on BLM lands showing that only one location collected the appropriate information for the PREDATOR model

MLocID	EvaluationID	Macro Invert Collection Date	Protocol	MacroInvert Collection Method	NetType	NetArea	Num MacroInvert Locations Sampled	Total Area Sampled	NumMacro InvertJars	NAMC_Macro Invert SampleID
OSF-01	PSF-RV-1001_2018-07-12	43294	Wadeable	Reachwide	Kick net	0.093	11	1.023	2	168891
OSF-04	PSF-LS-1004_2018-07-26	43307	Wadeable	Reachwide	Kick net	0.093	11	1.023	4	168889
OSF-07	PSF-LS-1007_2018-07-27	43308	Wadeable	Targeted Riffle	Surber net	0.093	8	0.744	7	168890
OSF-06	PSF-SS-1006_2018-08-10	43322	Wadeable	Reachwide	Kick net	0.093	11	1.023	2	168893
OSF-09	PSF-SS-1009_2018-08-11	43323	Wadeable	Reachwide	Kick net	0.093	11	1.023	3	168894
OSF-02	PSF-SS-1002_2018-09-19	43362	Wadeable	Reachwide	Surber net	0.093	11	1.023	8	168892

Furthermore, the Unnamed Trib to Long Prairie Slough is in reality the Finley Ditch. The water delivered via the Walker Basin Canal originates from the Little Deschutes River in the adjacent watershed. Also, Monitoring Stations OSF-09 and OSF-02 both appear to be on irrigation ditches (Figure 1).

Neither of these two HUC12 watersheds, nor the irrigation infrastructure should currently be listed as impaired.

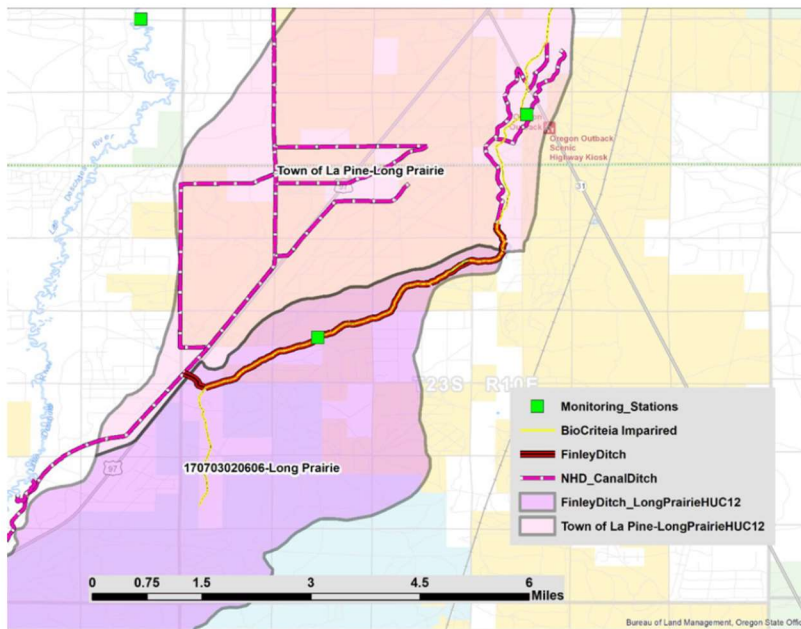


Figure 1. Map of proposed impaired waterways and watersheds, with locations of irrigation canals, ditches and monitoring locations for context

# 4. Comments from Clackamas Water Environment Services

**Subject: WES; Comments on DEQ’s draft 2022 Integrated Report on Surface Water Quality and List of Water Quality Limited Waters.**

**Date Received: Feb. 11, 2022**

Connie Dou,

Thank you for the opportunity to review and comment on the DEQ’s draft 2022 Integrated Report on Surface Water Quality and List of Water Quality Limited Waters. WES staff have reviewed the draft report and have offered the following comments:

- The Lower Willamette River has numerous category 5 listings for pollutants, which were not detected in the river’s water. An example is the reach of the Willamette River from Champoeg Creek to the Clackamas River. Several pollutants here – including dieldrin and DDE 4,4’ – are on the list with a category 5 designation – which means a TMDL is needed – yet the website says “All results are non-detects with detection limits above criteria”. Another example is aldrin in the reach of the river from the Clackamas River to Johnson Creek. Because these pollutants were not detected, why would DEQ assume that the pollutant was actually present in a harmful concentration, and then put that water body on the 303(d) list with a category 5 designation? DEQ should re-designate all of these listings in all water bodies in Oregon as category 3 (“not enough information...”).
- The Lower Willamette River has numerous category 5 listings for pollutants which had “zero excursions of criteria”. An example is the reach of the Willamette River from the Clackamas River to Johnson Creek. At least two pollutants here – cyanide and ethylbenzene – are on the list with a category 5 designation – which means a TMDL is needed – yet the measured amount of the pollutant was below the criteria. DEQ should redesignate all of these types of listings in all water bodies in Oregon as category 3 (“not enough information...”).
- In many instances, DEQ chose to combine two or more smaller streams into sub-watershed-size groupings, which are based, to the best of our knowledge, on the U.S. Geological Survey’s HUC-12 classification, the smallest federally-derived hydrologic classification available in Oregon at this time. For listings of interest to WES, in many instances, all of the water quality data from several different creeks were pooled together into a single Assessment Unit (unit) and an assessment conclusion was then drawn for the unit as a whole. This is a loss of detail compared to older 303(d) lists/integrated reports, when creeks weren’t combined into a larger units with one or more other creeks for 303(d)



listing purposes. An example is Sieben WES Comments Creek, a tributary in the lower Clackamas River's watershed. In previous integrated reports, Sieben Creek had its own 303(d) listings (dissolved oxygen, for example). But Sieben Creek is now in a larger assessment unit with Rock Creek and maybe other creeks and this unit's name is "HUC12 Name: Rock Creek-Clackamas River". This loss of detail creates challenges from a water quality management perspective, in part because creeks at this scale and particularly in urban environments can have drastically different water quality characteristics. If DEQ continues to combine several different creeks into the same assessment unit, an appropriate name should be used minimize confusion. For example, the Rock-Sieben Creek unit's name could be changed to "*Rock and Sieben Creeks-Clackamas River*".

- As recently as a few years ago, DEQ's 303(d) list/Integrated Report website provided a detailed summary of the supporting information for the water quality data which was used by DEQ to support listing and delisting decisions. Having this data and supporting information on the website was very helpful to WES staff as they conducted reviews of previous 303(d) lists. Unfortunately, some of this data isn't on the DEQ's website at this time, or if it is available, it requires significant additional effort to find, and when it can be found, the data/information can be confusing or cryptic. Examples of supporting information which should be provided is the name of the organization who collected this data, when it was collected, and additional information about where it was collected, such as a nearby street address or the nearest intersection of streets. Note that our January 6, 2020, comment letter – which was submitted for the draft 2018-2020 Integrated Report – included a similar comment. During our review over the past few weeks, WES staff have been able to obtain most of the supporting information needed, but the data and information they wanted wasn't always obtained. We urge DEQ to make it easier to obtain the water quality data, and the full summaries of supporting information for water quality data, on the website again when the 303(d) list/Integrated Report is updated in the future.

Please direct any specific questions you may have about the comments to WES' Andrew Swanson at [andrews@clackamas.us](mailto:andrews@clackamas.us) or 503-793-4570. Again, thank you for the opportunity to review this draft report.

Sincerely,

Greg Geist  
Director

cc: Ron Wierenga  
Andrew Swanson

# 5. Comments from Clean Water Services

**Subject: Clean Water Services Comments on Oregon’s draft 2022 Integrated Report**

**Date Received: Feb. 11, 2022**

DEQ Integrated Report Team

Water Quality Division

700 NE Multnomah

Portland, OR 97232-4100

*Submitted via email to: [IntegratedReport@deq.state.or.us](mailto:IntegratedReport@deq.state.or.us)*

Re: Clean Water Services comments on Oregon’s draft 2022 Integrated Report

To Oregon Department of Environmental Quality:

Clean Water Services (District) appreciates the opportunity to comment on Oregon’s draft 2022 Integrated Report (Integrated Report). The District is a special service district, located in Washington County, Oregon, providing sanitary sewer service, stormwater management, and watershed management for more than 600,000 residents and the businesses and industries that support the local and global economy. The District holds an integrated watershed-based NPDES permit covering the sanitary sewer conveyance system, four water resource recovery facilities, and the municipal separate storm sewer system serving urbanized Washington County. The District also acts as the agent for DEQ in administering the industrial stormwater (1200-Z) and construction stormwater (1200-C and 1200-CN) permit programs.

The Integrated Report is the mechanism provided for in the Clean Water Act to assess and communicate the quality of Oregon’s surface waters. The results of the water quality assessment in the Integrated Report are used to define the priorities for Oregon’s water quality programs. Thus, it is essential that the water quality assessment use the updated methodology that DEQ developed in 2022 and use the latest data in assessing overall water quality.

The District recognizes and appreciates the scope of the effort undertaken by DEQ. The fact sheet and storyboard provided a good overview of the water quality assessment process. The interactive map and database provided an efficient method to navigate and access the results of the water quality assessment. Overall, we believe that DEQ has done a commendable job in developing the Integrated Report. However, there are some areas of the Integrated Report that should be revised or clarified prior to finalization.

## 1. Dissolved Oxygen

The 2022 WQ Assessment Methodology states that DEQ will identify spawning areas using the tables and figures of OAR 340-041-0101 to OAR 340-041-0340. The salmon and steelhead spawning use designations in OAR 340-041-0340 – Figure 340B indicate “no spawning use” in the Tualatin River segments or in the Dairy Creek segment (OR\_SR\_1709001002\_02\_104104, OR\_SR\_1709001004\_02\_104139, OR\_SR\_1709001005\_02\_104018, OR\_SR\_1709001003\_02\_104120). The Dairy Creek segment (Highway 6 to confluence with Tualatin River) is a combined segment of Dairy Creek and the lower West Fork Dairy Creek, all of which are indicated as “no spawning use” habitat. The 2022 Assessment Methodology also states DEQ will identify “*any active spawning area used by resident trout species ... during the time trout spawning through fry emergence occurs.*” The District is not aware of any information indicating resident trout spawning occurring in the Tualatin River or Dairy Creek segments. cursory observation does not indicate suitable habitat in these areas. Snorkeling surveys conducted in the upper sections of the basin for the Tualatin River Watershed Council and Clean Water Services found juvenile cutthroat trout, indicating successful spawning occurred in the upper tributaries. The District questions how DEQ determined that the Tualatin River or Dairy Creek segments provide spawning habitat. These segments should not be evaluated for spawning dissolved oxygen.

Accurate application of criteria and the presence of beneficial uses are critical to generating an Integrated Report that can be effectively used to describe water quality issues and priorities. The District encourages DEQ to provide an evaluation, maps, and a description of habitat characteristics of resident trout spawning distribution and life cycle timing. This could help local agencies understand potential spatial distribution and when resident trout spawning through fry emergence occurs. The District also encourages DEQ to undergo a public process, such as rulemaking to update Aquatic Life Uses, so that public comments can be provided to help guide listings or refinements of the maps used to describe spawning distributions and timing.

All of the segments listed in 2022 as Category 5 for dissolved oxygen spawning (shown in Table 1 below) have a corresponding listing for dissolved oxygen in areas identified as providing cool or cold water aquatic life for the salmon and trout rearing and migration beneficial use.

**Table 1**

Assessment Unit ID	Assessment Unit Name	Assessment Unit Description
OR_SR_1709001002_02_104104	Tualatin River	Wapato Creek to Dairy Creek
OR_SR_1709001004_02_104139	Tualatin River	Dairy Creek to McFee Creek
OR_SR_1709001005_02_104018	Tualatin River	McFee Creek to confluence with Willamette River
OR_SR_1709001003_02_104120	Dairy Creek	Highway 6 to confluence with Tualatin River
OR_SR_1709001002_02_104109	Scoggins Creek	Henry Hagg Lake to confluence with Tualatin River
OR_SR_1709001003_02_104114	East Fork Dairy Creek	Denny Creek to confluence with Dairy Creek
OR_SR_1709001003_02_104123	West Fork Dairy Creek	Williams Creek to Highway 6

## 2. Iron

The District agrees that the Category 5 listings for aquatic life iron in the Tualatin Basin are correctly categorized. District data confirm Category 5 listings in the segments shown in the Table 2 below. In order to reduce confusion and build trust in the WQ Assessment process, the District describes the following inconsistencies between our understanding of the [WQ Assessment Methodology](#) and the seven listings in Table 2 below with rationales that begin with “Insufficient data”:

1. For the rationales stating “Insufficient data,” the rationales show sample sizes sufficient for evaluation of aquatic life toxics (i.e., two samples or more), according to Table 6 of the WQ Assessment Methodology. The Category 5 listings added in 2022 had not been previously listed, so they do not need to meet the delisting sample size in Table 10 of the WQ Assessment Methodology (i.e., 18 samples or more needed to delist for aquatic life toxics). Using the data sets in the rationale, these segments should be evaluated to Category 2 instead of Category 5, as shown in Table 5 of the WQ Assessment Methodology, because there are less than 5% excursions with 90% confidence according to the binomial test (i.e., less than two excursions).
2. DEQ’s supporting data combined dissolved and total iron values, while the criterion is for total iron only. For toxic substances, the WQ Assessment Methodology states “*A dissolved sample result less than a total recoverable criterion is not considered valid for determining attainment of the criterion, and the samples may be used to assign Category 3, but not Category 2, unless there are enough valid total recoverable samples to assign Category 2.*” While the District does not dispute the finding of Category 5, the application of the dissolved samples to a total recoverable criterion seems inconsistent with the methodology in these cases.

**Table 2**

AU_ID	AU_Name	AU_Description	Rationale
OR_SR_1709001001_02_104096	Gales Creek	Bateman Creek to confluence with Tualatin River	Insufficient [sic] data: 0 excursion of criteria with 6 total samples
OR_SR_1709001003_02_104112	McKay Creek	tributary to McKay Creek to confluence with Dairy Creek	Insufficient [sic] data: 1 excursion of criteria with 3 total samples
OR_SR_1709001004_02_104133	Rock Creek	Beaverton Creek to confluence with Tualatin River	Insufficient [sic] data: 0 excursion of criteria with 3 total samples
OR_SR_1709001004_02_104134	Beaverton Creek	Cedar Mill Creek to confluence with Rock Creek	Insufficient [sic] data: 0 excursion of criteria with 5 total samples
OR_SR_1709001005_02_104141	Fanno Creek	Carter Creek to confluence with Tualatin River	Insufficient [sic] data: 1 excursion of criteria with 3 total samples
OR_SR_1709001005_02_104140	Cedar Creek	Headwaters WA Unit to confluence with Tualatin River	Insufficient [sic] data: 1 excursion of criteria with 3 total samples

AU_ID	AU_Name	AU_Description	Rationale
OR_SR_1709001004_02_104139	Tualatin River	Dairy Creek to McFee Creek	Insufficient [sic] data: 1 excursion of criteria with 2 total samples
OR_SR_1709001005_02_104018	Tualatin River	McFee Creek to confluence with Willamette River	Impaired: 6 excursion of criteria with 15 total samples
OR_SR_1709001002_02_104104	Tualatin River	Wapato Creek to Dairy Creek	Impaired: 2 excursion of criteria with 5 total samples
OR_SR_1709001003_02_104120	Dairy Creek	Highway 6 to confluence with Tualatin River	Impaired: 2 excursion of criteria with 3 total samples
OR_SR_1709001004_02_104137	McFee Creek	Headwater Wa Unit to Heaton Creek	2018: 19 of 21 samples > 1000 µg/L
OR_WS_170900100501_02_104512	HUC12 Name: Chicken Creek	Watershed Unit (1st through 4th order streams)	Record ID: 25245- 2012 Data: [USGS] STATION 14206750 at RM 2 for 44 samples from 05/09/2006 to 12/01/2010, 35 of 44 valid samples exceed the 1000 ug/L criteria. [USGS] STATION 452109122531101 at RM 4.5 for 44 samples from 05/09/2006 to 12/01/2010, 27 of 44 valid sample

**Notes:**

The assessment for all listings is Toxic Substances - Aquatic Life.

The pollutant for all listings is iron (total).

The parameter category for all listings is 5.

### **3. McKay Creek: Human Health Arsenic**

The District appreciates the ability to examine the supporting data. When searching for the supporting data for the two 2012 Category 5 human health arsenic listings on McKay Creek (OR\_SR\_1709001003\_02\_104116) and Upper McKay Creek watershed (OR\_WS\_170900100306\_02\_104503), there were no data returned. However, the supporting arsenic data seem to be associated with the assessment unit named lower McKay Creek (OR\_SR\_1709001003\_02\_104112). The supporting data has the same station number as stated in the 2012 listings rationale (USGS 453158123001701). However, the lower McKay Creek assessment unit was listed this year as Category 2 (“attaining”) for human health arsenic (record ID: 2022-104112-9-16).

It also appears that the 2012 human health arsenic listings were evaluated against the aquatic life criterion. In the listing rationale, both listings state *“Record ID: 25843- 2012 Data: [USGS] STATION 453158123001701 at RM 1.2 for 36 samples from 05/06/2008 to 12/01/2010, 6 of 36 valid samples exceed the 2.1 ug/L criteria. [USGS] STATION 14206180 at RM 2.1 for 23 samples from 05/03/2006 to 04/08/2008, 1 of 22 valid samples.”* For human health toxics, the geometric mean of the data should be compared to the numeric criterion instead of counting the number of exceedances (the aquatic life criterion). Reevaluating the District’s data for McKay Creek at Hornecker Road, which are stored in and available from the USGS NWIS database (called “McKay Creek near Hillsboro”) from 2006 to 2008, the Comments on draft 2022 Integrated Report ug/L. DEQ’s data set (n=7) in the lower McKay Creek unit is sufficient (minimum of five samples needed to delist for human health toxics) to “delist” the 2012 listings from Category 5 to Category 2 (“attaining”).

The District’s total arsenic data (transformed to inorganic values by multiplying by a factor of 0.80) at McKay Creek at Padgett Road since May 2008 (n=86) has a geometric mean of 1.4 ug/L, using the 2018 WQ Assessment Methodology for censored data (Attachment 1). The geometric mean is less than the human health criterion of 2.1 ug/L of inorganic arsenic and supports delisting. The District requests DEQ review the 2012 upper McKay listings for potential update to Category 2.

### **4. Methylmercury and Total Mercury**

The Tualatin River methylmercury (OR\_SR\_1709001005\_02\_104018) and Fanno Creek watershed total mercury (OR\_WS\_170900100502\_02\_104513) listings should be recategorized from Category 5 (“water quality limited, TMDL required”) to Category 4A (“water quality limited, TMDL approved”), as the Willamette Basin Mercury Total Maximum Daily Load was published in 2019.

### **5. Fanno Creek (HUC 12): Hexavalent Chromium**

Fanno Creek (HUC 12) includes Category 5 listings for hexavalent chromium (Assessment ID: OR\_

WS\_170900100502\_02\_104513). The Integrated Report notes that hexavalent chromium was not assessed in 2022; the listing for hexavalent chromium has been carried forward since 2002. The Fanno Creek (HUC 12) listing for hexavalent chromium is likely based on data collected in the early 1990s at the Koll Wetlands. The District has previously commented on the listing for the Koll Wetlands, where data were collected for three months in 1992. The data are of poor quality, and the information regarding the purpose of the monitoring and sampling procedures are lacking. Additionally, the monitoring appears to be related to a remedial investigation, complaint, or spill and is not part of a representative, ambient monitoring program to assess water quality.

The District monitored for chromium in Fanno Creek at Durham. 145 dissolved chromium results from 2003-21 were evaluated (Attachment 2). The maximum dissolved chromium value was 1.97 ug/L; there were no exceedances of the hexavalent chromium criteria (CMC = 16 ug/L, CCC = 11 ug/L) even if all the dissolved chromium is assumed to be in the hexavalent form. As in 2019, the District requests that DEQ recognize the poor data quality that triggered the initial listing, the substantial representative data collected by the District, and remove the Category 5 listing for hexavalent chromium in the Fanno Creek watershed.

#### **6. Gales Creek: Hexavalent Chromium**

Gales Creek includes a Category 5 listing for hexavalent chromium (Assessment ID: OR\_SR\_1709001001\_02\_104096). The 2022 Integrated Report did not assess the hexavalent chromium listing; the previous listing has been carried forward since 2012. The District conducts water quality monitoring at two locations on Gales Creek: Gales Creek at Stringtown Road (RM 7.0) and Gales Creek at new Highway 47 (RM 1.5). 206 dissolved chromium results from 2006-21 were evaluated (Attachments 3 and 4). The maximum dissolved chromium value was 1.34 ug/L; there were no exceedances of the Comments on draft 2022 Integrated Report hexavalent chromium criteria (CMC = 16 ug/L, CCC = 11 ug/L) at either location even if all the dissolved chromium is assumed to be in the hexavalent form. As in 2019, the District requests DEQ remove the Category 5 listing for hexavalent chromium in Gales Creek.

