2018/2020 Water Quality Report and List of Water Quality Limited Waters

Public Comments

April 2020

Water Quality Assessments
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DEQ is a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water.

State of Oregon
Department of Environmental Quality

This report prepared by:

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Table of Contents

1. Introduction

This document contains the text or links to the text of all comments received during the public comment period September 30, 2019 to January 6, 2020 for the Draft 2018/2020 Integrated Report. For DEQ's response to these comments, please see the "Response to Comment" document available on DEQ's 2018/2020 Integrated Report Page.

2. Comments from: Multiple Commenters Form Letter

From: Adam Stinnett, Amanda Stevens, Anne Rigor, Arne Goddik, Austin Sayer, Barb Iverson, Bearl Seals, Beau Allen, Beverly Nadaau, Brenda Frketich, Bruce Albert, Bryan Schmidt, Bryce Marvin, Casey Fretwell, Charles Ruddell, Chris Silbernagel, Compton Chase, Craig Herman, Crystal Otley, Cynthia Norton, Dan Newton, Dana Tuckness, David Cooper, David Dlemp, David Kunert, David Phipps, David VanHoose, Dever Pugh, Devon Wells, Donald Doerfler, Donnie Jenck, Doug Olsen, Douglas Duerst, Dwight Wrolstand, Dylan Wells, Elizabeth Brooks, Eric Schurter, Gary Boxeman,Gary Tamura, George Pugh, Gine Lee Smith, Gordon Dromgoole, Gretchen Jawurek, Harold Stevens, Heath Waack, James Bryant, Jamie Cate, Jason Perrott, Jayme Dumford, Jen Hanmaker, Jennifer Beathe,Jenny Johnson, Joey Gilmour, John Seitel, Jolene Moxon, Karen Ramer, Karl Zweifel, Kathy Hadley,Kellie Bowsher, Ken Masten, Kenneth Parsons, Kevin Dyck, Kevin Schuter, Kristen Domes, Laurie Schrock, Lori Pavlicke, Lou Davies, Louie Molt,Lucien Gunderman, Lynden Brown Lyndon Kerns, Maren Davism, Marie Gadotti, Mark Talcott, Marlene Acker, Mary Jo Davis, Matt Schuster, Melody Molt, Michael Keerins, Michele Bryant, Michele Doerfler Fennimore, Michelle Dudley, Michelle Harper-Dennis, Mike Seeley, Mr. & Mrs. Charlie Waterman, Mr. & Mrs. Donal and Susan Ramsay, Mr. & Mrs. Fred Roy, Mr. & Mrs. Ken Holiday, Mr. & Mrs. Robert Duerst, Mr. & Mrs. Steven Joheph Heesacker, Neil Wetfall, Olde Salt, Patricia Wentz, Peter Wiese, Ralph Meyer, Richard Siemens, Richard Twigg, Robert Moore, Robin Myers, Robin Pille, Sandra Twigg, Seri Miller, Shanna Suttner, Sheryl Staffer, Stephen Roth, Steve Kramer,Steven Lewis, Sue Vanek, Sue Woodman, Tanner Holland, Terry Beilke, Tim Fransworth, Timothy Winn, Tom Hammer, Tyer Pike, Vicki Schaur, Wade Flegel, Warren Seely, Wesley Miller, Wilson Dinsdale

Subject: Oppose DEQ's Draft Integrated Report

Date: Nov.14 ,2019 to Jan. 6, 2020

Dear Director Whitman,

I strongly oppose DEQ's decision to list water bodies on farm and forestland as water quality impaired without data to support those listings, as it has done in its 2018-2020 Integrated Report. I also oppose DEQ's decision to include agricultural irrigation and drainage ditches in its list of water quality impaired waterways. In order to be scientifically defensible, decisions to list waterbodies as impaired must be based on water body specific data and cannot be extrapolated from samples from neighboring waterways or tributaries. To do otherwise is not sound science or sound agency policy. DEQ's decision also appears to be intentionally making agriculture and forest water quality look worse than data supports.

Farmers, ranchers, and foresters have always been good partners with DEQ and our designated management agencies, the Department of Agriculture and the Department of Forestry. Forest and ag lands have among the highest water quality in the state, and farmers and foresters have invested millions in improving and protecting water quality. It is a poor way to reward our hard work with a misleading report that makes it look like farms and forests are experiencing declining water quality, particularly when it appears that DEQ lacks actual data for a significant portions of the waterways listed.

I strongly oppose DEQ's decision to extrapolate listings of waterways and ditches based upon data collected from neighboring properties. Water quality naturally differs from water body to water body, particularly when those waterways are under different ownership and may have experienced differing current and historic riparian management. DEQ has presented no evidence that this extrapolation is scientifically valid or sound. Instead, it appears to be an attempt to list and regulate waterways without first going through the necessary step of determining that data actually shows an impairment.

In reviewing my farm, I am particularly concerned with DEQ's decision to list waterways that I have not given DEQ permission to sample and where sampling has not occurred. I urge DEQ to revisit these listings.

Thank you for the opportunity to comment.

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3. Comments from: Linda Bentz

From: Linda Bentz
Subject: Water Quality Regulations
Date: Dec. 16, 2019

Dear DEQ,

I am writing this letter in response to the Draft 2018-20 new regulation that will impose more restrictions to a already over regulated system. I am opposed to every ditch in the state being placed on a water quality threat when there is no data to support such findings. This continues to burden those farm and ranch families that work hard to provide healthy clean agricultural commodities for the citizens of Oregon, neighboring states and foreign Countries. These are the very people and products that generate the most revenue for the state of Oregon.

To date we already have improvements plans in place to help with water quality.

We as a state needs less regulations and more cooperation among the land owners to solve prevalent issues for the waters in Oregon.

Sincerely,

Linda Bentz

Generational Family Owned

4. Comments from: Center for Biological Diversity

From: Emily Jeffers

Subject: Center for Biological Diversity Comment on Draft 2018/2020 IR

Date: Dec. 4, 2019

Hello,

Please see attached comments from the Center for Biological Diversity on the State of Oregon Department of Water Quality's draft 2018/2020 Integrated Report. I have also included comments originally submitted during the 2018 call for data. Please let me know if you have any questions.

Best,

Emily

Emily Jeffers
Staff Attorney
Center for Biological Diversity

The Center for Biological Diversity appreciates the opportunity to comment on the State of Oregon Department of Environmental Quality's ("DEQ") draft 2018/2020 Integrated Report. The draft Integrated Report unlawfully fails to consider microplastic pollution data in assessing attainment of water quality standards.

The Clean Water Act mandates that states include in their Integrated Report all water bodies that fail to meet "any water quality standard," including numeric criteria, narrative criteria, water body uses, and antidegradation requirements. 40 C.F.R. § 130.7 (b)(1),(3), & (d)(2). DEQ must evaluate *all sources* of water quality data. 33 U.S.C. § 1313(d).

While recognizing that microplastics pose a growing concern to the aquatic environment, DEQ's assessment methodology states that "DEQ does not have criteria or an accepted methodology; therefore,

DEQ will be leaving these assessment units as unassessed for microplastics and continue to study and investigate the issue for future assessments." This response is inadequate under the Clean Water Act, and we remind DEQ that it has a responsibility to consider all available data in compiling its Integrated Report. 40 C.F.R. § 130.7(b)(5) ("Each State shall assemble and evaluate all existing and readily available water quality related data and information to develop the list."). **DEQ may not wait before the state adopts a criteria specific to microplastics before it acts.** DEQ must consider all readily available data on the impacts of microplastics on the State of Oregon's waters in its water quality assessment and consider the attainment status of all of Oregon's relevant water quality standards.

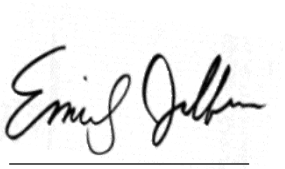
As detailed in the Center's comments submitted to DEQ during the public call for data, DEQ must evaluate microplastic data even without water quality criteria specific to microplastics. There are several existing narrative water quality standards that can be used to gauge if waters with microplastic pollution are impaired. For example, standards require that toxic substances may not be introduced above natural background levels in waters of the state in amounts, concentrations, or combinations that may be harmful, may chemically change to harmful forms in the environment, or may accumulate in sediments or bioaccumulate in aquatic life or wildlife to levels that adversely affect public health safety, or welfare or aquatic life, wildlife or other designated beneficial uses. OAR, § 340-041-0033 (1). In addition, waters of the state must also be of sufficient quality to support aquatic species without detrimental changes in the resident biological communities. OAR, § 340-041-0011. Beneficial uses are designated for each water of the state and include fishing, aesthetic quality, fish and aquatic life, and wildlife and hunting for all coastal basins. *E.g.*, OAR, § 340-041-0220. Available data show that microplastics in Oregon waters are violating the toxic substances standard, disrupting biological communities, and preventing the achievement of all beneficial uses.

Oregon must evaluate the attainment status of each of its standards with respect to microplastics pollution. In its comments, the Center highlighted the need for Oregon to list several marine waterbodies, including ocean waters off Crescent Beach, Cape Blanco, and Fort Stevens State Park as impaired due to microplastic pollution because pollution controls are insufficient for those waters to meet existing criteria.

Our previous comments are attached to this letter; by submitting this data we hope to inform the Oregon DEQ and the public on the prevalence of and the urgent need for the state to reduce microplastic pollution in Oregon's surface waters.

Please contact me with any questions.

Sincerely,



Emily Jeffers
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July 25, 2018

RE: Microplastics Data Submitted in Response to State of Oregon Water Quality Data Request for 2018 Integrated Report

The Center for Biological Diversity appreciates the opportunity to submit data regarding microplastics in the state waters of Oregon, in response to the State of Oregon Department of Environmental Quality's ("DEQ") request for water quality data for the 2018 Oregon Integrated Report. By submitting this data we hope to inform the Oregon DEQ and the public on the prevalence of and the urgent need for the state to reduce microplastic pollution in Oregon's surface waters.

I. Water Quality Standards Applicable to Microplastic Pollution

Oregon should list its marine and fresh waters as impaired as required by section 303(d) of the Clean Water Act because existing pollution controls are insufficient for state waters to meet the state's water quality standards (33 U.S.C. § 1313(d)). On its impaired waters list, Oregon must include all water bodies that fail to meet "any water quality standard," including numeric criteria, narrative criteria, water body uses, and antidegradation requirements (40 C.F.R. § 130.7 (b)(1),(3), & (d)(2)).

There are several water quality standards that must be used to gauge if waters with microplastic pollution are impaired.

The following water quality objective applies to the waters under the jurisdiction of Oregon DEQ: [T]he highest and best practicable treatment and/or control of wastes, activities, and flows must in every case be provided so as to maintain [...] overall water quality at the highest possible levels and [...] toxic materials [...] and other deleterious factors at the lowest possible levels. ("Statewide Narrative Criteria", OAR, § 340-041-0007)

Oregon has a general policy of water quality antidegradation for waters within its jurisdiction, the purpose of which is to "prevent unnecessary further degradation from new or increased point and nonpoint sources of pollution, and to protect, maintain, and enhance existing surface water quality to ensure the full protection of all existing beneficial uses." ("Antidegradation", OAR, § 340-041-0004) The High Quality Waters Policy ensures that "[w]here the existing water quality meets or exceeds those levels necessary to support fish, shellfish, and wildlife propagation, recreation in and on the water, and other designated beneficial uses, that level of water quality must be maintained and protected." (OAR, § 340-041-0004 (6))

Further, the Outstanding Resource Waters Policy states that "[w]here existing high quality waters constitute an outstanding State or national resource such as those waters designated as extraordinary resource waters, or as critical habitat areas, the existing water quality and water quality values must be maintained and protected (OAR, § 340-041-0004 (8))

Waters of the state must also be of sufficient quality to support aquatic species without detrimental changes in the resident biological communities. ("Biocriteria", OAR, § 340-041-0011)

Toxic substances may not be introduced above natural background levels in waters of the state in amounts, concentrations, or combinations that may be harmful, may chemically change to harmful forms in the environment, or may accumulate in sediments or bioaccumulate in aquatic life or

wildlife to levels that adversely affect public health, safety, or welfare or aquatic life, wildlife or other designated beneficial uses. ("Toxic Substances Narrative", OAR, § 340-041-0033 (1))

Human health must also be protected: waters of the state must "protect Oregonians from potential adverse health effects associated with long-term exposure to toxic substances associated with consumption of fish, shellfish and water." ("Human Health Numeric Criteria", OAR, § 340-041-0033 (3))

Beneficial uses are designated for each water of the state and include fishing, aesthetic quality, fish and aquatic life, and wildlife and hunting for all coastal basins. ("Mid Coast Basin", OAR, § 340-041-0220, "North Coast Basin", OAR, § 340-041-0230, "South Coast Basin", OAR, § 340-041-0300)

Oregon must evaluate the attainment status of each of these standards with respect to microplastics pollution. To do so, Oregon should be evaluating all readily available information about microplastics pollution. There are increasingly comprehensive data sets that contain information on microplastics pollution, and Oregon must evaluate these data to assess its marine and fresh waters for impairment by microplastics.

II. Microplastics Threaten Water Quality and Ecosystem Health

Microplastics, generally defined here as plastic particles that are less than 5 millimeters ("mm"), are emerging as a major threat to marine wildlife and water quality. The sources of microplastics pollution include industrial and domestic cleaning products, medicines including consumer care products and cosmetics, and synthetic textiles (Browne et al. 2011; Browne 2015; Boucher & Friot 2017). They also originate from plastic products such as Styrofoam, plastic grocery bags, plastic bottles, or other packaging that breaks down when plastic products fragment or degrade by either photo-, thermal, or biological degradation (Morret-Ferguson et al. 2010; Browne 2015). Another common source of microplastics is plastic pellets, or nurdles, that are used to manufacture plastic products.

Microplastics are ubiquitous to coastal and marine environments, found at sites worldwide from the poles to the equator (Bergmann et al. 2015*a*). Microplastic pollution covers the ocean's surface, floor, is frozen in sea ice, and permeates shoreline sediments and the water column (Barnes et al. 2009; Browne et al. 2011; Ivar do Sul & Costa 2014).

Microplastics are rapidly being dispersed globally and accumulating in remote locations far from population centers, including in Arctic (Cózar et al. 2017) and Antarctic (Isobe et al. 2016) waters. It was recently discovered that both Arctic Sea ice and deep-sea sediments from the Atlantic Ocean, Mediterranean Sea and Indian Ocean contain concentrations of microplastics several orders of magnitude greater than those previously reported in highly contaminated surface waters, such as those of the North Pacific Gyre (Obbard et al. 2014; Woodall et al. 2014), indicating that deep-sea sediments and sea ice are major sinks for microplastics.

Unfortunately, the amount of plastic available to enter the world's oceans is on the rise, with a predicted increase by an order of magnitude by 2025 without dramatic source reduction efforts and improvements in waste management (Jambeck et al. 2015). Global trends indicate that accumulations are increasing in aquatic habitats (Thompson et al. 2004; Goldstein et al. 2013), consistent with

trends in plastic production–increasing 560 fold in just over 60 years (Thompson et al. 2004). The rapidly growing body of research suggests that there is not one square mile of surface ocean anywhere on earth that is not polluted with microplastics (M. Eriksen, pers. comms.). Tragically, under a business-as-usual scenario, the ocean is expected to contain one ton of plastic for every three tons of fish by 2025, and more plastics than fish (by weight) by 2050 (Ellen Macarthur Foundation 2016).

Microplastics comprise the majority of plastic pollution in the world's oceans. For instance, a study by Moore et al. (2011) on plastic particles flowing from two rivers into coastal areas and beaches in southern California found that plastic particles less than five millimeters in size were 16 times more abundant and had a cumulative weight three times greater than larger particles. Global estimates indicate somewhere between 15 and 51 trillion plastic particles currently floating in the world's oceans (van Sebille et al. 2015), 92 percent of which are microplastics (Eriksen et al. 2014). While secondary microplastics–those which originate from the degradation of large plastic waste into smaller fragments once exposed to the marine environment–make up a significant portion of microplastics in the ocean, a recent report by the International Union for Conservation of Nature demonstrates that primary microplastics are globally responsible for a major source of plastics in the oceans (Boucher & Friot 2017). The study estimates that primary sources of microplastics–microplastics that are directly released into the environment as small plastic particles–account for between 15 and 31% of all of the plastic in the oceans. The overwhelming majority of the losses of primary microplastics (98%) are generated from land based activities. One of the largest contributors of these particles stem from the laundering of synthetic textiles, which enter the marine environment through wastewater treatment systems (*Id*).

A growing number of studies demonstrate that microplastics harm a wide range of aquatic species. Ingestion of microplastics by wildlife was first brought to light in 1987, when surveys of Laysan Albatross and Wedge-tailed Shearwaters on Midway and O'ahu Island, Hawai'i identified 90% of 50 chicks surveyed had plastic fragments, toys, bottle caps, and other plastics in their upper gastrointestinal tract (Frye et al. 1987). 12 of 20 adult shearwaters surveyed ingested plastic fragments or pellets 1-3 mm thick and 2-7 mm long (*Id*). More recent studies suggest seabirds are particularly sensitive to plastic pollution due to high frequency of ingestion, impacts on body condition and transmission of toxic chemicals (Wilcox et al. 2015). More than 90% of seabird species are believed to have ingested plastic globally, and by 2050 the percentage is estimated to increase to 99%, resulting in increased mortality and decreased reproduction (Wilcox et al. 2015). Consistent with this prediction, Donnelly-Greenan et al. (2014) documented a dramatic increase in the amount of ingested plastic in Pacific northern fulmars (*Fulmarus glacialis rogersii*) washed up on beaches in Monterey Bay, California between 2003 and 2007. Sea turtles are also highly vulnerable to plastic pollution. A recent study found that over 50% of sea turtles worldwide are expected to have ingested plastic, which can lead to starvation due to false sense of satiation, intestinal blockage, and transfer of dangerous chemicals (Schuyler et al. 2012).

A quickly growing body of evidence points to bioaccumulation of plastics and adsorbed pollutants as an increasing ecological threat to marine organisms as well as humans (Engler et al. 2012). For example, Setälä et al. (2014) demonstrated the potential of microplastic particles to transfer via planktonic organisms from one trophic level (mesozooplankton) to a higher level (macrozooplankton), suggesting a clear pathway for the bioaccumulation of microplastics and associated pollutants within the marine food web. Higher trophic-level organisms such as fish-eating

birds, omnivorous birds, and marine mammals are exposed to toxic compounds via their consumption of prey. Even baleen whales, among the largest animals on earth, are exposed to micro-litter ingestion as a result of their filter-feeding activity; a recent study documented the presence of phthalates traced to microplastic pollution in the tissue of stranded fin whales (Fossi et al. 2012). Generally, typical polychlorinated biphenyls ("PCB") levels increase by a factor of 10- to 100-fold when ascending major consumption levels in a food chain (Gobas et al. 1995). Specifically, Wasserman et al. (1979) reported that for marine food webs, concentrations of PCBs in zooplankton range from < 0.003 to 1 μg g_{-1}, whereas top consumers, such as seals and fish, had ranges of PCBs from 0.03 to 212 μg g_{-1}. Therefore, if PCBs and other contaminants are abundant in lower trophic levels, they will be amplified through the food chain to levels that can adversely affect higher trophic-level organisms. As a result, people who ingest fish may be exposed to dangerous levels of PCBs (EPA 2006). Due to the toxin's accumulation properties, many scientists believe there is no safe level of exposure to PCBs (*Id*).

Large pelagic fishes, including many consumed by humans, have been shown to ingest microplastics (Romeo et al. 2015). Choy & Drazen (2013) report that 19% of fishes sampled from 10 species captured by the Hawaiian longline fishery had ingested plastic particles. Similarly, Rochman et al. (2015) discovered that approximately a quarter of fish sold at markets in California and Indonesia for human consumption had ingested anthropogenic debris, primarily in the form of microplastics and microfibers from textiles. Considered in conjunction with the findings of Rochman et al. (2013*b*), which demonstrate the transfer of adsorbed pollutants from ingested plastics to the tissues of fishes, ingestion of plastic by fishes targeted for human consumption has potentially serious human health implications that have yet to be thoroughly investigated (Bergmann et al. 2015*a*).
Because of microplastics' size they are also available to invertebrates, including deposit feeders such as sea cucumbers (Graham & Thompson 2009), the lug worm, that feeds by stripping organic matter from particulates (Moore et al. 2011), gooseneck barnacles (Goldstein et al. 2013), oysters (Green 2016), clams (Davidson & Dudas 2016), and shore crabs (Watts et al. 2014). A recent study of sceletarian corals on Australia's great barrier reef indicates ingestion rates of microplastics similar to the rate of plankton ingestion (Hall et al. 2015). Ingested microplastics were found in the coral gut cavity, suggesting that ingestion of high concentrations of microplastic debris could potentially impair the health of corals (Hall et al. 2015).

A third of shellfish found in seafood markets in Indonesia and California contained anthropogenic debris, primarily in the form of microplastics (Rochman et al. 2015). Mussels ingest microscopic plastic of less than 1 mm, accumulate it in the gut and transfer it to the circulatory system (Brown et al. 2008). Microplastics persist in mussels for over 48 days despite transfer to clean water, suggesting similar fates for these particles in predators like birds, crabs, starfish, and even humans (Brown et al. 2008). European researches found microplastics present in two bivalve species cultured for human consumption, with an average load of 0.36 particles per gram of tissue (Van Cauwenberghe & Janssen 2014). They conclude that the annual dietary exposure of European consumers can be up to 11,000 microplastics (*Id*). Planktonic Pacific oyster (*Crassostrea gigas*) larvae readily ingest waterborne nanoplastic and microplastic polystyrene particles (Cole & Galloway 2015). Nano-sized polystyrene particles may permeate into the lipid membranes of organisms, altering the membrane structure, membrane protein activity, and therefore cellular function (Rossi et al. 2014). Acute exposure to microplastics results in significant biological effects including weight loss, reduced feeding activity, increased phagocytic activity and transference to the lysosomal (storage) system (Von Moos et al. 2012; Wagner et al. 2014; Browne et al. 2013; Lee et al. 2013; Rochman et al. 2013*b*).

Ecological impacts from plastic pollution on nearshore environments, such as sandy beaches, include ingestion by a variety of organisms (Graham and Thompson 2009), sediment contamination from leached plasticizers (Oehlmann et al. 2009), and adsorbed persistent organic pollutants (Rios et al. 2007). Carson et al. (2011) demonstrated how the presence of microplastics on Hawaiian beaches can alter the physical properties of beaches such as heat transfer and water movement, and noted that the observed effects may have broad ecological implications for a wide variety of beach dwelling organisms and their eggs, including crustaceans, mollusks, polychaetes, fish, interstitial meiofauna, and sea turtles. Emerging research suggests microplastic pollution is capable of driving shifts in ecological communities. A study by Green (2016) indicates that repeated exposure to high concentrations of microplastics could alter community assemblages in important marine habitats by reducing the abundance of benthic fauna.

The ability of plastics to adsorb hydrophobic pollutants from the marine environment is well documented (Rios et al. 2007; Teuten et al. 2009). Many plastics adsorb PCBs, organo-chlorine pesticides, polybrominated diphenyls ("PBD"), polycyclic aromatic hydrocarbons ("PAH"), metals, and petroleum hydrocarbons, some of which may desorb in acidic stomachs resulting in uptake by the animal (Teuten et al. 2009; Van et al. 2012; Rochman et al. 2013*b*). Indeed, it has been shown that seabirds that ingested plastic demonstrate higher PCB concentrations in their fat tissues (Ryan et al. 1988), and seabird chicks fed plastics showed increasing PCB concentrations (Teuten et al. 2009). Polybutylene terephthalates ("PBT"), found on recovered plastic debris globally (Hirai et al. 2011), bioaccumulate in foodwebs (Teuten et al. 2009) and are linked with adverse ecological effects including endocrine disruption, decreased fish populations and reduced species richness (McKinley & Johnston 2010; Rochman et al. 2013*a*). Plastic fragments can concentrate organic pollutants up to 10^6 times that of the surrounding seawater, with release rates in an endotherm gut 30 times higher than in seawater (Bakir et al. 2014). Plastic additives, such as Bisphenol A ("BPA"), phlalate plasticizers and alkylphenol can also leach from ingested plastics into the tissue of organisms inducing adverse effects including estrogenic mimicry and reduced testosterone levels (Teuten et al. 2009; Rochman et al. 2013*b*). Small and microscopic plastic fragments in particular present a likely route for the transfer of toxic chemicals to marine organisms because of their large surface area to volume ratio, allowing for an increased uptake of contaminants (Rios et al. 2007).

Finally, because plastics do not readily degrade and are long-lived they provide an effective invasive species dispersal mechanism (Barnes et al. 2009; Gregory 2009). Pelagic plastic items are commonly colonized by a diversity of encrusting and fouling epibionts, including barnacles, tube worms, foraminifera, coralline algae, and bivalve mollusks (Gregory 2009) as well as unique pathogen assemblages (Zettler et al. 2013). The environmental importance of this process is widely recognized, as pelagic plastic, (including nano- and microplastics) may be vectors in the dispersal of aggressive and invasive marine organisms that could endanger endemic biota (Barnes et al. 2009).

III. Summary of Data on Microplastic Pollution in Oregon*

Oregon's marine waters and beaches are significantly impacted by microplastic pollution and violate numerous water quality standards. The following is a brief summary of studies documenting the presence of microplastics in Oregon state waters:

1. Sea Turtles Forever 2012 - All four beaches sampled demonstrated elevated levels of microplastics, with an average of 228, 453, and 467 microplastic pellets/m^2 at Cape Blanco, China Beach, and Whiskey Beach respectively. The average number of plastic pellets collected on Crescent Beach increased dramatically from 95 pellets/m^2 in 2010, to 343 in 2011 and to 721 in 2012.

2. Sea Turtles Forever 2014 - 11,616 plastic pellets, and over 3180g of microplastic were collected on one square meter of beach at Fort Stevens State Park.

3. Jauregui 2017 - 494 plastic microfibers were found in 30 oysters reared for human consumption from six oyster vendors along the Oregon coast.

*See Appendix A for a summary of microplastics data, water bodies to be designated as impaired, and water quality standard violations. These data demonstrate water body impairments that are described below.

IV. Water Bodies to Be Listed as Impaired and Water Quality Violations

1. State marine waters off Crescent Beach

The marine waters off Crescent Beach warrant listing because sediment samples from Sea Turtles Forever (2012) indicate various water quality violations summarized in Appendix A. Sea Turtles Forever found that the level of microplastics on Crescent beach increased dramatically from 2010 to 2012. High volumes of microplastics on beaches indicate elevated concentrations of microplastics in adjacent waters (*e.g.* Wessel et al. 2016), suggesting waters off the Crescent Beach are laden with microplastics and are impaired.

These data, which demonstrate a dramatic increase in microplastic pollution and associated degradation of water quality, indicate waters off Crescent Beach listed above violate the state's Antidegradation water quality standards, which "prevent unnecessary further degradation from new or increased point and nonpoint sources of pollution, and to protect, maintain, and enhance existing surface water quality to ensure the full protection of all existing beneficial uses." (OAR, § 340-041-0004)

Data presented by Sea Turtles Forever (2012) reveal that Crescent Beach is inundated with significant amounts of visually offensive plastic trash. High concentrations of plastic pellets are certainly offensive to the sense of sight and inhibit aesthetic enjoyment when sunbathing, beachcombing, sightseeing, and studying tide-pool marine life. The recurrence an increase of microplastic on Crescent Beach, year after year, shows that the adjacent waters are polluted. Therefore, the marine waters off Crescent Beach violate the aesthetic quality beneficial use of the North Coast Basin and should be listed as impaired. (OAR, § 340-041-0230)

Elevated and increasing levels of microplastics on Crescent Beach pose a threat to marine wildlife including in shellfish, sea turtles, fish and seabirds.