#### **7. Biocriteria**

DEQ is carrying forward Category 5 listings for biocriteria for a number of streams in the Tualatin Basin. Since a TMDL cannot be developed for biocriteria, DEQ should focus its efforts to identify the underlying pollutants causing the impairment. Since 2000, the District has conducted macroinvertebrate monitoring in the Tualatin River watershed. The macroinvertebrate studies have included an assessment of the stressors in the Tualatin River watershed (*2018 Tualatin River Basin macroinvertebrate Assessment, Cole Ecological, ~May 2019*). Temperature and dissolved oxygen were identified as the primary stressors for macroinvertebrate communities in the Tualatin River watershed. Thus, biocriteria impairment should be addressed and resolved through listings for these pollutants. This is consistent with the approach noted in the PREDATOR model report, which states that *“knowing a site is in poor biological condition is*

*useful, but unless we are able to identify the cause(s) of impairment, we are at a loss for how to most effectively go about improving the stream.”* The 2001 and 2012 Tualatin TMDLs include allocations to address impairments from temperature, dissolved oxygen, and nutrients. As in 2019, the District requests that DEQ recategorize the biocriteria listings in the Tualatin Basin as “water quality limited, TMDL approved” (Category 4A) or “water quality limited, not needing a TMDL” (Category 4B). The District would appreciate any opportunity to work with DEQ to develop biological metrics designed for valley bottom streams, which are prevalent in our service area.

**8. Dairy Creek, McKay Creek: Ammonia**

The Integrated Report includes a Category 4A (water quality limited, TMDL approved) listing for ammonia for seven assessment units shown in Table 3 below. There is no established TMDL for ammonia in these streams. As in 2019, the District requests that DEQ remove the Category 4A listings for ammonia for these streams.

**Table 3**

<b>Assessment Unit Name</b>	<b>Assessment Unit ID</b>
HUC12 Name: Chicken Creek	OR_WS_170900100501_02_104512
Scoggins Creek	OR_SR_1709001002_02_104109
McKay Creek	OR_SR_1709001003_02_104112
Dairy Creek	OR_SR_1709001003_02_104120
Rock Creek	OR_SR_1709001004_02_104133
Rock Creek	OR_SR_1709001004_02_104136
Cedar Creek	OR_SR_1709001005_02_104140

Again, the District appreciates the opportunity to provide input on DEQ’s draft 2022 Integrated Report. If you would like to discuss any of the issues raised in these comments, please feel free to call me at 503.681.4464.

Sincerely,

Robert P. Baumgartner, Director  
Regulatory Affairs



**Attachment 1: Dissolved arsenic at McKay Creek at Padgett Road**

Calendar Date	Units	Qualifier	Flag	00978-arsenic (total)
5/6/2008	µg/L		<	2
6/18/2008	µg/L		~	2.24
7/9/2008	µg/L		~	2.4
8/6/2008	µg/L		~	2.84
9/10/2008	µg/L		~	3.29
10/1/2008	µg/L		~	2.48
11/5/2008	µg/L		<	2
12/9/2008	µg/L		<	2
1/6/2009	µg/L		<	2
2/3/2009	µg/L		<	2
3/3/2009	µg/L		<	2
4/7/2009	µg/L		<	2
5/5/2009	µg/L		~	2.3
6/2/2009	µg/L		~	2.71
7/7/2009	µg/L			4.07
8/4/2009	µg/L			5.36
9/9/2009	µg/L		~	2.66
10/6/2009	µg/L		~	2.51
11/17/2009	µg/L		~	2.16
12/8/2009	µg/L		<	2
1/5/2010	µg/L		<	2
2/2/2010	µg/L		<	2
3/2/2010	µg/L		<	2
4/6/2010	µg/L		<	2
5/4/2010	µg/L		<	2
6/2/2010	µg/L		<	2
7/7/2010	µg/L		<	2
8/3/2010	µg/L			5.19
9/8/2010	µg/L			4.1
10/5/2010	µg/L		~	2.18
11/2/2010	µg/L		<	2
12/1/2010	µg/L		<	2
1/6/2011	µg/L		<	2
2/2/2011	µg/L		<	2
3/2/2011	µg/L		<	2
4/6/2011	µg/L		<	2
5/3/2011	µg/L		<	2
6/7/2011	µg/L		<	2

Calendar Date	Units	Qualifier	Flag	00978-arsenic (total)
7/6/2011	µg/L		~	2.15
8/2/2011	µg/L		~	2.31
9/7/2011	µg/L		~	3.14
10/4/2011	µg/L		~	3.7
12/6/2011	µg/L		<	2
3/6/2012	µg/L		<	2
4/12/2012	µg/L		<	2
7/11/2012	µg/L		<	2
10/3/2012	µg/L		<	2
3/7/2013	µg/L		<	2
5/22/2013	µg/L		~	2.29
8/14/2013	µg/L		~	2.19
11/13/2013	µg/L		<	2
2/26/2014	µg/L		<	2
5/14/2014	µg/L		<	2
7/24/2014	µg/L		~	2.98
11/12/2014	µg/L		<	2
3/5/2015	µg/L		<	2
5/7/2015	µg/L		<	2
8/6/2015	µg/L		~	3.87
10/14/2015	µg/L		~	2
2/10/2016	µg/L		<	2
5/19/2016	µg/L		~	2.34
9/15/2016	µg/L			3.1
11/17/2016	µg/L		<	2
2/9/2017	µg/L		<	2
6/14/2017	µg/L			1.64
8/10/2017	µg/L			4.79
10/19/2017	µg/L			5.67
2/8/2018	µg/L		<	2
4/12/2018	µg/L		<	2
4/12/2018	µg/L			0.472
7/19/2018	µg/L			4.67
10/17/2018	µg/L		<	2
10/17/2018	µg/L			2.01
1/24/2019	µg/L		<	2
1/24/2019	µg/L			0.61
4/3/2019	µg/L		<	2
7/30/2019	µg/L			3.29

Calendar Date	Units	Qualifier	Flag	00978-arsenic (total)
10/10/2019	µg/L		<	2
1/23/2020	µg/L			0.546
4/7/2020	µg/L			0.55
7/14/2020	µg/L			2.58
10/13/2020	µg/L			2.78
1/20/2021	µg/L			0.646
4/6/2021	µg/L			0.878
7/7/2021	µg/L			6.07
10/5/2021	µg/L			2.92

Notes:

"Q": qualified data

"~": estimated value; value between quantification level and detection limit

"<": less than reported value

Attachment 2: Dissolved chromium at Fanno Creek at Durham Road (RM 1.2)

Calendar Date	Units	Qualifier	Flag	01030-chromium (soluble)
8/5/2003	µg/L			1.51
9/3/2003	µg/L			1.87
10/7/2003	µg/L			1.53
11/4/2003	µg/L		~	0.306
12/2/2003	µg/L			0.629
1/21/2004	µg/L		~	0.392
2/3/2004	µg/L			0.835
3/2/2004	µg/L		~	0.284
4/6/2004	µg/L		~	0.332
5/4/2004	µg/L			0.651
6/8/2004	µg/L			1.07
7/7/2004	µg/L			0.946
8/3/2004	µg/L			1.32
9/14/2004	µg/L			1.38
10/5/2004	µg/L		~	0.234
11/2/2004	µg/L			0.867
12/7/2004	µg/L			1.44
1/4/2005	µg/L		<	0.202
2/8/2005	µg/L			1.25
3/8/2005	µg/L		<	0.202
4/5/2005	µg/L		~	0.564
5/3/2005	µg/L		~	0.398
6/7/2005	µg/L			0.842
7/6/2005	µg/L			0.912
8/2/2005	µg/L			0.931
9/7/2005	µg/L		~	0.576
10/4/2005	µg/L			1.08
11/1/2005	µg/L			0.751
12/6/2005	µg/L			1.08
1/10/2006	µg/L			0.623
2/7/2006	µg/L		~	0.577
3/7/2006	µg/L			1.84
4/4/2006	µg/L			0.614
5/9/2006	µg/L			1.07
6/6/2006	µg/L			0.845
7/5/2006	µg/L			1.1
8/8/2006	µg/L			1.18
9/6/2006	µg/L			0.944
10/3/2006	µg/L		~	0.519
11/7/2006	µg/L			0.734
12/5/2006	µg/L		~	0.219
1/9/2007	µg/L		~	0.314
2/6/2007	µg/L		~	0.259
3/6/2007	µg/L		~	0.3
4/17/2007	µg/L		~	0.354
5/8/2007	µg/L		<	0.202
6/5/2007	µg/L		<	0.202
7/3/2007	µg/L			0.739
8/7/2007	µg/L		~	0.365
9/5/2007	µg/L		<	0.2

Calendar Date	Units	Qualifier	Flag	01030-chromium (soluble)
10/9/2007	µg/L		~	0.336
11/6/2007	µg/L		<	0.2
12/6/2007	µg/L		~	0.399
1/8/2008	µg/L		~	0.255
2/5/2008	µg/L		~	0.381
3/4/2008	µg/L		~	0.322
4/8/2008	µg/L		~	0.371
5/6/2008	µg/L		<	0.2
6/3/2008	µg/L		~	0.489
7/8/2008	µg/L		~	0.268
7/22/2008	µg/L		~	0.353
7/29/2008	µg/L		~	0.501
8/5/2008	µg/L		<	0.2
8/5/2008	µg/L		~	0.388
8/8/2008	µg/L		<	0.2
8/26/2008	µg/L		~	0.308
9/9/2008	µg/L		~	0.314
10/7/2008	µg/L			0.942
11/4/2008	µg/L		~	0.518
12/9/2008	µg/L		<	0.2
1/6/2009	µg/L		~	0.561
2/3/2009	µg/L		~	0.262
3/3/2009	µg/L		~	0.226
4/7/2009	µg/L		<	0.2
5/5/2009	µg/L		~	0.469
6/2/2009	µg/L		~	0.248
7/7/2009	µg/L	Q		0.674
8/4/2009	µg/L		~	0.214
9/9/2009	µg/L		~	0.447
10/6/2009	µg/L		~	0.218
11/17/2009	µg/L		~	0.458
12/8/2009	µg/L		~	0.288
1/5/2010	µg/L		~	0.433
2/2/2010	µg/L		~	0.461
3/2/2010	µg/L		~	0.446
4/6/2010	µg/L		~	0.5
5/4/2010	µg/L		<	0.2
6/2/2010	µg/L		~	0.583
7/7/2010	µg/L		<	0.2
8/3/2010	µg/L		<	0.2
9/8/2010	µg/L		~	0.455
10/5/2010	µg/L		<	0.2
11/2/2010	µg/L		~	0.394
12/1/2010	µg/L			0.642
1/6/2011	µg/L		<	0.2
2/2/2011	µg/L		<	0.2
3/2/2011	µg/L		~	0.284
4/6/2011	µg/L		~	0.361
5/3/2011	µg/L		~	0.291
6/7/2011	µg/L		~	0.306
7/6/2011	µg/L		~	0.289
8/2/2011	µg/L		~	0.27

Calendar Date	Units	Qualifier	Flag	01030-chromium (soluble)
9/7/2011	µg/L		~	0.414
10/4/2011	µg/L			0.606
12/6/2011	µg/L		~	0.281
3/6/2012	µg/L		~	0.534
4/11/2012	µg/L		~	0.515
7/11/2012	µg/L		~	0.427
10/3/2012	µg/L		~	0.311
3/6/2013	µg/L		~	0.457
5/23/2013	µg/L		~	0.374
8/14/2013	µg/L		<	0.4
11/13/2013	µg/L		~	0.448
2/26/2014	µg/L		<	0.4
5/14/2014	µg/L		<	0.4
7/23/2014	µg/L			1.97
11/14/2014	µg/L		~	0.712
2/11/2015	µg/L		<	0.4
5/6/2015	µg/L		<	0.4
8/5/2015	µg/L		<	0.4
10/5/2015	µg/L		<	0.4
2/15/2016	µg/L		<	0.4
5/18/2016	µg/L		~	0.514
9/14/2016	µg/L		<	0.4
11/16/2016	µg/L	~		0.506
2/8/2017	µg/L	~		0.598
6/7/2017	µg/L			0.444
8/9/2017	µg/L		<	0.4
10/18/2017	µg/L			0.484
2/7/2018	µg/L			0.661
4/11/2018	µg/L		<	0.4
7/18/2018	µg/L		<	0.4
10/16/2018	µg/L		<	0.4
1/23/2019	µg/L			0.558
4/2/2019	µg/L		<	0.4
7/29/2019	µg/L		<	0.4
10/9/2019	µg/L		<	0.4
1/21/2020	µg/L			0.281
4/6/2020	µg/L			0.263
7/15/2020	µg/L		<	0.102
10/14/2020	µg/L		<	0.406
1/21/2021	µg/L		<	0.406
4/7/2021	µg/L		<	0.406
7/8/2021	µg/L		<	0.406
10/4/2021	µg/L		<	0.406

Notes:

"Q": qualified data

"~": estimated value; value between quantification level and detection limit

"<": less than reported value

**Attachment 3: Dissolved chromium at Gales Creek at new Highway 47 (RM 1.5)**

Calendar Date	Units	Qualifier	Flag	01030-chromium (soluble)
5/9/2006	µg/L			0.626
6/6/2006	µg/L			0.762
7/5/2006	µg/L		~	0.52
8/8/2006	µg/L		<	0.202
9/6/2006	µg/L		~	0.309
10/3/2006	µg/L		~	0.3
11/7/2006	µg/L		~	0.307
12/5/2006	µg/L		~	0.295
1/9/2007	µg/L		~	0.338
2/6/2007	µg/L		~	0.292
3/6/2007	µg/L		~	0.384
4/17/2007	µg/L		~	0.289
5/8/2007	µg/L		~	0.275
6/5/2007	µg/L		<	0.202
7/3/2007	µg/L		~	0.286
8/7/2007	µg/L		~	0.298
9/5/2007	µg/L		<	0.2
10/9/2007	µg/L		~	0.278
11/6/2007	µg/L		~	0.224
12/6/2007	µg/L		<	0.2
1/8/2008	µg/L		<	0.2
2/5/2008	µg/L		~	0.378
3/4/2008	µg/L		~	0.307
4/8/2008	µg/L		~	0.34
5/6/2008	µg/L		<	0.2
6/3/2008	µg/L		~	0.274
7/8/2008	µg/L		<	0.2
8/5/2008	µg/L		<	0.2
9/9/2008	µg/L		~	0.252
10/7/2008	µg/L		~	0.258
11/4/2008	µg/L		~	0.276
12/9/2008	µg/L		~	0.215
1/6/2009	µg/L		~	0.4
2/3/2009	µg/L		~	0.372
3/3/2009	µg/L		~	0.219
4/7/2009	µg/L		~	0.26
5/5/2009	µg/L		~	0.296
6/2/2009	µg/L		~	0.31

Calendar Date	Units	Qualifier	Flag	01030-chromium (soluble)
7/7/2009	µg/L	Q	~	0.414
8/4/2009	µg/L		<	0.2
9/9/2009	µg/L		~	0.238
10/6/2009	µg/L		<	0.2
11/17/2009	µg/L		~	0.266
12/8/2009	µg/L		~	0.348
1/5/2010	µg/L		~	0.289
2/2/2010	µg/L		~	0.517
3/2/2010	µg/L		~	0.524
4/6/2010	µg/L		~	0.391
5/4/2010	µg/L		~	0.307
6/2/2010	µg/L		~	0.467
7/7/2010	µg/L		<	0.2
8/3/2010	µg/L		<	0.2
9/8/2010	µg/L		<	0.2
10/5/2010	µg/L		<	0.2
11/2/2010	µg/L		~	0.35
12/1/2010	µg/L		~	0.318
1/6/2011	µg/L		~	0.242
2/2/2011	µg/L		~	0.395
3/2/2011	µg/L		~	0.456
4/6/2011	µg/L		~	0.343
5/3/2011	µg/L		~	0.274
6/7/2011	µg/L		~	0.318
7/6/2011	µg/L		~	0.27
8/2/2011	µg/L		~	0.279
9/7/2011	µg/L		~	0.408
10/4/2011	µg/L		~	0.377
12/6/2011	µg/L		~	0.266
3/6/2012	µg/L		~	0.475
4/12/2012	µg/L		~	0.461
7/11/2012	µg/L		~	0.285
10/3/2012	µg/L		<	0.2
3/7/2013	µg/L		~	0.372
5/22/2013	µg/L		~	0.241
8/14/2013	µg/L		<	0.4
11/13/2013	µg/L		<	0.4
2/26/2014	µg/L		<	0.4
5/14/2014	µg/L		<	0.4



Calendar Date	Units	Qualifier	Flag	01030-chromium (soluble)
7/24/2014	µg/L		<	0.4
11/12/2014	µg/L		~	0.646
2/19/2015	µg/L		<	0.4
5/7/2015	µg/L		<	0.4
8/6/2015	µg/L		<	0.4
10/14/2015	µg/L		<	0.4
2/10/2016	µg/L		<	0.4
5/19/2016	µg/L		~	0.414
9/15/2016	µg/L		<	0.4
11/17/2016	µg/L	~		1.34
2/9/2017	µg/L	~		0.43
6/14/2017	µg/L		<	0.4
8/10/2017	µg/L		<	0.4
10/19/2017	µg/L			0.438
2/8/2018	µg/L			0.775
4/12/2018	µg/L		<	0.4
7/19/2018	µg/L		<	0.4
10/17/2018	µg/L		<	0.4
1/24/2019	µg/L			0.676
4/3/2019	µg/L			0.966
7/30/2019	µg/L		<	0.4
10/10/2019	µg/L		<	0.4
1/23/2020	µg/L			0.329
4/7/2020	µg/L			0.279
7/14/2020	µg/L			0.109
10/13/2020	µg/L		<	0.406
1/20/2021	µg/L		<	0.406
4/6/2021	µg/L		<	0.406
7/7/2021	µg/L		<	0.406
10/5/2021	µg/L		<	0.406

Notes:

"Q": qualified data

"~": estimated value; value between quantification level and detection limit

"<": less than reported value

**Attachment 4: Dissolved chromium at Gales Creek at Stringtown Road (RM 7.0)**

Calendar Date	Units	Qualifier	Flag	01030-chromium (soluble)
5/9/2006	µg/L			0.65
6/6/2006	µg/L		~	0.447
7/5/2006	µg/L			0.623
8/8/2006	µg/L		<	0.202
9/6/2006	µg/L		~	0.591
10/3/2006	µg/L		~	0.253
11/7/2006	µg/L		~	0.365
12/5/2006	µg/L		~	0.394
1/9/2007	µg/L		~	0.356
2/6/2007	µg/L		~	0.337
3/6/2007	µg/L		~	0.375
4/17/2007	µg/L		~	0.393
5/8/2007	µg/L		~	0.377
6/5/2007	µg/L		~	0.213
7/3/2007	µg/L		~	0.455
8/7/2007	µg/L		~	0.383
9/5/2007	µg/L		<	0.2
10/9/2007	µg/L		~	0.223
11/6/2007	µg/L		<	0.2
12/6/2007	µg/L		<	0.2
1/8/2008	µg/L		<	0.2
2/5/2008	µg/L		~	0.437
3/4/2008	µg/L		~	0.319
4/8/2008	µg/L		~	0.374
5/6/2008	µg/L		<	0.2
6/3/2008	µg/L		~	0.231
7/8/2008	µg/L		<	0.2
8/5/2008	µg/L		~	0.207
9/9/2008	µg/L		~	0.361
10/7/2008	µg/L		~	0.314
11/4/2008	µg/L		~	0.334
12/9/2008	µg/L		<	0.2
1/6/2009	µg/L		~	0.413
2/3/2009	µg/L		~	0.427
3/3/2009	µg/L		~	0.243
4/7/2009	µg/L		~	0.266
5/5/2009	µg/L		~	0.306
6/2/2009	µg/L		~	0.312

Calendar Date	Units	Qualifier	Flag	01030-chromium (soluble)
7/7/2009	µg/L	Q		0.714
8/4/2009	µg/L		~	0.248
9/9/2009	µg/L		~	0.261
10/6/2009	µg/L		~	0.204
11/17/2009	µg/L		~	0.331
12/8/2009	µg/L		~	0.393
1/5/2010	µg/L		~	0.256
2/2/2010	µg/L		~	0.528
3/2/2010	µg/L		~	0.565
4/6/2010	µg/L		~	0.388
5/4/2010	µg/L		~	0.332
6/2/2010	µg/L		~	0.473
7/7/2010	µg/L		~	0.257
8/3/2010	µg/L		~	0.213
9/8/2010	µg/L		~	0.22
10/5/2010	µg/L		~	0.222
11/2/2010	µg/L		~	0.298
12/1/2010	µg/L		~	0.302
1/6/2011	µg/L		~	0.279
2/2/2011	µg/L		~	0.471
3/2/2011	µg/L		~	0.35
4/6/2011	µg/L		~	0.399
5/3/2011	µg/L		~	0.42
6/7/2011	µg/L		~	0.429
7/6/2011	µg/L		~	0.39
8/2/2011	µg/L		~	0.47
9/7/2011	µg/L		~	0.527
10/4/2011	µg/L		~	0.457
12/6/2011	µg/L		~	0.301
3/6/2012	µg/L		~	0.468
4/12/2012	µg/L		~	0.473
7/11/2012	µg/L		~	0.529
10/3/2012	µg/L		~	0.315
3/7/2013	µg/L		~	0.377
5/22/2013	µg/L		~	0.215
8/14/2013	µg/L		<	0.4
11/13/2013	µg/L		~	0.401
2/26/2014	µg/L		~	0.467
5/14/2014	µg/L		<	0.4

Calendar Date	Units	Qualifier	Flag	01030-chromium (soluble)
7/24/2014	µg/L		<	0.4
11/12/2014	µg/L		~	0.688
2/19/2015	µg/L		<	0.4
5/7/2015	µg/L		<	0.4
8/6/2015	µg/L		<	0.4
10/14/2015	µg/L		~	0.406
2/10/2016	µg/L		<	0.4
5/19/2016	µg/L		~	0.437
11/17/2016	µg/L		<	0.4
2/9/2017	µg/L		<	0.4
6/14/2017	µg/L			0.434
8/10/2017	µg/L		<	0.4
10/19/2017	µg/L			0.428
2/8/2018	µg/L			0.706
4/12/2018	µg/L			0.409
7/19/2018	µg/L			0.47
10/17/2018	µg/L		<	0.4
1/24/2019	µg/L			0.648
4/3/2019	µg/L		<	0.4
7/30/2019	µg/L		<	0.4
10/10/2019	µg/L		<	0.4
1/23/2020	µg/L			0.356

Notes:

"Q": qualified data

"~": estimated value; value between quantification level and detection limit

"<": less than reported value

# 6. Comments from Deschutes River Alliance

**Subject: DRA Comments on TMDL Priorities and Schedule – Draft**

**Date Received: Feb. 11, 2022**

Dear Mr. Michie,

The Deschutes River Alliance submits these comments on the Oregon Department of Environmental Quality’s “TMDL Priorities and Schedule – Draft” for Oregon’s 2022 Integrated Report submittal. Overall, the document lacks sufficient explanation of the agency’s categorization decisions and fails to prioritize TMDL Projects within those overarching categories. Without more transparency from the Department of Environmental Quality (DEQ), the priorities lack explanatory justification, the decisions appear vulnerable to changing intra-agency priorities, and as a result, the document’s usefulness to stakeholders suffers.

The Deschutes River Alliance is a science-based advocacy organization seeking collaborative solutions to the threats facing the Wild and Scenic Deschutes River and its tributaries. We advocate for cooler, cleaner water, a healthy ecosystem, and the recovery and protection of robust populations of resident and anadromous fish. Ensuring a fair and transparent process for restoring impaired waters like the lower Deschutes is important to achieving that mission.

First, the draft TMDL Priorities and Schedule document should better explain how each TMDL Project was categorized. As presented, impacted stakeholders are largely left to guess about DEQ’s prioritization decisions. While the Department did provide the factors it used, listing the factors, alone, fails to tell the whole story. DEQ should explain how these factors were used to determine each TMDL Project’s priority. That explanation should include the weight each factor was given as well as a clearer quantification of factors like “severity of the water quality problem” and “input from the public.” A ‘decision matrix,’ for example, could be used to act as a report card for each TMDL Project and would clearly lay out how each Project’s priority was reached.

Without clearer explanations, the prioritization process is opaque, vulnerable to shifting agency concerns, and is unhelpful for stakeholders and the public. At least three factors – “severity of the issue,” “public input,” and “DEQ resources” – are subjective or overly vague. With no further explanation, different DEQ staff could interpret these factors’ purposes differently and unevenly prioritize TMDL Projects. In future years, as current DEQ staff leave and are replaced, uneven application is likely to worsen. Transparent explanations will help ensure those factors are applied consistently over the years while also making the Priorities and Schedule document more useful to potentially impacted stakeholders.

Second, perhaps the biggest issue that transparent DEQ explanations would resolve is how “TMDLs with deadlines established via court order” are prioritized. As currently presented, it seems that this factor *alone* automatically results in a “high priority” ranking. This is extremely concerning, as it creates a clear incentive for concerned parties to forego DEQ consultation and communication in favor of immediately filing lawsuits against the Department – increasing both the financial cost and time burden of TMDL planning on DEQ. Likewise, it essentially penalizes parties that have undertaken efforts to work with the Department on TMDL-related issues by ensuring the Projects receive a less-urgent response. With more DEQ clarification, this potential misperception could be resolved. However, if a court order *does* automatically result in a “high priority” ranking, DEQ must change this prioritization factor to avoid the incentives it inadvertently creates.

And finally, the Department should explain its prioritization *within* each larger category. Currently, TMDL Projects are not ranked within their category. This does little to help impacted stakeholders prepare for the TMDL process. For example, under current estimations, a “medium priority” Project could be completed anywhere between May 2024 and December 2029 – a more than five years difference. This provides very little regulatory certainty in this important process.

The lack of in-category rankings also leaves the potential for certain TMDL Projects to languish for years, especially if re-prioritization takes place. Without in-category rankings or clearer factor explanation, prioritization is left vulnerable to changing political or Departmental attention rather than the stated prioritization factors. As stated above, expanded justifications, like a ‘decision matrix,’ for each TMDL Project would help prevent this potential outcome by further clarifying DEQ’s decision making process for stakeholders while also holding DEQ to its state goals.

The DRA believes that the draft TMDL Priorities and Schedule and the increased transparency it provides about the Department’s TMDL creation and implementation strategy is a positive but incomplete first step. Much of the process remains opaque and vulnerable to changes unrelated to environmental need. Through increased transparency in the prioritization process, as suggested above, TMDL Projects will be completed based on a clear priority system. That clear system will prevent shifting priorities based on incentivized lawsuits, changing DEQ personnel, or political whims. It will also help to better inform regulated entities, stakeholders, and all Oregonians who enjoy the beneficial uses of waterbodies statewide of the Department’s response strategy.

Sincerely,

Ben Kirsch, Staff Attorney  
Deschutes River Alliance

# 7. Comments from David Waltz

**Subject: Dissolved Oxygen WQ Status**

**Date Received: Feb. 11, 201**

DEQ WQ Assessment Team,

Thank you for the opportunity to review and provide input on the draft 2022 Assessment results and proposed Category decisions. I focused on dissolved oxygen WQ status for the reasons described below.

**Comment 1: Overall comments about DO Assessment:** The Excel files provided for review of Dissolved Oxygen were many and confusing. One had to review all three primary Excel files (AU\_all\_Rollup, DO Spawn and Do-Year Round) to evaluate changes. There are multiple tabs in each of the DO files.

I reviewed the proposed changes in status for the MidCoast Basin and Umpqua Basin. Initially, I was confused by several of the category assignments (or changes in category), but have largely resolved “how” the decisions were reached through Assessment’s responses. In order to evaluate the proposed assessment category decisions in detail, I reviewed the data in AQWMS in addition to the Assessment summary data for continuous data (statistical metrics).

My overall comments focus on two global issues, supplemented with several examples that illustrate issues 1 & 2 below:

Technology (monitoring device) issues that result in erratic (random?), poor quality data that is hard to parse out from good quality data;

Methodology for DO assessment and interpretation of the complicated standard & numeric criteria;

**For #1 (Technology):** DEQ and local partners have invested a substantial amount of time and effort in the “front end” of WQ assessment, from device calibration and QC checks, deployment, data collection and management, data submission to final agency data QC checks (prior to AWQMS upload). Despite our collective best efforts at screening and managing these data, it is apparent that device glitches, some limited duration, are leading to poor quality data subsequently used in the assessment process.

Steve Hanson and others recognize the issue with these devices and asked for input on these and alternatives from Lab and regional staff. We have not identified relatively inexpensive but reliable devices for long-term deployment (e.g., > 7 days, 30 days, etc) in order to generate the data necessary to confidently compare with the primary applicable DO criteria (7-day or 30-day averaging) rather than an alternative minimum.

See Example below for the Siuslaw Watershed Council (SWC\_) CDO data.

**Issue #2: 2022 IR Methodology impact on categorization decision:** There are two DO assessment periods, with different issues.

**Spawning period (cold water) and intragravel (inter-) dissolved oxygen (IGDO):** The 2022 Assessment methodology applies a stricter (narrower) interpretation of the spawning criteria than 2018. Meaning that percent saturation is longer being considered if concentration is below the Table daily minimum (and lacking data that shows IGDO > 8 mg/L). Addition of the “≥ 2 daily minimum values...” decision box represents a significant change to Figure 6. The decision tree for assessment of the dissolved oxygen spawning criteria. This change can (and will) move certain AUs where continuous data were collected and saturation values were met into Category 5 based on no new data.

Has Standards made an official determination that OAR 340-041-0016(1)(a) supersedes OAR 340-041-0016(1)(b)? For many years these were interpreted as parallel criteria, rather than hierarchical decisions.

This decision change also meant that a thorough review of the 2022 draft IR required a **re-review** of the 2018/2020 assessment in order to compare to 2022 to determine what information changed, if anything, and confirm what data (or statistics) were now used to determine “excursions” and identify the root basis for the change in assessment category.

One basic concern with intragravel dissolved oxygen (IGDO) monitoring data as the “alternative” tool to meet criteria is difficult to obtain and repeatable studies are virtually unknown in Oregon and rare nationally. Literature reviews show IGDO conditions are spatially variable (WA DOE, 2009)<sup>1</sup>. The WA DOE review also concluded:

*“Oregon’s criteria include several exceptions and are more complex than others reviewed”*

*“Oregon also includes an exception to both water column and intragravel numeric criteria. When barometric pressure, altitude, and temperature preclude achievement of these criteria, the waterbody must meet at least 95% DO saturation.”*

This is the framework we previously used.

Although theoretically IGDO is accurately measurable over a period of time, in stable conditions, DEQ has no standard “off-the-shelf” methods to perform these measurements. We lack reliable and repeatable methods to compare ambient conditions with [this aspect of](#) the standard. In lieu of IGDO, DEQ is now applying a stricter interpretation based on a minimum number of samples that no longer considers percent saturation (≥ 95%) to be a key component of water quality

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1

[https://www.ezview.wa.gov/Portals/\\_1962/Documents/SSRSAG/Brown%20and%20Hallock%202009.pdf](https://www.ezview.wa.gov/Portals/_1962/Documents/SSRSAG/Brown%20and%20Hallock%202009.pdf)



condition. Since water column DO concentration is directly related to water temperature and pressure in naturally flowing waters (in absence of oxygen-demanding compounds or situations elevating dissolved gas), the 11 mg/L water column criterion will be exceeded and are therefore unattainable for many waters in the coast range in mid-October (onset of spawning period for many streams).

**Comment 2:** Spawning period decisions for specific AUs

**Examples:**

The revised methodology produced a Category 5 AU in the coldest waters monitored in the Siletz subbasin. The spawning period for the Siletz River starts Sept 1, the earliest of the freshwater segments in the MidCoast Basin. In most years, temperatures even in the upper gorge will not be achieving applicable temperature criterion in early Sept, but show healthy levels of % Sat (see 2017 continuous data reported to the Lab; AWQMS missing reported %Sat values).

This change also reverses spawning period assessment decision Category 2 (2018) for these AUs:

- OR\_SR\_1710020405\_02\_105978
- OR\_SR\_1710020407\_02\_106452

Example: For OR\_SR\_1710020407\_02\_106452: it does not appear that Assessment evaluated the August-Sept 2016 continuous monitoring data generated by the Salmon-Drift Creek WSC (VM\_SDCWC\_AW) in collaboration with the Siletz Tribes for either the 2018 IR or the current assessment. The temperature and CDO data is in AWQMS, but the reported DOSat% values calculated using local barometric pressure data are missing.

See Stations:

38920-ORDEQ

40227-ORDEQ

40228-ORDEQ

40229-ORDEQ

40230-ORDEQ

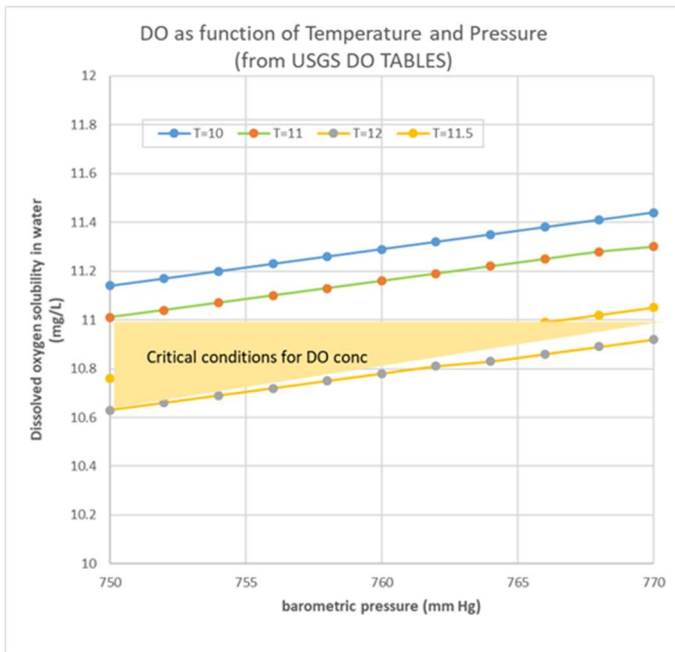
**Example: Station 34454 (October 2016):**

An unusually intense precipitation event in mid-October 2016 impacted the use of the October monitoring data for calibration of a QUAL2Kw model for the early spawning period, so the available grab data and continuous data (daily minimums) were evaluated using a statistical approach (see draft TMDL document or TSPD).

For the designated spawning period (Oct 15-May 15), the stringent DO criteria were not consistently met at Station 34454 (i.e., excursions identified) in October 2016 despite relatively cold water temperatures (met spawning Temperature criterion for 14/16 daily maximums: Tmax

≤ 12 deg C) and relatively high saturation levels (≥ 92%). I used the same data as the 2018/2020 Assessment.

Barometric pressure varied from 748 – 769 mm Hg during Oct 15-Oct 23. Over this wide BP range, the water temperature must be 11 deg C or lower to attain the DO criterion of 11 mg/L. That is, even if water temperature met the 12 deg C spawning criterion, the water column DO concentration could not theoretically meet DO criterion at 100% saturation within this BP range (see Figure below). For reasons described above, the alternate Table 21 D<sub>omin</sub> (based on intragravel DO) could not reasonably be assessed and may not have made a difference due to the Temp-BP relation described.



**Example File: DO Spawn.xlsx**

Focus on: DO new Cat 5

Spawning: For 2022 Methodology: Revised interpretation of spawning minimum criteria (9 mg/L; ignores DOSat%)

OR\_SR\_1710020408\_02\_105994      Salmon River    Headwaters WA Unit to Slick Rock Creek

OR\_SR\_1710020408\_02\_105997      Salmon River    Slick Rock Creek to Willis Creek  
 Stations: 34449-ORDEQ; 38593-ORDEQ & 35485-ORDEQ; 33099-ORDEQ; 35487-ORDEQ; 38588-ORDEQ

For DO-Spawn: Effect: resulted in multiple new Cat 5 AUs that were ID'd as Cat 2 in 2018.

**Comment 3: DO Year-round (Technology issue #2 above):** For the Siuslaw (see attached Excel file), there is substantial indication that the daily minimums results in AWQMS used to compare

with the assessment criterion are potentially due to device errors. I worked with the SWC on these projects and we never observed (nor were notified about) an indication of DO “starvation” (dead fish, device audit grab monitoring results, etc) such as those associated with results < 6.0 mg/L. In addition, no field audit results indicated DO depressions in this range. Adding up the total “excursions” relative to total number of days of minimum results, this represents about 3.3% of daily minimums reported as failing.

Example: Tab N: Yr Rnd Cont Other AU Cat\_MID

AU ID: OR\_SR\_1710020602\_02\_105057

AU Name: Wildcat Creek

Review\_Comment

vol mon data - 8 excursions of abs. min out of 103 results. lowest min =2.7

*David comment: this is an example of probable device data quality issue (Technology) rather than actual water column conditions.*

**Conclusion:** I don’t have great suggestions for dealing with results from these extended Onset U26 deployments that Steve Hanson, Dan Sobota and others haven’t considered, other than using BPJ to evaluate the daily mins that are extremely low (or high). It may be that these devices are not the appropriate technology to collect CDO for these periods and use the results for Assessment with a huge amount of manual review and “BPJ” in removing or qualifying suspect data.

**Comment 4:** DO data not assessed, but data either available in AWQMS or submitted to Lab in 2021 and not in AWQMS:

**Alsea-Beaver Creek CDO data (WR/LSWCD 2018):** Continuous data template submitted to Lab (WQ-TMDL); submitted 4/21/2021: No results are in AWQMS at this time. Assessment does not appear to include any data from these two related, but separate projects. If possible, we would like to get it to Assessment Team for the 2022 IR and make decisions about WQ status before assigning WQ Analyst. Data submission is here:

\\deqeu1\shared\DWALTZ\WaterQuality\TMDL\MIDCOAST\Lab\_2018\_MidCoast\2018\_Alsa-BeaverCk\_CDO\_forSubmit

Filename: Alsea-BeaverCk\_2018\_New\_ContinousProcessingTemplate\_(DW).xlsx Alsea & Beaver Creek (2018 TMDL Lab & Region CDO projects):

**Big Elk Creek CDO data:** OR\_SR\_1710020402\_02\_105954      Big Elk Creek      Sugarbowl Creek to Devils Well Creek

LSWCD (CDO-2016): Continuous Temp & DO data submitted to Lab (WQ-TMDL) in May 2021; data not in AWQMS; not assessed

File: AU\_all.xlsx AU: OR\_SR\_1710020401\_02\_105950 Little Elk Creek Headwaters WA Unit to confluence with Yauquina River

**Column M (assessed\_2022):** Indicates not assessed in 2022. However, the 2016 spawning period DOSat% results for station 36912-ORDEQ were re-calculated using local barometric pressure data and re-submitted to the DEQ Lab for review. These Results were accepted by Lab and were scheduled to be revised in AWQMS in 2021 and we request data for this AU be re-assessed.

**Comment 5: Assessed, but it appears assessment based on incomplete results for data in AWQMS:**

**LSWCD VM (Siletz CDO 2017):** AWQMS does not appear to contain results for the DOSat% (for continuous data) that was reported and submitted by LSWCD to VM Program (in March 2018 for 2017). Missing DOSat% results appears to be the basis for two new Cat 5/303d listed AUs (OR\_SR\_1710020405\_02\_105978 and OR\_SR\_1710020407\_02\_106452). See SPREADSHEET DO Spawn.xlsx, Tab "Spawn Cont Other AU Cat"

LSWCD Siletz monitoring sites & data submission are here:

\\deqeu1\shared\DWALTZ\WaterQuality\ASSESSMENT\Assessment-IR\_2022

**SDCWC VM (CDO 2017):** AWQMS does not appear to contain results for the DOSat% (for continuous data) that was reported and submitted by SDCWC. We discussed this during our meeting on January 27, 2021. At that time, we discussed Lab/VM re-evaluating this issue, but not sure of the subsequent steps or outcome. I can't tell from the IR database whether the lack of DOSat% data was one basis for the 2018/2020 decision to identify the AU (OR\_SR\_1710020408\_02\_105997) as Cat 5 (Spawning), but that's a factor we need to consider since the data isn't in AWQMS.

SDCWC monitoring sites & CDO data submission (2017) are here:

\\deqeu1\shared\DWALTZ\WaterQuality\ASSESSMENT\Assessment-IR\_2022

**Comment 6:** Recurring Typographical errors should be checked and corrected (some examples from draft tables):

File: DO Year Round.xlsx

TAB: Yr Rnd Instant Other AU Cat

Column M: Rationale

excursions

Column P: Rationale

Impaired:

File: AU\_Rollup:

Column O: Rationale

Impaired: 13 total excursions is > 4 needed to list.- 17 total sample dates

Column O: Rationale

**Imapired:** 8 excursions of criteria. 5 needed to list. - 22 total samples.

File: DO Spawn.xlsx

Tab Spawn Instant Other AU Cat

Column M: Rationale

**Excurions**

# 8. Comments from Environmental Protection Agency, Region 10

Subject: EPA Comments on the 2022 Draft Water Quality Assessment

Date Received: Feb. 11, 2022



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 10  
1200 Sixth Avenue, Suite 155  
Seattle, WA 98101

WATER  
DIVISION

February 11, 2022

Connie Dou  
Water Quality Assessment Manager  
700 NE Multnomah Street, Suite 600  
Portland, OR 97232-4100

RE: EPA Comments on the 2022 Draft Water Quality Assessment

Dear Ms. Dou,

The U.S. Environmental Protection Agency has reviewed the Oregon Department of Environmental Quality's (ODEQ) Draft 2022 Water Quality Assessment and Integrated Report (IR). EPA's comments on the IR, which includes the 303(d) list of impaired waters, are included below.