Bour et al. (2018) recently demonstrated how environmentally relevant concentrations of microplastics (25 mg/kg of sediment) negatively impact two species of sediment dwelling bivalves. Several other studies have demonstrated how environmentally relevant concentrations of microplastics be deleterious to marine fauna. For example, Green (2016) demonstrated how microplastic concentrations of 80 μg L^{-1} harmed a variety of marine benthic organisms including periwinkles, isopods, and clams in lower

intertidal to shallow subtidal zones on temperate beaches, indicating that numerous species of marine life on Oregon beaches and in surrounding waters are likely to encounter detrimental concentrations of microplastics. Indeed, Jauregui (2017) documented nearly 500 microplastic fibers in 30 Pacific oysters (*Crassotrea gigas*) from various oyster farms along the Oregon coast, raising alarms about potential impacts of microplastic pollution on commercial shellfish operations and marine wildlife in Oregon waters, as well as on the health of Oregonians who consume locally sourced shellfish.

The tendency for microplastics to concentrate toxic POPs is well documented, and discussed at length above. Various studies have documented elevated levels of POPs on microplastics found on West Coast beaches (*e.g.* Rios et al. 2007; Ogata et al. 2009; Van et al. 2012). Microplastics prevalent on Oregon beaches exhibit significant levels of persistent organic pollutants, including PCBs (Marc Ward, Sea Turtles Forever, pers. comms.). Evidence suggests microplastics and associated adsorbed pollutants are capable of bioaccumulating and pose an increasing ecological threat to marine organisms, including commercially harvested fish and shellfish (Rochman et al. 2013*b*; Rochman et al. 2015), as well as humans (reviewed by: Chae & An 2017).

Rochman et al. (2013*b*) showed that fish exposed to microplastics with chemical pollutants sorbed from the marine environment bioaccumulate these chemical pollutants and suffer liver toxicity and pathology. Fish fed virgin microplastics also showed signs of stress (*Id*).
The harm to sea turtles from plastic pollution is discussed above. Considering three species of federally endangered sea turtle (Loggerhead turtle (*Caretta caretta*), Green turtle (*Chelonia mydas*), and Leatherback turtle (*Dermochelys coriacea*) (Oregon Dept. of Fish and Wildlife)) frequent waters off the Oregon coast, it is highly likely that endangered sea turtles encounter microplastic pollution off of the beaches considered here.

As discussed previously, Carson et al. (2011) demonstrates how the presence of microplastics on beaches may have broad ecological implications for a wide variety of beach dwelling organisms. Therefore, data presented by Sea Turtles Forever (2012) indicate shellfish and other benthic and sediment dwelling organisms on Crescent Beach encounter concentrations of microplastics that could potentially negatively influence their ecology. It is likely that fishes, sea turtles and seabirds also encounter potentially damaging levels of microplastics in marine waters off Crescent Beach. The water body in question therefore violates the High Quality Water Policy which protects beneficial uses and water quality necessary to support fish, shellfish and wildlife propagation (OAR, § 340-041-0004 (6)) and various beneficial uses of the North Coast Basin including fishing, fish and aquatic life, and wildlife (OAR, § 340-041-0230) and should be listed as impaired.

DEQ must also evaluate whether the data presented here demonstrate that marine waters off Crescent Beach violate the Toxic Substances Narrative which states "[t]oxic substances may not be introduced above natural background levels in waters of the state in amounts, concentrations, or combinations that may be harmful, may chemically change to harmful forms in the environment, or may accumulate in sediments or bioaccumulate in aquatic life or wildlife to levels that adversely affect public health, safety, or welfare or aquatic life, wildlife or other designated beneficial uses (OAR, § 340-041-0033 (1)), as well as the Human Health Numeric Criteria which protects "Oregonians from potential adverse health effects associated with long-term exposure to toxic substances associated with consumption of fish, shellfish and water." (OAR, § 340-041-0033 (3))

2. State marine waters off Cape Blanco, China Beach, Whiskey Beach and Fort Stevens State Park

The marine waters off Cape Blanco, China Beach, Whiskey Beach, and Fort Stevens State Park warrant listing because sediment samples from Sea Turtles Forever (2012; 2014) indicate various water quality violations summarized in Appendix A. Sea Turtles Forever discovered 228, 453, 467, and 11,616 microplastic pellets/m2 at the four beaches, respectively (Table 1).

Year	Beach	Plastic Pellets (#/m²)	Plastic Pellets (g/m²)
2010	Crescent Beach	95.33	1.96
2011	Crescent Beach	343.50	7.35
2012	Crescent Beach	721.50	15.42
2011	Cape Blanco	228.00	4.62
2011	China Beach	453.50	10.14
2011	Whiskey Beach	467.00	8.15
2013	Fort Stevens State Park	11616	212

Table 1. Summary of microplastic collected at five Oregon beaches. For detailed reporting see Appendix B.

As noted above, high volumes of microplastics on beaches indicate elevated concentrations of microplastics in adjacent waters (*e.g.* Wessel et al. 2016), suggesting waters off the beaches listed above are impaired.

Microplastics particles have been shown to accumulate in gut tissue of mussels (*Mytilus edulis*), and subsequently translocate to the circulatory system, indicating microplastics and associated toxins may bioaccumulate in food chains (Browne et al. 2011). A third of shellfish found in seafood markets in California contained anthropogenic debris, primarily in the form of microplastics (Rochman et al. 2015). Jauregui (2017) has documented high levels of plastic microplastic fibers in Pacific oysters (*Crassotrea gigas*) reared for human consumption at oyster farms along the Oregon coast.

Taken together, these studies, in conjunction with data from Sea Turtles Forever (2012; 2014) demonstrate that shellfish on and off the beaches considered here could be negatively impacted by harmful concentrations of microplastics, and humans ingesting shellfish collected from the region are likely being exposed to microplastics and associated pollutants.

Choy and Drazen (2013) found that 19% of pelagic game fish sampled in the North Pacific had ingested plastic. Rochman et al. (2013*b*) demonstrated how chemical pollutants sorbed from the marine environment, as well as hazardous chemicals from the material itself are able to transfer from microplastic particles to the tissue of fishes and bioaccumulate, inducing liver toxicology and pathology.

Additionally, the work of Green (2016) illustrates how environmentally relevant concentrations of microplastic are capable of harming a variety of marine organisms, indicating that repeated exposure to high concentrations of microplastics could alter assemblages in marine habitat by reducing abundance of benthic fauna. Therefore, ocean surface waters off the Oregon beaches listed above violate beneficial uses protecting and water quality necessary to support fish, shellfish and wildlife propagation (OAR, § 340-041-0004 (6)) and various beneficial uses of the South Coast Basin including fishing, fish and aquatic life, and wildlife (OAR, § 340-041-0300) and should be listed as impaired.

DEQ must also evaluate whether the data presented here violate the Toxic Substances Narrative (OAR, § 340-041-0033 (1)), as well as the Human Health Numeric Criteria. (OAR, § 340-041-0033 (3))

Lastly, DEQ must consider whether the elevated concentrations of microplastics found in ocean waters off the beaches considered here violate the State's Antidegradation water quality standards, which "prevent unnecessary further degradation from new or increased point and nonpoint sources of pollution, and to protect, maintain, and enhance existing surface water quality to ensure the full protection of all existing beneficial uses." (OAR, § 340-041-0004) Beneficial uses adversely impacted by microplastic pollution, as argued above, include fish, shellfish and wildlife propagation fishing, fish and aquatic life, and wildlife.

4. Other water bodies should be considered

Data from studies that are conducted within Oregon State waters and along shorelines or adjacent areas must be considered. A selection of data compiled by Kapp et. al (2018) demonstrate significant levels of microplastic pollution in the Columbia river. This river should be evaluated for violation of state water quality standards including relevant beneficial uses, the High Quality Water Policy, and Antidegradation.

Further, DEQ should evaluate data currently being collected by Dr. Elise Granek at Portland State University on levels of microplastics in Pacific razor clams (*Siliqua patula*) to determine whether marine waters off Oregon beaches violate various water quality standards.

VI. CONCLUSION

We urge DEQ to designate as impaired the specific water bodies identified in this letter. The Department must consider all readily available data on the impacts of microplastics on the State of Oregon's waters for its water quality assessment and consider the attainment status of all of Oregon's relevant water quality standards. Additionally, due to the unique properties of microplastics, DEQ should adopt a water quality criterion particular to microplastics. A criterion of "less than one item of microplastic (≤5mm) m^{-2} for sediments or m^{-3} in the water column and no more than one synthetic fiber 50 mL^{-1} sediment for subtidal sediments" is appropriately based upon the measurement standards noted by Hidalgo-Ruz et al. (2012). Finally, we urge the state to improve its own monitoring program so that it can effectively detect microplastics-related water quality problems.

Sincerely,
Blake Kopcho
Oceans Campaigner
Center for Biological Diversity
1212 Broadway, Suite 800
Oakland, CA 94612
bkopcho@biologicaldiversity.org

5. Comments from: BLM, Burns District

From: Lindsay Davis
Subject: Comments to 2018/2020 Integrated Report
Date: Dec. 16, 2019

These comments are specific to the Donner und Blitzen Sub-basin.

The interactive map shows an ephemeral/intermittent tributary to Dry Krumbo Creek - which flows into Kern Reservoir, is listed as impaired for iron. (Record 14147). It is labeled in the information as "Bridge Creek". Bridge Creek is actually to the South of this drainage. I believe this listing was accidentally applied to this ephemeral/intermittent tribe, and not to the actual Bridge Creek itself.

Mud Creek (stream just south of Bridge Creek) is not included in the Assessment Area. I am not sure if this is an oversight, but it is a perennial fish bearing stream that I believe was previously listed on the 303(d) list.

Lindsay A. Davies
Planning and Environmental Coordinator
Burns District, BLM
541.573.4409

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6. Comments from: Willamette Valley Mining Association

From: Tom Quintal
Subject DEQ Submits Mercury TMDL to EPA for Approval
Date: Nov. 25, 2020

" submitter attached comments submitted during theWillamette Basin Mercury TMDL public comment period."

Because Oregon suction dredge miners were left out of the Willamette Basin Mercury TMDL until the July 3rd 2019 DEQ finally let miners know about the mercury TMDL for the Bohemia area. That is when DEQ notified miners meetings would be scheduled in various locations. I submitted some of the attachments and my email outlining how DEQ left miners out of the loop. I believe EPA folks need to consider this information before approving 303d stream listings for the Bohemia mining district.

Tom Q. WVM


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7. Comments from: David Cooper

From: David Cooper
Subject: Oppose DEQ's Draft Intergrated Report
Date: Nov.22, 2019

Dear Director Whitman,

I strongly oppose DEQ's decision to list water bodies on farm and forestland as water quality impaired without data to support those listings, as it has done in its 2018-2020 Integrated Report. I also oppose DEQ's decision to include agricultural irrigation and drainage ditches in its list of water quality impaired waterways. In order to be scientifically defensible, decisions to list waterbodies as impaired must be based on water body specific data and cannot be extrapolated from samples from neighboring waterways or tributaries. To do otherwise is not sound science or sound agency policy. DEQ's decision also appears to be intentionally making agriculture and forest water quality look worse than data supports. Farmers, ranchers, and foresters have always been good partners with DEQ and our designated management agencies, the Department of Agriculture and the Department of Forestry. Forest and ag lands have among the highest water quality in the state, and farmers and foresters have invested millions in improving and protecting water quality. It is a poor way to reward our hard work with a misleading report that makes it look like farms and forests are experiencing declining water quality, particularly when it appears that DEQ lacks actual data for a significant portions of the waterways listed.

I strongly oppose DEQ's decision to extrapolate listings of waterways and ditches based upon data collected from neighboring properties. Water quality naturally differs from water body to water body, particularly when those waterways are under different ownership and may have experienced differing current and historic riparian management. DEQ has presented no evidence that this extrapolation is scientifically valid or sound. Instead, it appears to be an attempt to list and regulate waterways without first going through the necessary step of determining that data actually shows an impairment.

In reviewing my farm, I am particularly concerned with DEQ's decision to list waterways that I have not given DEQ permission to sample and where sampling has not occurred. I urge DEQ to revisit these listings.

You have included a "phantom" waterway and designated it as impaired. The waterway that you have identified that does not exist would be a part of the Threemile Creek drainage in Northern Wasco County running SSE just to the East end of Remington Rd. In my nearly 74 years of having lived here I have never know water to flow is this drainage.

Thank you for the opportunity to comment.

Sincerely,

David Cooper
2270 Dry Hollow Rd
The Dalles, OR 97058
cooperorchards@gmail.com

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8. Comments from: Kevin Schurter

From: Kevin Schurter
Subject: Oppose DEQ's Draft Integrated Report
Date: Nov. 22, 2019

Dear Director Whitman,

I farm, and own property that would be impacted by this new ruling of "impaired" waterways. I find it insulting that these new rules are based on no factual findings in the actual waterways or ditches. It is unreasonable to make up rules that have such broad sweeping effect without actually doing the necessary work to support those rules. Please stop trying to overreach and control every aspect of our lives with baseless administrative rulings.

Thank you,
Kevin Schurter

I strongly oppose DEQ's decision to list water bodies on farm and forestland as water quality impaired without data to support those listings, as it has done in its 2018-2020 Integrated Report. I also oppose DEQ's decision to include agricultural irrigation and drainage ditches in its list of water quality impaired waterways. In order to be scientifically defensible, decisions to list waterbodies as impaired must be based on water body specific data and cannot be extrapolated from samples from neighboring waterways or tributaries. To do otherwise is not sound science or sound agency policy. DEQ's decision also appears to be intentionally making agriculture and forest water quality look worse than data supports.

Farmers, ranchers, and foresters have always been good partners with DEQ and our designated management agencies, the Department of Agriculture and the Department of Forestry. Forest and ag lands have among the highest water quality in the state, and farmers and foresters have invested millions in improving and protecting water quality. It is a poor way to reward our hard work with a misleading report that makes it look like farms and forests are experiencing declining water quality, particularly when it appears that DEQ lacks actual data for a significant portions of the waterways listed.

I strongly oppose DEQ's decision to extrapolate listings of waterways and ditches based upon data collected from neighboring properties. Water quality naturally differs from water body to water body, particularly when those waterways are under different ownership and may have experienced differing current and historic riparian management. DEQ has presented no evidence that this extrapolation is scientifically valid or sound. Instead, it appears to be an attempt to list and regulate waterways without first going through the necessary step of determining that data actually shows an impairment.

In reviewing my farm, I am particularly concerned with DEQ's decision to list waterways that I have not given DEQ permission to sample and where sampling has not occurred. I urge DEQ to revisit these listings.

Thank you for the opportunity to comment.

Sincerely,

Kevin Schurter
6655 Fruitland Rd NE
Salem, OR 97317
schurtonfire@yahoo.com

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9. Comments from: Marie Gadotti

From Marrie Gadotti
Subject: Oppose DEQ's Draft Integrated Report
Date: Nov. 22, 2019

Dear Director Whitman,

I strongly oppose DEQ's decision to list water bodies on farm and forestland as water quality impaired without data to support those listings, as it has done in its 2018-2020 Integrated Report. I also oppose DEQ's decision to include agricultural irrigation and drainage ditches in its list of water quality impaired waterways. In order to be scientifically defensible, decisions to list waterbodies as impaired must be based on water body specific data and cannot be extrapolated from samples from neighboring waterways or tributaries.

My husband and I live and farm in a drainage district with a drainage ditch running through our property. We have been farming in this areas since 1969 and have improved our operatioin to make water quality the best that we can. These kind of ditches do not have yearly running streams that flow into the ditch. These ditches also are pumped out through most of the year and when the ditches are low for many months the water just stays in the ditch with vegetation growing and decaying as the seasons come and go. It also goes without saying that the ditch on our property is not accessible without our permission which has not been given to have samples taken.

We as farmers have worked tirelessly with the Department of Agriculture and the Department of Forestry using the SB1010 program. We continually work with NRCS as well to do our part in keeping water quality as a intergall part of our operation.

It is a poor way to reward our hard work with a misleading report that makes it look like farms and forests are experiencing declining water quality, particularly when it appears that DEQ lacks actual data for a significant portions of the waterways listed.

I strongly oppose DEQ's decision to extrapolate listings of waterways and ditches based upon data collected from neighboring properties. Water quality naturally differs from water body to water body, particularly when those waterways are under different ownership and may have experienced differing current and historic riparian management. DEQ has presented no evidence that this extrapolation is scientifically valid or sound. Instead, it appears to be an attempt to list and regulate waterways without first going through the necessary step of determining that data actually shows an impairment.

In reviewing my farm, I am particularly concerned with DEQ's decision to list waterways that I have not given DEQ permission to sample and where sampling has not occurred. I urge DEQ to revisit these listings and realize that many drainage and irrigation ditches are not "creeks " and have stagnent waters or little flow for many months of the year.

Thank you for the opportunity to comment.

Sincerely,

Marie Gadotti
33717 Johnsons Landing Rd
Scappoose, OR 97056
mariegadotti@centurytel.net

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10. Comments from: Timothy Winn

From: Timothy Winn
Subject: Oppose DEQ's Draft Integrated Report
Date: Nov. 22, 2019

Dear Director Whitman,

I strongly oppose DEQ's decision to list water bodies on farm and forestland as water quality impaired without data to support those listings, as it has done in its 2018-2020 Integrated Report. I also oppose DEQ's decision to include agricultural irrigation and drainage ditches in its list of water quality impaired waterways. In order to be scientifically defensible, decisions to list waterbodies as impaired must be based on water body specific data and cannot be extrapolated from samples from neighboring waterways or tributaries. To do otherwise is not sound science or sound agency policy. DEQ's decision also appears to be intentionally making agriculture and forest water quality look worse than data supports. As a Benton County Farmer, it concerns me that a governing agency would attempt to use it's authority and influence to further any sort of anti-resource industry agenda.
Farmers, ranchers, and foresters have always been good partners with DEQ and our designated management agencies, the Department of Agriculture and the Department of Forestry. Forest and ag lands have among the highest water quality in the state, and farmers and foresters have invested millions in improving and protecting water quality. It is a poor way to reward our hard work with a misleading report that makes it look like farms and forests are experiencing declining water quality, particularly when it appears that DEQ lacks actual data for a significant portions of the waterways listed.

I strongly oppose DEQ's decision to extrapolate listings of waterways and ditches based upon data collected from neighboring properties. Water quality naturally differs from water body to water body, particularly when those waterways are under different ownership and may have experienced differing current and historic riparian management. DEQ has presented no evidence that this extrapolation is scientifically valid or sound. Instead, it appears to be an attempt to list and regulate waterways without first going through the necessary step of determining that data actually shows an impairment.

In reviewing my farm, I am particularly concerned with DEQ's decision to list waterways that I have not given DEQ permission to sample and where sampling has not occurred. I urge DEQ to revisit these listings.

Thank you for the opportunity to comment.

Sincerely,

Timothy Winn
3405 NE Garden Ave
Corvallis, OR 97330
tandcwinn@gmail.com

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11. Comments from: Lyndon Kerns

From: Lydon Kerns
Subject: Oppose DEQ's Draft Intergrated Report
Nov. 22, 2019

Dear Director Whitman,

I strongly oppose DEQ's decision to list water bodies on farm and forestland as water quality impaired without data to support those listings, as it has done in its 2018-2020 Integrated Report. I also oppose DEQ's decision to include agricultural irrigation and drainage ditches in its list of water quality impaired waterways. In order to be scientifically defensible, decisions to list waterbodies as impaired must be based on water body specific data and cannot be extrapolated from samples from neighboring waterways or tributaries. To do otherwise is not sound science or sound agency policy. DEQ's decision also appears to be intentionally making agriculture and forest water quality look worse than data supports.

Farmers, ranchers, and foresters have always been good partners with DEQ and our designated management agencies, the Department of Agriculture and the Department of Forestry. Forest and ag lands have among the highest water quality in the state, and farmers and foresters have invested millions in improving and protecting water quality. It is a poor way to reward our hard work with a misleading report that makes it look like farms and forests are experiencing declining water quality, particularly when it appears that DEQ lacks actual data for a significant portions of the waterways listed.

I strongly oppose DEQ's decision to extrapolate listings of waterways and ditches based upon data collected from neighboring properties. Water quality naturally differs from water body to water body, particularly when those waterways are under different ownership and may have experienced differing

current and historic riparian management. DEQ has presented no evidence that this extrapolation is scientifically valid or sound. Instead, it appears to be an attempt to list and regulate waterways without first going through the necessary step of determining that data actually shows an impairment.

In reviewing my farm, I am particularly concerned with DEQ's decision to list waterways that I have not given DEQ permission to sample and where sampling has not occurred. All of our irrigation and drainage ditches are listed as impaired without any known evidence. These ditches are not waters of the state but private infrastructure. We are located along Klamath River near Keno.

Thank you for the opportunity to comment.

Sincerely,

Lyndon Kerns
9111 Highway 66
Klamath Falls, OR 97601
fbkerns@charter.net

12.Comments from: Adam Stinnett

From: Adam Stinnett
Subject: Oppose DEQ's Draft Intergrated Report
Date: Nov. 22, 2019

Dear Director Whitman,

I strongly oppose DEQ's decision to list water bodies on farm and forestland as water quality impaired without data to support those listings, as it has done in its 2018-2020 Integrated Report. I also oppose DEQ's decision to include agricultural irrigation and drainage ditches in its list of water quality impaired waterways. In order to be scientifically defensible, decisions to list waterbodies as impaired must be based on water body specific data and cannot be extrapolated from samples from neighboring waterways or tributaries. To do otherwise is not sound science or sound agency policy. DEQ's decision also appears to be intentionally making agriculture and forest water quality look worse than data supports.

Farmers, ranchers, and foresters have always been good partners with DEQ and our designated management agencies, the Department of Agriculture and the Department of Forestry. Forest and ag lands have among the highest water quality in the state, and farmers and foresters have invested millions in improving and protecting water quality. It is a poor way to reward our hard work with a misleading report that makes it look like farms and forests are experiencing declining water quality, particularly when it appears that DEQ lacks actual data for a significant portions of the waterways listed.

I strongly oppose DEQ's decision to extrapolate listings of waterways and ditches based upon data collected from neighboring properties. Water quality naturally differs from water body to water body, particularly when those waterways are under different ownership and may have experienced differing current and historic riparian management. DEQ has presented no evidence that this extrapolation is

scientifically valid or sound. Instead, it appears to be an attempt to list and regulate waterways without first going through the necessary step of determining that data actually shows an impairment.

I am unaware of any monitoring in the locations I work in with the company I'm employed with. It's completely unreasonable to lump these streams in with others without actually doing the work. Please don't make the mistake of letting the DEQ get away with such nonsense.

Thank you for the opportunity to comment.

Sincerely,

Adam Stinnett
338 Arvilla Ct
Sutherlin, OR 97479
astinnett04@gmail.com

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13. Comments from: Craig Herman

From: Craig Herman
Subject: Oppose DEQ's Draft Integrated Report
Date: Nov 22, 2019

Dear Director Whitman,

I read your 22 page 2018-2020 Draft Integrated Report and was disturbed by the maps of your identified impaired water bodies. Just about every water body on farms and ranches was identifed as impaired. As a result, I strongly oppose DEQ's decision to list water bodies on farm and forestland as water quality impaired without data to support those listings, as it has done in its 2018-2020 Integrated Report. I also oppose DEQ's decision to include agricultural irrigation and drainage ditches in its list of water quality impaired waterways. The agriculture drainage ditchs on my property are not impaired. In order to be scientifically defensible, decisions to list waterbodies as impaired must be based on water body specific data and cannot be extrapolated from samples from neighboring waterways or tributaries. To do otherwise is not sound science or sound agency policy. DEQ's decision also appears to be intentionally making agriculture and forest water quality look worse than data supports.

Farmers, ranchers, and foresters have always been good partners with DEQ and our designated management agencies, the Department of Agriculture and the Department of Forestry. Forest and ag lands have among the highest water quality in the state, and farmers and foresters have invested millions in improving and protecting water quality. It is a poor way to reward our hard work with a misleading report that makes it look like farms and forests are experiencing declining water quality, particularly when it appears that DEQ lacks actual data for a significant portions of the waterways listed.

I strongly oppose DEQ's decision to extrapolate listings of waterways and ditches based upon data collected from neighboring properties. Water quality naturally differs from water body to water body, particularly when those waterways are under different ownership and may have experienced differing current and historic riparian management. DEQ has presented no evidence that this extrapolation is

scientifically valid or sound. Instead, it appears to be an attempt to list and regulate waterways without first going through the necessary step of determining that data actually shows an impairment.

In reviewing my farm, I am particularly concerned with DEQ's decision to list waterways that I have not given DEQ permission to sample and where sampling has not occurred. I urge DEQ to revisit these listings.

Thank you for the opportunity to comment.

Sincerely,

Craig Herman
13180 S Carus Rd
Oregon City, OR 97045
cjherman@gmail.com

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14. Comments from: Srinivas Puram

From: Puram Srinivas
Subject: Water is precious save it globally
Date: Nov. 21, 2019

Respected sir /Madam

Water is very precious of life source survival imagine to create a drop of pure mineral rich oxygenate water efforts to put in for manufacturing process., We of course cannot create water in lab. As it not feasible viable wise decisions idea options which is abundantly naturally plentiful available all around us

We all know nature's water it's past presence it's gifted us with happiness of well being

It's from nature cycle fishes and ants to animals life cycle bees different but all cattle's it constructive contribution towards earth with agriculture, grains. fruits. healthy vegetables dairy all direct indirect commodity materials for better experience existence of human living

In colonies to kingdom to present continents to nations topographical geographically historically placed presence of past connect to water again

All around us of course water is available with different levels with different source with ppm depleted quality and quantity with various levels of pollution

All around wisdom of human nature knowing unknowingly ignoring pure nature with uncertainty of future demands of water and it bonding of life and experiences for existence of healthy living

We all unitedly love it for its protection for future generations

Millions of years glaciers presence with its forming and sudden change global glaciers dis forming as they are melting away at warning alarming rate leads to future major different problems of nature disasters

We need to care with concern of all continents around the globe with specific analysis for higher energies levels to lower energies environmentally

Major imbalances started in and around nature as it is occurrence path leads to crisis of all types including unknown newer pollution of course all sky Air Water land along with sea

It's starting up with leads to complicated diseases, droughts, soil erosions, famines, alarmingly fast melting away of glaciers, tsunami. Tornadoes. Cyclones, earthquake, ice storms , desert storms, forest fires, sea levels raising sign for overflowing and immersions of land into sea and land on sea flooding

W A T E R being approx 70/30 ratio of upper layer presence we all should love to honor by newer technology at nanoscale for more of Cleaning all types of pollution nature naturally leads to cleaner greener technology with new vision to achieve mission all around world

Newer subjects from primary school education with all types of dedicated energies environmental awareness protection for dissolving issue crises problems to love for nature with all connected technology with zero pollution

Awards rewards gifts recognition with certificates. For all students researchers scientists teachers professors programmers innovative ideas creators. major problems solver of all above mentioned disasters

As Newer scope for better ideas to culture cultivate all positive nature protection project programming effective efficient skills for future model for zero pollution with protection

Earthly it's protection at all levels on all continents every part and parcel of our tiny paradise heavenly E A R T H To be blessed with our newer ideas and healed all crises All above mentioned are purely simple concept ideas for nature and gracious to be honored

ITS FOR NOBLE CAUSE ONLY

Taken care in lighter way

We honor and thank all team And team leaders for all their continued growth contribution efforts for bringing laurels and different organizations

Puram Srinivasa

15. Comments from: Crook Soil and Water Conservation District

From: Andy Gallagher
Subject: Public Comment
Date: Nov. 18, 2019

Crook County Soil and Water Conservation District is concerned with DEQ's decision to list water bodies on farm lands as water quality impaired without sufficient data. The district is also concerned about DEQ's decision to include agricultural irrigation ditches as water quality impaired. ODEQ's decision to list certain waterways is inappropriate given the lack of data specific to given waterways. Extrapolation of data from one tributary to the next by lumping 1st through 4th order streams is not an appropriate, accurate or defensible way to characterize water quality in Crook County.