The EPA's review of the ODEQ Draft 2022 IR included evaluation the following documents provided on ODEQ's Draft 2022 IR website at <https://www.oregon.gov/deq/wq/Pages/proposedIR.aspx>:

- ODEQ's Draft 2022 IR through the on-line searchable database and map application
- Draft Methodology for Oregon's 2022 Water Quality Report and List of Water Quality Limited Waters
- TMDL Priority Rankings
- 2022 draft 303(d) list and TMDL priorities
- 2022 proposed delistings
- Narrative data assessment
- Marine dissolved oxygen assessment

## Comments on AU-specific Delistings

1. **OR\_WS\_170601060206\_02\_103525** is proposed for delisting for temperature. The rationale for delisting indicates that there is one valid excursion of the applicable criteria, but also states there are no 7DADM excursions. ODEQ's temperature methodology describes a "Category 3B: insufficient data; potential concern" determination as resulting, "when temperature data are collected and show at least one instance of the seven-day average daily maximum temperature exceeding the criteria within a three-year period, but data are insufficient to place in Category 5." Please clarify if there is in fact one excursion that would warrant a Category 3B determination, or whether there are no 7DADM excursions and the proposed Category 2 placement is correct.
2. **OR\_LK\_1707010501\_88\_100139** is proposed for delisting and placement in Category 4a under the approved Columbia and Lower Snake Rivers Temperature TMDL. The TMDL has been entered as final and approved in ATTAINS, but this AU was not associated with the TMDL. However, a similar AU, **OR\_LK\_1707010504\_88\_100139**, was associated with this TMDL in ATTAINS but does not appear in ODEQ's database in any category. Please confirm which AU

is correct or if they are both correct but have been omitted from either ATTAINS or ODEQ's database.

3. Sixty-four AUs are proposed for delisting due to crosswalk errors in the original listing. The listings have been corrected and those AUs listed in error are now marked as "unassessed" and the data incorrectly associated with them has been moved to the appropriate AUs. Please confirm that there are no remaining data that were collected within these sixty-four AUs that would warrant placement in Category 3, rather than a status of "unassessed."
4. EPA's review of the proposed Category 4a AUs is on-going. Comments on the proposed 4a AUs will be transmitted under separate cover as soon as possible, but no later than one week from today's date. Due to the volume of proposed delistings to Category 4a and the depth of review that is required to confirm inclusion under older TMDL approvals, please consider providing these to EPA during the pre-public draft review period during future listing cycles.

### Comments on Draft Methodology

1. ODEQ's temperature methodology details the following requirements for category placement:

**Category 5: water quality limited, TMDL needed (303(d) list:** "When continuous temperature data are collected, any two instances of the seven-day-average daily maximum temperature exceed the applicable criteria within a three-year period." (emphasis added)

**Category 3B: insufficient data; potential concern:** "When temperature data are collected and show at least one instance of the seven-day-average daily maximum temperature exceeding the criteria within a three-year period, but data are insufficient to place in Category 5." (emphasis added)

**Category 2: attaining:** "When continuous temperature data are collected, no seven-day-average of the daily maximum temperature exceed the applicable criterion. Data represent the duration of the critical warm period or an applicable spawning period. Attainment of the year-round criteria and the spawning criteria shall be listed separately within a waterbody."

EPA notes the inconsistency with the language of the methodology in that both the Category 5 and 3B methodologies contain the "three-year period" language, whereas the Category 2 language does not. Please consider revising the listing methodology prior to application in the 2024 assessment so that the data period required for delisting is equivalent to the requirement to demonstrate non-attainment or placement in Category 3B.

### Comments on Data Presentation

1. Please consider adding a field in the on-line database for "status or category during the last listing cycle." This would add transparency and make it easier for the public to see the changes, if any, to the waters they are interested in when viewing the database.

2. Please consider adding a field in the on-line database with the name of the TMDL or other action for those waters in Category 4a and 4b so the public can easily associate a water they are interested in with the appropriate approved plan.

We appreciate the opportunity to work closely with ODEQ and look forward to continued coordination as you finalize the 2022 IR. If you would like to discuss these comments, please feel free to contact me at 206-553-2582.

Sincerely,

Jill Fullagar /s/

Jill Fullagar  
Assessment Coordinator  
Water Division, EPA Region 10



# 9. Comments from East Fork Irrigation District

Subject: Comments on draft 2022 Integrated Report

Date Received: Feb. 10, 2022



3500 GRAVES RD – HOOD RIVER, OR 97031 | PH: (541) 354 – 1185 | P.O. BOX 162 – ODELL, OR 97044

2/10/2022

Oregon Department of Environmental Quality  
Water Quality Division  
700 NE Multnomah Street, Suite 600  
Portland, OR 97232

RE: Comments on draft 2022 Integrated Report

To whom it may concern,

East Fork Irrigation District appreciates the improvements implemented into the 2022 Integrated Report's map display, but still has concerns related to public use and understanding of the map/report. The District would like to commend DEQ for the inclusion of some mapped waterways within the watershed assessment units. This is a significant step towards improved understanding of the data available and the status of different waterways within the watershed assessment units. However, the District still has concerns about how the public, agencies, and third parties will understand or use the Integrated Report to determine impairment or listing status of a specific waterway.

The detail contained within the online map (e.g., specific waterways within a watershed assessment unit containing different statuses) combined with the lack of detail in the database creates confusion about what is impaired or listed in a watershed assessment unit. A review of the database would suggest that all waterways within a watershed assessment unit are considered/listed as impaired, while a review of the online map would suggest that only some waterways within a watershed assessment unit are considered/listed as impaired. While the Frequently Asked Questions suggests that waterways hydrologically connected to the waterway highlighted as impaired may also be considered impaired.

EFID is concerned with the mislabeling or reference that our Main Canal and Eastside canal are mapped as waterways on the map, this adds confusion and should not be. This could pose problems with future projects in these areas with regards to DEQ's regulatory authority, significantly overlooks the permitting, funding, certification, and public perception impacts to the many entities working within or around Oregon's waterways.

EFID will again also note the concern with irrigation canals being combined into HUC-12 watershed assessment units, especially when the canals are not hydrologically connected with the natural waterways within those watershed assessment units.

Thank you,

Steve Pappas  
District Manager  
East Fork Irrigation District

# 10. Comments from Farmer Irrigation District

Subject: Comments on draft 2022 Integrated Report

Date Received: Feb. 10, 2022



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• 1985 Country Club Road, Hood River, OR 97031 Phone (541)-387-5261 Fax (541)-386-9103 [www.fidhr.org](http://www.fidhr.org) •

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2/10/2022

Oregon Department of Environmental Quality  
Water Quality Division  
700 NE Multnomah Street, Suite 600  
Portland, OR 97232

RE: Comments on draft 2022 Integrated Report

To whom it may concern,

Farmers Irrigation District appreciates the improvements implemented into the 2022 Integrated Report's map display, but still has concerns related to public use and understanding of the map/report. The District would like to commend DEQ for the inclusion of some mapped waterways within the watershed assessment units. This is a significant step towards improved understanding of the data available and the status of different waterways within the watershed assessment units. However, the District still has concerns about how the public, agencies, and third-parties will understand or use the Integrated Report to determine impairment or listing status of a specific waterway.

The detail contained within the online map (e.g., specific waterways within a watershed assessment unit containing different statuses) combined with the lack of detail in the database creates confusion about what is impaired or listed in a watershed assessment unit. A review of the database would suggest that all waterways within a watershed assessment unit are considered/listed as impaired, while a review of the online map would suggest that only some waterways within a watershed assessment unit are considered/listed as impaired. Feedback from DEQ staff in the January 19<sup>th</sup> webinar suggested that only waterways highlighted as impaired in the online map would be considered impaired. While the Frequently Asked Questions suggests that waterways hydrologically connected to the waterway highlighted as impaired may also be considered impaired. All of this creates confusion for the public and other users of the Integrated Report on how to read/interpret the report and its associated listings.

The District again notes that DEQ's assertion in its Frequently Asked Questions that "the report/list does not, unto itself, specify or determine any regulatory actions or consequences", while technically true with regards to DEQ's regulatory authority, significantly overlooks the permitting, funding, certification, and public perception impacts to the many entities working within or around Oregon's waterways. Numerous other state and federal agencies, non-profits, and third-party certifiers use the 303(d) list in their work with on-the-ground entities; and the simple act of a waterway being listed can result in serious increases in costs, delays in implementation, lost revenue, and/or other operational challenges. These challenges and hardships occur upon listing, not during or after a TMDL process. As such, the District would ask DEQ to better clarify which waterways within a watershed assessment unit are actually considered impaired/listed and how outside users of the Integrated Report should interpret waterways within an "impaired" watershed assessment unit that are not directly colored as impaired within the online map. Very clear instructions on how to determine impairment with a watershed assessment unit attached to the Integrated Report, database, and online map would be a helpful first step towards this goal.

FID will again also note the concern with irrigation canals being combined into HUC-12 watershed assessment units, especially when the canals are not hydrologically connected with the natural waterways within those watershed assessment units.

Thank you,

A handwritten signature in black ink, appearing to read 'Les Perkins', with a horizontal line extending to the right.

Les Perkins, Manager

# 11. Comments from Forest Waters Coalition

**Subject: Comment on Department of Environmental Quality 2022 Integrated Report**

**Date Received: Feb. 11, 2022**

Dear Director Whitman and Department of Environmental Quality staff,

Please accept these comments on the 2022 Draft Integrated Report on behalf of the undersigned 22 member organizations of the Forest Waters Coalition. We appreciate the changes undertaken by the Department of Environmental Quality in the creation of the 2022 report, especially as they pertain to an added level of localized monitoring and recording of information at the monitoring station level. We appreciate the move to more clearly identify where impairments are occurring by assessing and reporting at individual monitoring stations rather than just by watershed assessment units. In general, we support more site specific monitoring and would like to encourage the agency to continue growing in this direction. We also appreciate that the agency expanded on rationales supporting assessment conclusions, and would like to encourage more transparency around assessment reports and conclusions therein.

Our greatest concern in reviewing the 2022 Integrated Report lies in the apparent absence of sufficient testing on landslide and sedimentation impacts, and the resulting absence of known and well documented degraded waterways on the 303(d) list for sedimentation related impairments. It appears that the last sedimentation assessments were conducted by the Department in 2012, and while some turbidity assessments were conducted in about 18 assessment units this year (2022), it is unclear how those watershed units were prioritized, and why some watersheds with extensive records of sedimentation and turbidity issues were not recently monitored.

This absence of sufficient monitoring for sedimentation related water quality issues is especially concerning given that Oregon has been deemed out of compliance with federal Clean Water standards since at least 2015—when the EPA and NOAA found the state’s forestry practices failed to satisfy the Coastal Zone Management Act and water quality protection standards preventing delivery of sedimentation to waterways. As a result, since then, the federal government has withheld at least \$8.1 million in federal grants due to our state’s failure to update management practices to sufficiently protect fish bearing streams from logging related landslide risks. Still, many watersheds in western Oregon are largely owned by big timber companies, and land management of these areas, dominated by the same practices deemed insufficient by federal regulatory agencies. Given this history, it would seem pertinent for the DEQ to prioritize monitoring for sedimentation in these watersheds, which is why we were surprised to find that sedimentation monitoring has not occurred since 2012, and recent

turbidity monitoring did not include many watersheds that are both regulated by the CZMA and undergoing significant landscape level changes.

A concerning consequence of the lack of adequate monitoring is the absence of waterways like Jetty Creek—the drinking water source for the town of Rockaway Beach— from the 303(d) list of waterways impaired for sedimentation related issues. The Jetty Creek surface drinking watershed has been logged over 90%— almost completely— in just the past dozen years. As a result, Rockaway Beach has struggled with turbidity issues for years. Residents there have received 23 alerts about trihalomethanes in their drinking water, which are byproducts of increased organic matter in the water after logging interacting with chlorine in the treatment process. During this time, Jetty Creek water managers have not provided raw water data to DEQ, nor have they filed required information about water usage to the Oregon Department of Water Resources that would be necessary to identify the sources of water quality issues. There is a robust history of community engagement around water quality and logging concerns in Rockaway Beach, including frequent interactions between community members and the DEQ, and coverage in local and statewide news outlets about the water quality issue. Still, the DEQ does not appear to have conducted testing for sedimentation in Jetty Creek since 2004. If the DEQ is to protect surface water supplies, it would seem prudent for the DEQ to focus monitoring on this watershed. Given the documented history of this water quality issue and the significant landscape-level changes that have occurred in the watershed, we request that the DEQ add Jetty Creek to the list of impaired waterways for sedimentation related issues in this year’s integrated report.

The absence of Jetty Creek from the 303(d) list is like a canary in a coal mine, indicating that there are likely many other impaired waterways missing from this list. Clearcut logging is not a single watershed issue— it is a dominant land management practice that is contributing to unhealthy levels of sedimentation in waterways across western Oregon. The communities of Amity, who get their drinking water from the South Yamhill river, and Carlton, who pull surface water from Panther Creek, also have documented issues with sedimentation from logging related runoff. As a result of these issues, both water treatment plants were required to upgrade, and the cost of clean drinking water fell onto community members. Yet, neither the South Yamhill river or Panther Creek have been tested for sedimentation or turbidity in recent years, and neither are listed as impaired for these water quality concerns. We believe that the DEQ should focus its monitoring on drinking watersheds like Amity’s, Carlton’s, and Rockaway’s that are being acutely affected by sedimentation from industrial logging.

It is clear from the turbidity testing that has been done in places heavily impacted by logging practices that sedimentation is a major issue plaguing Oregon’s waterways. For example, Willamina creek (Willamina’s water supply) is dominated by industrial timberlands and has been on the impairment list for turbidity since 2018. Though Willamina creek is just upstream from the South Yamhill river—the South Yamhill river does not appear to have been tested for sedimentation or turbidity for at least the past twenty years.

Additionally, the Little North Santiam river, which burned in the Lionshead and Beachie Creek conflagrations during the 2020 wildfire season— was heavily impacted by post-fire logging in the years since then. Much of this logging occurred directly along the North Santiam river and in many documented cases, corridors were cut leaving minimal riparian buffers and steep slopes were clearcut in heavy handed salvage logging practices. Peer reviewed science on the impacts of post-fire logging have revealed that these practices drastically increase sediment delivery in streams that can lead to significant water quality issues for aquatic species and human communities. The widespread, landscape-level post-fire logging that occurred in the Santiam watershed after the 2020 fires no doubt contributed to the North Santiam’s recent uplisting to impaired for turbidity in the 2022 303(d) list. The results from monitoring Willamina Creek and the Little Santiam—two heavily logged waterways—confirm the need to do more frequent monitoring for sedimentation and turbidity in all of the state’s watersheds that are heavily impacted by industrial logging practices.

Moving forward, we request that the DEQ a) ensure that waterways with sufficient existing evidence of impairments are listed on the current 303(d) list for sedimentation related issues now, and b) devise a plan for the next round of monitoring that prioritizes data collection and reporting in our state’s waterways that are most impacted by industrial logging practices. Towards that end, please consider the following specific recommendations from the Forest Waters Coalition.

**Uplist waterways with sufficient evidence of impairment**—Although we believe more should be done in the outreach stage, we do believe DEQ has sufficient evidence to meet requirements to list the waterways discussed above on the 303(d) list as impaired for sedimentation. We believe the standard for overwhelming evidence has been met for Jetty Creek given the long list of water quality alerts and other known issues. We also believe the standard for overwhelming evidence has been met in the case of the Yamhill River and Panther Creek since both of those communities had to upgrade their water treatment systems due to sedimentation and turbidity concerns. If a waterway that has witnessed as robust attention as Jetty Creek did not make it onto the list for sedimentation, then we are concerned about how many other waterways are currently missing from this list.

**Monitoring methodology**—We implore the DEQ to monitor for sedimentation and turbidity at individual assessment units in order to identify where exactly the problems are arising. The DEQ should conduct ongoing monitoring for sedimentation and turbidity along numerous testing locations, in the same way the agency is undertaking monitoring for pH, dissolved oxygen and temperature—in such a way that assists the agency and community members in determining the sources of the problems coming out of our taps.

**Future prioritization of monitoring sites**—We would like to see the DEQ prioritize the coastal watersheds that are dominated by private industrial timberlands in steep slope geographies with documented landslides and sedimentation concerns. The DEQ should further focus its monitoring in waterways that function as surface drinking watersheds for Oregon’s

communities. We request that the DEQ dedicate special attention to watersheds with disproportionately large populations of poor, low-income and communities of color, to ensure considerations for environmental justice are at the forefront of source water protection.

**Data transparency**— Please ensure public-facing and transparent reporting of raw water data before treatment by the water utility. Water utilities are required to record this raw water data, but are not required to publish it, which functions as a roadblock to public engagement and outside analysis of water quality issues. In conjunction with its bi-annual reports, we request that the DEQ work with local water authorities to publish raw water data from monitoring done at water plants, before water is treated

**Community engagement** —The DEQ should work with community members and organizations to identify watersheds that require the most attention and develop a plan for ongoing monitoring of surface watershed across the state. Rather than simply open a comment period, or make a call for data, DEQ should proactively reach out to water managers, grassroots organizations and community members to conduct interviews and request input and data on impacted waterways. Please start with the communities like Rockaway Beach who have already worked to engage with the DEQ on water quality issues for over a decade, and prioritize outreach efforts to the dozens of communities who have reached out to the Department with concerns about logging in their drinking water supplies.

We appreciate your efforts working to protect the surface waters of our state, in the service of the many Oregonians who rely on them. Thank you for your leadership and your consideration of our comments. Please reach out to us at your earliest convenience with any questions and your responses to our requests. We would appreciate the opportunity to connect with you about these issues.

Signed, **Forest Waters Coalition Member Organizations:**

350 PDX Audubon Society of Portland Beyond Toxics Cascadia Wildlands Friends of Breitenbush Cascades Institute for Fisheries Resources Klamath-Siskiyou Wildlands Center Metro Climate Action Team North Coast Communities for Watershed Protection Northwest Guides and Anglers Oregon League of Conservation Voters Oregon Wild Our Forests Pacific Coast Federation of Fishermen's Associations Rogue Riverkeeper Trout Unlimited Tualatin Riverkeeper Umpqua Watersheds Wild Salmon Center Willamette Riverkeeper Williams Community Forest Project

# 12. Comments from Klamath Irrigation District

**Subject: Klamath #1 Drain incorrectly listed in the integrated report**

**Date Received: Feb. 1, 2022**

This is my third communication to the Integrated Report 2022.

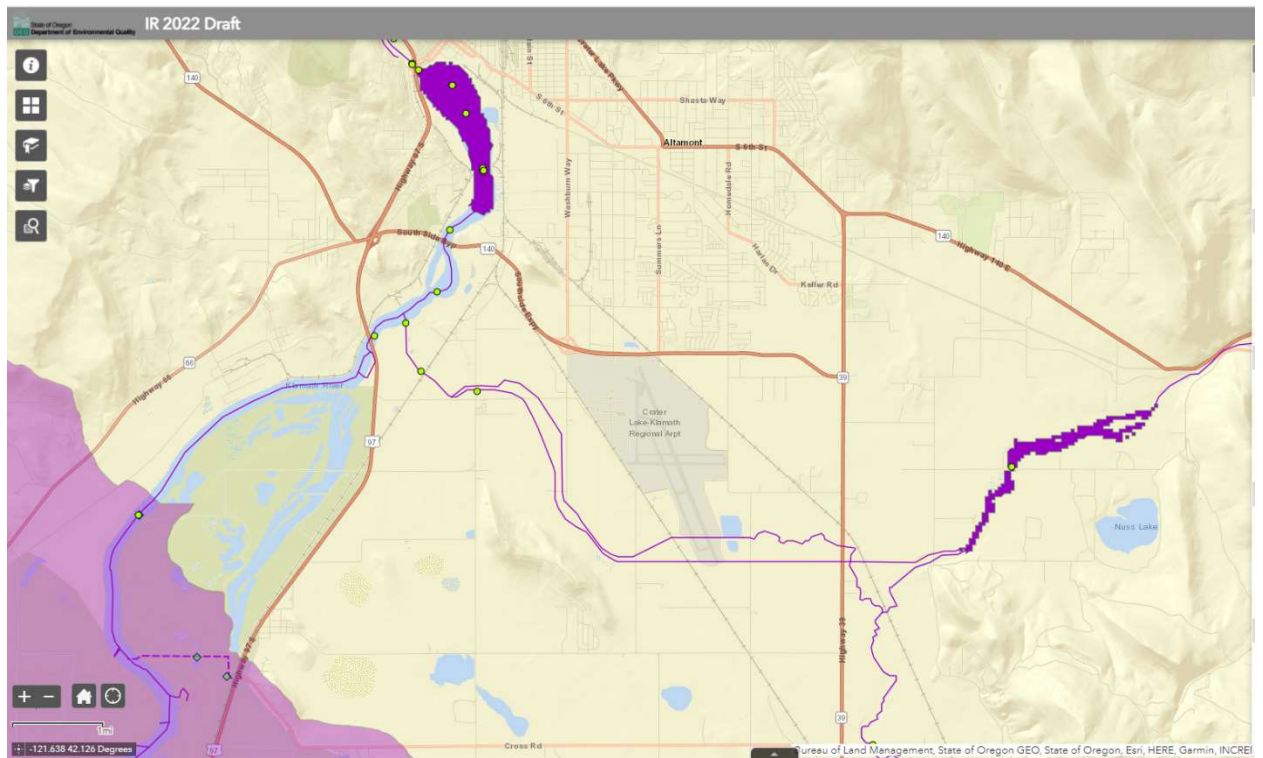
In looking at the areas in Klamath listed. Please remove Reclamation's #1 Drain from the report. This is a piece of the Reclamation Project infrastructure. The #1 Drain is the east/west purple line just north of the listed LRDC.

For note: the LRDC is also a manmade structure for flood control purposes under O&M by Reclamation.

Please contact me to discuss further.

Mike,

Can you please address with the team working on this?





# 13. Comments from Northwest Environmental Advocates

Subject: Oregon Draft 2022 Integrated Report on Surface Water Quality and 303(d) List of Water Quality Limited Waters

Date Received: Feb. 10, 2022

## NORTHWEST ENVIRONMENTAL ADVOCATES



February 10, 2022

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Via email only: [IntegratedReport@deq.oregon.gov](mailto:IntegratedReport@deq.oregon.gov)

Re: **Oregon's Draft 2022 Integrated Report on Surface Water Quality and 303(d) List of Water Quality Limited Waters**

Dear Ms. Anthony and Ms. Merrick:

The following are comments from Northwest Environmental Advocates (NWEA) on the Oregon Department of Environmental Quality (DEQ) Oregon's Draft 2022 Integrated Report on Surface Water Quality and 303(d) List of Water Quality Limited Waters.

**I. Comments on the List with Regard to Assessment Method Improvements Inventory 2022 – Draft Inventory of Potential Methodology Updates**

DEQ has provided the document entitled *Assessment Method Improvements Inventory 2022 – Draft Inventory of Potential Methodology Updates* (March 10, 2020) (hereinafter "Inventory") in which it lists a number of water quality standards violations that it has no intention of assessing. These include: marine dissolved oxygen; biocriteria to assess ocean acidification; the Oregon narrative criterion on "fungi, algae growths"; harmful algal blooms to address cyanotoxin test results from drinking water facilities; the Oregon narrative criterion on "bottom sludge, organic and inorganic deposits" and "Sedimentation"; the Oregon narrative on toxics to address fish tissue data, sediment data, and use of benchmark data where no numeric criteria exist; the statewide narrative criterion as it pertains to microplastics; aluminum using its numeric criterion.

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[www.NorthwestEnvironmentalAdvocates.org](http://www.NorthwestEnvironmentalAdvocates.org)

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Question: What is the status of developing of methodology to make these assessments? This document is dated March 10, 2020 and it is now almost two years later.

Question: Why is designated use support assessment not on the list of methods that are missing from DEQ's assessment?

Question: Does DEQ believe that it has the authority to list waters for designated use impairment without a specific applicable criterion, either numeric or narrative? If not, why not? If so, please provide an example.

Question: Does DEQ believe it has the authority to list waters for designated use impairment where a specific pollutant has not been identified?

Question: Given that Oregon has carried out its 303(d) obligations without assessment methodologies to apply its narrative criteria and designated use support since the inception of its program and its very first 303(d) list, what is its rationale for excluding all data and information generated prior to the earliest date in which the most recent Call for Data states DEQ will accept data: January 1, 2016?

Question: There are no waters listed as exceeding the aluminum criteria. Does DEQ have no data on aluminum in Oregon waters?

Question: Does DEQ list waters for designated use impairment of finfish and shellfish based on the adverse impact of tissue levels of contaminants on aquatic species regardless of whether there is a foodweb pathway to human consumption? If so, how?

On DEQ's website DEQ says about "Aquatic Weeds":

The current assessment method of the Narrative Criteria ORS 340-041-0007(9) lacks specific details and protocols. To support a determination of impairment by aquatic weeds or algae, terms such as "excessive growths" and "dominate the assemblage" must be clarified and a weight of evidence approach defined. This update will add clarity to the existing methodology.

See DEQ, *2022 Integrated Report, Methodology Updates, Long-term updates*, <https://www.oregon.gov/deq/wq/Pages/Integrated-Report-Improvements.aspx>

It says about "Excessive Algae":

DEQ historically listed waterbodies based on excessive amounts of algae (i.e. benthic/floating algae). DEQ is exploring multiple lines of evidence that may be used to assess attainment of this criteria. This update will provide clarity and a clear weight of evidence approach to remove "excessive algae" listings. Lines of evidence may include: methods for visual estimation of algae, periphyton biomass

thresholds, algae community composition, and other supporting WQ information such as nutrients, diel dissolved oxygen and/or pH.

*Id.*

Question: The website description of Excessive Algae corresponds to the work description “[f]ormalize delisting method for aquatic weeds/excess algal growth” in the Inventory. Why is delisting waters for excessive algae or excessive weeds a priority for DEQ given its massive failure to address nutrient pollution in Oregon waters?

Question: Which is accurate, the website’s description of a focus on delisting or the Inventory’s Item No. 10 topic “Aquatic weeds, nuisance algae, nutrients,” which states that DEQ needs to “Develop methodology using identified protocol, benchmarks for nutrient pollutants and corroborating evidence”? Please explain.

Question: Which is accurate, the website’s omission of “benchmarks for nutrient pollutants” or the Inventory’s inclusion of “benchmarks for nutrient pollutants”? If the latter, what is the timeframe specifically for these benchmarks?

## **II. Comments on the List with Regard to Water Quality Assessments Narrative Data Submittals and Other Sources**

Oregon DEQ has provided a description of the data and information that it has chosen to disregard in proposing its 303(d) list: Oregon DEQ, *Water Quality Assessments, Narrative Data Submittals* (undated) (hereinafter “Narrative Submittals”). In this document, DEQ notes that it “used a five-year data window for the 2022 cycle.” *Id.* at 2. And it states that the agency “prioritizes assessment of those parameters with an assessment methodology.” *Id.*

Question: On what basis does DEQ establish a data window where it has previously not evaluated data and information of specific types for which it has not had an assessment methodology?

Question: To prioritize is not to exclude. What data and information has DEQ assessed for which it has no assessment methodology, if any?

In this document, DEQ describes how it assesses “non-numeric data” such as “journal articles; state, federal or other government agency reports; OHA advisories; and study findings and observations.” *Id.* at 2. It then goes on to explain why it has declined to use a wide range of data and information. *Id.* at 3–7. These include the following:

- Evidence of designated use non-support for amphibians but that lack “particular waterbodies,” “data or any specific information,” and “water quality impairment at specific locations.” *Id.* at 3.

Question: Does DEQ evaluate cyanobacteria toxicity test results for which no other agency has issued an advisory? If not, on what basis?

Question: To be clear, DEQ did for this assessment take into account drinking water sampling?

DEQ states that with regard to the status of threatened and endangered species and how they have been affected by toxic contamination: “Such reports identify threats from toxics to the species in general; it does not draw linkages to water quality impairment at a specific geographic location.” *Id.*

Question: Did DEQ ask the agencies responsible for developing documents pertaining to the status of species affected by toxic contamination if they had data and information about specific Oregon waters?

Question: Did DEQ look at the lists of references in such reports to see if some supporting studies might include data and information on specific Oregon waters?

DEQ states that “Without any additional data or information to support an impairment conclusion, aside from an inventory of fish passage barriers, DEQ is unable to use this data as part of its assessment.” *Id.* at 4.

Question: Did DEQ ask the ODFW if it had data and information on the effect of fish passage barriers on designated uses?

Question: If DEQ had evidence that fish passage barriers were having an adverse effect on a designated use, would DEQ list the waterbody on the 303(d) list?

DEQ states that it does not use evidence of violations of Safe Drinking Water Act (SDWA) standards and reports of tastes and odors in drinking water for state waters because “[d]rinking water standards are applied after water treatment has occurred and therefore are not representative of ambient waterbody condition.” *Id.*

Question: Is it DEQ’s position that pollutants are added during treatment of ambient water for use and distribution as drinking water that cause violations of the SDWA and reports of tastes and odors?

Question: Is it DEQ’s position that for no pollutants or parameters violations of the SDWA and reports of tastes and odors are an indication of source water contamination?

DEQ states that “[m]odeling alone is not enough information to base an assessment conclusion . . . . Model conclusions may be used to support an assessment determination, but absent any data, would not be the sole reason for listing.” *Id.*

Question: Did DEQ seek modeling for state waters as part of its data and information gathering? Did DEQ use any models to support an assessment determination?

With regard to fish and other aquatic life kills, fish and other aquatic life lesions and health impacts (reproductive impairment, organ deformities, etc.), fish and other aquatic life extirpations and local declines, depressed populations of aquatic species, identification of candidate aquatic species under the Endangered Species Act or state ESA for species found in or dependent upon state waters, DEQ states that: “These studies/reports would be included as supporting evidence in the assessment if they were provided as part of the call for data and contained information linking the impact to a specific parameter and waterbody location in Oregon.”

Question: Over the years, DEQ and other institutions have reported on fish deformities and lesions in the Willamette River. *See, e.g.*, USDA, Source: OREGON STATE UNIVERSITY submitted to ENVIRONMENTAL STRESSES AND FISH DEFORMITIES IN THE WILLAMETTE RIVER, available at <https://portal.nifa.usda.gov/web/crisprojectpages/0195212-environmental-stresses-and-fish-deformities-in-the-willamette-river.html>. These studies have concluded that toxic chemicals are not the cause of the deformities, but parasitic infections are. *Id.* Similarly, a 2011 study looking at pre-spawn mortality of Chinook salmon at Dexter Dam on the Middle Fork Willamette River found a high level of parasitic infections. *See* R.D. Mann, *et al.*, *Migration Behavior and Spawning Success of Spring Chinook Salmon in Fall Creek and the North Fork Middle Fork Willamette River: Relationships Among Fate, Fish Condition, and Environmental Factors*, Idaho Cooperative Fish and Wildlife Research Unit (2010), available at <https://www.webpages.uidaho.edu/uiferl/pdf%20reports/2011-08-Draft%20Mann%20et%20al%20UI%20OSU%20Willamette%20PSM%20Report%202010.pdf>. The study states: “As in 2009, we identified massive infections and severe lesions in fish that died prespawning. It appears that the fish are becoming infected with some of the parasites in the river above Willamette Falls, as judged by lack of presence of parasites in fish from below that area.” *Id.* at vii. It concludes that “it is now clear that fish of the upper Willamette system are dying of infections associated with multiple pathogens. Importantly, there appears to be a positive correlation between the parasite burdens and the length of time fish have been in the river.” *Id.* Why does DEQ not consider elevated parasite levels in Oregon waters that are causing significant mortality to Chinook salmon as a water quality impairment?

Question: Does DEQ ever seek any data or information directly from sources of information without sitting back and waiting to see who and what responds to its Call for Data?

Question: Is the map in the Mann study sufficiently detailed for DEQ to identify specific Oregon waters to which the findings apply? *See id.* at 5, Fig. 1.

Question: Is there anything in the Call for Data or listing methodology that suggests that data and information such as is presented in the Mann study would be considered by DEQ staff in assessing whether Oregon’s waters meet water quality standards? If so, what?

Question: What does DEQ mean by “supporting evidence in the assessment”? Does that mean DEQ would only use these studies to support other findings of ambient pollution levels or does it mean that DEQ would use the studies themselves?

Question: Does DEQ not list waters for impairment due to native species such as native parasites and native aquatic weeds even where there is evidence that the growth of native populations is due to water quality and that growth is having an adverse impact on designated uses?

DEQ states that the purpose of all documents pertaining to Endangered Species Act listings of threatened and endangered species is “not to demonstrate water quality impairments at specific Oregon locations” and that “status assessments alone do not provide specific water quality and geographic information” that can be used for the assessment. Narrative Submittals at 4–5.

Question: Has DEQ ever contacted either the National Marine Fisheries Service or the U.S. Fish and Wildlife Service to inquire about site-specific information on the status of species or reasons for their impairment?

With regard to toxic contaminants present in tissue of invertebrates and aquatic-dependent wildlife in or near state waters, e.g., U.S. Fish & Wildlife Service, DEQ states that “[i]f such data are provided as part its data call and linked to site-specific locations in Oregon state waters, DEQ will include it as part of its assessment.” *Id.* at 5.

Question: If the data are not available to the public and the U.S. Fish and Wildlife Service does not submit them to DEQ, will DEQ take or not take action to seek out these data to determine if there are any linked to site-specific locations in Oregon waters?

Question: If DEQ will not use tissue residue levels of toxic contaminants for the purpose of listing waters as impaired, why does DEQ state that it will include such data “as part of its assessment”? Is this simply a way of saying that it will be accepted but it will not be relied upon?

Question: Has it ever occurred to DEQ to contact the U.S. Fish and Wildlife Service to discuss what kinds of data it may have that are linked to site-specific locations in Oregon waters? If so, what came of this thought?

DEQ states that it “is currently working on a methodology to incorporate toxics in tissue samples, anticipating a final methodology for the 2024 Integrated Report assessment cycle. Absent any sediment specific toxics criteria, DEQ would not assess on sediment data alone.” *Id.* at 5.

Question: Does DEQ believe that its current proposed list accurately reflects water quality data and information on the status of Oregon waters’ compliance with water quality standards including but not limited to OAR 340-041-0033(1)?

Question: Please explain the rationale for not assessing on sediment data alone, now or in the future, particularly in light of OAR 340-041-0007(10) and (11) and OAR 340-041-0033(1), the latter of which that states toxic substances may not be introduced at levels that “may accumulate in sediments.”

DEQ asserts that the use of data and information on toxics in the Columbia River including samples of sediment, tissue, and from semipermeable membrane devices is not, apparently, relevant because “[t]he Columbia River has already been . . . listed as impaired for arsenic, DDT, DDE, DDD, dioxin, mercury, PCBs and PAHs.” *Id.* at 5.

Question: What does the relevance of the fact that the Columbia River is impaired for some toxics have to do with other toxics?

Question: Are pesticides, chlordane, lead, cadmium, copper, furans, OCDF, HpCDD, chromium, manganese, and heptachlor (identified as “high priority problem areas” for the Lower Columbia River, at Lower Columbia River Bi-State Program, *Reconnaissance Survey of the Lower Columbia River, Task 1: Final Summary Report* (April 29, 1992) at 12–16, Figs. 4–7, Table 1) the same as “arsenic, DDT, DDE, DDD, dioxin, mercury, PCBs and PAHs”? Are

DEQ states that if a pollution source covered by an NPDES permit submits instream toxic data through the Toxics Electronic Data Delivery program, those data will be used in the assessment. Narrative Submittals at 5.

Question: What, if anything, does DEQ do when it knows or suspects that an NPDES-permitted source has instream data that it has not submitted to the Data Delivery program or DEQ in general?

DEQ states that “[p]redictive simulation modeling may be used in conjunction with data collected, but would not be used as the sole basis for an impairment listing.” *Id.* at 5–6.

Question: Has DEQ requested from its own staff or others the results of predictive modeling? If so, has it used such results in its assessment of impairments?

DEQ states that “[r]emote sensing has been used to enhance DEQ’s capability to assess harmful algal blooms, however it would not be used absent any data specific to instream surface water quality.” *Id.* at 6.

Question: Why is data and information from remote sensing not evidence of violations of the narrative criteria at OAR 340-041-0007(9), (10), (12), and (13)?

Question: Why would remote sensing such as FLIR not be used by DEQ to identify waters that fail to meet temperature standards, such as cold water refugia?

DEQ concluded that “[d]uring water temperatures when the 20°C criterion is exceeded, DEQ is unable to conclude at this time whether the current availability and distribution of [cold water refugia] CWR is sufficient to meet the needs of migrating adult UWR spring Chinook and LCR spring/fall Chinook populations”; “[u]nder conditions when the 20°C criterion is both attained or exceeded, DEQ is unable to conclude at this time whether the current availability and distribution of CWR is sufficient to meet the needs of migrating adult LCR fall Chinook and

UWR spring Chinook that spawn in the Clackamas Basin. There is a lack of population-specific data for timing and abundance of these populations in the migration corridor and entry to the Clackamas River”; and “DEQ is unable to conclude at this time whether the current availability and distribution of CWR is sufficient to meet the needs of the out-migrating juvenile UWR or LCR spring Chinook or juvenile and kelt UWR or LCR winter steelhead populations.” DEQ, *Lower Willamette River Cold-Water Refuge Narrative Criterion Interpretation Study, Submitted to: NOAA — National Marine Fisheries Service* (March 2020), at 17.

Question: Given these findings, why did DEQ not identify a failure to meet the narrative criterion for cold water refugia in the proposed assessment?

With regard to source assessments pertaining to CERLCA sites, sediment contamination, and Natural Resources damages assessments, DEQ states that it evaluates data that are “contained in publicly available databases are evaluated as part of the assessment process. Any additional data must be submitted through DEQ’s call for data.” Narrative Submittals at 5.

Question: Does this mean that DEQ does not and will not take any steps to obtain data that are not submitted even when it is aware of those data sources or could be aware of those data sources with little staff effort?

DEQ states that it would consider “[a]ny ambient data submitted through the call for data in waters with hydroelectric dams will be considered.” It goes on to say that “[f]or dams collecting ambient data as part of a hydroelectric certification, those data are a priority for DEQ’s assessment team in future cycles.” Narrative Submittals at 6.

Question: Why does DEQ limit data and information on hydroelectric (or other) dams to “ambient data”?

Question: Does DEQ believe that it need only issue a call for data and only if data are submitted that it must evaluate them for relevance? Has DEQ ever requested data from dam owners or operators?

Question: Did DEQ receive data collected as part of any hydroelectric certification that it determined were not a priority for assessment in this cycle?

Question: What does it mean for DEQ to say that certain data “are a priority for DEQ’s assessment team in future cycles”? Does this mean that DEQ intends to request such data directly from dam owner/operators? If so, why did DEQ not request the data for this cycle? Does this mean that DEQ intends to request such data from its own staff? If so, why did DEQ not request the data for this cycle?

With regard to pharmaceuticals and personal care products and other “chemicals of emerging concern” discharged to and present in state waters and their effects on aquatic species, DEQ states that “absent water quality criteria, waterbodies would not be assessed.” Narrative Submittals at 6.



Question: What does DEQ mean by “criteria”? DEQ has narrative criteria and designated use support in its water quality standards.

DEQ states that it “may consider using data collected from semipermeable membrane devices as part of its assessment were an assessment methodology developed. Any methodology developed would have to undergo peer review as required under Oregon statute ORS 468B.039.” *Id.* at 6.

Question: Why does DEQ invoke ORS 468B.039 in discussing this particular type of data and information but not others for which it has not yet established a methodology?

Question: Why has DEQ not included an assessment methodology for semipermeable membrane devices as needing a methodology such that it would be included on its Inventory?

Question: Does DEQ consider that its inability to evaluate data and information from semipermeable membrane devices a limitation in completing a 303(d) list for Oregon waters? If not, why not? Given that DEQ does not consider salmon health studies as sufficiently related to specific locations, why doesn't DEQ consider an assessment methodology for semipermeable membrane devices a priority? Does DEQ use such devices in its own laboratory?

With regard to data and information from biochemical analyses of tissue samples, liquid chromatography and mass spectroscopy methods to measure wastewater and estrogenic, compounds in juvenile salmon bile and plasma samples, salmon stomach contents, salmon prey, salmon otoliths, etc. that pertain to identifying potential adverse effects of contaminants on salmon and food webs in state waters, DEQ concluded that these data “do not demonstrate ambient water conditions at specific geographic locations in Oregon. Data generated from these studies do not document that adverse effects on salmon are related to impacts at the same location. All relevant tissue data associated are assessed as part of DEQ's assessment process.”

Question: Is DEQ aware that in preparing the Columbia River Dioxin TMDL, EPA determined that by normalizing lipid content of resident and anadromous fish, the levels of dioxin in salmon were found to reflect other sources of tissue data? The Ninth Circuit Court of Appeals described this as follows:

[T]he EPA argues that it reasonably concluded that higher consumption of fish among subpopulations did not imply that the total quantity of fish consumed would be maximally contaminated. The EPA notes that no definitive study had established the quantity and variety of contaminated fish consumed by these subpopulations. Since much of the fish population in the Columbia Basin consists of anadromous fish, e.g., salmon and steelhead trout, which spend only limited time in contaminated river waters, the EPA argues that it was reasonable to assume that not all the fish tissue consumed by the subpopulations would be contaminated. Further, even if the fish were contaminated, they would not necessarily be contaminated at the highest concentrations possible.

As a result of these uncertainties, the EPA estimated that the total consumption of 150 grams of fish by these subpopulations would lead to no greater dioxin ingestion than would occur by consuming 6.5 grams of fully contaminated fish.

*Dioxin Organochlorine Center v. Clarke*, 57 F.3d 1517, 1524 (1995).

Question: How does DEQ assess “[a]ll relevant tissue data”?

DEQ states that it considers data and information on aquatic weeds if they are “contained in publicly accessible databases (e.g., Aquatic Invasive Species hotline).” *Id.* at 7.

Question: Does DEQ reject all data and information aquatic weeds and invasive species if they are not reported on a publicly accessible database? If so, what is the rationale?