Agricultural producers are a driving force in improving water quality in Crook County and throughout the state. Crook County SWCD has a history of working cooperatively with agricultural producers to this end. This includes the implementation of practices designed to improve water quality and the collection of water quality data. This new method of designation appears to directly target agricultural lands as the source of water quality impairments. Additionally, much of the water quality data that is used in your designations was collected with the permission of private landowners who would not have consented if they believed that the information would be misused in this fashion.

Crook County Soil and Water Conservation District opposes DEQ's decision to extrapolate listings of waterways and ditches based upon data collected from neighboring properties.

Thank you for the opportunity to comment.

Andy Gallagher
Crook SWCD
Office 541-447-3548
Cell 406-450-4242

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16. Comments from: Robert Simerly

From: Robert Simely
Subject: Comments on Draft Intergrated Report from Bob Simerly
Date: Dec. 16, 2019

I Oppose DEQ's Draft Integrated Report.

I am an environmental professional and landowner in eastern Oregon and I strongly oppose DEQ's decision to list water bodies on farm and forestland as water quality impaired without adequate data

to support those listings, as it has done in its 2018-2020 Integrated Report. I also oppose DEQ's decision to include agricultural irrigation and drainage ditches in its list of water quality impaired waterways. In order to be scientifically defensible, decisions to list waterbodies as impaired must be based on water body specific data and cannot be extrapolated from samples from neighboring waterways or tributaries. To do otherwise is not sound science or sound agency policy. DEQ's decision also appears to be intentionally making agriculture and forest water quality look worse than data supports.

My credentials include:

BA Environmental Biology, California State University, Fresno

Certified Sustainability Specialist, American Society of Agronomy

Certified Professional Agronomist, American Society of Agronomy

In the case of my farm, which is situated on Fletcher Gulch between Nyssa and Adrian Oregon (Figure 1), the determination that the waters are impaired are flawed for the following reasons.

The following were assessed as Impaired in 2002. I have owned this property since 2001. I am not aware of any water quality data collection occurring on my farm by DEQ during that period.

1. Temperature. Naturally the temperature of a water course varies on the time of year, time of day and air temperature. The water in the lateral is relatively deep and fast moving. The temperature of the water flowing in it is not adversely high. Clearly the temperature has not been measured appropriately. The water in the drains is relatively shallow and slow moving. The channels (ditch walls) are approximately 10 to 15 feet deep and the waters are well shaded by vegetation. It is likely that these waters are warmer than the lateral but still likely not excessively high even on a hot day.

2. Dissolved Oxygen is a function of temperature and I doubt these waters are low in dissolved oxygen at any time of year.

3. pH: The waters and soils in the region where Fletcher Gulch is located are naturally slightly alkaline resulting in a relatively high pH value.

4. The bio-criteria has not been properly assessed. There is a great deal of wildlife that routinely use the waterways at this location including: frogs and other amphibians; bull snakes and other reptiles; birds including songbirds, birds of prey, upland game and waterfowl; and mammals including coyotes, badgers, skunks and other small animals. Over the years I have observed mule deer, antelope, foxes, weasels, muskrat and other species using the water on this property. These animals are supported by an abundance of naturally occurring vegetation and insects at the bottom of the food chain.

5. Total dissolved gases (see # 2 above).

6. The presence of “toxic pollutants” (mercury, lead, copper, arsenic, pH) in the water are the result of the native minerals (pesticide residues notwithstanding). These elements would have been present in the environment prior to European settlement.

7. TMDLs in the form of suspended solids are also native to our region. The vast majority of the soils in the Fletcher Gulch drainage are silt loams which are prone to movement by air and water. The waters in this area likely would not have met current TMDL standards even in pre-European settlement times.

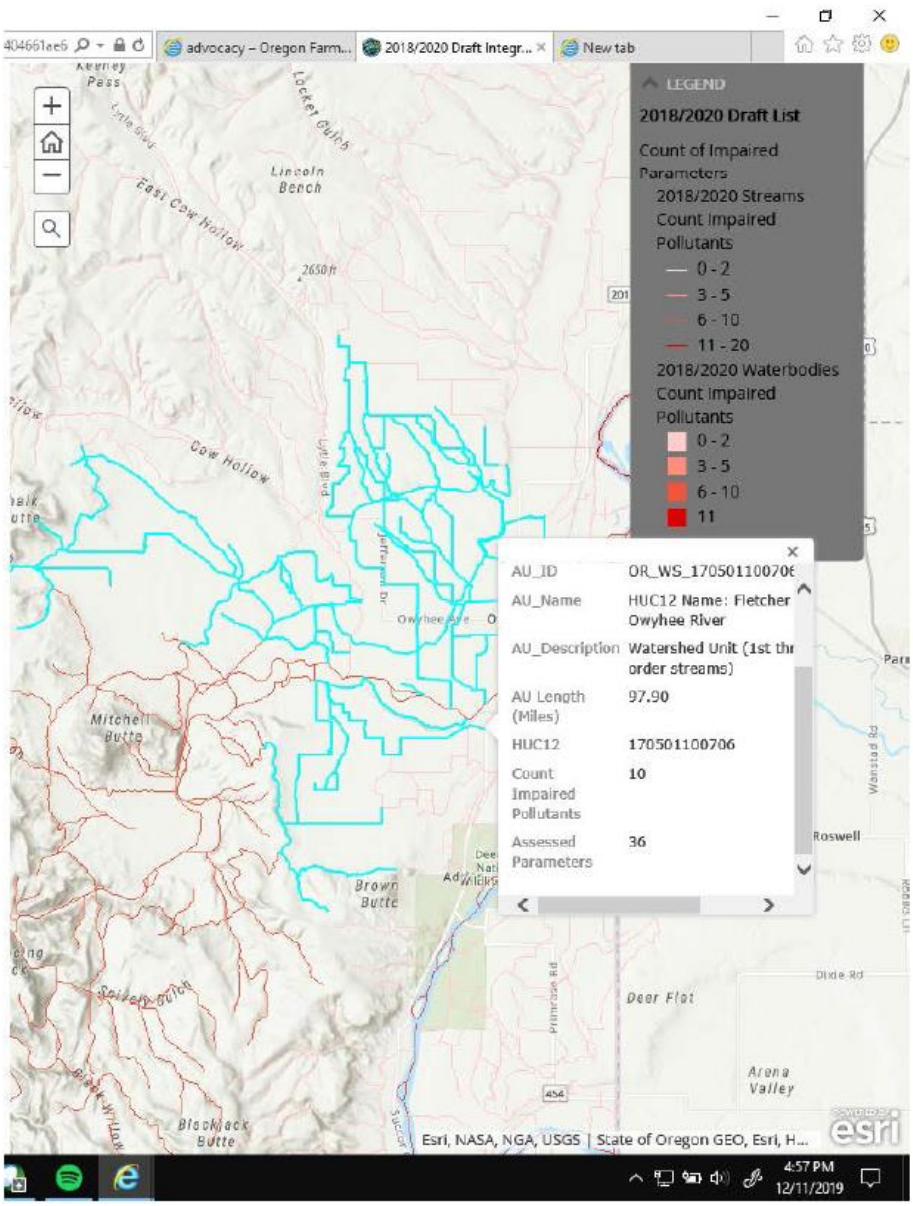
8. The assessment lists these waters as a fishery which it is not. There is no salmonid spawning; historically, prior to the advent of irrigated agriculture, these waters did not flow year round. They were washouts during times of heavy rain.

The water that flow across my property is varied (Figure 2). First, there is an irrigation lateral. This is water that has been diverted directly from the Owyhee reservoir and travels much of the distance to my property via buried pipelines. The water in the lateral emerges from a pipeline where it enters my property. The second

One thing the assessment got right is that Fletcher Gulch does not have a recreational or aesthetic value. With the possible exception of bird hunting, it never has and should not be expected to.

Farmers, ranchers, and foresters have always been good partners with DEQ and our designated management agencies, the Department of Agriculture and the Department of Forestry. Forest and Ag lands have among the highest water quality in the state, and farmers and foresters have invested millions in improving and protecting water quality. It is a poor way to reward our hard work with a misleading report that makes it look like farms and forests are experiencing declining water quality, particularly when it appears that DEQ lacks actual data for a significant portions of the waterways listed.

I strongly oppose DEQ's decision to extrapolate listings of waterways and ditches based upon data collected from neighboring properties. Water quality naturally differs from water body to water body, particularly when those waterways are under different ownership and may have experienced differing current and historic riparian management. DEQ has presented no evidence that this extrapolation is scientifically valid or sound. Instead, it appears to be an attempt to list and regulate waterways without first going through the necessary step of determining that data actually shows an impairment.


advocacy – Oregon Farm...
2018/2020 Draft Integr...
New tab
LEGEND
2018/2020 Draft List
Count of Impaired Parameters
2018/2020 Streams Count Impaired Pollutants
0 - 2
3 - 5
6 - 10
11 - 20
2018/2020 Waterbodies Count Impaired Pollutants
0 - 2
3 - 5
6 - 10
11
AU_ID OR_WS_17050110070
AU_Name HUC12 Name: Fletcher Owyhee River
AU_Description Watershed Unit (1st thr order streams)
AU Length (Miles) 97.90
HUC12 170501100706
Count Impaired Pollutants 10
Assessed Parameters 36
Lincoln Bench
East Cow Hollow
Cow Hollow
Mitchell Butte
Brown Butte
Blackjack Butte
Deer Flat
Arena Valley
Roswell
Dixie Rd
Esri, NASA, NGA, USGS | State of Oregon GEO, Esri, H...
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12/11/2019

Figure 1 – General location of Fletcher gulch, eastern Oregon.

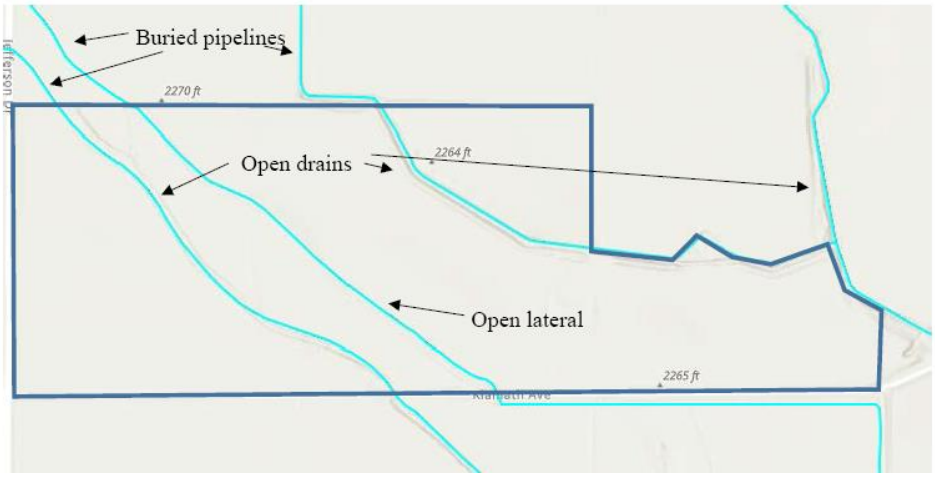

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Figure 2 – Location and type of waterways on Simerly property Nyssa, OR

Thank you for the opportunity to comment.

Robert (Bob) Simerly MBA, CCA
Agronomist
848 Klamath Ave.
Nyssa, OR 97913

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17. Comments from: City of Corvallis

From: Chad Wolfe
Subject City of Corvallis Integrated Report Comments
Date: Dec. 16. 2019

The City of Corvallis appreciates the opportunity to comment on Oregon's 2018/2020 integrated report.

We have reviewed the report and have the following general and Assessment Unit (AU)-specific comments to submit to DEQ for consideration.

General Comments:

We recommend breaking up HUC/AU ID into smaller areas. In that way, the data would be more representative of the areas sampled. If that is not done, we believe a very large number of additional samples would need to be collected. We don't recommend this additional sampling, as it is cost-prohibitive.

We recommend coloring streams for all 5 categories on the interactive map, and using colors that are not similar to each other, in order to improve comprehension.

2. Frazier Creek (OR_WS_170900030609_02_1 04297):

Please provide the site description for MLocID 35080-0RDEQ.

This stream is indicated as impaired for Dissolved Oxygen (DO)

i. The DO classification is cool water, and the criteria is greater than 6.5 mg/l DO
ii. Our concern is that all seven data points listed were 9.1 mg/l or greater, which shows that all samples were in alignment with the criteria. Therefore, we are not understanding the 'impairment' determination for the stream. We believe this AU is incorrectly listed based upon the data provided.

3. Lower Marys River (OR_WS_170900030211_02_104263):

There was no data provided for this AU.

This stream is indicated as impaired for BioCriteria

i. Listed as "CAUSE UNKNOWN - IMPAIRED BIOTA"

ii. Our concern is that the Lower Marys River is listed as a Category 5, which means that the data showed there is a 20% loss in taxa for one sample or 15% loss for multiple samples. However, there was no data provided to justify the conclusion. We request that DEQ provide the data they used, so we can review it as well. If PREDATOR was not used to ascertain the taxa loss, we request that DEQ supply the study that led to the determination.

iii. We do not understand the meaning of the listing "cause unknown – impaired biota". We request that DEQ explain that comment and provide the data for how that determination was derived.

4. Greasy Creek (OR_WS_170900030204_02_1 04256):

a. Please provide site description for SNF-040
b. This stream is indicated as impaired for temperature.
    i. Temperature criteria is Core cold Water of 16C, and sahnon and trout rearing and migration of 18C. Fourteen percent of the data points (869 out of 2609) were greater than or equal to 16C.
    ii. The data was collected from 2010-2013.

111. The criteria is any 2 exceedances of the 7 DADM within 3 years. The data supports the determination for the time period.

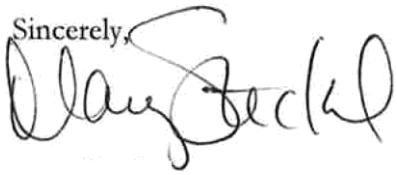
iv. Our concern is that the criteria is based upon a three-year period. However the data was only collected over four years total. The first two years had no exceedance; all exceedances were in 2012 and 2013. We believe more data should have been collected to ascertain whether the two final years were anomalies. We request that DEQ provide an explanation for why more data was not collected.

v. We believe it is important to know whether air temperature exclusion and low flow condition evaluations were performed on the data. If they have not been done, we request these evaluations be performed and the results added to the data file spreadsheet.

The City of Corvallis would like to express our gratitude to the DEQ for all the hard work they have done in gathering and disseminating the integrated report. We recognize the enormity of the task performed and the work still to be done.

If there is any assistance City staff can provide in investigating our concerns, please let us know.

Sincerely,



18. Comments from: Association of Oregon Counties

From: Mark Owens, Margaret Magruder

Subject: 2018 – 2020 Integrated Report Comments from AOC

Date: Dec. 16, 2019

AOC ASSOCIATION OF OREGON COUNTIES

The Association of Oregon counties is writing to oppose DEQ's decision to list water bodies throughout the state as water quality impaired without data to support those listings, as it has done in its 2018-2020 Integrated Report. We also oppose DEQ's decision to include agricultural irrigation, drainage ditches, and other man-made ditches in its list of water quality impaired waterways. These are not natural waterways, and we are concerned about the long-term ramifications to counties and our constituents of the agency making this large policy change.

AOC also opposes DEQ's decision to extrapolate listings of waterways and ditches based upon data collected from neighboring properties by pooling data on a watershed wide scale. Water quality naturally differs from water body to water body, particularly when those waterways are under different ownerships and may have experienced differing current and historic riparian management. DEQ has presented no evidence that this extrapolation is scientifically valid or sound. Instead, it appears to be an attempt to list and regulate waterways without first going through the necessary step of determining that data actually shows an impairment. In order to be scientifically defensible, decisions to list waterbodies as impaired must be based on *water body specific data* and cannot be extrapolated from samples from neighboring waterways or tributaries. To do otherwise is not sound science or sound agency policy. Without using actual data, DEQ may be making water quality on county lands, which are largely agricultural and forest lands, look worse than it may actually be. Agriculture and timber jobs are critical to economic and social stability in rural counties. Destabilizing these sectors without specific and verifiable data is bad public policy.

Our county commissioners, along with their farm, ranch and forest constituents, have always been good partners with DEQ and their associated non-point source designated management agencies, the Department of Agriculture and the Department of Forestry. Forest and agricultural lands have among the highest water quality in the state, and counties, farmers, ranchers and foresters have significant investments over time improving and protecting water quality. It is disappointing that the report makes it look like county lands, especially farm and forest lands, are experiencing declining water quality, particularly when it appears that DEQ lacks water body specific data for significant portions of the waterways listed.

We are disappointed that the agency did not reach out to county officials about the Integrated Report prior to listing the vast majority of our waterbodies as water quality impaired. We believe we were entitled, as local government, to forewarning and a more in depth discussion of the methodologies used and the assumptions that the Integrated Report makes about waterways in our counties, particularly when the agency has made some very significant policy calls that will have a direct impact on counties and county land.

AOC's Water Policy Principles are based on supporting a formal relationship with agencies with significant roles in establishing and implementing water policy in the state; along with the values of collaboration; applying sound, verified, peer reviewed science, and achieving balance.

Thank you for the opportunity to comment and we hope we can have a more productive dialogue about the Integrated Report moving forward.

Sincerely,

Mark Owens
Commissioner, Harney County
Co-Chair, Natural Resources Steering Committee
mark.owens@co.harney.or.us

Margaret Magruder
Commissioner, Columbia County
Co-Chair, Natural Resources Steering Committee
margaret.magruder@co.columbia.or.us

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19. Comments from: Northwest Environmental Advocates

From: Nina Bell
Subject: NWEA Comments on 2018 303(d) list/assessment
Date: Dec. 19, 2019

NORTHWEST ENVIRONMENTAL ADVOCATES

DEQ is incorrectly calling this a "2018/2020 Integrated Report." The call for data upon which DEQ is relying was issued on May 2, 2018 for data collected between January 1, 2008 and December 31, 2017. *See* DEQ Online Subscriptions, *Integrated Report - 2018 Call for Data* (May 2, 2018). DEQ cannot just tack on "2020" because it is hoping or planning to submit the list to EPA for approval in 2020. EPA has not allowed this in the past with Washington State. For example, when the Washington Department of Ecology submitted a list that was purportedly its 2014 list, EPA informed the state that it was approving the list as a 2012 list "because the

assessment includes data collected only through May 1, 2011." Letter from Daniel Opalski, EPA, to Heather Bartlett, Ecology, Re: *Approval of Washington State 2012 303(d) List* (July 22, 2016).

II. Comments on the Listing Methodology Submitted as Comments on the List

In this section, we are addressing some of DEQ's responses to comments as comments on the proposed 303(d) list. *See* DEQ, *Response to Comments to Oregon's 2018 Draft Assessment Methodology, Submitted to: EPA Region 10* (Sept. 2018) (hereinafter "Response to Comments").

A. Weighing More Recent Data

DEQ notes that it will "place more weight on recent data to determine the final assessment conclusion." *Id*. at 3. We do not object to DEQ's looking to see if more recent data demonstrates that an impairment has been resolved; however, DEQ should also be looking to see if the reason for the apparent disappearance of the problem is unrelated to the underlying reason for the original listing. For example, if it were a pollutant that manifests itself in low water and there are a series of high water years, or a discharger temporarily suspends its operations. A little bit of common sense should be inserted into DEQ's point that it will always place more weight on more recent data, just as DEQ might not consider data that come from a one-time spill, the effects of which are not expected to linger in the environment. *See, e.g., id.* at 3, response 2.

B. Downstream Protection

In its Response no. 3, DEQ states that it "is still exploring the option to list 'sandwich' Assessment Units as Category 3B for conservative pollutants for follow up monitoring." *Id.* at 3. The use of the word "sandwich" is not particularly clear here but could mean that an assessment unit upstream is listed and one downstream is listed as violating water quality standards, leading to the inference that the one in the middle is at least a likely candidate for follow-up monitoring. While Oregon has not, to the best of our knowledge, adopted a rule into its water quality standards that implements the federal requirement that "[i]n designating uses of a water body and the appropriate criteria for those uses, the State shall take into consideration the water quality standards of downstream waters and shall ensure that its water quality standards provide for the attainment and maintenance of the water quality standards of downstream waters," 40 C.F.R. § 131.10(b), it is required to interpret its water quality standards in a fashion that meets this requirement. If DEQ is aware that the source of the pollutant in the most downstream end of this metaphorical sandwich stems from, in whole or in part, the assessment unit in the middle, DEQ is obligated to list that unit as violating the requirement of a water quality standard that it protect downstream standards. As such, this assessment unit would not be listed under Category 3B but, rather, under Category 5. Thus, DEQ is incorrect in stating that in all cases it "does not intend to list water bodies where there is [sic] no data to support a listing." *Response to Comments* at 3. Likewise, DEQ fails to recognize how the change in its Columbia River assessment units will provide the protection required by the above-cited standards regulation as well as common sense. In our comments on the Draft Methodology, we noted that the use of small assessment units could reduce protection on the Columbia. DEQ's response was that:

> Smaller assessment units on the Columbia (8.6 miles on average) and Snake Rivers (19 miles on average) provide a more refined look at where impairments may occur along a larger river system. It does not result in a lessening of water quality protections. Rather than a blanket listing of the entire river which may result in an inefficient use of resources to address an impairment

that does not exist in all reaches, the impairment may be more confined to a particular reach. Resources may then be targeted to specific areas of impairment.

Response to Comments at 5. DEQ is mistaken in stating that smaller assessment units do not result in a lessening of water quality protections. Since the only water quality protections that Oregon implements, albeit in the slowest possible manner, are those in NPDES permits, and DEQ conducts its analysis of reasonable potential to cause or contribute to violations of water quality standards based on the location of the discharge pipe, making assessment units smaller can indeed result in a disconnect between outfalls/mixing zones and impairments in assessment units. This would not be as significant an issue if DEQ properly applied the requirements of 40 C.F.R. § 131.10(b) requiring the protection of downstream waters. The failure to do so, and the DEQ's focus on attempting to discount 303(d) listings in the issuance of NPDES permits in the first place, does point to lessened protections. On the other side of the ledger, when DEQ argues that more geographically limited 303(d) listings will result in more efficient and targeted use of resources, it is unclear to what DEQ is referring. If it is that a TMDL will be more targeted, that is unlikely because such an investigation would necessitate a broader examination of the area in any event. If DEQ is referring to some other resource targeting, short of looking at a hazardous waste site, this is disingenuous. DEQ does not target resources to nonpoint source controls and this listing approach reduces the likelihood that NPDES sources will be given discharge restrictions rather than increases them.

C. Listings on the Basis of Designated Use Impairment

In Response no. 8, DEQ emphasizes its decision to assess water quality based on "when data are available by applying criteria for pollutants or parameters and determining which beneficial uses are impacted." *Response to Comments* at 4. DEQ directs readers to a table in its draft Methodology that links specific parameters with the uses that those criteria are intended to protect. This is not a response to the comment that was made, a comment that pertains to, as DEQ quotes but ignores, "how the state assesses the status of designated use support, particularly how DEQ uses data and information that are not water column data." Specifically, the question is not how DEQ tied uses to numeric criteria in the listing process but whether DEQ uses designated use impacts alone as the basis for listing.

DEQ's Call for Data cannot possibly ensure that sources of information on designated use impairment have submitted data and information because DEQ makes clear that it only accepts data for which "surface water quality will be assessed by comparing measured chemical, physical, and biological parameters to water quality criteria and standards" and that which is related to the "accuracy of the sample location." DEQ, *Oregon's 2018 Integrated Report Call for Data Submission Guidelines* (undated). While DEQ does not state categorically that it will not accept data and information regarding designated use impairment, it implies that it will not. In addition, it states that it will "prioritize data with established methodologies," none of which listed address designated uses. In addition, all uses of the word "wildlife" in DEQ's listing methodology pertain to the goals of the Clean Water Act, a quotation from the Oregon narrative criterion that is otherwise ignored, and the Oregon Department of Fish and Wildlife. *See* ODEQ, *Methodology for Oregon's 2018 Water Quality Report and List of Water Quality Limited Waters* (Sept. 2019) (hereinafter "2018 Methodology").

D. Listings on the Basis of the Antidegradation Policy

DEQ is remarkably ill-informed as to the meaning of the antidegradation policy. In response to comments that DEQ is required to use the policy in making assessments of water quality, DEQ

responds that "[w]ith regard to the commenters concern regarding antidegradation Tier I concerns, DEQ will assess the data received against all designated uses." *Response to Comments* at 6. First, "data" are not necessarily what one assessed "against" designated uses. Data implies water quality data whereas other "information" may be the best evidence of use impairment. For example, reproductive failure in wildlife caused by toxic contaminants in water is evidence of a designated use impairment but is not water quality data. But DEQ misses the bigger point here, namely that existing uses may not be designated or not clearly designated. For example, whereas wildlife is a designated use, the absence of any information at all as to specific wildlife in specific waters renders this a purely academic sort of protection. DEQ does not seek to protect amphibians, for example, in location or by criteria, in any of its regulatory programs. Therefore, in response to a comment that DEQ must evaluate data and information against "existing uses," which include those that have not been designated or so unspecifically designated as to not be apparent, DEQ says that it will evaluate against designated uses, thereby missing the entire point. That DEQ goes on to say that it will evaluate new locations of uses is also entirely beside the point. The antidegradation policy protects existing uses regardless of whether they have been designated. As NWEA has fully explained repeatedly, protecting existing uses does not mean merely what DEQ suggests, whether uses have popped up where DEQ did not believe they were present, as in DEQ's spawning example, but rather where they have been locally extirpated since 1975.

Given that DEQ has only designated wildlife uses broadly without the kind of "when and where" designation given to salmonid life cycle stages, DEQ has actually provided these uses with zero protection other than indirectly through salmonids, which provides no protection where wildlife occupy non-salmonid streams. A full discussion of two wildlife species—the Southern torrent salamander, *Rhyacotriton variegatus*, and the Coastal tailed frog, *Ascaphus truei*—for which DEQ provides no protection throughout the majority of stream networks is set out in a letter from Nina Bell, NWEA, to Dan Opalski, EPA, Re: *Oregon Coastal Nonpoint Pollution Control Program; Protection of the Designated Use of Amphibians in Non-Fish-Bearing ("Type N") Streams Through the MidCoast Implementation Ready TMDL* (Oct. 5, 2012). Protection must be established through the DEQ process of evaluating data and information against applicable water quality standards, namely the 303(d) listing process. Without this evaluation, DEQ will take no regulatory action, including inclusion in future TMDLs, to protect these species.