Question: Why does DEQ not have any listings for aquatic animal invasive species on its 303(d) list?

Question: Has DEQ looked for readily available sources of information on waterbodies with adverse impacts from aquatic animal invasive species? For example, the Columbia River Intertribal Fish Commission website available at <https://critfc.org/invasive/> (listing several species and the name and contact information for CRITFC’s Aquatic Invasive Species Coordinator who is described as “monitor[ing] the system for these species that can impact the health of the water systems and the native aquatic species that live there.” For example, the Northwest Power and Conservation Council (“Council”) (<https://www.nwcouncil.org/reports/2014-columbia-river-basin-fish-and-wildlife-program/3-non-native-and-invasive-species>); Columbia River Research Laboratory (<https://www.usgs.gov/labs/columbia-river-research-laboratory/science/species-studied-columbia-river-research-laboratory>). Did DEQ ask the Council if it had data and information on Oregon waters related to its finding that “[a]sian copepods, small plankton-like crustaceans, have already invaded parts of the basin’s waters. They can affect the health of the food web in such a way that makes future invasions, perhaps by mussels, more likely.” See <https://www.nwcouncil.org/news/preventing-spread-invasive-species-columbia-river>. Did DEQ ask Oregon municipalities for data on invasive species? See, e.g., KOIN TV-6, Invasive plant gets stranglehold at Minto Park in Salem, available at <https://www.koin.com/news/invasive-plant-gets-stranglehold-at-minto-park-in-salem/> (“Uruguayan water primrose, also called Ludwigia, forms dense mats in slow-moving backwater channels, oxbow lakes, and sloughs, according to the city [of Salem, OR].”



Question: Does DEQ ask ODFW for data and information on aquatic invasive species in Oregon waters? See, e.g., ODFW, Discovery of invasive crayfish in the Willamette River drainage concerns biologists, available at <https://www.dfw.state.or.us/news/2015/october/102315.asp> (“To find Ringed crayfish in the upper end of the Willamette Basin is very alarming to us,” said Jeff Ziller, South Willamette Watershed District Fish Biologist. “The non-native ringed crayfish dominate the crayfish populations in the Rogue, Chetco and Umpqua rivers, so this is bad news for Signal crayfish here in the Willamette system. . . . Adult Ringed crayfish were found below the falls between the [Wildwood Falls] park and [Dorena] reservoir. Only native Signal crayfish were found in the Row River below Dorena Dam and in sampled tributaries including Mosby, Brice and Sharps creeks.”).

DEQ states that it “has not determined how dilution calculations would be included as part of an Integrated Report assessment.” Narrative Submittals at 5.

Question: Does DEQ look at ambient and other water quality data collected for the purpose of establishing effluent limitations (e.g., mixing zone studies)? Does DEQ request that its permit writers provide such studies to the assessment team? Would DEQ look at such studies if they were submitted or obtained?

Oregon’s Methodology states that “Wildlife & hunting beneficial uses are protected by other more sensitive uses.” DEQ, *Draft Methodology for Oregon’s 2022 Water Quality Report and List of Water Quality Limited Waters Pursuant to Clean Water Act Sections 303(d) and 305(b) and OAR 340-041-0046* (January 2022) at 11, Table 1, fn. 4.

Question: On what basis has DEQ concluded that aquatic-dependent wildlife are protected by other designated uses? Please explain DEQ’s analysis of how amphibians are protected by other designated uses, referencing population locations, parameters, and applicable criteria. Please explain how aquatic dependent mammals and birds are protected from toxic pollutants by other designated uses, referencing population locations, parameters, and applicable criteria.

Oregon does not have a numeric criterion for nitrogen. The pollutant “nitrogen” is not addressed in the draft Methodology, e.g., to explain how Oregon uses its narrative criteria to evaluate nitrogen levels in waters of the state. There are no listings in the proposed assessment for nitrogen pollution.

Question: On what basis did DEQ determine that nitrogen levels in the Rogue River downstream of the City of Medford do not constitute a violation of water quality standards?

Question: Why does it appear that Oregon has no data and information on nitrogen levels in state waters when it explicitly reports on nitrogen in, for example, the *Oregon Water Quality Index Data Summary Water Years 2011-2020 Oct. 1, 2010 through Sept. 30, 2020* (March 2021) at 1, 5, available at <https://www.oregon.gov/deq/wq/Documents/wqi2020dataSum.pdf>?

Question: Why did DEQ provide Clean Water Act section 319 funding to address “[n]itrogen sources in a tidally-restricted estuary” of Curry Creek watershed if there are no waters in the state with nitrogen impairments? See DEQ, *Oregon’s Nutrient Management Program* (June 2014) at 15, Table 4; see also *id.* at 22 (three projects in 2012 reduced 6,095 pounds of nitrogen per year).

Question: How does DEQ assess the total nitrogen samples that it “regularly collects . . . from streams throughout the state as part of its ambient monitoring program”? See *id.* at 21.

Question: How did DEQ conclude that its “North Coast Basin Assessment noted that there were declining water quality trends for phosphorus at one out of ten sites that were assessed (Nehalem River) and nitrogen for one site (Kilchis River),” *id.* at 23, and yet there are no nitrogen listings on the 303(d) list or any reference to making nitrogen assessments in the Methodology?

Question: How can DEQ “Prioritize watersheds on a statewide basis for nitrogen and phosphorus loading reductions,” as it claimed to do, *id.* at 1, if it does not make nitrogen assessments on its 303(d) list?

Question: Is nitrogen specifically included (in DEQ’s mind) in the work description of “benchmarks for nutrient pollutants” identified as an assessment methodology needed for “Aquatic weeds, nuisance algae, nutrients”? See Inventory at 2.

The Deschutes River Alliance has included in a summary of Joe Eilers, Kellie Vache, MaxDepth Aquatics, Inc., *Water Quality Study for the Pelton Round Butte Project and the Lower Deschutes River: Monitoring & Modeling* (unknown date), at 548, the following quotation from this study of data from 2015 to 2017: “Although phosphorus is highly available throughout the [Lower Deschutes River] LDR, nitrogen uptake is substantial, indicating that nitrogen is the limiting nutrient. Therefore, a reduction in NO<sub>3</sub> is needed to reduce the periphyton biomass in the LDR.” See <https://deschutesriveralliance.squarespace.com/new-pge-study>; see also *id.* at 310 (“The data show a large increase in NO<sub>3</sub> [nitrate] at that site [hwy bridge 26, RM 97.6] and a slightly smaller increase at the Deschutes River SRA [state recreation area] site at the mouth (RM 0.1). In comparison with the 1997 data, NO<sub>3</sub> showed a twofold increase in May 2016 and July 2015 and 2016 at the ReReg Dam, and those increases remained throughout the length of the river in May and July 2016.”). There are no proposed listings for nitrates in the Lower Deschutes River based on these data collected for Portland General Electric (PGE).

Question: Did DEQ attempt to obtain any nitrogen data and information from any source for any waterbody in Oregon?

Question: Was the Eilers report referenced above provided to DEQ? If so, why is there no listing for this waterbody for nitrogen pollution?

Question: If DEQ is made aware of data that have been collected but not provided to the agency during the Call for Data, does DEQ seek to obtain that data directly from the source? Did DEQ seek to obtain the data collected for PGE by Eilers *et al.*?

### III. Comments on the List Based on the Spreadsheet and Map

All proposed listings for aquatic weeds are lakes or reservoirs with the exception of three river segments. Omitted are listings based on the reports prepared by the City of Medford's consultant and the NWEA rebuttal report, both of which were sent to Oregon DEQ and both of which discussed the excess growth of the aquatic weed *Cladophora*. Stillwater Sciences, *Nutrient Discharge Limit Assessment for the Rogue River in the Vicinity of the City of Medford Regional Water Reclamation Facility* (March 2020); JoAnn M. Burkholder, Ph.D., *et al.*, *Rebuttal of the Report, "Nutrient Discharge Limit Assessment for the Rogue River in the Vicinity of the City of Medford Regional Water Reclamation Facility," by Stillwater Sciences (March 2020) Report for Plaintiff Northwest Environmental Advocates* (Revised May 30, 2020).

Question: Did DEQ look at and evaluate the above-cited reports? If so, on what basis did DEQ conclude that the growth of *Cladophora* does not constitute an impairment?

Question: Does DEQ staff compiling data and information for the 303(d) list request that DEQ staff provide data and information in their knowledge and possession?

Question: On what basis did DEQ not conclude that levels of nitrogen are in excess of water quality standards on the Rogue?

There are many listing for violations of the narrative criteria for biocriteria, every one of which lists the pollutant as "BioCriteria."

Question: Why does DEQ list "BioCriteria" as a pollutant?

The Columbia River waters are listed as violating human health criteria for DDE 4,4'. The comments on the assessment note that the listing is also supported because of "reduced bald eagle reproduction in LCR."

Question: Why is the Lower Columbia River estuary not listed as violating the narrative criterion for toxics based on reduced bald eagle reproduction? Why is it not listed as violating the designated use support?

Question: the DEQ rationale references the Oregon and Washington Departments of Health fish consumption recommendations and advisories regarding fish consumption. In the absence of these recommendations and advisories, would DEQ list these waters on the 303(d) list?

Harmful algal blooms are listed as a pollutant for many waterbodies but none indicate the water quality standard(s) used for the assessment.

Question: Why does DEQ not provide the water quality standard(s) against which it has made the assessment of data and information on harmful algal blooms?

DEQ lists some waters as exceeding phosphorus levels assessed against “Toxic Substances – Aquatic Life.”

Question: Why are these waters listed as violations of toxic substances?

DEQ lists waters as having excess “Sedimentation” but does not provide the rationale for assessment (water quality standard(s)).

Question: What is or are the water quality standards used for assessing excess sedimentation? Why does DEQ not include these in its draft 303(d) list?

The Lower Willamette River, including a Superfund Site, described as “Johnson Creek to confluence with Columbia River,” according to the mapping application, is proposed to be listed for: “BioCriteria, E. coli, Lead - Aquatic Life, Toxics, Mercury (total) - Aquatic Life Toxics, Temperature- year\_round, Zinc - Aquatic Life Toxics.” See AU\_ID, OR\_WS\_170900120202\_02\_104555. The basis for the biocriteria listing is from a 2004 assessment—over 15 years ago—identified as “Record ID: 6124- Previous Data: Research conducted in this portion of the river (Sethajintanin, D., Johnson, E.R., Loper, B.R., and Anderson, K.A., (2004) Bioaccumulation Profiles of Chemical Contaminants in Fish from the Lower Willamette River, Portland harbor, Oregon.” According to the spreadsheet, this assessment unit is proposed to also be listed for cyanide (aquatic life), DDE 4,4’, dieldrin, PAHs (all human health), HABs, and dissolved oxygen (but not mercury, lead, E. coli, or zinc).

Question: Why are the two sources of information—web map and spreadsheet— not consistent?

Question: Is the 2004 study cited by DEQ seriously the latest information on biocriteria violations and individual toxic pollutants for this waterbody segment? See, for example, the paper *Decreased Growth Rate Associated with Tissue Contaminants in Juvenile Chinook Salmon Out-Migrating through an Industrial Waterway* by Jessica I. Lundin, et al., *Environ. Sci. Technol.* 2021, 55, 99689978, available at <https://pubs.acs.org/action/showCitFormats?doi=10.1021/acs.est.1c01526&ref=pdf> that concluded:

The industrial waterway in Portland Harbor, Oregon, is a migration corridor for a distinct population segment of Chinook Salmon (Upper Willamette River) currently protected by the U.S. Endangered Species Act. Juveniles are exposed to

a suite of contaminants during outmigration including polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and dichlorodiphenyltrichloroethanes. We collected natural origin subyearling Chinook salmon from sites in and around the industrial harbor to evaluate growth (otolith microstructural analysis) in relation to measured chemical concentrations in tissue. A reduced growth rate was associated with higher tissue contaminant concentrations, particularly mixtures represented by PAHs and certain PCBs, which were elevated in juvenile Chinook collected throughout sites within Portland Harbor relative to those captured upstream. First-year growth is an established predictor of individual survival and eventual reproductive success in Chinook salmon. Therefore, our results indicate that legacy pollution may be limiting the population abundance of threatened Willamette River Chinook salmon, and future habitat remediation or restoration actions may benefit ongoing species recovery efforts.

*Id.* at 9968. While this paper was published after the Call for Data closed, it includes an extensive listing of references that predate the paper. Did DEQ look at any of these papers and/or the underlying data?

Question: Did DEQ look at any data and information (e.g., analyses of data) that postdate the 2004 study cited as the basis for the biocriteria violation?

Question: Why does DEQ list only “Biocriteria” as the pollutant for this assessment unit when there are data and information demonstrating at least some of the pollutant causes for the violation of the narrative biocriteria violation?

Question: Given the findings of the Lundin *et al.* paper, why does the proposed 303(d) list not include any listing for this assessment unit for polycyclic aromatic hydrocarbons for aquatic life, such as the juvenile Chinook identified as an impaired designated use?

#### **IV. Other Comments on the List**

Question: Does DEQ request documentation from data collectors such as universities and public agencies pertaining to their research on water quality concerns when it has learned about and obtained such research?

Question: Does DEQ have a method of assessing whether waters are “threatened” and has DEQ proposed to list any waters that are “threatened”? If not, why not?

Question: How does DEQ differentiate between “data” and “information” as those terms are used in 40 C.F.R. § 130.7(b)(5)? Please define “information” in DEQ’s understanding of that term.

Question: What steps has DEQ taken to actively solicit “information” that are not data that may be relevant to placing waterbodies on the 303(d) list?

Question: Has DEQ listed any waterbodies on the 2018 303(d) based solely on “information”? If so, which waterbodies and what was the basis of those listings?

Question: Does DEQ have a method of determining designated use impairment that is based on the principle of “independent applicability” of designated uses, namely that a use impaired by a water quality impact is a violation of water quality standards?

Question: Has DEQ ever placed a waterbody on the list of impaired waters for designated use impairment that is not based on exceedances of numeric criteria? If so, please identify the assessment unit(s).

Question: Does DEQ believe it has the authority to list waters for designated use impairment where a specific pollutant is not known?

Question: Has DEQ ever listed waters for designated use impairment where a specific pollutant is not known? If so, please identify the assessment unit(s).

Question: Does DEQ list waters for designated use impairment of finfish and shellfish based on the adverse impact of tissue levels of contaminants on aquatic species regardless of whether there is a foodweb pathway to human consumption? (We were unable to find any such listings.) If so, how?

Question: Does DEQ consider data and information on depleted population size of aquatic species in making determinations on designated use support/impairment? If so, please provide an example.

Question: What steps did DEQ take to collect data and information on impairment of designated uses for this assessment, if any?

Question: Does DEQ consider data and information on the adverse impacts of toxic contaminants on aquatic species that are not incorporated into numeric criteria in making determinations on designated use support/impairment?

Question: Does DEQ obtain and evaluate for the purpose of this assessment data and information on contaminants of concern, including but not limited to pharmaceuticals and personal care products, and other toxic contaminants for which Oregon has no numeric criteria? If not, why not?

Question: What steps, if any, did DEQ take to collect data and information on contaminants of emerging concern for this assessment?

Question: What studies on contaminants of emerging concern in Oregon waters has DEQ rejected as the basis for this assessment, if any?



What other parameters, if any, were originally a part of these TMDLs? Why are these remaining TMDLs now low or no priority?

Question: When did DEQ begin working on the Lower Deschutes, Crooked, Beaver-South Fork, and Trout Subbasins TMDL for E. coli, dissolved oxygen, HABs, pH, temperature, and total phosphorus? What other TMDLs (location and parameters) had DEQ initiated in the Deschutes Basin? Of those, how many TMDLs that were initiated are no longer high or medium priority for this basin?

Question: When did DEQ begin working on the Powder, Burnt, and Brownlee Subbasins Nutrient TMDL for dissolved oxygen, pH, and total phosphorus?

Question: When did DEQ decide to add a Rogue River Basin Nutrient and Biocriteria TMDL to address biocriteria, chlorophyll-a, dissolved oxygen, HABs, pH, and total phosphorus to the list of medium priority TMDLs? Why is nitrogen not included in this TMDL project?

Question: Has DEQ evaluated the number of NPDES permits that discharge or are likely to discharge the pollutants causing or contributing to the violations of water quality standards as part of its evaluation of TMDL priorities? If so, how many NPDES permits will be subject to wasteload allocations in TMDLs that DEQ has proposed as high and medium priority that are not subject to the existing court order? If not, why does DEQ not consider TMDLs to be a priority based on their need for assisting in the development of effluent limitations for NPDES permits?

## V. Incorporation of Previous Comments

We hereby incorporate by attachment our previous comments (and their attachments) on Oregon's 303(d) list as follows:

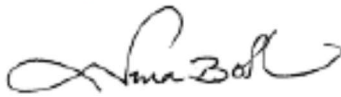
- Letter from Nina Bell, NWEA to Becky Anthony, DEQ, Re: *Notice of a Call for Data for the State of Oregon Water Quality Assessment for 2022 Integrated Report* (April 2, 2021)
- Letter from Nina Bell, NWEA to Becky Anthony, DEQ, Re: *Comments on Draft Methodology for Oregon's 2022 Water Quality Report and List of Water Quality Limited Waters Pursuant to Clean Water Act Sections 303(d) and 305(b) and OAR 340-041-0046* (March 2, 2021)
- Letter from Nina Bell, NWEA, to Becky Anthony, DEQ, Re: *Draft Oregon's 2018/2020 Integrated Report* (Dec. 18, 2019)
- Letter from Nina Bell, NWEA, to Oregon DEQ, Re: *Comments on Phase I – Oregon 2010 Integrated Report; CWA 303(d) List* (Dec. 15, 2010)
- Letter from Nina Bell, NWEA, to Karla Urbanowicz, DEQ, Re: *Draft 2004 Integrated Report on Water Quality Status* (Nov. 7, 2005)

- Letter from Nina Bell, NWEA to DEQ, Re: *Phase II – Oregon 2010 Integrated Report; CWA 303(d) List* (May 3, 2011)
- Letter from Nina Bell, NWEA, to Karla Urbanowicz, DEQ, Re: *Oregon's Draft 2012 Integrated Report and Section 303(d)(1) List of Impaired Waters* (Feb. 24, 2014)

### Conclusion

DEQ has proposed a 303(d) list of impaired waters for Oregon that fails to fully implement its water quality standards and assemble and evaluate all readily available data and information.

Sincerely,



Nina Bell  
Executive Director

Attachments (attachments to the letters listed below have previously been provided to the agency recipients of this letter):

Letter from Nina Bell, NWEA to Becky Anthony, DEQ, Re: Notice of a Call for Data for the State of Oregon Water Quality Assessment for 2022 Integrated Report (April 2, 2021)

Letter from Nina Bell, NWEA to Becky Anthony, DEQ, Re: Comments on Draft Methodology for Oregon's 2022 Water Quality Report and List of Water Quality Limited Waters Pursuant to Clean Water Act Sections 303(d) and 305(b) and OAR 340-041-0046 (March 2, 2021)

Letter from Nina Bell, NWEA, to Becky Anthony, DEQ, Re: Draft Oregon's 2018/2020 Integrated Report (Dec. 18, 2019)

Letter from Nina Bell, NWEA, to Oregon DEQ, Re: Comments on Phase I – Oregon 2010 Integrated Report; CWA 303(d) List (Dec. 15, 2010)

Letter from Nina Bell, NWEA, to Karla Urbanowicz, DEQ, Re: Draft 2004 Integrated Report on Water Quality Status (Nov. 7, 2005)

Letter from Nina Bell, NWEA to DEQ, Re: Phase II – Oregon 2010 Integrated Report; CWA 303(d) List (May 3, 2011)

Letter from Nina Bell, NWEA, to Karla Urbanowicz, DEQ, Re: Oregon's Draft 2012 Integrated Report and Section 303(d)(1) List of Impaired Waters (Feb. 24, 2014)

# 14. Comments from Oregon Coordination Council on Ocean Acidification & Hypoxia

Subject: Oregon's 2022 draft Integrated Report

Date Received: Feb. 11, 2022



Date: February 11<sup>th</sup>, 2022

Oregon Department of Environmental Quality, Water Quality Division  
700 NE Multnomah  
Portland, OR 97232-4100

Re: Oregon's 2022 draft Integrated Report

Dear Water Quality Division,

As the Co-Chairs of the legislatively created Oregon Coordinating Council on Ocean Acidification and Hypoxia (or "OAH Council"), we appreciate the opportunity to offer comments on Oregon's 2022 draft Integrated Report, developed as part of the State's Clean Water Act reporting responsibilities. We first want to recognize and show appreciation for the responsiveness of the Oregon Department of Environmental Quality (ODEQ) staff and managers in this and past Integrated Reports, demonstrated by continuing to address ocean and estuary water quality management. With this letter, we build on our [comment letter for ODEQ's 2018/2020 Integrated Report](#), in order to continue to improve Oregon's water quality standards related to ocean conditions and to improve ODEQ's use of available marine data so that we can better protect our state's coastal communities and ecosystems in light of changing ocean conditions.