E. Failure to Use All Readily Available Data and Information

In response to comments that, *inter alia*, DEQ has not used data and information from tribes, the U.S. Fish and Wildlife Service, the National Marine Fisheries Services, the Oregon Department of Fish and Wildlife, the Oregon Department of State Lands, Soil and Water Conservation Districts, academic institutions, the Lower Columbia River Estuary Partnership, the Columbia River Estuary Study Taskforce, and other organizations and institutions that routinely monitor or publish studies on water quality and designated uses in Oregon, DEQ asserts that sending out an email to over 4,000 entities and individuals is all the effort EPA's regulations require. This is incorrect. First, DEQ concludes that its obligation stops with its effort to solicit data, stating that "DEQ is required under the CWA to solicit all readily available data (40 CFR §130.7 (b)(5)(iii))[.]" *Response to Comments* at 7. That misreads the EPA regulations that start with the following:

Each State shall assemble and evaluate all existing and readily available water quality-related data and information to develop the list required by §§ 130.7(b)(1) and 130.7(b)(2). At a minimum "all existing and readily available water quality-related data and information" includes but is not limited to all of the existing and readily available data and information about the following categories of waters:

(i) Waters identified by the State in its most recent section 305(b) report as "partially meeting" or "not meeting" designated uses or as "threatened";
(ii) Waters for which dilution calculations or predictive models indicate nonattainment of applicable water quality standards;
(iii) Waters for which water quality problems have been reported by local, state, or federal agencies; members of the public; or academic institutions.These organizations and groups should be actively solicited for research they may be conducting or reporting. For example, university researchers, the United States Department of Agriculture, the National Oceanic and Atmospheric Administration, the United States Geological Survey, and the United States Fish and Wildlife Service are good sources of field data; and
(iv) Waters identified by the State as impaired or threatened in a nonpoint assessment submitted to EPA under section 319 of the CWA or in any updates of the assessment.

40 C.F.R. § 130.7 (b)(5) (emphasis added). These regulations squarely place the burden on DEQ to assemble and evaluate all existing and readily available water quality-related data and information to develop the list without exception including the exception that DEQ might have solicited but not received data so long as it is "readily available." Readily available means that if there are data and information published on agency websites and in scientific journals or referenced in agency news letters that could be obtained through an internet search, personal email, or phone call to the source. That is because the regulations also go on to specify that at a minimum the phrase "readily available" includes "[w]aters for which water quality problems have been reported by local, state, or federal agencies; members of the public; or academic institutions." If the problems have been reported, the data and information are deemed to be readily available, and DEQ is required to assemble and evaluate them even if the agencies in question do not respond to DEQ's mass email inviting them to submit water quality data. That various entities "should be solicited" for research they are conducting is not intended to modify the obligation that the "State shall assemble and evaluate."

Second, as it describes, DEQ solicits "relevant water quality data." Data are not "information," the kind of information that some of the listed agencies and institutions collect and analyze, e.g., pollution impacts to designated uses. These entities are not aware that DEQ's limited view of "data and information" that excludes information about such water quality standards issues as designated use impairment in the absence of ambient water quality data, are in fact, matters that DEQ should be asking for and they should be providing. The vast majority of the public believes that the phrase "water quality standard" refers only to numeric criteria. Only a very tiny fraction of people, even among those who understand the legal definition of a water quality standard is more than the numeric criteria, grasp that in regulatory programs regulatory agencies are required to use that full legal definition. Therefore, when DEQ issues a "call for data" that does not specify all of the kinds of data and information that it will compare to EPA-approved water quality standards including designated and existing uses, it has not, in fact, complied with EPA regulations and guidance to actively solicit organizations and individuals. If this were not clear from EPA regulations on standards, EPA makes it even more clear by setting the requirement out in the 303(d) listing regulations.

40 C.F.R. § 130.7(b)(3) ("For the purposes of listing waters under § 130.7(b), the term 'water quality standard applicable to such waters' and 'applicable water quality standards' refer to those water quality standards established under section 303 of the Act, including numeric criteria, narrative criteria, waterbody uses, and antidegradation requirements."). A solicitation that is narrow can only be expected to generate

an equally narrow response.

F. Evaluations and Listings DEQ Admits it Continues to Fail to Do

In its Response to Comments, DEQ admits that it continues to fail to list waters on at least the following bases:
• Identification of waters as "threatened." *Id*. at 4.
• Flow modification. *Id.* at 9. (DEQ offers that "anyone who believes that a water body may be impacted due to flow modification may submit data and evidence identifying the pollutants and beneficial uses affected" however its limited Call for Data does not include flow modification and only references "water quality data." DEQ Online Subscriptions, *Integrated Report - 2018 Call for Data* (May 2, 2018). Moreover, DEQ implies that flow modifications must affect pollutants as well as beneficial uses, which is incorrect as an effect on the uses is sufficient to constitute an impairment.
Fish tissue. *Response to Comments* at 15 ("DEQ was unable to include a method for assessing fish tissue and/or sediment contamination by toxic substances.").
• Sediment values of toxics. *Id.*
• Narrative criteria. *Id*. ("DEQ will be setting priorities for evaluating narrative standards in future Integrated Reports. Developing a method would require a significant amount of resources, since it is not a direct interpretation of water quality standards, and may be undertaken for future Integrated Reports."). *See also id.* at 16 ("DEQ must develop protocols to implement the narrative criteria and to date has done so for a limited number of narrative criteria. DEQ has developed several assessment protocols that apply narrative criteria in conjunction with available numeric criteria for related pollutants that are protective of beneficial uses or that TMDLs will target. See 2018 Methodology protocols for biocriteria, harmful algae blooms, use of beach advisories due to bacteria levels, turbidity impacts to drinking water, and use of fish consumption advisories due to toxic substance levels in fish.").
• Wildlife impairment. *Id*. at 15 ("DEQ will review all studies, reports and/or data that are submitted during the data call period and will use its best professional judgement to determine whether enough evidence exists to conclude that a specific water body's use is not supported, and it is in fact impaired."). DEQ is ignoring all studies and reports that have been previously submitted and that DEQ has access to without their being submitted during the data call period.
• All bases of impairments. *Id*. ("the Columbia River (in the example presented) was previously listed as impaired for DDE, PCBs and PAHs based on fish consumption recommendations from both Oregon and Washington. As a result, the toxics present in fish tissue as referenced in DEQ's report will be addressed through the TMDL process."). Listing on all bases is important because when DEQ develops TMDLs it limits them to only the impairment bases upon which they were initially listed.
• Nutrients. *Response to Comments* at 21 ("an assessment methodology for nutrients was not undertaken at this time.").
• Sedimentation. *Id.* at 22 ("an assessment methodology for sedimentation was not undertaken at this time.").
• Designated uses. *Id.* at 24 ("Given the absence of [turbidity] data, it is difficult for DEQ to conclude that a designated use is not supported and a water body is impaired for a specific parameter.").
• Antidegradation. *Id.* at 25 ("DEQ is open to considering additional ways to implement antidegradation in the 303(d) listing process if EPA develops guidance on how to align the antidegradation policy with the listing process where the focus is to identify waters that are degraded and impaired.").

• Microplastics. *See 2018 Methodology* at 75–76.
• Ocean acidification. *See id.* at 76 – 77.

In response to a comment that DEQ's call for data should not have been limited to 2008 through 2017, DEQ stated that: "The focus of the Integrated Report is to make a determination about the current status of the water bodies in Oregon. As such, DEQ's focus on a ten year data window provides the most current and relevant information about a waterbody." *Response to Comments* at 6. While DEQ is certainly correct that most recent data is most current, it is equally true that:

(1) expensive studies from long ago have not been replicated in recent years and are likely not to be in the near future; (2) where DEQ has in years prior to ten years ago refused to review data and information due to overly narrow interpretations of its obligation to issue a 303(d) list, it is manifestly incorrect to not consider those data and information now, particularly if the cost of obtaining these data is prohibitive; and (3) noting the extensive areas in which DEQ has still not established assessment methods, applying date restrictions on data and information that pre-date methodologies once they are established clearly will result in a failure to identify waters that do not meet water quality standards based on readily available data and information. DEQ also states that it will "consider all of the data it receives in its call for data and make a determination about whether this represents the current condition of the water bodies in question," *id*., but that leaves open whether DEQ is expecting the public to re-submit data and information that have already been submitted in prior years and if DEQ has this expectation on what basis. If data and information have been submitted prior to the time that DEQ has established a method of evaluating the data and information, it is clearly readily available because DEQ already has it in hand.

G. Category 4B Listings

DEQ has failed to provide an opportunity to comment on the entire list. According to its database, DEQ has listed four waterbody segments—North Umqua River (total dissolved gas), North Myrtle Creek (ammonia), Willamette River (pentachlorophenol)—under Category 4B but it has not made these 4B determinations available to the public. In contrast, DEQ states that the use of Category 4B is "subject to public comment." *Response to Comments* at 9. In addition, DEQ failed to respond to the comments that requested that DEQ clarify what a "reasonable period of time" is for purposes of not listing waters as needing TMDLs. *Id.* In response, DEQ simply copied the information for Category 4B from EPA's 2006 guidance and did not even include the specific language of the EPA guidance pertaining to the issue of the period of time. *See* EPA, *Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act* (July 29, 2005) at 55–56 ("What constitutes a reasonable period of time for purposes of 4b?"). DEQ certainly gave no information about how it uses the factors suggested by EPA to determine whether a period of time is reasonable. Without access to the proposed 4B findings, the public cannot provide comments on them.

III. Additional Comments on the Proposed 303(d) List

A. DEQ's Methodology in Light of the Available Database

Pollutants and pollution that are not available to search for in the database include but are not limited to: localized extirpation of existing or designated uses, nitrogen, reproductive failure (and other adverse population effects) of aquatic and aquatic-dependent designated wildlife uses, threatened waters, fish tissue toxics, sediment toxics, synergistic effects of multiple pollutants, nutrients, so-called emerging pollutants such as pharmaceuticals and personal care products

(PPCP), and sedimentation (for new data).

B. Listings Must Identify All Applicable Criteria Violated

It is not possible to know which criteria in water quality standards that DEQ considers to have been violated for individual segments because DEQ does not provide that level of information. In addition to keeping the public in the dark, it is important that DEQ identify all criteria—numeric and narrative—that are violated and all uses that are not supported because of the ramifications for future regulatory actions, including under section 303(d) of the Clean Water Act. DEQ has taken the position that in the event it prepares a total maximum daily load (TMDL), it will address only the basis upon which the waterbodies were listed. So, for example, if there is no listing for impacts to human health, aquatic life, or wildlife, the TMDL will similarly not evaluate whether those aspects of the applicable water quality standards will be protected, leaving the possibility that the TMDL will not meet all water quality standards. Moreover, as DEQ begins to adopt variances for water quality standards, those may have the practical effect of rendering other criteria more applicable. For example, if a mercury variance essentially nullifies the human health criteria for mercury, it may leave the criteria for aquatic life protection being the more applicable criterion. In that event it would be important for people taking regulatory actions, as well as the public, to know if the originally-less protective criterion is now the controlling criterion. And in that context, it would be important to know if the current water quality is violating the controlling criterion.

One example of this problem concerns seasonality. DEQ has listed the Lower Columbia River as impaired for temperature. However, this is just a part of the picture. One could conclude that the violation is of the 20º C numeric criterion applicable at the hottest time of the year (and accompanied by additional narrative criteria that we know DEQ ignores). DEQ has likely not evaluated in this assessment the question of whether the narrative criteria of cold water refugia and temperature timing have been met but it is impossible to determine from the scant information made available to the public. For example, EPA has concluded that: "increasing July river temperatures at Bonneville Dam (Panel B) over the past 60 years has resulted in earlier migration of Columbia River sockeye salmon." EPA, *Columbia River Cold Water Refuges Plan DRAFT* (Oct. 2019) at 57. If DEQ has not identified this as a violation of standards in its 303(d) list, it has erred. We are also fairly certain that DEQ has not identified a violation of the water quality standard that requires protection of the designated uses in addition to the numeric criterion and its associated narratives, namely the 2015 massive death of sockeye salmon migrating through the Columbia River. As EPA described it recently:

Figure 4-8 shows how survival of sockeye from Bonneville Dam to McNary Dam dropped significantly as temperature rose during the sockeye run in 2015. In early June when river temperatures were below 19°C, survival between the two dams was high (90-100%). During week 4 in **Figure 4-8** (June 22–28), when river temperature climbed above 20°C, survival dropped to 70% for Columbia River sockeye and 50% for Snake River sockeye (10% for Snake River sockeye transported as juveniles). In weeks 5-8, when river temperatures exceeded 21°C, survival was very low (0-20%). Because most of the Snake River sockeye migrated in late June and July, the overall survival for Snake River sockeye between Bonneville Dam and McNary Dam was only 15% in 2015 (FPC 2015). *Id*. at 55. This massive mortality is a violation of the water quality standards' requirement to support designated uses. And, EPA pointed out that the problem has not been limited to 2015:

Although 2015's unusually warm June-July river temperatures had a dramatic effect on sockeye salmon survival in the Lower Columbia River, warm Lower

Columbia River temperatures result in decreased sockeye survival in other years as well. Figure 4-9 shows the sockeye survival rate between Bonneville and McNary dams as a function of river temperature across the sockeye run for six different years (2010-2015). In 2010-2012 when the sockeye migrated through the Lower Columbia River before river temperatures reached 64°F (18°C) survival rates were relatively high (approximately 75%). In 2013 and 2014, for those sockeye migrating through Lower Columbia River when temperatures exceeded 64°F (18°C) survival decreased, most dramatically for Snake River sockeye.

Id. at 55–56. As EPA demonstrates, designated use support is key to providing protection to sockeye because the 20º C criterion and associated narratives applicable at the hottest times of the year do not protect sockeye.

These additional listings are relevant for the reason explained above with regard to any subsequent TMDLs. They are also relevant to NPDES permitting and the eventuality of any nonpoint source controls the state might require to meet water quality standards. DEQ does not have a crystal ball through which it can see into the future; instead it must carefully determine where and when and in what way water quality standards have been violated in order that future regulatory actions may respond fully and appropriately.

Along those lines, DEQ must consider how to use its antidegradation policy and/or the requirement to evaluate threatened waters to evaluate the waters that EPA is in the process of designating "cold water refuges," pursuant to a Reasonable and Prudent Alternative established by the National Marine Fisheries Service in response to finding that without such refuges, Oregon's numeric criterion for migration in the Columbia River jeopardizes the continued existence of salmonids. *See id*. These cold-water refuge waters, some of which are already listed by DEQ as violating numeric criteria, must be identified in the 303(d) list in the context of the narrative criterion that gave rise to EPA's finding that they require protection and restoration.

C. DEQ Must Expand the Timeframe of Data and Information Evaluated

The fact that DEQ has "not conducted a statewide data call for water quality data from outside sources since 2009," *Response to Comments* at 3, is reason enough for DEQ to have accepted data and information for a period longer than call for data period that was open May 1, 2018 to July 25, 2018, *id*. at 7. More than just accepting such data, it is crucial that DEQ seek such data and use the data and information that it has but has declined to use to date. Remarkably, DEQ admits that its years-long failure to assemble and evaluate data and information, combined with a short window in which agencies were asked to submit data (and not information), resulted in its failure to have assembled all of the readily available data and information. *See id.* at 7 ("The [U.S. Forest Service] USFS has made its best attempt, given the short notice, to submit all readily available data [pertaining to temperature and other parameters] that has been validated to DEQ for the 2018 IR."); *id*. ("Due to the magnitude of data that is being submitted, and the short timeline, DEQ made the recommendation to the USFS that they prioritize their data submittal. Since DEQ lacks specific methodologies for sedimentation and turbidity, DEQ made the recommendation that the USFS prioritize temperature data submittal."). It is precisely this sort of failure that is rooted in a particular assessment that gives rise to problems when DEQ sets arbitrary timeframes for use of data down the road. For example, with regard to these data that DEQ admits that it did not use, should it fail again for a long period of time to do another list, it would likely make the same policy decision to restrict the age of data it was using. In doing so, it would then leave behind data that it never got around to using earlier.

This is not just a matter for projecting into the future about the use of Forest Service data. It pertains very much to data and information from many years ago. For example, in NWEA's 2010 comment letter on the 303(d) list, we noted the following:

As a result of the Department's limited interpretation of its own water quality standards, it has failed to evaluate data on use impairment related to levels of toxic contaminants, i.e. for pollutants that are at levels posing a risk to piscivorus wildlife such as eagles, mink and otter. For example, despite a report citing a technical report on the Columbia River that concludes "that river otter in the vicinity of RM 119.5 are in a critical or almost critical category based on reference level comparisons, abnormalities noted during necropsy, and histopathological observations of individuals," DEQ has not used this data as the basis of listing. The Health of the River 1990-1996, Integrated Technical Report, Tetra Tech, May 20, 1996, Figure 14, at 53. This information is tied to toxic contaminants: "Concentrations of organochlorine insecticides, PCBs, and to a lesser extent PCDDs and PCDFs in the liver of river otters were highly correlated with each other and many were significantly related to baculum [penis bone] and testes size or weight." *Id*. at 52. This same study noted that "[h]istorically, some individual mink contained PCB concentrations known to make adult female mink in laboratory studies incapable of producing young." *Id*. at 5 2. If this is not sufficient evidence of beneficial use impairment, clearly nothing short of extremely expensive studies and extreme impairment of species will satisfy DEQ that its narrative criteria for the protection of wildlife from toxic contaminants have been violated. Yet DEQ ignores this data and information. Similarly, DEQ ignores the results of the Lower Columbia Water Quality Study where it found sediment contamination exceeds values believed to be protective of benthic organisms and wildlife. *Id*. at 37, Figure 14.

Letter from Nina Bell, NWEA, to Oregon DEQ, Re: *Comments on Phase I – Oregon 2010 Integrated Report; CWA 303(d) List* (Dec. 15, 2010) at 23. The comments also pointed out that: The Department has many studies that include data reported as tissue residue, sediment contamination, reproductive failure and other adverse effects on fish and wildlife. These include studies from the Bi-State Lower Columbia River Water Quality Program, U.S. Fish & Wildlife Service, the National Marine Fisheries Service, the US Geological Survey, and academic institutions, among others. The public cannot evaluate whether the Department has all of the studies that it should have because it has not chosen to make that information available. (In addition, it is not clear whether the Department has entered all of the data and information it has into its database and that the only aspect of the "phased" approach to listing and assessment is the assessment or if the Department has not yet entered all the data and information into the database. Again, the public cannot comment on what is not clear.) However, DEQ may not ignore these data and the results of these studies in interpreting and applying its narrative criteria, Tier I protections of its antidegradation policy, and the requirement to fully support designated uses. Instead, it is required to obtain these data and information and use them in assessing Oregon's waters' compliance with water quality standards.

Id. at 24. To this day, we have no evidence of what DEQ did with these data and information from this very expensive one-time study of toxics and other pollutants in the Lower Columbia River and other associated data and information, such as on reproductive impairment of

mammals. What we can say with certainty is that DEQ did not use them as the basis for 303(d) listings and did not apparently use them as the basis for non-impairment category identification. And we can surely say that when DEQ precludes the use of these data and information because they are older than ten years from its most recent call for data, it will automatically refuse to consider them once again. It is not acceptable for DEQ to bring forward all of its past failures into its new list any more than it is acceptable for DEQ to set itself up to do the same thing moving forward.

D. DEQ Should Not Agree to Disregard 303(d) Listings for Future Regulatory Actions

In response to a comment that DEQ commit to not engaging in delisting actions between listing submissions to EPA, DEQ agreed: "DEQ does not delist waterbody segments between assessment cycles." *Response to Comments* at 12. Unfortunately, however, DEQ has disingenuously agreed to do all but remove waters from the list between EPA approvals: "If during the evaluation of ambient data during permit development or through 401 certification, DEQ determines that available data indicate that a waterbody is not impaired (e.g., either through an error in previous data analysis, revised criteria, would demonstrate attainment, etc.) and has assimilative capacity for a given parameter, then they may proceed with determining the appropriate effluent limits that ensures the permit requirements comply with all applicable state and federal requirements." *Id*.

E. More Examples of Readily Available Data and Information that DEQ Continues to Ignore

DEQ has not obtained and/or evaluated an extensive and readily available database relevant to assessing impairment of aquatic uses. "Researchers compiled a comprehensive database of mussel records from research and museum collections, historical publications, and public agency and personal records dating as far back as 1834, allowing scientists for the first time to understand the true picture of mussel distribution in western North America." Columbia Basin Bulletin, *Study: Range of Western Freshwater Mussels Declines by One-Fifth, Could Impact Stream Health* (Nov. 3, 2017); *see also* Emilie Blevins, *et al., Extinction Risk of Western North American Freshwater Mussels: Anodonda Nuttalliiana, the Anodonta Oregonensis/Kennerlyi Clade, Gonidea Angulata, and Margaritifera Falcata*, 20 Freshwater Mollusk Biology and Conservation 71 (2017); Columbia Basin Fish & Wildlife Program, *Proposal No. NPCC19-2002-037-00*. If, as a representative of the Confederated Tribes of the Umatilla Indian Reservation said that freshwater mussels are "a canary in the coal mine," DEQ's failure to evaluate their extirpation since November 1975 and their population decline is DEQ's failure to identify the water quality problems that are leading to their demise. Columbia Basin Bulletin, *Freshwater Mussels – Canary in the Coal Mine for Streams – In Sharp Decline; Umatilla Tribes Working to Bring Back* (Nov. 14, 2019).

DEQ has not evaluated readily available data and information pertaining to threatened waters. *See* Lisa G. Crozier, *et al., Climate vulnerability assessment for Pacific salmon and steelhead in the California Current Large Marine Ecosystem*, PloS ONE 14(7):e0217711 (2019) (salmonid species evaluated for vulnerability to climate change in light of water quality).
DEQ has failed to implement the narrative toxic criterion as written. *See, e.g.*, Memorandum from Leslie Bach, to Northwest Power and Conservation Council, Re: *Presentation on effects of Toxic contaminants on fish* (Aug. 8, 2017); Cathy A. Laetz, *et al., The Synergistic Toxicity of Pesticide Mixtures: Implications for Risk Assessment and the Conservation of Endangered Pacific Salmon*, 117 Environmental Health Perspectives 3 (March 2009); Cathy A. Laetz,

Interaction Neurobehavioral Toxicity of Diazinon, Malathion, and Ethoprop to Juvenile Coho Salmon, Environmental Science and Technology (2013); Robert J. Naiman, *et al., Developing a Broader Scientific Foundation for River Restoration: Columbia River Food Webs*, 109 PNAS 52 (Dec. 26, 2012); Nathaniel L. Scholz, *et al., A Perspective on Modern Pesticides, Pelagic Fish Declines, and Unknown Ecological Resilience in Highly Managed Ecosystems*, 62 BioScience 4 (April 2012); Kate H. Macneale, *et al., Pesticides, Aquatic Food Webs, and the Conservation of Pacific Salmon*, 8(9) Front Ecol Environ 475 (2010); Cathy A. Laetz, *et al., Elevated Temperatures Increase the Toxicity of Pesticide Mixtures to Juvenile Coho Salmon*, 146 Aquatic Toxicology 38 (2014); David H. Baldwin, *et al., A Fish of Many Scales: Extrapolating Sublethal Pesticide Exposures to the Productivity of Wild Salmon Populations*, 19(8) Ecological Applications 2004 (2009); John P. Incadona, *et al., Very Lower Embryonic Crude Oil Exposures Cause Lasting Cardiac Defects in Salmon and Herring*, Scientific Reports (Sept. 2015); Nathaniel L. Scholz, *et al., Recurrent Die-Offs of Adult Coho Salmon Returning to Spawn in Puget Sound Lowland Urban Streams*, PloS ONE 6(12): e28013.(2011)
All of these reports and studies were obtained from the internet with little effort. These are precisely the types of reports on water impairment that DEQ is required to obtain and assess against its water quality standards.

F. Past Submissions of Data and Information

NWEA has submitted data and information in the past, for example by letters dated February 24, 2014, and December 15, 2010. Yet nowhere does DEQ respond to inform us or the general public on whether DEQ is using that data and information. Has it? If so, how did DEQ use it? If not, will it ever use these data and information? If it hasn't because it has lacked a listing methodology, why will it continue to exclude the data and information on the basis of age?

G. Proper Application of the Numeric Temperature Criteria

Water quality standards must be applied to data and information in the way that it was assumed they would be when submitted to and approved by EPA. In the case of temperature, EPA assumed that Oregon's numeric criteria would be met at the lowest extent of the waterbody designated for the related use. *See, e.g.,* EPA, *Biological Evaluation of the Revised Oregon Water Quality Standards for Temperature, Intergravel Dissolved Oxygen, and Antidegradation* (Feb. 4, 2004). It reasoned that the criterion would be protective because:

> the 7DADM temperatures will be cooler than 16 C most of the time where this use occurs. This is true because: 1) if the criterion is met during the summer maximum period, then temperatures will be colder than that value during the rest of the year, 2) *because the criterion must be attained at the furthest point downstream where this use is designated, temperatures will generally be colder where the use occurs upstream due the effect of elevation on temperature*, and 3) the criterion must be met in the warmest years (except for unusual warm conditions as per 340-041-0028(12(c)), so that in most years, the waters will be colder.

Id. at 5-19 (pertaining to 16º C criterion) (emphasis added); *see also id.* at 5-20 (pertaining to 18º C criterion). The National Marine Fisheries Service (NMFS), in turn, relied on EPA's interpretation of how the numeric criteria would be applied. *See* NMFS, *Biological Opinion on EPA's Proposed Approval of Revised Oregon Water Quality Standards for Temperature, Intergravel Dissolved Oxygen, and Antidegradation Implementation Methods* (Feb. 23, 2004) at 41, 42, 44, 46. And, on this same basis, EPA approved the numeric criteria. *See* EPA, *Support*

Document for EPA's Action Reviewing New Or Revised Water Quality Standards for the State of Oregon (March 2, 2004) at 51, 52.

The only way in which this rationale can work on the ground is if temperature data collected upstream of the most downstream extent of a use designation are evaluated at temperatures lower than the applicable criterion itself. If, instead, these upstream waters are evaluated against the numeric criterion that applies at the most downstream extent, the waters at the most downstream extent will never be able to meet the applicable criterion because the warming will have been allowed further upstream where the federal agencies assumed it would not be allowed. DEQ's failure to incorporate this basic assumption underlying its numeric temperature criteria in its listing methodology and in its proposed 303(d) list render the list as having failed to identify all impaired waters.

H. More Sources of Data and Information that DEQ May Not Have Used

EPA regularly sends out emails with information links to the Columbia River Basin Toxics Reduction Working Group. Here are some of the sources of data and information readily available through that general source that DEQ may or may not have used in proposing its list of impaired waters:

• EPA, *Columbia River Basin: State of the River Report for Toxics* (Jan. 2009)

• Northwest Power and Conservation Council, *Polycyclic Aromatic Hydrocarbons:*

Locations in the Columbia River Basin Where the Toxics Could be Affecting Fish and Wildlife, *available at* http://nwcouncil.maps.arcgis.com/apps/MapJournal/index.html?appid=99e5965fe1ac4dd38001e784d7c6aac6 (last accessed Dec. 16, 2019) (note findings such as "In 2012, Yanagida et al. (2012) measured PAH concentrations in juvenile Chinook from the lower Willamette River and found concentrations near levels associated with immune dysfunction.")

• Hart Crowser, *Final Field and Data Report Upriver Reach Sediment Characterization Lower Willamette River Portland, Oregon* (May 8, 2018)

• Environmental Working Group and Social Science Environmental Health Research Institute, *PFAS Contamination in the U.S.*, *available at* https://www.ewg.org/interactive-maps/2019_pfas_contamination/map/ (last accessed Dec. 16, 2019)

IV. DEQ Has Not Provided Adequate Opportunity for Public Comment

DEQ purports to have issued an integrated list for public comment but it has done nothing of the kind. It is unclear how much money DEQ has invested in its new data bases and presentation options but the fact that they are disconnected from one another, individually opaque, and missing the most key information renders them almost useless from the standpoint of a member of the public attempting to comment on almost any aspect of the 303(d) list and the overall assessment. It is equally unclear how the public will be able to use the information provided for such regulatory matters as commenting on proposed NPDES permits, TMDLs, and 401 certifications.