With Oregon's 2018/2020 Integrated Report, the State became the first in the Nation to identify coastal marine waters as waters of potential concern due to impacts from ocean acidification and hypoxia (both as 3B categorization – Insufficient data but of potential concern). This has been a critical step for Oregon in the ongoing efforts to combat OAH. We would like to acknowledge ODEQ's deliberate strides forward in actively reaching out to the scientific community to build the cross disciplinary knowledge of oceanography and water management needed to assess our dynamic Oregon coastal systems. This work was highlighted by ODEQ in the [2021 OAH Council Multiagency Report on Programs and Needs](#) and should continue to be a priority.

The OAH Council offers ongoing support to ODEQ in multiple ways, including by committing Council member time to participate in and contribute to the 2022 OAH Technical Work Group process. This Work Group, which is planned to start in February 2022, and which will be convened by ODEQ and the US Environmental Protection Agency (EPA), will develop a new ocean water quality methodology that can be used in combination with expanded data sets to assess OAH impairments in Oregon waters. Throughout this process it is going to be essential that an open dialogue is developed and maintained among managers and scientists, to bridge information gaps and explore new approaches to this important Oregon issue, that is also being tracked across the nation.

There are still important steps that ODEQ needs to take moving forward. Below we highlight five key areas of consideration in the ODEQ 2022 Integrated Report process as well as future methodology development.

- **Incorporate multiple oceanographic data formats** into Integrated Assessment Reports analysis. These data could be in the form of fixed depth sampling (e.g., moorings, benthic platforms), vertical depth sampling (e.g., CTD sampling, vertical profiler), and spatial sampling where data are collected at multiple depths along a transect (e.g., underwater glider). Many of these platforms can collect several different types of marine data simultaneously including dissolved oxygen, pH, salinity, temperature, and pCO<sub>2</sub>. These new data will require ODEQ staff to consider new analysis procedures, not commonly used in freshwater systems, but standard practice within oceanographic data processing. The OAH Council offers our support in these efforts by connecting ODEQ with regional experts that can assist.
- **Invest in updating the current data input website**, which will likely need forward planning and strategic investment by ODEQ. The Ambient Water Quality Monitoring System (AWQMS), the current website, does not support input of several key marine parameters (e.g., aragonite, pCO<sub>2</sub>, etc.) or commonly used oceanographic data formats (e.g., continuous data sets over vertical or spatial scales). AWQMS also does not have a clear way for marine biological data to be submitted. These marine parameters and oceanographic data formats will be critical in ODEQ's ongoing methodology development. Additionally, AWQMS is extremely tedious for researchers to input key data sets (e.g., [Ocean Observatories Initiative](#), [NOAA ERDDAP Oregon Glider Data](#), [Newport Hydrographic Line](#), [Partnership for Interdisciplinary Studies of Coastal Oceans PISCO](#), etc.) – many of these data sets are already publicly available. We would like to remind ODEQ of their obligation to find and review all publicly available data sets during the development of Integrated Reports (per federal mandate under the Clean Water Act [40 CFR §130.10 (d)(6)]), and that the researchers that are volunteering their time to assist ODEQ in their mandate should have a website that allows them to efficiently input state needed data. The OAH Council offers our assistance to ODEQ in working with these researchers to streamline the process for data submittal prior to the next data call.
- **Incorporate temporal and spatial variability in marine water**, a unique consideration compared to most freshwater environments. This need was highlighted by ODEQ in the [Marine dissolved oxygen water assessment](#) document, and will continue to be a consideration for most current and future marine parameters (e.g., pH, aragonite, DO, pCO<sub>2</sub>, etc.) especially across depth gradients. The continuous nature of marine assessment units, which do not have clearly defined boundaries, should be another consideration for ODEQ. Specifically, regarding how data gaps are assessed and if data from one assessment unit can be used for an adjacent unit (while considering regional bathymetry and current patterns). This is important as Oregon experiences seasonal shifts in duration and magnitude of coastal upwelling, which mixes bottom surface waters in nearshore systems, and will likely be a central topic for discussions at the OAH Technical Work Group workshops.
- **Consider marine derived data and model output** in Integrated Assessment Report analysis. Several marine carbon parameters could be used moving forward to assess ocean acidification (pH, pCO<sub>2</sub>, total Dissolved Inorganic Carbon (DIC), or Total Alkalinity (TA)), and if two of the four are measured, then the other two can be derived. In addition, aragonite is rarely directly measured, and is derived from DIC and TA, considering regional temperature and salinity. Output from numerical ocean models are also available to assess the coastal marine system, and newly created regional coastal models such as [J-SCOPE](#) (and its various smaller scale regional model runs) provide seasonal forecasts of aragonite and oxygen levels at surface and bottom waters. This model covers both State (3 nautical miles offshore) and Federal waters. These data sets and model output are central to our understanding of OAH in Oregon coastal systems from a scientific standpoint and should be incorporated into discussions at the OAH Technical Work Group workshops.

- Effectively advertise future calls for data to help facilitate more inclusive data submission from the wider marine community. This would not only increase regional participation in assessing the status of Oregon’s marine waters but could provide ODEQ with needed data in areas where there are currently gaps. Through the OAH Council’s role as a coordinating body, we offer our ongoing assistance to ODEQ in this process.

**Background**

Oregon’s coastal economies rely on our vibrant marine ecosystem. Our nearshore waters are home to sport and commercial fisheries, all the State’s mariculture operations, and contain critical nursery grounds for economically important species including rockfish, oysters, salmon, pink shrimp, Dungeness crab, and others. Oregon is also among the first places in the world to observe direct impacts of OAH, due to its unique geographic and oceanographic context, putting our fragile marine ecosystem at risk. Addressing intensifying OAH conditions here in Oregon is critical to our understanding of larger regional climate change impacts through management strategies. The OAH Council’s 2018 and 2020 Biennial reports as well as the Oregon OAH Action Plan (2019 -2025) identifies water quality as an important consideration in reducing the causes of OAH (Theme 2). In these documents, the OAH Council encourages the State to make improvements to water quality by not only identifying pollutants that amplify or exacerbate OAH impacts, but also ensure that existing regulations are achieving their expected outcomes.

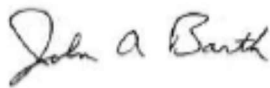
**Concluding Remarks**

As Co-Chairs of Oregon’s OAH Council, we have taken on the charges set forth by the Oregon Legislature with a sense of urgency and importance, knowing that the State has a remarkable opportunity to help prepare our coastal communities and marine ecosystems for current and future OAH conditions. We once again want to commend ODEQ staff and managers for their dedication to protecting our state’s water resources and offer our ongoing support in developing and improving the State water quality assessment methodology and Integrated Reports.

Thank you for your consideration of these public comments and we welcome any questions.

Sincerely,

John Barth, PhD




Executive Director  
Marine Studies Initiative  
Oregon State University

Caren Braby, PhD




Marine Resources Program Manager  
Oregon Department of Fish and Wildlife

# 15. Comments from Oregon

## Department of Fish and Wildlife

Subject: Draft 2022 Integrated Report

Date Received: Feb. 11, 2022



# Oregon

Kate Brown, Governor

Department of Fish and Wildlife  
4034 Fairview Industrial Drive SE  
Salem, OR 97302  
(503) 947-6201  
FAX (503) 947-6202  
[www.dfw.state.or.us/](http://www.dfw.state.or.us/)

February 11, 2022

Department of Environmental Quality  
Attention: Water Quality Assessment  
700 NE Multnomah Street, Suite 600  
Portland, OR 97232



*Re: Draft 2022 Integrated Report*

Dear Water Quality Assessment Team,

The Oregon Department of Fish and Wildlife (ODFW) appreciates the opportunity to provide comment on Department of Environmental Quality's (DEQ) Draft 2022 Integrated Report. ODFW supports the work done by DEQ to create tools that allow the user access to detailed maps and data used in its water quality assessment. ODFW trusts that the comments provided below may guide current and future water quality assessments to adequately assess impacts to aquatic life.

ODFW's mission is to protect and enhance Oregon's fish and wildlife and their habitats for use and enjoyment by present and future generations. Through adoption of its climate and ocean change policy in 2020, the agency recognized that Oregon is already experiencing impacts from changing climate and ocean conditions, including high water temperatures which are a major threat to self-sustaining populations of vulnerable native species and severely limit population viability for Oregon's native anadromous species. In addition, the ODFW policy recognizes the impacts of shifting ocean conditions, including the increased occurrences of marine Harmful Algal Blooms (HABs), ocean acidification, and hypoxia. These threats to marine and aquatic habitat are likely to include longer summers and droughts, higher air and water temperatures, lower snowpack, decreased summer flows, shifts in ocean current patterns, and an increase in the magnitude and frequency of wildfires and OAH events.

Here ODFW describes several key areas from the 2022 Integrated Report which impact ODFW's mission and respectfully requests that DEQ consider incorporating the suggestions described below.

### Freshwater Temperature Assessment Methodology:

ODFW urges DEQ to modify its temperature assessment methodology to remove the air temperature exclusion. OAR 340-041-0028 (12)(c) Air Temperature Exclusion states that "A water body that only exceeds the criteria set out in this rule when the exceedance is attributed to

*daily maximum air temperatures that exceed the 90th percentile value of annual maximum seven-day average maximum air temperatures calculated using at least 10 years of air temperature data, will not be listed on the section 303(d) list of impaired waters and sources will not be considered in violation of this rule.”* While ODFW understands that the current exclusion may be applicable to permitted discharges, ODFW does not agree that it should be applicable to water quality assessment and impairment determinations. Projected increases of 1.5° to 2.0° Celsius in global surface temperatures<sup>1</sup> provide the foundation for associated increases in water temperatures and exceedances of criteria that have detrimental impacts to aquatic life. ODFW would encourage DEQ to make the necessary modification to its methodology in the next Integrated Report cycle and associated clarification in OAR 340-041-0028 (12)(c) rule language during DEQ’s proposed aquatic life use updates.

ODFW would also encourage DEQ to revise its temperature delisting methodology to include greater than one year of data to remove a waterbody from the 303(d) list of impaired waters. Inherent variability in climate patterns make the need for multiple years of data more essential.

#### **Correction to Freshwater Temperature Listing:**

Additionally, the Category 5 temperature listing on Tahkenitch Lake (AU ID: OR LK 1710020701 02 100177) appears to be an error in the 2012 303(d) list crosswalk. The original listing was based on data collected at the sampling location, monitoring location ID 33417, Fivemile Creek.

#### **Freshwater Beneficial Use Impacts due to Pesticides:**

The 2022 Integrated Report assessment fails to adequately capture the impacts to aquatic ecosystem beneficial uses due to pesticide application. Oregon is home to a bountiful agricultural industry and is the nation’s largest producer of hazelnuts and cranberries and one of the largest producers of Christmas trees, nursery stock and grass seed<sup>2</sup>. In addition to agricultural crops, Oregon is the largest lumber producer in the United States with approximately 50% of the total landmass of Oregon covered in forests<sup>3</sup>. Pesticide use in these industries threatens aquatic ecosystems and pesticide runoff can disrupt hormonal, reproductive, and developmental processes in aquatic organisms<sup>4</sup>.

The Environmental Protection Agency’s Office of Pesticide Programs (OPP) develops aquatic life benchmarks which are estimates of the concentrations below which pesticides are not expected to represent a risk of concern for aquatic life<sup>5</sup>. The benchmarks are based on toxicity

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<sup>1</sup> IPCC, 2014: Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, 151 pp.

<sup>2</sup> <https://smallfarms.oregonstate.edu/growing-pains-gains-willamette-valley>

<sup>3</sup> <https://oregonforests.org/blog/forests-and-oregons-economy>

<sup>4</sup> Scully-Engelmeyer, K.; Granek, E.F.; Nielsen-Pincus, M.; Lanier, A.; Rumrill, S.S.; Moran, P.; Nilsen, E.; Hladik, M.L.; Pillsbury, L. Exploring Biophysical Linkages between Coastal Forestry Management Practices and Aquatic Bivalve Contaminant Exposure. *Toxics* 2021, 9, 46. <https://doi.org/10.3390/toxics9030046>

<sup>5</sup> <https://www.epa.gov/pesticide-science-and-assessing-pesticide-risks/aquatic-life-benchmarks-and-ecological-risk>

values from scientific studies that EPA reviewed and used to estimate risk to freshwater organisms from exposure to pesticides and their degradates in their most recent publicly available ecological risk assessments and preliminary Problem Formulations written in support of pesticide registration or registration review. Out of 720 published aquatic life benchmarks for registered pesticides, only nine of those have approved aquatic life criteria (approximately 1%). Of those pesticides with approved aquatic life criteria, only four have not been phased out of use which means that 99% of registered pesticides currently in use are not being considered in DEQ's Integrated Report water quality assessments. ODFW encourages DEQ to consider using current use pesticide aquatic life benchmarks<sup>5</sup> in their Integrated Report water quality assessment. Comparing measured concentrations of pesticides in surface water with an aquatic life benchmark can inform future monitoring and aid in identifying and prioritizing sites that may require further investigation.

**Correction to Marine Impairment from Shellfish Toxins:**

The 2022 Integrated Report assessment identifies sixteen coastline assessment units proposed to be delisted because a TMDL has been developed. To ODFW's knowledge, no TMDLs have been developed to date to address impairment from shellfish toxins. This unwarranted downgrading in impairment has clear impacts to ODFW constituents, who recreationally, commercially, and subsistence, harvest shellfish along our coastal systems and expect Oregon agencies to be monitoring these resources for ecosystem and human health.

As ocean conditions continue to change with changing climate, it will be important for the state to continue to consider the compounding effects on marine water quality of HABs, ocean acidification, and hypoxia. Several research studies suggest that as ocean conditions increase in intensity and duration, this could have a direct effect on the concentration and toxicity of HABs within our coastal waters.

The following assessment units should be returned to Category 5:

- OR CL 1710020102 106224 Ecola State Park
- OR CL 1710020102 106225 Cannon Beach
- OR CL 1710020102 106226 Del Rey Beach State Recreation Site
- OR\_CL\_1710020102\_106227 Tolovana State Park Beach
- OR\_CL\_1710020102\_106228 Arcadia State Park Beach
- OR CL 1710020102 106229 Cape Falcon Shoreside Marine Protected Area
- OR CL 1710020102 106230 Devils Cauldron
- OR CL 1710020102 106231 Manzanita Beach
- OR CL 1710020102 106232 Nehalem Bay State Park Beach
- OR\_CL\_1710020102\_106267 Fort Stevens State Park Beach
- OR\_CL\_1710020102\_106268 Sunset Beach
- OR\_CL\_1710020102\_106275 Seaside Beach
- OR CL 1710020102 106276 Indian Beach at Ecola State Park
- OR CL 1710020102 106277 Oswald West State Park
- OR CL 1710020102 106278 Hug Point State Park Beach
- OR\_CL\_1710020102\_106279 Short Sand Beach



### Marine Dissolved Oxygen (DO) Assessment Methodology:

ODFW strongly encourages DEQ to continue to explore ocean oxygen data at both the Oregon Newport hydrographic line and the Oregon Ocean Endurance Array, as well as new data sets across their nine marine coastal assessment units. One such data set was recently created in 2021 by ODFW's Marine Program, which spans the entire Oregon Coastline and was sampled for salinity, temperature, and dissolved oxygen at depths of roughly 10, 20, 40, 60, and 80 meters every 5 kilometers. Data were collected pre- and post-summer hypoxia periods (roughly August through November) and encompassed both federal and state waters. Although only a one-time sampling event, this is the most spatially comprehensive dissolved oxygen dataset in the state and could be used by DEQ to identify areas where more intensive sampling may be prioritized in the future. There is a clear and present need for DEQ to assess this information for planning purposes. ODFW staff offer their assistance to DEQ in accessing and processing this dataset. In the future, ODFW may also be able to provide more data through our ongoing fisheries independent survey work along Oregon's coastline, once DEQ identifies priority assessment units in need of additional data.

As noted in the DEQ marine dissolved oxygen assessment document<sup>6</sup>, ODFW also recommends that DEQ continue to explore how "Historical levels" are defined for dissolved oxygen criteria (e.g., 1998 – 2015 is not considered historical by oceanographic standards) and how the state might go forth developing reference sites, such as the Oregon Marine Reserves (a key consideration for future potential methodological development). Oregon Marine Reserves have been identified by the Oregon Ocean Acidification and Hypoxia Council's 2018 Biennial Report as an area that could be evaluated to see whether they serve "*as an adaptation and resilience strategy, considering their long-term monitoring of ecosystem trends, OAH (Ocean acidification and Hypoxia) hotspots and refugia.*"<sup>7</sup>

Questions such as the ones posed here, as well as countless others regarding data formatting, collection methodology, and general data management are going to be critical for DEQ to address. ODFW would like to acknowledge DEQ's progress in actively reaching out to the scientific community to build the cross disciplinary knowledge of oceanography and water management. ODFW is excited by the opportunity to continue to work alongside DEQ staff and managers, as well as regional scientific experts, in the upcoming Ocean Acidification and Hypoxia Technical Work Group meetings (scheduled to start in February 2022). These meetings, co-facilitated by the Environmental Protection Agency, are an important process for state marine water quality management and will be precedent setting for Oregon and the Nation. This work was highlighted by DEQ in the 2021 OAH Council Multiagency Report on Programs and Needs<sup>8</sup> and should continue to be a priority.

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<sup>6</sup> <https://www.oregon.gov/deq/wq/Documents/IR2022MarineDOAssessment.pdf>

<sup>7</sup> <https://www.oregonocean.info/index.php/ocean-documents/oah-hypox/oah-council-1st-biennial-report/1766-oah-council-1st-biennial-report-sept-15th-2018-1>

<sup>8</sup> <https://www.oregonocean.info/index.php/ocean-documents/oah-hypox/y4-4-2-21/2352-oregon-oah-multiagency-report-2021/file>

**Concluding Remarks:**

The impacts of climate and ocean change on our aquatic and marine systems have become more severe and frequent over the past two decades, and there is a growing need for state agencies to work collaboratively to mitigate Oregon's risk to its aquatic environments. The 2022 draft Integrated Report will play an important role in serving to codify science-based water quality designations, and make them readily available in the policy arena, to guide future state actions on changing ocean conditions. However, while this report represents an enormous effort and commitment by DEQ to protecting Oregon's natural resources, there are continued improvements that need to be made to DEQ's assessment methodologies to maximize its effectiveness for state action.

Sincerely,

Chandra Ferrari



Water Program Manager  
Oregon Department of Fish and  
Wildlife

Caren Braby, PhD



Marine Resources Program Manager  
Oregon Department of Fish and  
Wildlife

# 16. Comments from Oregon Farm Bureau and Oregon Forest & Industries Council

Subject: Comments on 2022 Integrated Report

Date Received: Feb. 11, 2022



February 11, 2022

Becky Anthony  
Oregon Department of Environmental Quality  
700 NE Multnomah Street, Suite 600  
Portland, OR 97232-4100

Submitted Via Email: [IntegratedReport@deq.state.or.us](mailto:IntegratedReport@deq.state.or.us)

*Re: Comments on 2022 Integrated Report*

Dear Ms. Anthony,

Thank you for the opportunity to comment on the Oregon Department of Environmental Quality's ("ODEQ") Draft 2022 Integrated Report. These comments are submitted on behalf of the Oregon Farm Bureau and the Oregon Forest & Industries Council. They are intended to supplement our initial comments from April 2020. These comments should be reviewed in conjunction with our Assessment Methodology comments submitted in April 2020, November 2020, and March 2021.

While we understand that comments directed toward the Assessment Unit Framework were reviewed as part of the Methodology comments and will not be considered as part of the broader integrated report comments, we continue to believe that moving to watershed scale assessment units for stream order 4 or less streams does not represent sound agency policy or standards for scientific rigor. Decisions to list waterbodies as impaired **should be based on water body specific data**. Although DEQ has updated the 2022 IR Methodology to evaluate watershed AUs based on data for monitoring stations within each AU, applying impairment status to an entire watershed AU can result in an impairment status in tributary waterways for which there is no data. We urge you to address this issue.

Aside from that methodology issue, we offer the following comments on the draft Integrated Report:

## **Comments on the Map**

The 2022 Integrated Report Map Viewer Instructions for Use document notes that you can use the Interactive Map query tool to filter Assessment Units by parameter. This feature is a good enhancement that will allow for more utility of the Interactive Map. This could be further improved by the addition of more search categories, such as the assessment or beneficial use. Being able to find water bodies that are listed for the

same beneficial uses or parameters would clarify precedents for establishing water quality standards, developing TMDLs, delisting segments, and implementing point and non-point source pollutant controls. Please add this functionality to the existing filter option.

The 2018/2020 Integrated Report Interactive Map provided a breakdown of parameters for each category and noted if there were any active TMDLs for the AU. This format has been partially implemented for the Draft 2022 Integrated Report Interactive Map through the impaired, attaining, and insufficient parameters lists. However, the TMDL status of AUs has been removed, reducing the information accessible on the updated map. Having the TMDL status helps differentiate between the impaired parameters that have and have not been addressed. Please add back the TMDL status for the Interactive Map quick view.

To properly use the Interactive Map, the location or name of the waterway must be known. Search options can be improved. For example, typing "Florence" returns a search result that leads to Lake Florence, in Alaska. Please limit search results to Oregon and enhance the ease of searching by geographical areas that would be commonly used by Oregonians.

### **Completeness of Data**

The 2022 Methodology specifies that Oregon waters are separated into five AU types; 1) river and streams 2) lakes, reservoirs, and estuaries 3) Columbia and Snake River 4) beach and coastal 5) ocean. Although a description of watershed assessments was provided, watershed AUs were not specified as an AU type. Please confirm whether this is simply a typing error (i.e., a section header was removed accidentally) or a removal of watershed AUs from the IR consideration. If watershed AUs have been removed as an AU type, which would be our preference, please explain why they have been included on the Interactive Map and in the Database.

Our comparison of the data downloaded from the draft 2022 Integrated Report Database and the data available on the AWQMS web portal indicates that the draft 2022 Database does not include all the data that are available for an AU, and more specifically, all the data that have been evaluated for attainment status. Importantly, data that were not on the draft 2022 Database were the data that led to a Category 5 determination for several AUs. All data that lead to categorizations of AUs should be publicly accessible without the need to access a Database outside of the Integrated Report, such as the AWQMS.

The analytical data represented in the Integrated Report are not accessible via the Interactive Map. Updating the Integrated Report Database to include all

information present in the AWQMS and linking the Interactive Map to the Database download would provide an easier mechanism to review specific sample data evaluated as part of the assessment. Without being able to efficiently link a water quality categorization to the data that were used in the Integrated Report, users cannot effectively verify that 303(d) listings are fair and accurate. The inaccessibility of the data that underlie the Draft 2022 IR should be rectified.

### **Additional Resources Provided by ODEQ**

In the Draft TMDL Priorities and Schedule document, factors that informed the prioritization of future TMDLs are described generally, but the rationale for the prioritization of specific TMDLs is not presented. Can this be provided?

We appreciate the Excel file that lists explicitly the AUs proposed for delisting from the 2018/2020 303(d) list. However, the reasoning leading to the assignment of AUs to Category 2 is not entirely clear. Could DEQ please provide a brief written description (or provide linked reference within the Excel file for these details) to remind readers of data required for delisting for each water quality criterion (or a reference describing where to find this description) and then provide additional information in this Excel file to explain how these criteria were met. For example, over what date range were data collected? How many samples were collected? What are the coordinates of the sampling location(s)? Which entity collected and which entity submitted the data? This information will help provide positive examples for members of our organization who seek to initiate data collection to remove additional AUs from the 2022 303(d) list.

In the accompanying document that describes the use of narrative data, data sources 19, 31, and 38 mention narrative data pertaining to algal blooms, aquatic invasive species, and aquatic weeds, respectively. For each of these, DEQ states that data on these topics is considered as part of DEQ's assessment methodology. We request that DEQ clarify this in two ways. First, are narrative data on these topics used for water quality assessments, are narrative data disregarded in favor of numerical data, or are both used when available? Second, narrative data are not mentioned in the IR Assessment Methodology. Can this accompanying document be updated to mention the section or page of the methodology document that corresponds to the use of data on these topics?

In the accompanying document that describes the use of narrative data, data sources 13 and 26 appear to present redundant and unclear descriptions of the use of model output. With respect to data source 13 ("Modeling done for state waters"), DEQ states, "Modeling alone is not enough information to base an assessment conclusion on. ... absent any data, [model results] would not be the sole reason for listing." With respect to data source 26 ("Results of predictive and simulation modeling for state waters"),

DEQ states, "Predictive simulation modeling may be used in conjunction with data collected, but would not be used as the sole basis for an impairment listing." We request that DEQ combine these two lines in its table and unify the resulting language. We also request that DEQ clarify how model results will aid its development of a water quality determination. In addition, model results are mentioned with respect to impairment listings. Could model results be used for delisting or to maintain the assignment of an AU in Category 2?

Thank you for the opportunity to provide feedback and let us know if you have any questions.

Sincerely,



Mary Anne Cooper  
Oregon Farm Bureau



Oregon Forest & Industries Council

# 17. Comments from Ray Kinney (Siuslaw Watershed Resident)

**Subject: Water Quality Degradation that is never properly assessed by the state of Oregon**

**Date Received: Feb. 3, 2022**

As salmon continue to decline, the State of Oregon very carefully avoids toxic contaminant pollution in the Siuslaw river. Six publically-owned railroad bridges, built around 1912, were supposed to be repainted every four years to protect the base coat of pure red lead from degrading into the stream, this was not done, and massive lead contamination is entering the water via particulate and dissolved lead. The state refuses to even begin to look at this pollution, that is a well-known toxicant for fish population viability. Many millions of dollars are spent each year on salmon population recovery efforts, yet this blatant threat to these fish are totally ignored.

This problem is further aggravated by the very low hardness water in the river, spiking the massive lead pollution adverse effects, leaving the fish damaged even before reaching the ocean phase of their life cycle, they are less fit to survive. Scientific integrity is avoided, is fiscally irresponsible, and a tragic misguidance of the recovery effort. This is all because the state agencies for responsible for water quality do not do due diligence, the result is badly misinformed fisheries managers, and squandered millions of dollars each year.

This problem is even further aggravated by the state totally ignoring the toxicologic dangers of lead use in fishing methodologies that pollute these same streams with lost fishing sinks and lead boat anchors. The low calcium waters dissolve the lead faster than almost all other surface waters in the nation, resulting in much increases adverse toxic effects on the young salmon and species that support these fish. Sinkers get ground up in the hydrologic action of riverine potholes that exponentially increase surfaces to dissolve. The particulate contacts fish gill and gut, directly exposing the fish. The dissolved colloidal sized particulate combines with iron oxyhydroxides colloid to stay suspended far downstream to further expose the stream biota. The scientific literature documenting these toxicologic adverse effects is extensive, well known, and devastatingly descriptive of the state of Oregon irresponsible regulatory outcomes.

The 303d process is invalid on this pollution assessment shortfall, and USEPA regulatory oversight is almost nonexistent. All the while, each acidic rainfall causes water rivulets running off of these bridges to commonly reach many thousands of times the water quality criteria as this pollution hits the hardness 11 water the fish are swimming in, and the fine particulate reaches fish gill and gut to dissolve in direct contact to sensitive tissue for a high dose. The larger paint flakes falling into the water distinctly appear just like fishing lures, silver on one side and ironically salmon color on the other side, how often are large flakes ingested directly?

The State of Oregon has substantial water quality protective regulations, and enforcement is happening on some other less harmful parameters, but the toxic contaminant assessment irresponsibility is devastatingly damaging to the scientific integrity, and to the legislators being severely misinformed. Legislators want to take their grandchildren out in the boat to teach them how to fish, yet they are totally ignorant about how contaminated their tackle boxes are with fine lead powder that gets on wet hands, on sandwiches passed to the children, and on cooler ice and the body surfaces of the fish taken home to the frying pan. Every exposure route is blatant, and is blatantly ignored by the state, and countless children suffer decreased abilities as a result. The science is right there for the reading! We are poisoning the things we love the most! Agencies are NOT doing their jobs protecting these children. and the legislature is NOT doing the job they are supposed to ensure gets done to protect the children we borrow this world from or the salmon we desperately want to recover.

Ray Kinney  
Siuslaw watershed resident  
541 964 3981



# 18. Comments from Save Our Siletz River

**Subject: Public Comment TMDL Priorities and Schedule – Oregon’s Draft 2022 Integrated Report**

**Date Received: Feb. 11, 2022**

Response and Comment to Oregon’s Draft 2022 Integrated Report on the reclassification of Siletz River TMDL’s and proposed postponing of the Siletz River’s TMDL’s.

We have worked now for going on 4 years to Save Our Siletz River Save Our Siletz River | Facebook. One of our first reports to the Lincoln Commissioners was the Siletz River ever continuing delays, deadlines not met the TMDL’s. Our Save Our Siletz River , emails and correspondence with DEQ David Waltz, as well as DEQ Biosolids programs and others DEEQ programs speaks for how **STRONGLY** we feel about the Siletz River and about the health of our communities, as do our Save Our Siletz River members and/or supporters. This is totally unacceptable to continue to delay Siletz River TMDL’s, all need to be on HIGH priority and completed asap.

We attach the new Cancer Study we requested from the OHA Cancer Registry, the rate of Bladder Cancer all areas of the report is HUGELY ALARMING, as well as the other cancers!!

The Oregon Health Authority Cancer Registry in our Request Cancer Report VALIDATES our Environmental concerns:

“...There are valid concerns about potential health risks from all these environmental exposures and the cumulative impact from these multiple stressors. Unfortunately, the data necessary to assess health risks from these environmental exposures do not exist. OHA does not have the expertise or resources to collect and analyze environmental samples (soil, water, air). We have to rely on the Oregon Department of Environmental Quality or other entities to collect samples and determine levels of specific contaminants in the environment. If such environmental data existed, OHA could then collect information about the times and locations where people spend time to evaluate whether people are being exposed to the contaminants, and calculate the risk of harm to health based on available scientific research about health effects of contaminant exposure. ...”

Link to our requested Cancer Report with text boxes with comments and notes we have added.

file:///C:/Users/Admin/Documents/Davis-LincolnCounty\_ReportNarrative\_FINALrev.NOTES.COMMENTS%20ADDED.pdf

We PROPOSE and REQUEST that DEQ Water Quality program partner and help the OHA Cancer Registry, by completing the Siletz TMDL's and any further testing which the OHA Cancer Registry needs to complete the above assessment. Our Communities matter, our babies, children and future generations matter, we pay taxes, yet our Siletz River continues to be postponed for DECADES.

We have lived in Logsdan on our almost 43 acre farm, including 2 ½ acres Siletz River frontage, on both sides of the river, for approx. 30 years. We watch the Siletz River continue to decline, the algae grow, the aquatic life disappear. We see the ever growing rock trucks, logging equipment, and log trucks running, it appears they are ramping up the road building and logging. We are watching loads of large timber going by as the Siletz Watershed continues to depleted. When the logging is completed they will burn their slash/bios mass logging burns, covered with plastic and then ignited with usually a gas/diesel mix, amounts not regulated. Then they will spray as the Court did not uphold the vote of the Lincoln County voters to stop aerial spraying. Soon the toxic sewage sludge aka biosolids will begin being land applied again in the Spring to Fall. GP Mill continues to contribute huge amounts of toxins as it pulls water out the ever declining Siletz River. The municipals of Siletz, Toledo, Newport & Seal Rock also depend on the Siletz River for water. In the meantime this proposal to continue to postpone of the TMDL and business continues as usual the Siletz River will continue to decline, at what point will it be too late to Save Our Siletz River, has that point already been reached. Our Communities health continue to decline as well. Newport Water Treatment Plant Supervisor stated in a Newport Times article in 2021 that the Siletz River raw water is of poor water quality.

Thank you,

Alan & Kayleen Davis  
Save Our Siletz River

# 19. Comments from Forest Service, Pacific Northwest Region

**Subject:** Change from Last Integrated Report to this one

**Date Received:** Feb. 4, 2022

Hi Joy,

Thank you for letting us know this change did not make it into the draft 2022 Integrated Report. I confirmed this was a 2012 crosswalk error we had agreed to fix after the release of the Final 2018/2020 IR. Unfortunately, this didn't happen. I have made the needed changes to ensure this update is reflected in the Final 2022 303(d) list. It will appear as:

AU_ID	AU_GNIS	OWRD_Basin	Assessment	IR_category
OR_WS_170501160106_05_102974	OR_WS_170501160106_05_102974; Bluebucket Creek	Malheur	Temperature- Year Round	Category 5

I have included the Integrated Report mailbox to this response so that we can track this as an addition to the 303(d) list based on comments received.

Please let us know if you have any questions.

Thanks!  
Lesley

**Lesley Merrick** | Water Quality Specialist | Her/She  
Laboratory and Environmental Assessment Division  
Oregon Department of Environmental Quality  
Phone: 971-323-7228

**From:** Archuleta, Joy -FS <joy.archuleta@usda.gov>

**Sent:** Friday, February 4, 2022 11:53 AM

**To:** PRITCHARD Travis <Travis.Pritchard@state.or.us>; MERRICK Lesley <Lesley.MERRICK@state.or.us>

**Cc:** DOU Connie \* DEQ <Connie.DOU@deq.oregon.gov>

**Subject:** FW: change from last integrated report to this one...

This is a follow up on a correction that was supposed to be adjusted in the new integrated report but appears to be incorrect still. Becky Anthony provided an email to us acknowledging the error .. Dec 11, 2020 (see below). I am not sure if the FS will provide official comment on the current list due to work loads of the forests and lack of time for review.

Since we had already provided comment on this site, I want to make sure it is corrected. Bluebucket Creek on the Malheur NF.

**Joy Archuleta**  
**R6 Water Quality and Water Rights**

**Forest Service**

**Forest Service, Pacific Northwest Region**

p: 503-808-2696  
f: 503-808-2339  
[joy.archuleta@usda.gov](mailto:joy.archuleta@usda.gov)

1220 SW 3rd Avenue  
Portland, OR 97204  
[www.fs.fed.us](http://www.fs.fed.us)



**Caring for the land and serving people**

**From:** Archuleta, Joy -FS  
**Sent:** Friday, February 4, 2022 8:25 AM  
**To:** ANTHONY Becky \* DEQ <Becky.ANTHONY@deq.oregon.gov>  
**Subject:** FW: change from last integrated report to this one...

Becky,

This is a follow up on a correction that was supposed to be adjusted in the new integrated report but appears to be incorrect still. You provided an email to us acknowledging the error .. see below. I am not sure if the FS will provide official comment on the current list due to work loads of the forests and lack of time for review.

Since we had already provided comment on this site, I want to make sure it is corrected. Bluebucket Creek on the Malheur NF.

**From:** Wood, Hazel - FS, CAMP SHERMAN, OR  
**Sent:** Friday, February 4, 2022 7:24 AM  
**To:** Archuleta, Joy -FS <joy.archuleta@usda.gov>  
**Cc:** Bass, Jordan - FS <jordan.bass@usda.gov>; 'Friedrichsen, Tom -FS' <tom.friedrichsen@usda.gov>  
**Subject:** RE: change from last integrated report to this one...

Hey Joy,

Wow- excellent memory and thank you for keeping track of this!

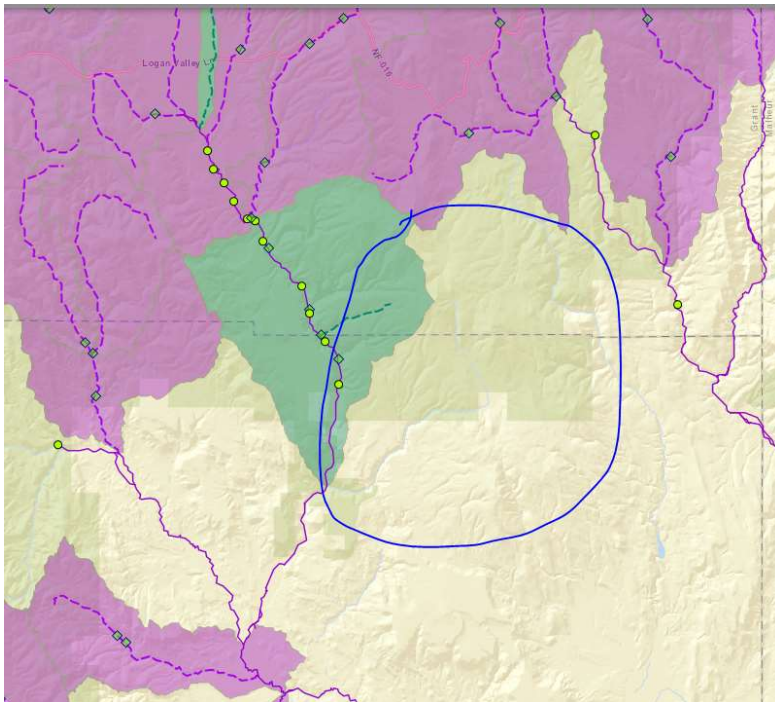
I checked out the draft 2022 IR interactive web map application from <https://www.oregon.gov/deq/wq/Pages/proposedIR.aspx>. Hopefully this is the right spot, let me know if not.

I'm cc'ing Jordan Bass, since she has taken over the Cliff Knox analysis and Tom Friedrichsen so he's in the loop. Please let us all know if any follow-up is needed.

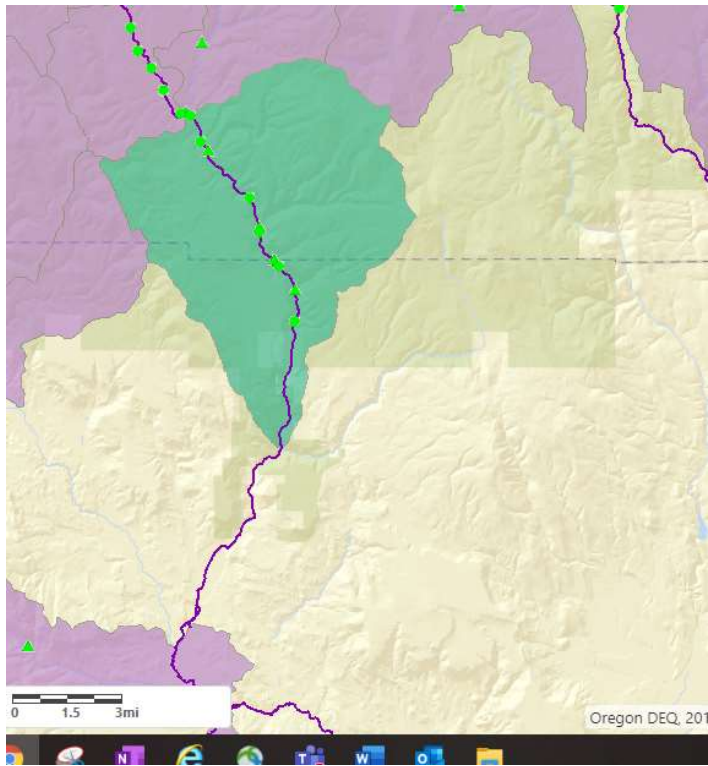
Cheers,

Hazel

Here is a clip from the 2022 Draft IR, which doesn't show the bluebucket subwatershed as listed or attaining.



Here is the clip from 2018 IR, which also omits bluebucket subwatershed.



# 20. Comments from Willamette Riverkeeper

Subject: Oregon DEQ 2022 Draft Integrated Report Comments

Date Received: Feb. 11, 2022



403 SE Caruthers St. #101  
Portland, OR 97214  
503.223.6418

February 11, 2022

*Via Email [IntegratedReport@deq.oregon.gov](mailto:IntegratedReport@deq.oregon.gov)*  
Oregon Department of Environmental Quality

**Re: Oregon DEQ 2022 Draft Integrated Report Comments**

Dear Oregon DEQ:

Willamette Riverkeeper submits herewith its comments on the Oregon DEQ's 2022 Draft Integrated Report. We appreciate the organization considering these comments. We have focused our comments into the topic areas below.

*Large Animal Agricultural Operation Expansion in the Willamette River Basin*

In the last year alone, Willamette Riverkeeper has received information from numerous communities in the Willamette River Basin that factory farms, or concentrated animal feeding operations ("CAFOs") are expanding into their watershed. The Santiam Basin, for example, has several that the local community members and Willamette Riverkeeper are opposing. This includes but is not limited to the J-S Ranch in Scio on the North Santiam, the Hiday Poultry Farms in Aumsville, and yet another one on the pristine Thomas Creek. We have argued that these facilities are completely inappropriate on these waterways. Additionally, CAFOs are point sources under the Clean Water Act, and subject to NDPES and WPCF permitting requirements. From what we have seen thus far, neither local or state level authorities are taking the "no discharge" requirements of the Clean Water Act seriously. This failure is even more shameful when CAFOs are proposing to be sited on 303(d) waters. As DEQ is well aware, the activities of constructing and operating CAFOs are sources of numerous kinds of pollution. We are baffled that DEQ is even reviewing permits for CAFOs along these waters, and also baffled that the Draft Integrated Report ignores the waters' need for protection by failing to list these waters. The additional pollutants from factory farms, combined with the effects on our waters from the 2020 wildfires, suggests more aggressive monitoring is required. The goal and purpose of the CWA is to protect and restore water, and the antidegradation policy requires keeping waters clean; why would DEQ wait until pollution happens before providing further protection for these waters?

*Freshwater Mussels*

Willamette Riverkeeper has been involved in freshwater mussel studies for years. Recently we have been finding populations in streams in different spots throughout the Willamette River Basin waters. We wish DEQ would take a more assertive step on toxic pollutant monitoring in a wider array of streams to help us identify and protect freshwater mussel populations and their vulnerabilities.

Thank you for considering our concerns.

Sincerely,

*s/ Elisabeth Holmes*  
Elisabeth Holmes, Staff Attorney  
Willamette Riverkeeper  
[eli@willametteriverkeeper.org](mailto:eli@willametteriverkeeper.org)