First, DEQ has an "interactive web map application." *See* https://hdcgcx2.deq.state.or.us/HVR291/?viewer=wqsa. This has the benefit of showing the "segment" visually, although in addition to showing the segment, it also combines waterbodies in ways that changes their names and apparently is not intended to show their actual 303(d) status. The "description" provided for a given segment on this application includes the general uses that are impaired and the pollutants or parameters that are causing the impairments along with the year listed.1 There is no

information on the source of the data and information upon which the listing was originally made and no information at all about any data and information subsequent to the year in which the water was listed, including any new analysis since that original date. For example, the description for AU ID: OR_LK_1708000605_04_100320 (AU Name: Columbia River) states that the segment was listed in 1998. It is not clear if that year applies to all of the data for all of the pollutants/parameters, which are identified as: Temperature-Year Round; Methylmercury; DDE 4,4'; Dioxin (2,3,7,8-TCDD); Fecal Coliform; Arsenic, Inorganic. One cannot see if there are any data or information that DEQ has obtained since 1998 that either support or potentially contradict the listing that is made. One cannot comment on whether DEQ has all the relevant data and information because there are no references. One cannot comment on how DEQ has applied its listing methodology because there is no reference to the source of the data and information upon which DEQ relied.

In contrast, the past 303(d) lists provided the river miles of the segment, what action if any was taken during that particular assessment (e.g., 2012), and most importantly, the data and the basis 1 The "description" also includes any applicable TMDLs. There is only limited information about the TMDLs, however. For the example provided below, it references TMDLs done for the "North Coast Subbasins" without reference to which parameters or pollutants. for the conclusion, year by year (if applicable), and parameter by parameter. As a result, the listing date for an individual parameter was available as was a summary of the data DEQ reviewed, for example stating a river mile(s) and how many days the water quality exceeded the criterion. In addition, rather than exclusively a database, DEQ provided a summary of the 303(d) listing results, with listings, delistings, and other information. *See* DEQ, *Oregon's 2012 Integrated Report - Summary of New 303(d) Listings, Delistings, and Other Significant Changes* (Nov. 2012).

The second option is DEQ's new "on-line searchable database" that covers some but not all of the same information, ostensibly searchable by assessment unit. *See* https://travispritchard. shinyapps.io/2018-2020_IR_Database/. This, however, is only a pulldown menu with a very long list of very long and difficult-to-read identification numbers in an unknown listing order. It is not possible to paste an ID number in that menu. According to DEQ's website, this database includes some information not on the map, namely the monitoring locations. Like the map, it does not provide any insight into the data and information upon which DEQ based its conclusions, the source of those data, or its analysis. It does not include the applicable TMDLs. The last source of information is DEQ's Ambient Water Quality Monitoring System, which does not allow one to retrieve data and information by use of the identification number. There is an eco-region menu without a map by which one could identify what eco-region one might be looking in. This is cluttered with eco-regions from other states. It is possible to find monitoring sites on a map using this system but that does not correspond to the ID numbers of the segments. It is possible to find information about data sets submitted by a limited list of sources. It is possible to identify monitoring locations. It is not possible to use this system, as far as we can see, to answer the kinds of questions that are not answered by the database and map described above. In any case, this system produces information about data at monitoring locations but not by waterbody segments and provides no insight into DEQ's listing rationale.

In sum, this entire system and therefore the entire list, including the proposed delistings, is not really open for public comment because DEQ has made the information opaque. Contrast this with Washington's system. You can enter via a map or a searchable database, both of which are fully integrated. The database allows a member of the public to determine the status of the waterbody by status on previous lists (if desired), the parameter or parameters, the medium of the data, and many other options all of which are easily understood (in contrast with the Ambient

Water Quality Monitoring System). After performing the search, the results come up with a total of the listings that are present in the search. All of the information that one could want is presented, including hyperlinks to applicable TMDLs. There are two key columns for obtaining additional information. The first is a segment/parameter-specific link that allows a person to view the agency's thought process, analysis, data and information, and data sources over time that are keyed to the assessment unit. The second is a link to the information as presented on the map (uncluttered with extra creeks that are not actually included in the listed segment). Likewise, the map links to the details of the assessment. Each unit shows the dates of listings and delisting by specific parameters, the basis of the decisions, specific remarks pertaining to the data and the findings, and a link to the actual data source. It is not only very simple and easy to use, it provides the primary information members of the public want to review the 303(d) listings proposed or to use them for regulatory purposes: on what basis did the agency come to its conclusions that the water complies or does not comply with water quality standards?
We request a list that allows the public to comment on the data and information used, DEQ's rationale and analysis, sufficient information to understand what the listings are, and what the proposed delistings are.

Sincerely,
Nina Bell
Executive Director
Attachments:

Letter from Daniel Opalski, EPA, to Heather Bartlett, Ecology, Re: *Approval of Washington State 2012 303(d) List* (July 22, 2016)

Letter from Nina Bell, NWEA, to Dan Opalski, EPA, Re: *Oregon Coastal Nonpoint Pollution Control Program; Protection of the Designated Use of Amphibians in Non-Fish-Bearing ("Type N") Streams Through the MidCoast Implementation Ready TMDL* (Oct. 5, 2012)

EPA, *Columbia River Cold Water Refuges Plan DRAFT* (Oct. 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)

Columbia Basin Bulletin, *Study: Range of Western Freshwater Mussels Declines by One-Fifth, Could Impact Stream Health* (Nov. 3, 2017)

Emilie Blevins, *et al., Extinction Risk of Western North American Freshwater Mussels: Anodonda Nuttalliiana, the Anodonta Oregonensis/Kennerlyi Clade, Gonidea Angulata, and Margaritifera Falcata,* 20 Freshwater Mollusk Biology and Conservation 71 (2017)

Columbia Basin Fish & Wildlife Program, *Proposal No. NPCC19-2002-037-00*

Columbia Basin Bulletin, *Freshwater Mussels – Canary in the Coal Mine for Streams – In Sharp Decline; Umatilla Tribes Working to Bring Back* (Nov. 14, 2019)

Lisa G. Crozier, *et al., Climate vulnerability assessment for Pacific salmon and steelhead in the California Current Large Marine Ecosystem,* PloS ONE 14(7):e0217711 (2019)

Memorandum from Leslie Bach, to Northwest Power and Conservation Council, Re: *Presentation on effects of Toxic contaminants on fish* (Aug. 8, 2017)

Cathy A. Laetz, *et al., The Synergistic Toxicity of Pesticide Mixtures: Implications for Risk Assessment and the Conservation of Endangered Pacific Salmon*, 117 Environmental Health Perspectives 3 (March 2009)

Cathy A. Laetz, *Interaction Neurobehavioral Toxicity of Diazinon, Malathion, and Ethoprop to Juvenile Coho Salmon,* Environmental Science and Technology (2013)

Robert J. Naiman, *et al., Developing a Broader Scientific Foundation for River Restoration: Columbia River Food Webs,* 109 PNAS 52 (Dec. 26, 2012)

Nathaniel L. Scholz, *et al., A Perspective on Modern Pesticides, Pelagic Fish Declines, and Unknown Ecological Resilience in Highly Managed Ecosystems*, 62 BioScience 4 (April 2012)

Kate H. Macneale, *et al., Pesticides, Aquatic Food Webs, and the Conservation of Pacific Salmon*, 8(9) Front Ecol Environ 475 (2010)

Cathy A. Laetz, *et al., Elevated Temperatures Increase the Toxicity of Pesticide Mixtures to Juvenile Coho Salmon*, 146 Aquatic Toxicology 38 (2014)

David H. Baldwin, *et al., A Fish of Many Scales: Extrapolating Sublethal Pesticide Exposures to the Productivity of Wild Salmon Populations*, 19(8) Ecological Applications 2004 (2009)

John P. Incadona, *et al., Very Lower Embryonic Crude Oil Exposures Cause Lasting Cardiac Defects in Salmon and Herring*, Scientific Reports (Sept. 2015)

Nathaniel L. Scholz, *et al., Recurrent Die-Offs of Adult Coho Salmon Returning to Spawn in Puget Sound Lowland Urban Streams,* PloS ONE 6(12): e28013 (2011)

EPA, *Biological Evaluation of the Revised Oregon Water Quality Standards for Temperature, Intergravel Dissolved Oxygen, and Antidegradation* (Feb. 4, 2004)

NMFS, *Biological Opinion on EPA's Proposed Approval of Revised Oregon Water Quality Standards for Temperature, Intergravel Dissolved Oxygen, and Antidegradation Implementation Methods* (Feb. 23, 2004)

EPA, *Support Document for EPA's Action Reviewing New Or Revised Water Quality Standards for the State of Oregon* (March 2, 2004)

EPA, *Columbia River Basin: State of the River Report for Toxics* (Jan. 2009)

Hart Crowser, *Final Field and Data Report Upriver Reach Sediment Characterization Lower Willamette River Portland, Oregon* (May 8, 2018), *available at* https://www.oregon.gov/deq/FilterDocs/UpReachSedCharReport.pdf [first page only]

Northwest Power and Conservation Council, *Polycyclic Aromatic Hydrocarbons: Locations in the Columbia River Basin Where the Toxics Could be Affecting Fish and Wildlife, available at* http://nwcouncil.maps.arcgis.com/apps/MapJournal/index.html?appid=99e5965fe1ac4dd38001e784d7c6aac6 [Dec. 17, 2019 screenshot]

Environmental Working Group and Social Science Environmental Health Research Institute, *PFAS Contamination in the U.S., available at* https://www.ewg.org/interactive-maps/

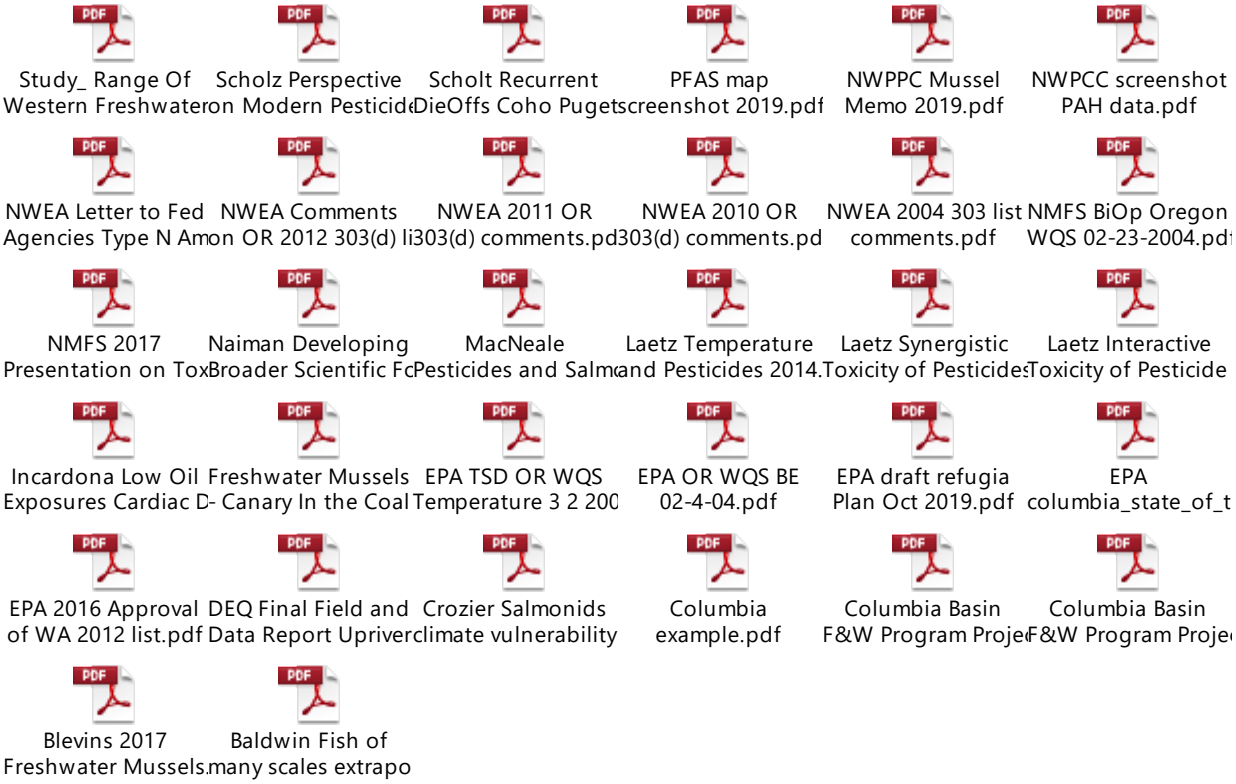
2019_pfas_contamination/map/ [Dec. 17, 2019 screenshot]

AU ID: OR_LK_1708000605_04_100320 (AU Name: Columbia River)
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 Kalra Urbanowicz, DEQ, Re: *Oregon's Draft 2012 Integrated Report and Section 303(d)(1) List of Impaired Waters* (Feb. 24, 2014)

Memo from Mark Fritsch, Northwest Power and Conservation Council, to Fish and Wildlife Committee Members, Re: *History and Significance of Freshwater Mussels* (Nov. 5, 2019)



20. Comments from: City of Bend

From: Drexell Barnes
Subject City of Bend's Comments RE Oregon's 2018/2020 integrated Report
Date: Jan. 8, 2020

On behalf of the City of Bend, I would like to submit the following comments regarding Oregon's 2018/2020 Integrated Report:

1. City of Bend submitted data was utilized during the 2018 assessment for this report. A large amount of the City's data for pH, temperature, dissolved oxygen and specific conductance was not submitted due to insufficient time to correctly format the data. We anticipate being able to submit this data during a future DEQ call for water quality data.
2. Several 'unnamed streams' (see assessment units OR_WS_170703010406_05_102290 (HUC12 Name: Overturf Butte-Deschutes River), OR_WS_170703010801_05_102305 (HUC12 Name: Deschutes Junction, OR_WS_170703010802_05_102306 (HUC12 Name: Laidlaw Butte-Deschutes River), others) are included in the report in the City of Bend area, many of which are not actually streams. These unnamed streams are a diverse collection of natural and man-made features which range from open irrigation canals to city streets to dry creek beds and land depressions.
3. With regard to the listing of Tumalo Creek (AU ID: OR_WS_170703010501_05_102291, AU Name: HUC12 Name: Upper Tumalo Creek, standard Temperature - Numeric OAR: 340-041-0028) as impaired for the criteria 'Temperature - Year Round' based on the 12°C Bull Trout Standard: Tumalo Creek and Bridge creek are streams with no Bull Trout presence, no management planned for Bull Trout and are not listed as potential critical habitat in current related work. It makes no sense to list a waterway impaired for a standard that does not apply.
4. The City of Bend would like to recognize and thank DEQ staff for the large amount of time and effort it must've taken to assess and organize the 2018 Integrated Report into these interactive formats. They will be very useful tools for further understanding and research of water quality in the state of Oregon.

Thank you,

Drexell Barnes

CITY OF BEND

Drexell Barnes | Interim Water Quality Manager

O: 541-322-6368 | M: 541-815-5542

21. Comments from: Portland Water Bureau

From: Edward Campbell
Subject: Oregon's Draft 2018/2020 Integrated Report on Surface Water Quality and List of Water Quality Limited Waters
Date: Dec. 26, 2019

On behalf of the Portland Water Bureau, I am submitting water quality data to address the characterization of Bull Run Reservoir 2 in DEQ's '2018/2020 Integrated Report on Surface Water Quality and List of Water Quality Limited Waters.'

The draft document indicates insufficient data to support attainment for water supply for Bull Run Reservoir 2. Attached to this email is a summary of water quality monitoring results for 34 contaminants relevant to DEQ's assessment. The sample location for this data is entry point of the Portland Drinking Water Service area (the outlet of the Lusted Hill treatment facility) and the summary indicates no detection of these contaminants with the exception of chloroform. Portland's drinking water is unfiltered at this time so these water quality results are indicative of the water quality in Bull Run Reservoir 2. The presence of chloroform in this summary is a result of the Water Bureau's disinfection process which consists of chloramination at the Lusted Hill facility downstream of Reservoir 2.

Please feel free to contact me with any questions you may have or clarifications I can help you with in finalizing the report. I appreciate the opportunity to correct the record regarding Bull Run Reservoir 2 and look forward to working with DEQ on updating the draft characterization.

DEQ_Data_122419.xlsx

Edward Campbell
Resource Protection and Planning Director
Portland Water Bureau
1120 SW Fifth Ave #600
Portland Oregon 97204
edward.campbell@portlandoregon.gov

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22. Comments from: Clean Water Services

From: Kristen Losli

Subject: CWS Integrated Report Comments

Date: Dec. 27, 2019

Clean Water Services (District) appreciates the opportunity to comment on Oregon's 2018/2020

Integrated Report (Integrated Report). The District is a special service district, located in Washington County, Oregon, providing sanitary sewer service, stonnwater management, and watershed management for nearly 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 wastewater treatment plants, 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 2018 and use the latest data in assessing overall water quality.

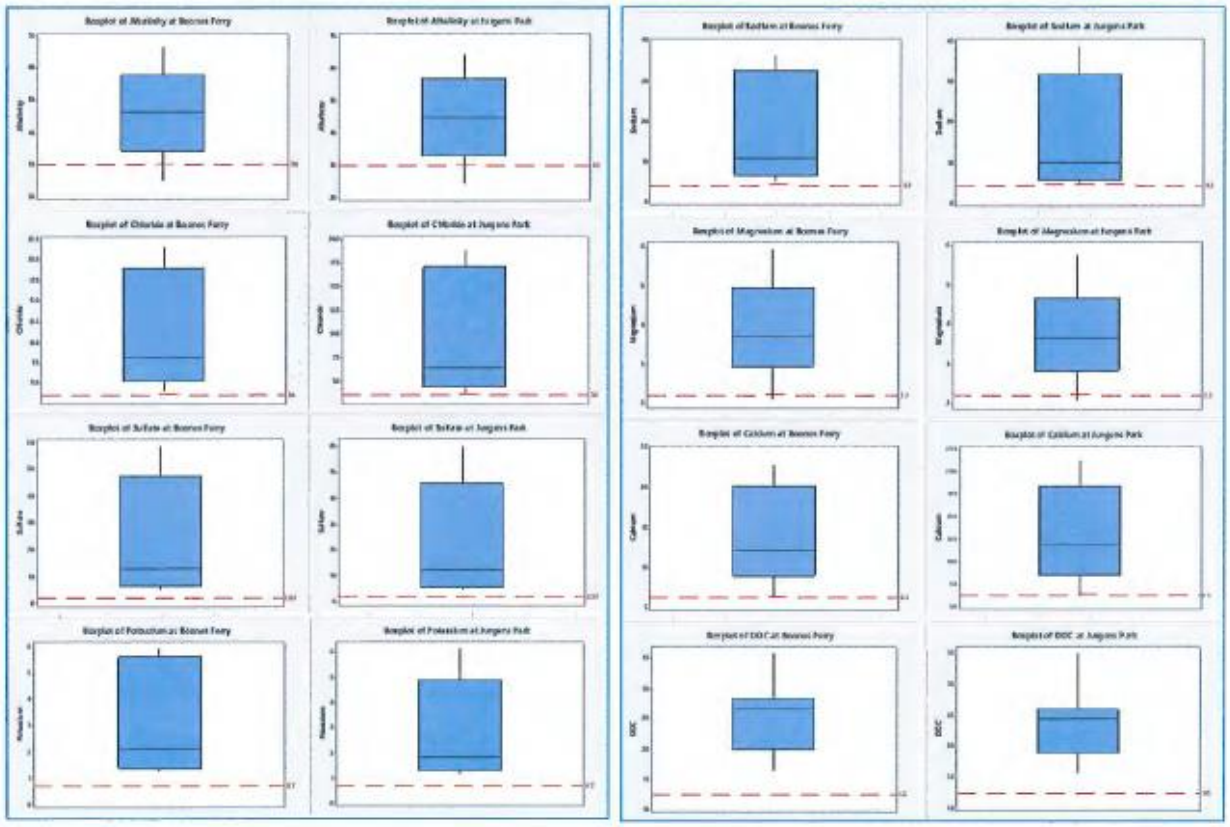
The District recognizes and appreciates the scope of the effort undertaken by DEQ. The fact sheet and storyboard provided a good overview of the water quality assessment process. The interactive map and database provided an efficient method to navigate and access the results of the water quality assessment. 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. Tualatin River: Copper

DEQ is proposing a Category 5 (water quality limited, TMDL required) listing for copper for the lower mainstem Tualatin River (Assessment Unit ID: OR_SR_l 709000704_02_104018). We have reviewed the water quality data that were used for the proposed listing for copper. The biotic ligand model was used to determine the applicable criteria and assess whether the measured copper concentration met the criteria. The biotic ligand model requires the input of several parameters to calculate the applicable water quality criteria; of these parameters, dissolved organic carbon and pH have the most important influence on the calculated criterion. In all, there were 474 samples that were evaluated in the lower Tualatin River assessment unit. Most of the samples (461 of the 474 samples) were labeled as "Tier 5" where the dissolved organic carbon concentration was assigned the regional default value. All of the exceedances of the copper criteria are triggered by the use of Willamette Basin default values for biotic ligand model parameters. There were 13 instances where dissolved organic carbon (DOC) concentrations and other BLM parameters were measured concurrently; there were no exceedances of the water quality criteria for copper in this data set.

As part of its watershed-based NPDES permit, the District collected water quality data for biotic ligand model parameters from June 2016 to May 2018. A total of 24 samples were collected at two locations in the lower Tualatin River: Tualatin River@ Jurgens Park (RM 10.6) and Tualatin River@ Boones Ferry (RM 8.7). Below are charts showing the range of biotic ligand model parameters at these locations; the Tualatin River data are presented as box plots with the interquartile range shown in the solid box and the Willamette Basin default value is shown with the dashed redline.

Figure 1: Comparison Between Lower Tualatin River Biotic Ligand Model Parameters and Willamette River Basin Default Values



For every parameter, the interquartile range of the biotic ligand model parameters in the Tualatin River are above the Willamette Basin defaults. For most parameters including DOC, the full range of the observed values were above the Willamette Basin default values. Thus, the Willamette Basin default values are not representative of water quality conditions in the lower Tualatin River basin and should not be used for assessing compliance with the water quality criteria for copper.

When adopting the biotic ligand model based criteria for copper, DEQ had specified that concurrent data would take precedent over default values. Oregon Administrative Rules 340-041-8033, Table 30 (Endnote N) states that biotic ligand model results based on sufficient measured input parameter data are more accurate and supersede results based on estimates or default values.

The biotic ligand model data collected at the two lower Tualatin River locations noted above are presented in Tables 1 and 2.

Table 1: Biotic Ligand Model Parameters - Tualatin River at Jurgens Park (RM 10.6)

Sample Point Name	Calendar Date	Temperature °C	pH S.U.	Dissolved Copper µg/L	Dissolved Organic Carbon mg/L	Calcium mg/L	Magnesium mg/L	Sodium mg/L	Potassium mg/L	Sulfate mg/L	Chloride mg/L	Alkalinity mg/L	Total Recoverable Copper µg/L
TR @ JURGENS PARK	6/14/2016	19.5	7.14	1.87	2.87	21.2	5.75	36.70	5.74	56.4	3.69	64.2	2.21
TR @ JURGENS PARK	7/12/2016	20.1	7.19	1.61	2.53	19.2	5.41	32.30	5.09	50.4	17.6	59.5	1.77
TR @ JURGENS PARK	8/16/2016	21.2	7.42	1.65	2.2	17.1	4.67	32.80	5.14	50.2	16.1	58.6	1.75
TR @ JURGENS PARK	9/13/2016	18.0	7.37	1.87	2.59	17.0	4.63	29.50	4.87	43.6	17.2	51.1	2.03
TR @ JURGENS PARK	10/4/2016	15.7	7.22	1.97	3.04	18.4	4.99	38.60	6.09	52.8	18.5	58.4	2.27
TR @ JURGENS PARK	11/15/2016	12.4	7.2	1.39	2.74	12.0	3.9	11.80	2.14	13.8	8.54	46.6	1.73
TR @ JURGENS PARK	12/14/2016	6.3	7.07	1.11	1.93	8.3	2.84	5.07	1.28	5.34	4.84	38.2	2.20
TR @ JURGENS PARK	1/26/2017	5.8	7.25	0.833	1.57	6.1	2.05	4.48	1.2	4.17	4.10	24.1	2.08
TR @ JURGENS PARK	2/7/2017	5.6	7.12	1.22	2.45	6.9	2.21	4.49	1.48	4.82	4.39	26.2	3.20
TR @ JURGENS PARK	3/7/2017	6.7	7.15	0.767	1.54	7.8	2.62	5.45	1.08	5.46	4.40	32.6	1.73
TR @ JURGENS PARK	4/18/2017	11.0	7.23	0.87	1.59	8.5	2.81	6.11	1.09	5.37	4.35	35.5	1.24
TR @ JURGENS PARK	5/9/2017	13.7	7.41	0.88	2.15	12.0	3.59	10.70	1.63	12.2	6.07	46.5	1.34
TR @ JURGENS PARK	6/6/2017	18.0	7.04	1.12	2.39	15.1	4.53	19.30	2.86	25.7	10.5	57.1	1.24
TR @ JURGENS PARK	7/11/2017	22.0	7.17	1.55	2.42	18.4	4.95	27.20	3.74	39.1	14.8	68.9	1.70
TR @ JURGENS PARK	8/8/2017	23.9	7.04	1.72	2.44	19.4	4.81	35.20	4.72	59.6	18.4	51.4	1.88
TR @ JURGENS PARK	9/12/2017	20.4	6.92	1.57	2.37	18.3	4.23	28.30	4.36	42.1	18.0	55.7	1.73
TR @ JURGENS PARK	10/17/2017	12.0	7.32	1.64	3.24	18.1	4.53	33.00	5.44	45.7	18.8	63.3	1.93
TR @ JURGENS PARK	11/14/2017	9.9	7.5	1.38	3.48	10.6	3.39	9.03	1.96	12.0	7.50	39.2	2.00
TR @ JURGENS PARK	12/5/2017	8.0	7.34	1.11	2.42	9.8	2.99	6.50	1.29	7.67	5.90	33.3	1.77
TR @ JURGENS PARK	1/9/2018	7.2	7.35	1.00	1.85	9.2	2.83	7.80	1.32	7.35	5.65	33.5	1.95
TR @ JURGENS PARK	2/5/2018	9.1	6.93	0.896	1.76	7.4	2.56	5.24	1.17	4.95	4.37	29.2	1.78
TR @ JURGENS PARK	3/5/2018	7.0	7.2	0.736	1.74	8.3	2.75	6.52	1.16	6.59	5.26	30.9	1.57
TR @ JURGENS PARK	4/10/2018	10.8	7.17	1.27	2.52	8.7	2.84	5.38	1.22	5.28	4.10	34.1	1.26
TR @ JURGENS PARK	5/2/2018	12.8	7.07	0.93	1.96	11.5	3.69	9.03	1.54	10.8	6.72	43.2	1.18

Table 2: Biotic Ligand Model Parameters - Tualatin River at Boones Ferry Road (RM 8.7)

Sample Point Name	Calendar Date	Temperature °C	pH S.U.	Dissolved Copper µg/L	Dissolved Organic Carbon mg/L	Calcium mg/L	Magnesium mg/L	Sodium mg/L	Potassium mg/L	Sulfate mg/L	Chloride mg/L	Alkalinity mg/L	Total Recoverable Copper µg/L
TR @ BOONES FERRY	6/14/2016	19.4	7.19	1.79	3.06	22.70	5.90	36.10	5.83	54.9	3.96	66.0	2.08
TR @ BOONES FERRY	7/12/2016	20.0	7.20	1.64	2.73	20.40	5.52	32.40	5.66	48.6	19.0	57.7	1.86
TR @ BOONES FERRY	8/16/2016	21.2	7.30	1.61	2.42	19.40	4.99	32.80	5.85	53.1	18.9	54.2	1.84
TR @ BOONES FERRY	9/13/2016	17.9	7.33	1.91	2.85	20.20	5.02	31.50	5.88	48.5	21.3	57.6	2.05
TR @ BOONES FERRY	10/4/2016	15.8	7.22	1.96	3.09	18.70	4.83	33.50	5.70	46.5	18.9	57.4	2.29
TR @ BOONES FERRY	11/15/2016	12.8	7.09	1.57	3.22	11.70	3.72	12.20	2.48	13.8	9.54	46.5	2.57
TR @ BOONES FERRY	12/14/2016	6.4	7.06	1.39	1.94	8.82	2.92	5.52	1.37	5.68	5.29	29.6	2.28
TR @ BOONES FERRY	1/26/2017	5.9	7.16	0.92	1.61	6.30	2.11	4.80	1.25	4.45	4.33	25.0	2.04
TR @ BOONES FERRY	2/7/2017	5.7	7.11	1.28	2.54	7.35	2.30	4.89	1.53	5.48	5.12	27.5	3.25
TR @ BOONES FERRY	3/7/2017	6.9	7.13	0.89	1.61	8.28	2.77	6.24	1.21	6.00	5.05	34.2	1.81
TR @ BOONES FERRY	4/18/2017	11.3	7.07	1.00	1.76	8.89	2.94	6.92	1.28	5.43	5.15	37.9	1.25
TR @ BOONES FERRY	5/9/2017	14.1	7.27	0.96	2.29	12.30	3.66	10.40	1.71	12.0	6.89	47.8	1.15
TR @ BOONES FERRY	6/6/2017	18.1	7.10	1.22	2.68	16.00	4.73	19.00	3.21	26.0	12.3	58.6	1.46
TR @ BOONES FERRY	7/11/2017	21.6	7.16	1.70	2.78	21.10	5.23	29.80	4.46	40.2	17.4	66.5	1.83
TR @ BOONES FERRY	8/8/2017	23.7	7.05	1.78	2.66	20.10	5.01	34.60	5.13	57.9	19.4	54.3	2.00
TR @ BOONES FERRY	9/12/2017	20.6	7.07	1.70	2.70	20.80	4.53	33.00	5.31	47.3	21.5	57.4	1.72
TR @ BOONES FERRY	10/17/2017	12.3	7.33	1.74	3.47	20.20	4.73	34.20	5.70	45.9	21.4	66.3	1.88
TR @ BOONES FERRY	11/14/2017	10.1	7.38	1.50	3.56	11.30	3.44	9.51	2.23	12.5	9.29	40.6	2.17
TR @ BOONES FERRY	12/5/2017	8.2	7.43	1.13	2.71	9.62	2.95	7.11	1.46	8.34	6.81	34.2	2.10
TR @ BOONES FERRY	1/9/2018	7.4	7.33	1.13	2.07	9.72	3.02	7.86	1.44	8.24	6.75	34.4	2.18
TR @ BOONES FERRY	2/5/2018	9.3	7.00	0.85	1.85	7.66	2.66	5.73	1.26	5.34	4.86	29.9	1.63
TR @ BOONES FERRY	3/5/2018	7.2	7.26	0.79	1.72	8.79	2.80	7.10	1.29	7.15	5.95	33.2	1.58
TR @ BOONES FERRY	4/10/2018	11.0	7.06	1.29	2.62	9.17	2.95	5.91	1.34	6.05	4.89	35.2	1.33
TR @ BOONES FERRY	5/2/2018	13.4	7.10	1.03	2.25	12.70	3.81	10.90	1.99	12.9	8.98	45.8	1.26

These data were used to calculate the acute and chronic water quality criteria for copper; the measured copper concentrations were then compared with the calculated acute and chronic criteria to detennine if the criteria was met (Table 3 and 4).

Table 3: Biotic Ligand Model Calculation - Tualatin River at Jurgens Park (RM 10.6)

Site Label	Sample Label	Final Acute Value (FAV), ug/L	CMC (CMC=FAV/2), ug/L	CCC (CCC=FAV/ACR), ug/L	Cu ug/L	Acute Toxic Units (Acute TU=Cu/CMC)	Chronic Toxic Units (Chronic TU=Cu/CCC)
"TR @ JURGENS PARK "	"6/14/2016 "	16.27	8.13	5.05	1.87	0.23	0.37
"TR @ JURGENS PARK "	"7/12/2016 "	14.93	7.46	4.64	1.61	0.22	0.35
"TR @ JURGENS PARK "	"8/16/2016 "	17.81	8.91	5.53	1.65	0.19	0.30
"TR @ JURGENS PARK "	"9/13/2016 "	19.00	9.50	5.90	1.87	0.20	0.32
"TR @ JURGENS PARK "	"10/4/2016 "	19.11	9.55	5.93	1.97	0.21	0.33
"TR @ JURGENS PARK "	"11/15/2016 "	14.10	7.05	4.38	1.39	0.20	0.32
"TR @ JURGENS PARK "	"12/14/2016 "	7.75	3.87	2.41	1.11	0.29	0.46
"TR @ JURGENS PARK "	"1/26/2017 "	8.14	4.07	2.53	0.83	0.20	0.33
"TR @ JURGENS PARK "	"2/7/2017 "	10.58	5.29	3.28	1.22	0.23	0.37
"TR @ JURGENS PARK "	"3/7/2017 "	6.94	3.47	2.16	0.77	0.22	0.36
"TR @ JURGENS PARK "	"4/18/2017 "	8.11	4.05	2.52	0.87	0.21	0.35
"TR @ JURGENS PARK "	"5/9/2017 "	14.53	7.27	4.51	0.88	0.12	0.19
"TR @ JURGENS PARK "	"6/6/2017 "	10.47	5.23	3.25	1.12	0.21	0.34
"TR @ JURGENS PARK "	"7/11/2017 "	13.60	6.80	4.22	1.55	0.23	0.37
"TR @ JURGENS PARK "	"8/8/2017 "	11.86	5.93	3.68	1.72	0.29	0.47
"TR @ JURGENS PARK "	"9/12/2017 "	9.18	4.59	2.85	1.57	0.34	0.55
"TR @ JURGENS PARK "	"10/17/2017 "	22.30	11.15	6.93	1.64	0.15	0.24
"TR @ JURGENS PARK "	"11/14/2017 "	25.84	12.92	8.03	1.38	0.11	0.17
"TR @ JURGENS PARK "	"12/5/2017 "	14.29	7.15	4.44	1.11	0.16	0.25
"TR @ JURGENS PARK "	"1/9/2018 "	11.16	5.58	3.47	1.00	0.18	0.29
"TR @ JURGENS PARK "	"2/5/2018 "	5.72	2.86	1.78	0.90	0.31	0.51
"TR @ JURGENS PARK "	"3/5/2018 "	8.51	4.26	2.64	0.73	0.17	0.27
"TR @ JURGENS PARK "	"4/10/2018 "	11.78	5.89	3.66	1.27	0.22	0.35
"TR @ JURGENS PARK "	"5/2/2018 "	8.19	4.10	2.54	0.93	0.23	0.37

Table 4: Biotic Ligand Model Calculation - Tualatin River at Boones Ferry Road (RM 8. 7)

Site Label	Sample Label	Final Acute Value (FAV), ug/L	CMC (CMC=FAV/2), ug/L	CCC (CCC=FAV/ACR), ug/L	Cu ug/L	Acute Toxic Units (Acute TU=Cu/CMC)	Chronic Toxic Units (Chronic TU=Cu/CCC)
"TR @ BOONES FERRY "	"6/14/2016 "	18.58	9.29	5.77	1.79	0.19	0.31
"TR @ BOONES FERRY "	"7/12/2016 "	16.36	8.18	5.08	1.64	0.20	0.32
"TR @ BOONES FERRY "	"8/16/2016 "	16.67	8.33	5.18	1.61	0.19	0.31
"TR @ BOONES FERRY "	"9/13/2016 "	20.04	10.02	6.22	1.91	0.19	0.31
"TR @ BOONES FERRY "	"10/4/2016 "	18.88	9.44	5.86	1.96	0.21	0.33
"TR @ BOONES FERRY "	"11/15/2016 "	14.24	7.12	4.42	1.57	0.22	0.36
"TR @ BOONES FERRY "	"12/14/2016 "	7.70	3.85	2.39	1.39	0.36	0.58
"TR @ BOONES FERRY "	"1/26/2017 "	7.38	3.69	2.29	0.92	0.25	0.40
"TR @ BOONES FERRY "	"2/7/2017 "	10.82	5.41	3.36	1.28	0.24	0.38
"TR @ BOONES FERRY "	"3/7/2017 "	7.11	3.55	2.21	0.89	0.25	0.40
"TR @ BOONES FERRY "	"4/18/2017 "	7.21	3.60	2.24	1.00	0.28	0.45
"TR @ BOONES FERRY "	"5/9/2017 "	12.84	6.42	3.99	0.96	0.15	0.24
"TR @ BOONES FERRY "	"6/6/2017 "	12.79	6.39	3.97	1.22	0.19	0.31
"TR @ BOONES FERRY "	"7/11/2017 "	15.68	7.84	4.87	1.70	0.22	0.35
"TR @ BOONES FERRY "	"8/8/2017 "	13.09	6.54	4.06	1.78	0.27	0.44
"TR @ BOONES FERRY "	"9/12/2017 "	13.47	6.73	4.18	1.70	0.25	0.41
"TR @ BOONES FERRY "	"10/17/2017 "	24.39	12.19	7.57	1.74	0.14	0.23
"TR @ BOONES FERRY "	"11/14/2017 "	22.79	11.39	7.08	1.50	0.13	0.21
"TR @ BOONES FERRY "	"12/5/2017 "	18.08	9.04	5.61	1.13	0.13	0.20
"TR @ BOONES FERRY "	"1/9/2018 "	12.19	6.09	3.78	1.13	0.19	0.30
"TR @ BOONES FERRY "	"2/5/2018 "	6.74	3.37	2.09	0.85	0.25	0.41
"TR @ BOONES FERRY "	"3/5/2018 "	9.16	4.58	2.85	0.79	0.17	0.28
"TR @ BOONES FERRY "	"4/10/2018 "	10.49	5.24	3.26	1.29	0.25	0.40
"TR @ BOONES FERRY "	"5/2/2018 "	9.98	4.99	3.10	1.03	0.21	0.33

The results are expressed in terms of acute and chronic toxicity units; exceedances of the acute or chronic criteria would be expressed as a toxic unit that is greater than 1.0. The maximum acute toxic unit was 0.36 and the maximum chronic toxic unit was 0.58 at Tualatin River@ Boones Ferry Road; the maximum acute toxic unit was 0.34 and the maximum chronic toxic unit was 0.55 at Tualatin River@ Jurgens Parle The acute and chronic toxic unit calculations at both lower Tualatin River locations are well below 1.0. These results are consistent with the DEQ

results where concurrent data was available. These data demonstrate that the lower Tualatin River consistently meets the water quality criteria for copper. Thus, the proposed category 5 listing for copper should be removed; copper should be categorized as meeting water quality standards (i.e. category 2).

2. Fanno Creek and Beaverton Creek: Copper.
DEQ is proposing a category 5 listing for copper for Fanno Creek and Beaverton Creek (Assessment ID: OR_SR_l 709001005_02_104141 and OR_SR_l 709001004_02_104134). It appears that the listings for copper in Fanno Creek and Beaverton Creek were also triggered by the use of Willamette Basin default values for the biotic ligand model parameters. DEQ should use the default values to conduct a screening level evaluation to determine if additional data are necessary. If the screening level evaluation suggests that there is potential to exceed water quality criteria, the pollutant can be listed as category 3A or 3B (insufficient data) and additional site-specific data should be gathered. Because of the significant implications of a category 5 listing on Oregon's water quality programs, a category 5 listing should not be based on regional default values.

The District conducts routine water quality monitoring in both Fanno Creek and Beaverton Creek. Monitoring was conducted once every two weeks for field parameters, nutrients, solids, and common ions; monitoring for metals was conducted on a quarterly basis. For this evaluation, water quality data from 2012 to 2019 were reviewed. Biotic ligand model data were available for several parameters; where biotic ligand model data was not available, they were calculated based on the DEQ regression equations. The water quality data and calculated biotic ligand model inputs are attached (Attaclunents 1, 2 and 3).

These data were used to calculate the acute and clu-onic water quality criteria for copper; the measured copper concentrations were then compared with the calculated acute and clu·onic criteria to determine if the water quality criteria for copper was met. The results are expressed in terms of acute and chronic toxic units; exceedances of the acute and clu·onic criteria would be expressed as a toxicity unit that is greater than 1.0. The biotic ligand model calculations for Fanno Creek@ Durham are presented in Table 5.

Table 5: Biotic Ligand Model Calculation - Fanno Creek @ Durham (RM 1.2)

Site Label	Sample Label	Final Acute Value (FAV), ug/L	CMC (CMC=FAV/2), ug/L	CCC (CCC=FAV/ACR), ug/L	Cu ug/L	Acute Toxic Units (Acute TU=Cu/CMC)	Chronic Toxic Units (Chronic TU=Cu/CCC)
"FANNO@DURHAM "	"3/6/2012 "	11.08	5.54	3.44	1.54	0.28	0.45
"FANNO@DURHAM "	"4/11/2012 "	15.29	7.64	4.75	2.39	0.31	0.50
"FANNO@DURHAM "	"7/11/2012 "	18.98	9.49	5.89	1.56	0.16	0.26
"FANNO@DURHAM "	"10/3/2012 "	20.58	10.29	6.39	1.03	0.10	0.16
"FANNO@DURHAM "	"3/6/2013 "	20.87	10.44	6.48	1.76	0.17	0.27
"FANNO@DURHAM "	"5/23/2013 "	13.03	6.52	4.05	2.18	0.33	0.54
"FANNO@DURHAM "	"8/14/2013 "	23.56	11.78	7.32	1.08	0.09	0.15
"FANNO@DURHAM "	"11/13/2013 "	21.13	10.57	6.56	1.63	0.15	0.25
"FANNO@DURHAM "	"2/26/2014 "	15.16	7.58	4.71	1.24	0.16	0.26
"FANNO@DURHAM "	"5/14/2014 "	8.28	4.14	2.57	1.26	0.30	0.49
"FANNO@DURHAM "	"7/23/2014 "	49.22	24.61	15.28	5.30	0.22	0.35
"FANNO@DURHAM "	"11/14/2014 "	23.18	11.59	7.20	1.53	0.13	0.21
"FANNO@DURHAM "	"2/11/2015 "	14.99	7.50	4.66	1.50	0.20	0.32
"FANNO@DURHAM "	"5/6/2015 "	26.03	13.01	8.08	1.22	0.09	0.15
"FANNO@DURHAM "	"8/5/2015 "	35.91	17.96	11.15	1.19	0.07	0.11
"FANNO@DURHAM "	"10/5/2015 "	21.58	10.79	6.70	1.13	0.10	0.17
"FANNO@DURHAM "	"2/15/2016 "	12.61	6.31	3.92	1.68	0.27	0.43
"FANNO@DURHAM "	"5/18/2016 "	22.26	11.13	6.91	1.83	0.16	0.26
"FANNO@DURHAM "	"9/14/2016 "	29.22	14.61	9.08	1.44	0.10	0.16
"FANNO@DURHAM "	"11/16/2016 "	18.07	9.03	5.61	3.00	0.33	0.53
"FANNO@DURHAM "	"2/8/2017 "	11.55	5.78	3.59	1.66	0.29	0.46
"FANNO@DURHAM "	"6/7/2017 "	18.65	9.33	5.79	1.24	0.13	0.21
"FANNO@DURHAM "	"8/9/2017 "	28.79	14.39	8.94	1.04	0.07	0.12
"FANNO@DURHAM "	"10/18/2017 "	17.34	8.67	5.39	1.58	0.18	0.29
"FANNO@DURHAM "	"2/7/2018 "	13.23	6.61	4.11	1.02	0.15	0.25
"FANNO@DURHAM "	"4/11/2018 "	16.51	8.26	5.13	1.65	0.20	0.32
"FANNO@DURHAM "	"7/18/2018 "	38.32	19.16	11.90	1.27	0.07	0.11
"FANNO@DURHAM "	"10/16/2018 "	19.27	9.63	5.98	1.32	0.14	0.22
"FANNO@DURHAM "	"1/23/2019 "	12.71	6.35	3.95	1.72	0.27	0.44
"FANNO@DURHAM "	"4/2/2019 "	22.94	11.47	7.12	1.42	0.12	0.20
"FANNO@DURHAM "	"7/29/2019 "	34.99	17.50	10.87	1.46	0.08	0.13

The maximum acute toxic unit was 0.33 and the maximum chronic toxic unit was 0.54 (Table 5). The acute and chronic toxic units at Fam10 Creek are well below 1.0.
Two sites were monitored on Beaverton Creek as part of the District's ambient monitoring program: Beaverton Creek@ 170th (RM 5.0) and Beaverton Creek near Cornelius Pass Road (RM 1.2). The biotic ligand model calculations for Beaverton Creek @ 170th are presented in Table 6 and the calculations for Beaverton Creek @ Cornelius Pass Road are presented in Table 7.

Table 6: Biotic Ligand Model Calculation - Beaverton Creek@ 170th (RM 5.0)

Site Label	Sample Label	Final Acute Value (FAV), ug/L	CMC (CMC=FAV/2), ug/L	CCC (CCC=FAV/ACR), ug/L	Cu ug/L	Acute Toxic Units (Acute TU=Cu/CMC)	Chronic Toxic Units (Chronic TU=Cu/CCC)
"BEAV@170TH "	"3/12/2012 "	18.14	9.07	5.63	1.46	0.16	0.26
"BEAV@170TH "	"4/17/2012 "	19.37	9.69	6.02	1.56	0.16	0.26
"BEAV@170TH "	"7/19/2012 "	37.37	18.69	11.61	1.56	0.08	0.13
"BEAV@170TH "	"10/8/2012 "	21.06	10.53	6.54	0.91	0.09	0.14
"BEAV@170TH "	"3/11/2013 "	17.96	8.98	5.58	1.00	0.11	0.18
"BEAV@170TH "	"5/22/2013 "	22.63	11.31	7.03	2.15	0.19	0.31
"BEAV@170TH "	"8/14/2013 "	23.29	11.65	7.23	0.73	0.06	0.10
"BEAV@170TH "	"11/13/2013 "	14.46	7.23	4.49	1.82	0.25	0.41
"BEAV@170TH "	"2/26/2014 "	11.80	5.90	3.66	1.36	0.23	0.37
"BEAV@170TH "	"5/14/2014 "	8.99	4.49	2.79	1.31	0.29	0.47
"BEAV@170TH "	"7/23/2014 "	45.16	22.58	14.03	2.55	0.11	0.18
"BEAV@170TH "	"11/14/2014 "	23.98	11.99	7.45	1.71	0.14	0.23
"BEAV@170TH "	"2/11/2015 "	19.87	9.93	6.17	1.45	0.15	0.24
"BEAV@170TH "	"5/6/2015 "	20.51	10.25	6.37	1.34	0.13	0.21
"BEAV@170TH "	"8/5/2015 "	28.12	14.06	8.73	0.60	0.04	0.07
"BEAV@170TH "	"10/15/2015 "	28.00	14.00	8.70	0.81	0.06	0.09
"BEAV@170TH "	"2/11/2016 "	12.63	6.31	3.92	1.10	0.17	0.28
"BEAV@170TH "	"5/18/2016 "	19.50	9.75	6.06	1.66	0.17	0.27

Table 7: Biotic Ligand Model Calculation - Beaverton Creek@ Cornelius Pass Road (RM 1.2)

Site Label	Sample Label	Final Acute Value (FAV), ug/L	CMC (CMC=FAV/2), ug/L	CCC (CCC=FAV/ACR), ug/L	Cu ug/L	Acute Toxic Units (Acute TU=Cu/CMC)	Chronic Toxic Units (Chronic TU=Cu/CCC)
"BEAV@CNLUS "	"3/12/2012 "	24.92	12.46	7.74	1.70	0.14	0.22
"BEAV@CNLUS "	"4/17/2012 "	23.54	11.77	7.31	1.77	0.15	0.24
"BEAV@CNLUS "	"7/19/2012 "	33.75	16.88	10.48	1.76	0.10	0.17
"BEAV@CNLUS "	"10/8/2012 "	29.13	14.57	9.05	1.51	0.10	0.17
"BEAV@CNLUS "	"3/11/2013 "	25.83	12.92	8.02	1.10	0.09	0.14
"BEAV@CNLUS "	"5/22/2013 "	34.50	17.25	10.72	1.95	0.11	0.18
"BEAV@CNLUS "	"8/14/2013 "	36.82	18.41	11.43	1.36	0.07	0.12
"BEAV@CNLUS "	"11/13/2013 "	19.05	9.53	5.92	1.73	0.18	0.29
"BEAV@CNLUS "	"2/26/2014 "	15.37	7.69	4.77	1.45	0.19	0.30
"BEAV@CNLUS "	"5/14/2014 "	14.39	7.19	4.47	1.41	0.20	0.32
"BEAV@CNLUS "	"7/23/2014 "	59.49	29.75	18.48	2.88	0.10	0.16
"BEAV@CNLUS "	"11/14/2014 "	32.53	16.27	10.10	1.89	0.12	0.19
"BEAV@CNLUS "	"2/11/2015 "	21.51	10.76	6.68	1.53	0.14	0.23
"BEAV@CNLUS "	"5/6/2015 "	27.89	13.95	8.66	1.68	0.12	0.19
"BEAV@CNLUS "	"8/5/2015 "	41.85	20.93	13.00	1.32	0.06	0.10
"BEAV@CNLUS "	"10/15/2015 "	30.69	15.35	9.53	1.57	0.10	0.16
"BEAV@CNLUS "	"2/11/2016 "	14.85	7.42	4.61	1.22	0.16	0.26
"BEAV@CNLUS "	"5/18/2016 "	24.87	12.44	7.72	2.01	0.16	0.26
"BEAV@CNLUS "	"9/14/2016 "	38.74	19.37	12.03	1.45	0.07	0.12
"BEAV@CNLUS "	"11/16/2016 "	16.93	8.46	5.26	2.74	0.32	0.52
"BEAV@CNLUS "	"2/8/2017 "	16.04	8.02	4.98	1.59	0.20	0.32
"BEAV@CNLUS "	"6/7/2017 "	18.50	9.25	5.75	1.78	0.19	0.31
"BEAV@CNLUS "	"8/9/2017 "	32.35	16.17	10.05	1.65	0.10	0.16
"BEAV@CNLUS "	"10/18/2017 "	16.80	8.40	5.22	1.47	0.18	0.28
"BEAV@CNLUS "	"2/7/2018 "	19.09	9.54	5.93	1.32	0.14	0.22
"BEAV@CNLUS "	"4/11/2018 "	20.15	10.08	6.26	1.76	0.17	0.28
"BEAV@CNLUS "	"7/18/2018 "	38.88	19.44	12.08	1.51	0.08	0.13
"BEAV@CNLUS "	"10/16/2018 "	29.44	14.72	9.14	1.34	0.09	0.15
"BEAV@CNLUS "	"1/23/2019 "	13.89	6.95	4.31	1.73	0.25	0.40
"BEAV@CNLUS "	"4/2/2019 "	20.68	10.34	6.42	1.41	0.14	0.22
"BEAV@CNLUS "	"7/29/2019 "	30.39	15.20	9.44	1.41	0.09	0.15

The maximum acute toxic units was 0.29 and the maximum chronic toxic units was 0.47 at Beave1ion Creek@ 170th (Table 6); the maximum acute toxic units was 0.32 and the maximum chronic toxic units was 0.52 at Beaverton Creek@ Cornelius Pass Road (Table 7). The acute and chronic toxic units at both locations on Beaverton Creek are well below 1.0.
These data show that both Fanno Creek and Beaverton Creek consistently meet the water quality criteria for copper. Thus, the proposed category 5 listing for copper for Fanno Creek and Beave1ion Creek should be removed; copper should be categorized as meeting water quality standards (i.e. category 2).

3. Fanno Creek (HUC 12): Hexavalent Chromium & Copper
Fanno Creek (HUC 12) includes category 5 listings for hexavalent chromium and copper (Assessment ID: OR_ WS_l 70900100502_02_104513). The Integrated Report notes that copper was assessed in 2018 whereas hexavalent chromium was not assessed in 2018; the 2012 listing for hexavalent chromium was carried forward. The Fanno Creek (HUC 12) listing for copper and hexavalent chromium are likely based on data collected in the early 1990s at the Koll Wetlands. The District had previously commented on the listing for the Koll Wetlands. Data was collected at the Koll Wetlands for three months in 1992. The data is 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.
As noted above, the District conducts water quality monitoring in Fanno Creek @ Durham (RM 1.2). As documented above, there are no exceedances of the water quality criteria for copper in Fanno Creek.

The District also conducted monitoring for chromium in Fmmo Creek @ Durham. Monitoring was conducted once every two weeks for field parameters, nutrients, solids, and common ions; monitoring for metals was conducted on a quarterly basis. Data from 2009 - 19 were evaluated; there were 66 discrete monitoring events that included chromium data. The water quality data are attached (Attaclm1ent 4). There were no exceedances of the hexavalent chromium criteria when compared to the dissolved chromium data. The assumption that all the dissolved chromium is in the hexavalent form is a highly conservative assumption.
DEQ should recognize the poor data quality that triggered the initial listing, the substantial representative data collected by the District and correct this mistake by removing the HUC 12 - Fanno Creek listing for hexavalent chromium and copper in the Integrated Rep01i.

4. Gales Creek: Hexavalent chromium
Gales Creek includes a category 5 listing for hexavalent chromium (Assessment ID: OR_SR_ l 709001001_02_104096). The Integrated Repo1i did not assess the hexavalent chromium listing; the previous listing was carried forward. The District conducts water quality monitoring at two locations on Gales Creek: Gales Creek@ Stringtown Road (RM 7.0) and Gales Creek @ New Hwy 47 (RM 1.5). Monitoring was conducted once every two weeks for field parameters, nutrients, solids, and common ions; monitoring for metals was conducted on a quarterly basis. Data from 2009 - 19 were evaluated. During this period, there were 66 discrete monitoring events at the New Hwy 47 monitoring location and 65 discrete monitoring events at the Stringtown Road monitoring location that included chromium data. The water quality data are attached (Attachment 5). There were no exceedances of the hexavalent chromium criteria at either location even if all the dissolved chromium is assumed to be in the hexavalent form (again, a highly conservative assumption). Thus, DEQ should remove the category 5 listing for hexavalent chromium in Gales Creek.

5. Fanno Creek (tetrachloroethylene)
DEQ is proposing to list Fanno Creek for tetrachloroethylene (PCE) (Assessment Unit ID: OR_ SR_ 1709001005 02 104141). USGS data collected in 2001 and 2002 is the supporting data for the proposed listing. PCE is typically associated with an industrial spill or contaminated groundwater plume from a commercial/industrial activity entering surface waters. The appropriate mechanism to address this issue would be through DEQ's cleanup program. Considering that the data is nearly 20 years old, it may be that DEQ's cleanup program has already addressed this source. Considering the significant implications of a category 5 listing on Oregon's water quality program, DEQ should seek confirmation that PCE is still an issue in Fanno Creek before proposing a category 5 listing for this parameter.

6. Biocriteria
DEQ is proposing category 5 listings for a number of streams in the Tualatin Basin for biocriteria. It is not clear how DEQ plans to address the biocriteria listings. Additionally, the implications of the biocriteria listings on the NPDES permit program are not clear. 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 macro invertebrate monitoring in the Tualatin River watershed. The macro invertebrate studies have included an assessment of the stressors in the Tualatin River watershed *(20 I 8 Tualatin Rh1er Basin lvlacroinvertebrate Assessment, Cole Ecological, ~May 2019).* Temperature and dissolved oxygen were identified as the primary stressors for macro invertebrate 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 *"kn01,ving a site is in poor biological condition is usefiil, but unless we are able to identifj1 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. DEQ should re-categorize 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).

7. Elemental Phosphorus
There are several assessment units in the Tualatin River that include a category 4A listing (water quality limited; TMDL approved) for elemental phosphorus. There is no freshwater water quality criteria for phosphorus; there is only a marine water quality criteria for elemental phosphorus (see excerpt from Oregon Administrative Rules (OAR 340-041-8033, Table 30).

Table 8: Water Quality Criteria for Elemental Phosphorus

No.	Pollutant	CAS Number	Human Health Criterion	Freshwater (µg/L)		Saltwater (µg/L)	
				Acute Criterion (CMC)	Chronic Criterion (CCC)	Acute Criterion (CMC)	Chronic Criterion (CCC)
34	*Phosphorus Elemental*	7723140	n	--	--	--	0.1

The phosphorus TMDL for the Tualatin River was based on the meeting the pH criteria **in** the lower Tualatin River. The TMDL has been successful at achieving the water quality criteria. The category 4A listing for elemental phosphorus should be corrected to reflect that the pH criteria was the basis of establishing the phosphorus TMDL in the lower Tualatin River.

Additionally, a number of the tributaries include a category 4A listing for elemental phosphorus; these include Fmmo Creek, Beaverton Creek, Rock Creek, Chicken Creek, Gales Creek, and Dairy Creek. While the phosphorus TMDL for the Tualatin River establishes target concentrations for phosphorus on a sub-watershed (i.e. tributary) scale, the location of the primary effect of the total phosphorus loading is on the lower portion of the Tualatin River. Section 4.4.9.2 of the 2001 Tualatin Sub-basin TMDL states the following:
The loading capacities - and therefore the allocations - contained in this portion of the T.MDL were developed to address water quality issues specific to the lower mains/em Tualatin River. As such, the aggregate loadingji-·0111 all sources to the lower mainstem is the critical factor.

Thus, the category 4A listing for elemental phosphorus for the Tualatin River tributaries should be removed.

8. Fanno Creek: Dieldrin
The Integrated Report includes a category 4A (water quality limited; TMDL approved) listing for dieldrin for Fanno Creek. A TMDL has not been developed for dieldrin in Fanno Creek. DEQ should reassess the data using the updated assessment methodology developed in 2018.

9. Dairy Creek, McKay Creek and Gales Creek: Ammonia
The Integrated Repo1t includes a category 4A (water quality limited; TMDL approved) listing for ammonia for Dairy Creek, McKay Creek and Gales Creek. There is no established TMDL

for ammonia in these streams. The category 4A listing for ammonia for these streams should be removed before finalizing the Integrated Repo1t.

10. Cedar Creek and Chicken Creek
Chicken Creek (Assessment ID: OR_SR_ l 709001005_02_104140) is labeled as Cedar Creek in the Integrated Report. This should be corrected before finalizing the Integrated Repmt.

11. Duplicate listings
DEQ should eliminate the duplicate listings included in the assessment database or provide information to explain the difference between the entries. There are several instances where the assessment database includes two identical entries for dissolved oxygen and temperature. It is unclear why there are multiple assessments of the same parameter for a single assessment unit. A list of the duplicate entries in the Tualatin River watershed are noted below.

Table 9: Assessment Units with Duplicate Entries

Assessment Unit ID	AU Name	Assessment	Category
OR_SR_1709000704_02_104018	Tualatin River	Dissolved Oxygen-Year Round	Category 4A
OR_SR_1709000704_02_104018	Tualatin River	Temperature-Year Round	Category 4A
OR_SR_1709001004_02_104134	Beaverton Creek	Dissolved Oxygen-Year Round	Category 4A
OR_WS_170900100401_02_104506	HUC12 Name: Beaverton Creek	Dissolved Oxygen-Year Round	Category 4A
OR_SR_1709001005_02_104141	Fanno Creek	Dissolved Oxygen-Year Round	Category 4A
OR_SR_1709001005_02_104141	Fanno Creek	Temperature-Year Round	Category 4A
OR_WS_170900100502_02_104513	HUC12 Name: Fanno Creek	Dissolved Oxygen-Year Round	Category 4A
OR_WS_170900100502_02_104513	HUC12 Name: Fanno Creek	Temperature-Year Round	Category 4A
OR_SR_1709001003_02_104120	Dairy Creek	Temperature-Year Round	Category 4A
OR_SR_1709001005_02_104140	Cedar Creek (Note: mislabeled; should be Chicken Creek)	Dissolved Oxygen-Year Round	Category 4A
OR_SR_1709001001_02_104096	Gales Creek	Temperature-Year Round	Category 4A

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

Sincerely,

Robert P. Baumgartner, Director
Regulatory Affairs

Attachments

Attachment 1: Biotic Ligand Model Parameters – Fanno Creek @ Durham (RM 1.2)

Calendar Date	00010 - Temperature	00094 - Conductivity	00400 - pH	00410 - Alkalinity	00915 - Ca	00916 - Ca	00925 - Mg	00927 - Mg	00929 - Na	00930 - Na	00935 - K	00937 - K	00941 - Cl	00946 - SO4	01040 - Cu	81230 - Total Organic Carbon	88998 - Dissolved Organic Carbon
3/6/2012	6.9	140	7.07	52.8	*13.9*	13.9	*4.58*	4.58		*7.61*	*1.51*		6.55	*4.83*	1.54	2.88	2.66
4/11/2012	11.8	118	6.97	43.7	*12.2*	12.2	*4.46*	4.46		*6.57*	*1.31*		5.2	*3.77*	2.39	6.15	4.25
7/11/2012	19.3	246	7.14	99.9	*24.3*	24.3	*8.64*	8.64		*13.36*	*2.42*		10.7	*10.94*	1.56	3.85	3.71
10/3/2012	13	300	7.28	121	*29.3*	29.3	*11.3*	11.3		*14.66*	*2.86*		20.6	*14.59*	1.03	3.37	3.25
3/6/2013	7.1	54	7.56	51.3	*14.3*	14.3	*4.74*	4.74		*3.36*	*0.68*		6.36	*1.21*	1.76	3.23	2.73
5/13/2013	10.4	57	6.9	22	*6.11*	6.11	*2.05*	2.05		*3.51*	*0.71*		1.97	*1.31*	2.18	4.74	4.13
8/14/2013	18.9	253	7.33	110	*28.2*	28.2	*10.5*	10.5		*12.66*	*2.48*		12	*11.40*	1.08	4.14	3.97
11/13/2013	10.9	174	7.31	66.7	*17.2*	17.2	*5.85*	5.85	7.27	*7.27*	*2.02*	2.02	9.38	*6.61*	1.63	3.93	3.6
2/26/2014	7.1	176	7.32	61.1	*16.7*	16.7	*5.7*	5.7		*9.27*	*1.83*		10.3	*6.73*	1.24	2.82	2.53
5/14/2014	17.2	186	6.72	83.5	*20.3*	20.3	*7.22*	7.22		*9.72*	*1.91*		8.45	*7.36*	1.26	3.49	3.19
7/23/2014	18.3	124	7.39	44.4	*12.3*	12.3	*4.23*	4.23		*6.88*	*1.36*		7.87	*4.05*	5.3	9.94	8.39
11/14/2014	4.7	180	7.27	62.9	*17.2*	17.2	*5.88*	5.88	7.73	*7.73*	*2.04*	2.04	12	8.69	1.53	4.25	4.19
2/11/2015	10.3	163	7.2	55.1	*15.5*	15.5	*5.13*	5.13	7.01	*7.01*	*1.72*	1.72	7.48	9.91	1.5	3	3
5/6/2015	14.7	247	7.55	105	*26*	26	*9.22*	9.22		*12.49*	*2.43*		10.6	*11.01*	1.22	3.62	*3.00*
8/5/2015	21.3	322	7.47	122	*31.4*	31.4	*11.9*	11.9		*15.58*	*3.04*		25.3	*16.12*	1.19	5.1	*4.23*
10/5/2015	14.3	260	7.24	105	*26.6*	26.6	*9.64*	9.64		*12.95*	*2.54*		35.2	*11.86*	1.13	4.47	*3.71*
2/15/2016	10.5	144	7.22	52.7	*14.4*	14.4	*4.65*	4.65	6.19	*6.19*	*1.32*	1.32	9.61	6.89	1.68	2.99	*2.48*
5/18/2016	17.8	182	7.34	77	*18.8*	18.8	*6.76*	6.76		*9.54*	*1.98*		7.58	*7.07*	1.83	4.2	*3.49*
9/14/2016	16.3	348	7.45	94	*30.6*	30.6	*11.6*	11.6		*15.65*	*3.24*		43.9	*18.16*	1.44	4.4	*3.65*
11/16/2016	11.4	132	7.18	44.9	*14*	14	*4.36*	4.36	5.84	*5.84*	*2*	2	6.91	*4.64*	3	4.52	*3.75*
2/8/2017	5.8	101	7.14	30.7	*9.47*	9.47	*3.14*	3.14		*5.75*	*1.35*		6.83	*3.01*	1.66	3.1	*2.57*
6/7/2017	16.53	218.00	7.26	99.5	*23.6*	23.6	*8.41*	8.41		*11.14*	*2.19*		12.3	*9.18*	1.24	3.8	*3.15*
8/9/2017	23.840	312.3	7.52	132.33	30.1		10.9		13.7	14.1	2.57	2.56	23.6	*13.47*	1.04	3.79	*3.15*
10/18/2017	10.000	211.6	7.22	77.71	19.2		6.93		8.49	8.83	2.23	2.19	11.8	*8.50*	1.58	3.93	*3.26*
2/7/2018	8.591	202.1	7.32	73.8	20.4		6.78		8.73	9.04	1.61	1.59	9.76	*8.23*	1.02	2.61	*2.17*
4/11/2018	11.98	169.9	7.37	61	17.8		5.26		7.15	7.17	1.53	1.56	7.66	*6.40*	1.65	3.13	*2.60*
7/18/2018	22.519	273.2	7.63	115	26.4		9.63		11	10.4	2.38	2.52	11.2	*12.74*	1.27	4.62	*3.83*
10/16/2018	10.780	265.4	7.15	91.3	23		9		11.1	11	2.87	2.89	19.3	*12.22*	1.32	4.84	*3.99*
1/23/2019	8.388	133.4	7.31	43.4	*13.3*	13.3	*4.37*	4.37	5.88	*5.88*	*1.44*	1.44	4.61	*4.51*	1.72	3.06	*2.54*
4/2/2019	12.824	211.3	7.48	80.7	20.1	21.3	7.38	7.69	8.82	8.99	1.71	1.81	12.5	*9.78*	1.42	3.68	*3.05*
7/29/2019	20.308	282.4	7.45	109	*27*	27	*10.2*	10.2		*13.92*	*2.72*		18.2	*13.57*	1.46	5.26	*4.37*

Notes:

1. Temperature, conductivity, and pH data for June 7, 2017 were based on monthly median values.
2. Total concentrations for calcium, magnesium, and sodium used as the dissolved fraction (in ***bold, green***).
3. Where data for sodium, potassium and sulfate was not available, they were calculated using DEQ regression equations (in ***bold, red***).
4. Where dissolved organic carbon data was not available, they were estimated using a correction factor of 0.83 as recommended by DEQ (in ***bold, red***).

Attachment 2: Biotic Ligand Model Parameters – Beaverton Creek @ 170th (RM 5.0)

Calendar Date	00010 - Temperature	00094 - Conductivity	00400 - pH	00410 - Alkalinity	00915 - Ca	00916 - Ca	00925 - Mg	00927 - Mg	00929 - Na	00930 - Na	00935 - K	00937 - K	00941 - Cl	00946 - SO4	01040 - Cu	81230 - Total Organic Carbon	88998 - Dissolved Organic Carbon
3/13/2012	7.2	156	7.43	61.1	*17.1*	17.1	*5.35*	5.35		*9.26*	*1.65*		7.73	*5.65*	1.46	2.81	2.72
4/17/2012	10.4	162	7.33	64.7	*16*	16	*5.15*	5.35		*8.63*	*1.71*		6.1	*5.97*	1.59	3.34	3.2
7/19/2012	19.7	246	7.57	93.8	*23.2*	23.2	*7.88*	7.88		*12.26*	*2.42*		14.9	*10.94*	1.56	4.31	4.18
10/8/2012	11.2	295	7.28	93.5	*25.1*	25.1	*8.77*	8.37		*14.46*	*2.82*		30	*14.24*	0.914	3.57	3.46
3/11/2013	8.4	204	7.53	76.5	*20.2*	20.2	*6.76*	6.36		*10.62*	*2.07*		7.65	*8.84*	0.998	2.35	2.31
5/22/2013	12.1	158	7.08	65.7	*16.1*	16.1	*5.2*	5.2		*8.45*	*1.67*		7.2	*5.78*	2.15	5.58	5.23
8/14/2013	19.4	233	7.32	90.6	*23.1*	23.1	*8.24*	8.24		*11.80*	*2.31*		11.9	*10.31*	0.726	4.28	4.12
11/13/2013	10.6	143	7.08	55.8	*13.7*	13.7	*4.7*	4.7		*7.75*	*1.54*		6.39	*6.88*	1.82	3.7	3.6
2/26/2014	6.4	178	7.35	64.9	*17.6*	17.6	*5.91*	5.91		*9.26*	*1.85*		8.31	*6.88*	1.36	2.95	2.46
5/14/2014	14.6	180	6.81	81.9	*19.9*	19.9	*6.89*	6.89		*9.45*	*1.86*		7.05	*6.96*	1.31	3.44	3.02
7/23/2014	19.3	179	7.32	72	*16.5*	16.5	*5.62*	5.62		*9.40*	*1.85*		8.72	*6.60*	2.55	10	9.52
11/14/2014	4.7	170	7.34	59.6	*15.8*	15.8	*5.42*	5.42	7.25	*7.25*	*2.13*	2.13	10.5	*6.40*	1.71	4.07	3.97
2/11/2015	9.8	163	7.4	59.4	*15.8*	15.8	*5.2*	5.2		*8.63*	*1.71*		6.07	*5.97*	1.45	3	3
5/6/2015	14.7	225	7.37	94	*22.8*	22.8	*8.04*	8.04		*11.45*	*2.25*		9.61	*8.62*	1.34	3.64	*3.02*
8/5/2015	18.7	245	7.34	107	*24.6*	24.6	*8.43*	8.43		*11.93*	*2.41*		12.4	*10.69*	0.683	6.07	*5.54*
10/15/2015	13.2	182	7.25	70.4	*17.3*	17.3	*6.19*	6.19		*9.54*	*1.86*		8.75	*7.07*	0.811	6.06	*5.03*
2/11/2016	10.2	188	7.29	66.2	*18.6*	18.6	*6.22*	6.22		*9.81*	*1.93*		8.67	*7.41*	1.1	2.59	*2.15*
5/18/2016	17.2	176	7.24	73.8	*17.8*	17.8	*5.86*	5.86		*9.27*	*1.83*		6.87	*6.73*	1.66	4.25	*3.53*

Notes:

1. Total concentrations for calcium, magnesium, and sodium used as the dissolved fraction (in ***bold, green***).
2. Where data for sodium, potassium and sulfate was not available, they were calculated using DEQ regression equations (in ***bold, red***).
3. Where dissolved organic carbon data was not available, they were estimated using a correction factor of 0.83 as recommended by DEQ (in ***bold, red***).

Attachment 3: Biotic Ligand Model Parameters – Beaverton Creek @ Cornelius Pass Road (RM 1.2)

Calendar Date	00010 - Temperature	00094 - Conductivity	00400 - pH	00410 - Alkalinity	00915 - Ca	00916 - Ca	00925 - Mg	00927 - Mg	00929 - Na	00930 - Na	00935 - K	00937 - K	00941 - Cl	00946 - SO4	01040 - Cu	81280 - Total Organic Carbon	88998 - Dissolved Organic Carbon
3/12/2012	7.7	158	7.68	64.1	***19.1***		***4.6***			***8.45***	***1.67***		7.5	***5.76***	1.7	2.82	2.75
4/17/2012	11.3	153	7.45	63.7	***12.7***		***4.4***			***8.22***	***1.63***		5.21	***5.50***	1.77	3.58	3.37
7/19/2012	19.2	253	7.44	103	***23.7***	23.7	***8.17***	8.17		***12.66***	***2.48***		12.6	***11.40***	1.76	4.61	4.43
10/8/2012	10.7	287	7.41	112	***26.3***	26.3	***9.3***	9.3		***14.11***	***2.76***		20.4	***13.68***	1.51	4.19	4.04
3/11/2013	8.1	215	7.73	84.6	***21.8***	21.8	***7.28***	7.28		***11.01***	***2.16***		7.63	***9.00***	1.1	2.58	2.58
5/22/2013	13	185	7.41	80.3	***19.3***	19.3	***6.31***	6.31		***9.67***	***1.91***		7.42	***7.24***	1.95	5.33	5
8/14/2013	18.8	247	7.51	105	***25.4***	25.4	***8.91***	8.91		***12.40***	***2.43***		12.4	***11.01***	1.36	4.59	4.39
11/13/2013	10.6	155	7.26	62.7	***15.4***	15.4	***5.1***	5.1		***8.31***	***1.64***		6.57	***5.60***	1.73	3.79	3.46
2/26/2014	6.9	181	7.29	68.8	***17.8***	17.8	***6.12***	6.12		***9.49***	***1.87***		7.94	***7.01***	1.45	2.91	2.65
5/14/2014	15.9	183	7	***65.0***	***20.6***	20.6	***7.05***	7.05		***9.58***	***1.89***		6.5	***7.13***	1.41	3.18	3.59
7/23/2014	19.3	295	7.37	82	***20***	20	***6.66***	6.66		***10.57***	***2.08***		9.85	***8.40***	2.88	9.01	8.72
11/14/2014	4.6	202	7.53	72.3	***19.4***	19.4	***6.61***	6.61	8.37	***8.37***	***2.57***	2.57	12.1	***8.22***	1.89	4.44	4.21
2/11/2015	9.8	164	7.4	60.6	***16.1***	16.1	***5.32***	5.32		***8.72***	***1.72***		6.04	***6.08***	1.53	3.24	3.24
5/6/2015	14.2	240	7.62	102	***25.2***	25.2	***8.6***	8.6		***12.10***	***2.37***		8.67	***10.56***	1.68	3.6	***2.99***
8/5/2015	19.2	256	7.43	110	***26.8***	26.8	***8.96***	8.96		***12.79***	***2.50***		12.8	***11.59***	1.32	6.62	***5.49***
10/15/2015	12.6	193	7.31	81.8	***18.8***	18.8	***6.49***	6.49		***10.03***	***1.98***		9.47	***7.70***	1.57	6.1	***5.06***
2/11/2016	9.9	196	7.37	74	***20.2***	20.2	***6.74***	6.74		***10.17***	***2.00***		7.88	***7.87***	1.22	2.72	***2.26***
5/18/2016	15.8	178	7.39	79	***18.6***	18.6	***6.04***	6.04		***9.36***	***1.85***		6.09	***6.85***	2.01	4.44	***3.69***
9/14/2016	15.1	235	7.53	95.3	***23.8***	23.8	***8.11***	8.11		***11.88***	***2.33***		11.8	***10.24***	1.45	5.6	***4.65***
11/16/2016	11.5	119	7.14	45.1	***12.7***	12.7	***3.91***	3.91		***6.62***	***1.32***		4.54	***3.82***	2.74	4.45	***3.69***
2/8/2017	5.8	142	7.38	46.7	***13.7***	13.7	***4.35***	4.35		***7.71***	***1.53***		8.39	***4.93***	1.59	3.06	***2.54***
6/7/2017	16.39	217	7.16	103	***25***	25	***8.16***	8.16	11.4	***11.4***	***1.77***	1.77	10.1	***9.12***	1.78	4.3	***3.57***
8/9/2017	21.71	274.5	7.46	113.67	27.6	26.1	9.29	9.08	12.1	12.4	2.72	2.76	13.6	***12.83***	1.65	4.83	***4.01***
10/18/2017	10.14	181.5	7.13	71	16.7	17.3	5.72	5.76	8.07	7.95	2.04	2.07	9.25	***7.04***	1.47	4.4	***3.65***
2/7/2018	8.31	208.4	7.58	81.2	21.4	21.9	7.03	7.02	8.85	8.91	1.6	1.58	8.23	***6.60***	1.32	2.25	***2.28***
4/11/2018	12.92	176.7	7.44	68.4	17.8	17.9	5.69	5.58	7.29	7.63	1.41	1.39	7.34	***5.77***	1.76	3.47	***2.88***
7/18/2018	21.15	278.6	7.53	118	27.6	26.5	9.08	9.07	12	11.3	2.57	2.56	12.8	***13.11***	1.51	5.37	***4.46***
10/16/2018	10.09	225.6	7.36	83	20.6	22.3	7.08	7.48	10	9.74	2.66	2.75	13.5	***9.65***	1.34	5.51	***4.57***
1/23/2019	7.66	130.5	7.29	47.2	***13.5***	13.5	***4.33***	4.33	5.55	***5.55***	***1.35***	1.35	5.95	***4.36***	1.73	3.03	***2.51***
4/2/2019	13.03	225	7.42	91.3	22.1	23.5	7.51	8.16	9.46	9.23	1.64	1.78	11.8	***9.62***	1.41	3.54	***2.94***
7/29/2019	19.59	252.7	7.48	101	***24.3***	24.3	***8.51***	8.51		***12.65***	***2.48***		12.7	***11.38***	1.41	4.53	***3.76***

Notes:

1. Temperature, conductivity, and pH data for June 7, 2017 were based on monthly median values.
2. Total concentrations for calcium, magnesium, and sodium used as the dissolved fraction (in ***bold, green***).
3. Where data for sodium, potassium and sulfate was not available, they were calculated using DEQ regression equations (in ***bold, red***).
4. Where dissolved organic carbon data was not available, they were estimated using a correction factor of 0.83 as recommended by DEQ (in ***bold, red***).

Attachment 4: Dissolved Chromium – Fanno Creek @ Durham (RM 1.2)

Date	Units	Qualifier	Flag	01030 - chromium (soluble)	Date	Units	Qualifier	Flag	01030 - chromium (soluble)
2009-01-06	µg/L		~	0.561	2011-10-04	µg/L			0.606
2009-02-03	µg/L		~	0.262	2011-12-06	µg/L		~	0.281
2009-03-03	µg/L		~	0.226	2012-03-06	µg/L		~	0.534
2009-04-07	µg/L		<	0.2	2012-04-11	µg/L		~	0.515
2009-05-05	µg/L		~	0.469	2012-07-11	µg/L		~	0.427
2009-06-02	µg/L		~	0.248	2012-10-03	µg/L		~	0.311
2009-07-07	µg/L	Q		0.674	2013-03-06	µg/L		~	0.457
2009-08-04	µg/L		~	0.214	2013-05-23	µg/L		~	0.374
2009-09-09	µg/L		~	0.447	2013-08-14	µg/L		<	0.4
2009-10-06	µg/L		~	0.218	2013-11-13	µg/L		~	0.448
2009-11-17	µg/L		~	0.458	2014-02-26	µg/L		<	0.4
2009-12-08	µg/L		~	0.288	2014-05-14	µg/L		<	0.4
2010-01-05	µg/L		~	0.433	2014-07-23	µg/L			1.97
2010-02-02	µg/L		~	0.461	2014-11-14	µg/L		~	0.712
2010-03-02	µg/L		~	0.446	2015-02-11	µg/L		<	0.4
2010-04-06	µg/L		~	0.5	2015-05-06	µg/L		<	0.4
2010-05-04	µg/L		<	0.2	2015-08-05	µg/L		<	0.4
2010-06-02	µg/L		~	0.583	2015-10-05	µg/L		<	0.4
2010-07-07	µg/L		<	0.2	2016-02-15	µg/L		<	0.4
2010-08-03	µg/L		<	0.2	2016-05-18	µg/L		~	0.514
2010-09-08	µg/L		~	0.455	2016-09-14	µg/L		<	0.4
2010-10-05	µg/L		<	0.2	2016-11-16	µg/L	~		0.506
2010-11-02	µg/L		~	0.394	2017-02-08	µg/L	~		0.598
2010-12-01	µg/L			0.642	2017-06-07	µg/L			0.444
2011-01-06	µg/L		<	0.2	2017-08-09	µg/L		<	0.4
2011-02-02	µg/L		<	0.2	2017-10-18	µg/L			0.484
2011-03-02	µg/L		~	0.284	2018-02-07	µg/L			0.661
2011-04-06	µg/L		~	0.361	2018-04-11	µg/L		<	0.4
2011-05-03	µg/L		~	0.291	2018-07-18	µg/L		<	0.4
2011-06-07	µg/L		~	0.306	2018-10-16	µg/L		<	0.4
2011-07-06	µg/L		~	0.289	2019-01-23	µg/L			0.558
2011-08-02	µg/L		~	0.27	2019-04-02	µg/L		<	0.4
2011-09-07	µg/L		~	0.414	2019-07-29	µg/L		<	0.4

Notes:

1. "Q": qualified data
2. "~": estimated value; value between quantification level and detection limit.
3. "<": less than reported value

23. Comments from: Forest Service, Pacific Northwest Region

From: Joy Archuleta
Subject USFS Comments on the OR DXEQ's Draft 2018/2020 Integrated Report
Date: Dec. 31, 2019

USDA United States Department of Agriculture | Forest Service | Pacific Northwest Region | 1220 SW Third Avenue (97204)
P.O. Box 3623
Portland, OR 97208-3623

File Code: 2530
Date: DEC 3 1 2019

Ms. Becky Anthony
DEQ Water Quality Assessment
Water Quality Division
700 NE Multnomah
Portland, OR 97232-4100

Dear Ms. Anthony:

I appreciate the opportunity to review and provide comment on the Oregon Department of Environmental Quality's draft 2018/2020 Integrated Report. The USDA Forest Service (USDAFS) is committed to protecting and restoring Oregon's waters, as demonstrated by decades of science-based conservation and management of some of the state's most important watersheds. The USDAFS is also committed to full implementation of the Clean Water Act. I am pleased to comment on this assessment and recognize our participation as a critical opportunity to meet state and federal water quality rules and regulations in a proactive and collaborative manner.

My staff has reviewed the proposed listings and the mapping protocols. We support the change from the outdated Longitude Latitude Identification (LLID) system to National Hydrography Dataset (NHD) for water body designation which is the national and state hydrologic framework standard.

The smallest assessment unit proposed is at the subwatershed (HUC12) level where all streams are evaluated as a cohesive unit. Entire subwatersheds thus are depicted as having impaired water quality yet in reality there is only one impaired stream segment, as adjacent and downstream segments within the subwatershed are achieving standards. In some cases, areas of shared land ownership with upstream segments on National Forest System lands are designated as impaired due to private land management downstream. There are also portions of Wilderness areas which have never been actively managed now considered water quality limited.

I am requesting further dialogue between my staff and DEQ on how TMDL implementation standards in these subwatersheds will differ between water-quality impaired segments versus those in compliance; yet mapped as impaired due to ODEQ mapping protocols. This methodology does not accurately reflect the issues on the ground. It will add to confusion on where to target treatments and potentially restrict appropriate land management activities where water quality is meeting standards.

Here are three specific concerns that were noted.

1. On the Columbia River Gorge National Scenic Area, the Sandy River channel at the mouth that was reconnected through the Sandy River Delta to the east is mapped as the Columbia River but carries Sandy River flow at lower flows and the Columbia River flows at other times of the year. In addition, Eagle Creek is listed as Category 4A (WQ limited/TMDL Approved) as it is within the assessment area of the Western Hood Subbasin Temperature TMDL, however, the MDL focus was completely on the Hood River basin. We are unsure of whether this TMDL adequately addresses water quality issues within Eagle Creek.

2. On the Mt Hood National Forest, there is a new listing for biocriteria on the White River (Iron Creek to Clear Creek). This reach is dominated by silty, sandy and rocky substrate that originates from the White River Glacier high up the SE flanks of Mt Hood. The river valley is a long debris fan indicative of drainages originating from glaciated volcanoes. Average annual turbidity, fine sediment, and coarse sediment are naturally high with fine sediment dominating the substrate. Availability of interstitial spaces and breeding matrix for macroinvertebrates is limiting but it is a historic natural condition.

3. On the Umpqua National Forest, the South Umpqua (SU @ Tiller) monitoring site is listed as South Umpqua above the falls. There is no monitoring site at SU above the falls, therefore the monitoring site location should be mapped within Assessment Unit OR_SR_1710030201_02_105374, not OR_SR_1710030203_02_105389.

Water quality protection on USDAFS land has significantly improved in the last twenty years with the implementation of aquatic conservation strategies commonly known as the Northwest Forest Plan, Pacfish and Infish, which amended the national forest land and resource management plans in the state. Other regional and national strategies that focus on water quality protection include the USDAFS regional aquatic restoration strategy and USDAFS National Watershed condition framework which assess watershed condition and prioritize and focus active restoration to improve watershed condition. A national BMP program now in place has renewed emphasis on BMPs and requires use of standardized monitoring protocols. One of the key components of BMP monitoring is identifying corrective actions and adaptive management needed to improve performance on water quality protection.

Thank you for the opportunity to comment. We look forward to continuing to work collaboratively and proactively with ODEQ staff to address current and proposed listed waters and improve water quality in the State. If you have questions, please contact Joy Archuleta, Regional Water Quality and Water Rights Program Manager, at 503-808-2696.

Sincerely,

GLENN P. CASAMASSA
Regional Forester

24. Comments from: Dan Keeley

From: Dan Keeley
Subject: Oppose Methodology of DEQ's Draft Integrated Report
Date: Jan. 2, 2020

Dear Director Whitman,

In exploring your Draft Integrated report for 2020 it appears that there is no actual data for Mission Creek (tributary of Champoeg Creek), either above or below our dam. The application map, however, clearly shows this segment to be water quality impaired for both dissolved oxygen and dieldrin. Given dieldrin has been illegal for several decades, the reservoir supports a thriving bass fishery and Mission creek below the reservoir is largely dry or stagnant pools during the summer, it seems unreasonable to label it as impaired without specific data. While I understand the convenience of broad brushing using limited data I don't think you understand how much of a public relations disaster you are creating by presenting the data you have in this way. If you don't have the data, show the stream segment as unknown/suspected impaired based on regional data or some such words. We already assume the worst of DEQ based on many hard lessons from the past. You reinforce that opinion at DEQ's peril and hurt actual environmental protection at the same time!

Dan Keeley, P.E.
5975 Buyserie Rd. NE
St. Paul, OR 97137
djkeeley@stpaultel.com

Thank you for the opportunity to comment.

Sincerely,

Dan Keeley
5975 Buyserie Rd NE
Saint Paul, OR 97137
djkeeley@stpaultel.com

25. Comments from: Kristin Schoorl

From: Kristin Schoorl
Subject: In Support of DEQ 2018 – 20 Draft Integrated Report
Date: Jan. 2, 2020

As a farm owner in Nyssa, Oregon, I am very concerned about water quality in this area (specifically, irrigation canals in Nyssa and Adrian that ultimately feed into the Malheur, Owyhee, and Snake rivers) and support Oregon's DEQ 2018/2020 Draft Integrated Report on the status of water quality.

With the abundance of herbicides used to control grass, moss, and weeds in our canals; the use of herbicides and pesticides by the majority of farmers in Malheur county; in addition to water treatment (and fogging) for mosquitoes in our area; the amount of toxins in our waterways and farm ground is greatly concerning to me, so much so that I rarely irrigate, even though I participate in Owyhee Irrigation's Lock and Close program during aquatic chemical applications. With Roundup-resistant GMO creeping bentgrass in our ditches and irrigation canals, a chemical other than Roundup is now used to control this grass, and one can only speculate as to how long this chemical will remain effective. (Per Owyhee Irrigation's web site, Magnacide H Acroline and Xylene range aromatic solvent are used on an as-needed basis to resolve flow restriction and water quality issues.)

I've owned my farm for 22 years, and since 1997/98, there has been a significant decline in pheasant, quail, and meadowlark populations; I rarely see cottontails, which were once fairly prevalent on our property; and in general, there seems to be a general decline in biodiversity. I cannot help but think that the herbicides and toxins (naturally occurring or otherwise) in our waterways have contributed to this decline, but regardless, the fact these toxins pollute waterways, farms, fisheries and ultimately aquifers and wells, requires the most stringent monitoring and regulation of all waterways by Oregon DEQ.

Thank you for the opportunity to comment,

Kristin Schoorl

757 Klamath Ave.
Nyssa, OR 97913

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26. Comments from: Harney County Court

From: Peter Runnels, Mark Owens, Patty Dorrah
Subject: Comments Regarding the 2018 – 2020 Integrated Report
Date: Jan. 2, 2020

HARNEY COUNTY COURT

Office of Harney County Judge Pete Runnels
450 North Buena Vista #5, Burns, Oregon 97720
Phone: 541-573-6356 Fax: 541-573-8387
Pete.runnels@co.harney.or.us
Websites: www.co.harney.or.us ♦ www.harneycounty.org

January 2, 2020

Oregon Department of Environmental Quality
Attn: Mr. Richard Whitman, Director
700 NE Multnomah Street, Suite 600
Portland, OR 97232-4100

Submitted via electronic email to: richard.whitman@state.or.us
integratedreport@deq.state.or.us

Dear Director Whitman,

Please accept these comments from the Harney County Court regarding the 2018-2020 Integrated Report. Harney County is in opposition to DEQ's decision to list water bodies throughout Oregon as water quality impaired, without data to support those listings. For good reason, you may find that our comments are similar to other submissions. Please understand that many of these comments have been vetted and discussed at length, and with full agreement, as to the reasons why we and other counties, associations, partners, and people oppose the DEQ decision.

We oppose the DEQ's decision for many reasons, and highlight the following aspects and decisions in particular. We object to DEQ's decision to:

- List water bodies throughout the state as water quality impaired without data to support those listings.
- Include agricultural irrigation, drainage ditches, and other man-made ditches in the list of water quality impaired waterways. These are not natural waterways, and we are concerned about the long-term ramifications to county programs and our constituents as a result of this large and unnecessary policy change.
- Extrapolate listings of waterways and ditches based upon data collected from neighboring properties by pooling data on a watershed wide scale. Water quality naturally differs from water body to water body, particularly when those waterways are under different ownerships and may have experienced differing current and historic riparian management.
- Present no evidence that this extrapolation is scientifically valid or sound. Instead, it appears to be an attempt to list and regulate waterways without first going through the necessary step of determining that data actually shows an impairment. To do so is not sound science or sound policy.

- Draft and create a report that makes it appear that vast amounts of county lands, especially farm and forest lands, are experiencing declining water quality, particularly when it appears that DEQ lacks water body specific data for significant portions of the waterways listed.

- List the vast majority of our waterbodies as water quality impaired in the Integrated Report without first reaching out to county officials.

Harney County, including our cities' public works departments, and our farm, ranch, forest, and commercial business constituents, has always been a good partner with DEQ and their associated non-point source designated management agencies. Forest and agricultural lands have among the highest water quality in the state, and county constituencies have made significant investments over time improving and protecting water quality.

We believe we were entitled, as local government, to forewarning and a more in depth discussion of the methodologies used and the assumptions that the Integrated Report makes about waterways in our county, particularly when the agency has made some very significant policy calls that will have a direct impact on county programs and county lands. We are additionally surprised that this very impactful policy work has left us with such a narrow window of opportunity to comment now that we have been alerted.

Thank you for the opportunity to comment and we hope we can have a more productive dialogue about the Integrated Report moving forward.

Sincerely,

Peter Runnels, Harney County Judge

Mark Owens, Harney County Commissioner

Patty Dorroh, Harney County Commissioner

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27. Comments from: Hood River Soil and Water Conservation District

From Heather Hendrixson
Subject: Comment Letter from Hood River SWCD
Date: Jan. 3, 2020

Hood River Soil & Water
CONSERVATION DISTRICT
3007 Experiment Station Rd.
Hood River, OR 97031
541-386-4588
www.hoodriverswcd.org

January 3, 2020

DEQ Water Quality Assessment
Water Quality Division
700 NE Multnomah
Portland, OR 97232-4100

Re: 2018-2020 draft Integrated Report on Impaired Waterways

To whom it may concern:

The Hood River Soil & Water Conservation District and Hood River Watershed Group have always supported DEQ and have worked as a close partner to ensure compliance with state standards to meet shared watershed goals. This roll out of the Integrated Report, however, has created a situation where the Soil & Water Conservation District is having a hard time supporting and defending DEQ's efforts. We feel we have been blindsided by this report, as others must be feeling as well. We are supporters who were left out of the process and have no choice now but to point out flaws.

The Hood River Soil & Water Conservation District has reviewed the draft 2018/2020 Integrated Report and would like to provide the following comments.

1. Process: We were not aware there was an update to the Integrated Report occurring or of the review/comment period until late November 2019. Therefore, our timeline for analyzing the report and providing comments was significantly shortened. In the future, we suggest a better system of notifying stakeholders and constituents of report reiterations and a longer review/comment period.

2. HUC 12 assessment units: We have concerns with the use of sub-watersheds (HUC-12) as the assessment unit. DEQ's methodology stated that "through the assessment process, DEQ will review the watershed units more closely", but that does not seem to have occurred in the Hood River Basin. The sub-watersheds often include multiple waterways that come from separate source waters, flow through different land-uses, and are not hydrologically connected. DEQ is required to assess waterbody units based on data and it appears that the scale of these assessment units does not allow that to happen with the data DEQ has. It does not make sense to assume that an impairment measured in one waterway means that the same impairment is present in any other waterway, or even that the impairment is suggested in the unmeasured waterway. At a minimum, the assessment

unit should include just the waterways that are hydrologically connected instead of lumping them all together in one HUC-12 boundary. Best practices would suggest that DEQ actually "review the watershed units more closely" for other differences in watershed homogeneity, in addition to hydrologic connectivity.

3. Watershed assessment units: Classifying headwater, often intermittent streams that may not even have a defined channel, with larger stream or watershed assessment units seems questionable at best. Impairments measured in the mainstems or main branches of a waterway are unlikely to be found in most/all of the headwaters, especially as many of these headwater streams are located in protected areas.

4. General Methodology: Using the assigned assessment units for the Hood River Basin doesn't seem to help in prioritizing areas of concern or areas to focus efforts. For example, the map of the Hood River Basin shows literally every mapped waterway as impaired.

DEQ's methodology, especially as it relates to watershed assessment units, is an inappropriate use of the data available and risks invalidating this update to listings of impaired waterways. DEQ should not assume or declare impairment in most of the waterways in the state based on a lack of data. If DEQ needs local feedback on local watershed hydrology and/or relevant breaks to create homogeneous waterway segments, they have significant resources with local SWCDs, watershed councils, irrigation districts, agencies, and citizens. DEQ needs to rework their process and methodology to create an assessment that is both supportable and scientifically defensible.

Sincerely,

Heather Hendrixson

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28. Comments from: City of Portland Bureau of Environmental Services

From: Michael Jordan, Director
Subject Draft 2019/2020 Integrated Report Comment from City of Portland Bureau of Environmental Services
Date: Jan. 3, 2020

CITY OF PORTLAND
ENVIRONMENTAL SERVICES
1120 SW Fifth Avenue, Room 1000, Portland, Oregon 97204 ▪ Nick Fish, Commissioner ▪ Michael Jordan, Director

January 6, 2020

DEQ Water Quality Assessment
Water Quality Division
700 NE Multnomah
Portland, OR 97232-4100
Submitted to: integratedreport@deq.state.or.us

RE: Oregon's Draft 2018/2020 Integrated Report

The City of Portland's Bureau of Environmental Services (BES) appreciates the opportunity to provide comments on the Oregon Department of Environmental Quality's (DEQ) Draft 2018/2020 Integrated Report. BES manages Portland's wastewater and stormwater infrastructure to protect public health and the environment.

BES would like to express our appreciation of DEQ's recent efforts to improve the Integrated Report, including the updated assessment methodology and tools that DEQ has made available to the public. The interactive web map, assessment geodatabase, and the online searchable assessment database allowed BES to thoroughly review the draft Integrated Report assessments, as well as the new assessment units. Our comments on the draft Integrated Report are offered in three categories: issues associated with the new assessment units, errors or issues identified with specific listings, and missing information.

Assessment Units

The following section includes comments related to DEQ's newly developed assessment units, including application issues and delineation errors.

1. DEQ should remove line segments from the assessment units that do not represent surface waters. There are multiple line features included in DEQ's new assessment units that do not represent surface waterbodies. Many of these lines represent stormwater pipes or areas that may have been surface waters in the past, but today there is no body of water present. A map highlighting the non-surface water line segments in the Portland area that should be removed is included with this comment letter and a GIS layer with categorized line types that specify open channels vs. pipes is available online: http://gis-pdx.opendata.arcgis.com/datasets/stream-centerlines.

2. DEQ should divide the Columbia Slough watershed assessment unit (OR_WS_170900120201_02_104554) so that the lower 8.5 miles of the mainstem channel (from the confluence with the Willamette River to the levee at Elrod Drive) is delineated as a separate stream assessment unit. The lower 8.5 miles of the Columbia Slough represent a unique waterbody with many features that differentiate it from the rest of the watershed. The lower Slough is tidally influenced, free-flowing, and directly connected to the Willamette River, providing important habitat for migrating salmonids. This segment of the Columbia Slough has been designated as critical habitat for Lower Columbia River Chinook, coho, and steelhead. In contrast, the upstream reaches of the watershed are managed by a system of drainage districts that pump water through the system. Given that the levee divides the Slough into two very different water bodies—both hydrologically and biologically—the use of Strahler stream order to distinguish between homogeneous watershed areas and stream reaches is not appropriate and fails to capture the environmental variability. As such, a division of the current watershed assessment unit at the levee near Elrod Drive is warranted.

Listing Errors/Issues

The following section includes comments related to the listing determinations included in DEQ's assessment database, including determinations that BES has identified as incorrect, conflicting, or duplicative.

1. The Category 5 impairment listing for dissolved oxygen spawning for the Willamette River (OR_SR_1709001202_88_104175) should be removed as the Salmon and Steelhead Spawning Use Designation map for the Willamette basin (Figure 340B) notes that there is "no spawning use" for this assessment unit.

2. The Category 3 determination for year-round temperature for Johnson Creek (OR_SR_1709001201_02_104170) is not correct and should be updated based on the available continuous temperature data. The three USGS stations listed as having been evaluated have recorded continuous water temperature since 2007. Consequently, there is a sufficient number of samples to assess whether the designated use is supported.

3. The Category 3 determination for year-round temperature for the Lower Johnson Creek HUC (OR_WS_170900120103_02_104552) is not correct and should be updated based on the available continuous temperature data. The two USGS stations listed as having been evaluated have extensive water temperature records. Consequently, there is a sufficient number of samples to assess whether the designated use is supported.

4. The Category 5 impairment determination for DDT for Johnson Creek (OR_SR_1709001201_02_104170) should be changed to Category 4A given the existing TMDL. The 2006 Johnson Creek Toxics TMDL includes both DDT and dieldrin.

5. DEQ should remove the Category 4A determinations for elemental phosphorus for freshwater assessment units as the water quality criterion does not apply to freshwater aquatic life. The following assessment units in the Portland area include Category 4A

determinations for elemental phosphorus. TMDLs are in place for these assessment units, however, the TMDLs are for total phosphorus, not elemental phosphorus.

Freshwater Assessment Units with Elemental Phosphorus Determinations			
Assessment Unit ID	**AU Name**	**Assessment**	**IR Category**
OR_WS_170900120201_02_104554	HUC12 Name: Columbia Slough	Phosphorus Elemental	Category 4A
OR_WS_170900120104_02_104553	HUC12 Name: Oswego Creek-Willamette River	Phosphorus Elemental	Category 4A
OR_WS_170900100401_02_104506	HUC12 Name: Beaverton Creek	Phosphorus Elemental	Category 4A
OR_WS_170900100502_02_104513	HUC12 Name: Fanno Creek	Phosphorus Elemental	Category 4A

6. Where there are conflicting determinations in the assessment database, DEQ should review the assessments and clarify the determinations. A list of assessments units with conflicting determinations for the same parameter in the Portland area are included below.

Conflicting Categories			
Assessment Unit ID	**AU Name**	**Assessment**	**IR Category**
OR_WS_170900120104_02_104553	HUC12 Name: Oswego Creek-Willamette River	Ammonia- Aquatic Life Criteria	Category 2/ Category 4A
OR_WS_170900120201_02_104554	HUC12 Name: Columbia Slough	Dissolved Oxygen- Year Round	Category 2/ Category 4A

7. DEQ should eliminate the duplicate determinations included in the assessment database or provide information to explain the distinction between the entries. In the Portland area, there are multiple cases where the assessment database includes two identical entries. It is unclear why there are multiple assessments of the same parameter for a single assessment unit. A list of the duplicate entries in the Portland area are included below.

Duplicate Entries			
Assessment Unit ID	**AU Name**	**Assessment**	**IR Category**
OR_SR_1709001201_02_104170	Johnson Creek	Dissolved Oxygen- Year Round	Category 2
OR_SR_1709001201_02_104170	Johnson Creek	Temperature- Year Round	Category 3
OR_SR_1709001202_88_104175	Willamette River (Johnson Creek to Columbia River)	Temperature- Year Round	Category 5
OR_WS_170900100502_02_104513	HUC12 Name: Fanno Creek	Temperature- Year Round	Category 4A
OR_WS_170900120101_02_104550	HUC12 Name: Upper Johnson Creek	Temperature- Year Round	Category 5

Duplicate Entries			
Assessment Unit ID	AU Name	Assessment	IR Category
OR_WS_170900120103_02_104552	HUC12 Name: Lower Johnson Creek	Temperature- Year Round	Category 3
OR_WS_170900120305_02_104561	HUC12 Name: Multnomah Channel	Dissolved Oxygen-Year Round	Category 3

8. Where more extensive datasets are readily available and accepted, but were not used, DEQ should re-assess the waterbody using the full set of records to evaluate attainment of water quality standards. The following assessment units and parameters should be re-assessed by DEQ using all the readily available and accepted data.

   a. DEQ should re-assess the Willamette River (OR_SR_1709001202_88_104175) assessment unit for chlorophyll-a using all readily available and accepted data. BES provided DEQ with chlorophyll-a data during the call for data for three monitoring stations on the Willamette River (PDX_BES-BM, PDX_BES-CM, PDX_BES-FM). The chlorophyll-a records for these mainstem Willamette sites were accepted by DEQ and are available in DEQ's AWQMS database. If DEQ had used the more comprehensive chlorophyll-a dataset when assessing the Willamette River, there would be sufficient data to classify the assessment unit as Category 2 for chlorophyll-a (157 samples with 18 excursions).

   b. DEQ should assess the following assessment units for chlorophyll-a as data are readily available and accepted by DEQ. As noted above, BES provided DEQ with chlorophyll-a data which were accepted by DEQ and are available in AWQMS but were not used.

Assessment Units with Missing Chlorophyll-a Assessments			
Assessment Unit ID	AU Name	Assessment	IR Category
OR_WS_170900120202_02_104555	HUC12 Name: Balch Creek-Willamette River	Chlorophyll-a	None
OR_WS_170900120104_02_104553	HUC12 Name: Oswego Creek-Willamette River	Chlorophyll-a	None
OR_WS_170900120101_02_104550	HUC12 Name: Upper Johnson Creek	Chlorophyll-a	None
OR_WS_170900120103_02_104552	HUC12 Name: Lower Johnson Creek	Chlorophyll-a	None
OR_WS_170900120305_02_104561	HUC12 Name: Multnomah Channel	Chlorophyll-a	None

   c. The USGS has collected continuous temperature data in all three of the Johnson Creek assessment units (OR_SR_1709001201_02_104170, OR_WS_170900120101_02_104550, OR_WS_170900120103_02_104552), however, these three assessment units were not assessed for temperature to determine whether the designated spawning use was met for the 2018/2020 Integrated Report. Given the readily available and extensive datasets,

DEQ should evaluate these three assessment units to determine whether the designated spawning use is met for temperature.

Missing Information

The following section identifies information that should be made available to the public to support the 2018/2020 Integrated Report determinations.

1. DEQ should include information on the source data used to assess aquatic weeds in the assessment database. Multiple assessment units are listed as impaired (Category 5) or having insufficient data (Category 3B) for aquatic weeds. Given the lack of information included in the assessment database, it is not possible for the public to review and confirm the water quality status for aquatic weeds. A list of the assessment units in the Portland area with no specified data sources are included below.

Assessment Units with Missing Data Sources			
Assessment Unit ID	**AU Name**	**Assessment**	**IR Category**
OR_WS_170900100502_02_104513	HUC12 Name: Fanno Creek	Aquatic Weeds	Category 5
OR_WS_170900100401_02_104506	HUC12 Name: Beaverton Creek	Aquatic Weeds	Category 3B
OR_WS_170900120201_02_104554	HUC12 Name: Columbia Slough	Aquatic Weeds	Category 5
OR_SR_1709001202_88_104175	Willamette River (Johnson Creek to Columbia River)	Aquatic Weeds	Category 5

2. DEQ should publish the geospatial methodology utilized to cross-walk the 2012 and 2018/2020 Integrated Reports. The 2018 Assessment Methodology states that where conclusions from the 2012 and 2018/2020 Integrated Reports differ for an assessment unit, DEQ will make cross-walking determinations on a case-by-case basis. These determinations should be made available to the public.

Thank you again for the opportunity to provide input. If you have any questions regarding these comments, please contact Julia Bond at 503-823-7753 or julia.bond@portlandoregon.gov for more information.

Sincerely,

Michael Jordan
Director, Bureau of Environmental Services

29. Comments from: City of Hood River

The watershed assessment units used in the 2018/2020 assessment create difficulties based both on their size and hydrologic disconnection. The assessment units within the city or around city operations include between 52-111 miles of waterways, which is a significant scale to list based on, at worst, only one monitoring site within that assessment unit (e.g. Lake Branch). In addition, two of the watershed assessment units include waterways that are outside of (and not hydrologically connected to) the waterways within the city/UGB (Grays Creek and Harphan Creek). As such, the waterways in the city are listed based on data collected on waterways completely unrelated to (and disconnected from) our urban waterways. This does not seem like a valid way to determine impairment of these waterways.

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30. Comments from: Central Oregon Irrigation District

This area [OR_WS_170703050808_05_102490] consists of district facilities (canals, culverts, pipes, etc.) and private irrigation ditches and canals as shown on the Draft Integrated Report map. Please note that the sole function of these facilities is the delivery of water for irrigated agriculture. These facilities are utilized for approximately 190 days a year, and otherwise remain dry and unable to support fish or aquatic lifeforms. Water supplied to district users is screened at the original diversion point to prevent fish from entering the system. The identified infrastructure is entirely man-made, dry for almost six months a year, and were never intended to or capable of providing sustained habitat for fish or aquatic life.

Central Oregon Irrigation District believes that inclusion of our facilities on DEQ's report must be in error. We respectfully request that the above listed area be removed from the current status listing.

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31. Comments from: Grant County

From: Scott W. Myers, Jim Hamisher, Sam Palmer
Subject: Grant County Integrated Report Comments
Date: Jan. 3, 2020

County Court of Grant County
Scott W. Myers, County Judge
Jim Hamsher, County Commissioner
Sam Palmer, County Commissioner

1/3/2020

Mr. Richard Whitman, Director
Oregon Department of Environmental Quality
TRANSMITTED BY EMAIL

Dear Director Whitman,

The Grant County Court is writing to oppose DEQ's decision to list water bodies throughout the state as water quality impaired without data to support those listings, as it has done in its 2018-2020 Integrated Report. We also oppose DEQ's decision to include agricultural irrigation, drainage ditches, and other man-made ditches in its list of water quality impaired waterways. These are not natural waterways, and we are concerned about the long-term ramifications to county programs and our constituents as a result of this large and unnecessary policy change.

Grant County also opposes DEQ's decision to extrapolate listings of waterways and ditches based upon data collected from neighboring properties by pooling data on a watershed wide scale. Water quality naturally differs from water body to water body, particularly when those waterways are under different ownerships and may have experienced differing current and historic riparian management. DEQ has presented no evidence that this extrapolation is scientifically valid or sound. Instead, it appears to be an attempt to list and regulate waterways without first going through the necessary step of determining that data actually shows an impairment. In order to be scientifically defensible, decisions to list waterbodies as impaired must be based on water body specific data and cannot be extrapolated from samples from neighboring waterways or tributaries. To do otherwise is not sound science or sound agency policy. Without using actual data, DEQ may be making water quality on county lands, which are largely agricultural and forest lands, look worse than it may actually be. Agriculture and timber jobs are critical to economic and social stability in rural counties. Destabilizing these sectors without specific and verifiable data is bad public policy.

Grant County, including our communities public works departments, along with our ranches, farms, forests, manufacturing, industrial and commercial business constituents, have always been good partners with DEQ and their associated non-point source designated management agencies. Our forest and agricultural lands have among the highest water quality in the state, and

county constituencies have significant investments over time improving and protecting water quality.

It is disappointing that the report makes it appear that vast amounts of county lands, especially farm and forest lands, are experiencing declining water quality, particularly when it appears that DEQ lacks water body specific data for significant portions of the waterways listed.

We are disappointed that the agency did not reach out to county officials about the Integrated Report prior to listing the vast majority of our waterbodies as water quality impaired. We believe we were entitled, as local government, to forewarning and a more in depth discussion of the methodologies used and the assumptions that the Integrated Report makes about waterways in our county, particularly when the agency has made some very significant policy calls that will have a direct impact on county programs and county lands. We are additionally surprised that this very impactful policy work has left us with such a narrow window of opportunity to comment now that we have been alerted.

The Grant County Court's mission is based on supporting cooperative relationships with state agencies, including those with significant roles in establishing and implementing water policy in the state; along with the values of coordination; applying sound, verified, peer reviewed science, and achieving balance.

Thank you for the opportunity to comment and we hope we can have a more productive dialogue about the Integrated Report moving forward.

Sincerely,

Grant County Court,

Scott W. Myers, County Judge

Scott W. Myers Date: 1/3/2020

Jim Hamsher, County Commissioner

Jim Hamsher Date: 1/3/2020

Sam Palmer, County Commissioner

Sam Palmer Date: 1/3/2020

32. Comments from: City of Gresham

From: Torrey Lindbo
Subject: Gresham Comments on Draft 2018/2020 Integrated Report
Date: Jan. 3, 2020

CITY OF GRESHAM 1333 N.W. Eastman Parkway | Gresham, OR 97030

January 3, 2020

Becky Anthony
DEQ Water Quality Assessment
Water Quality Division
700 NE Multnomah
Portland, OR 97232-1400

Re: City of Gresham Comments on DEQ's Oregon 2018/2020 Integrated Report

Dear Ms. Anthony,

The City of Gresham's Department of Environmental Services appreciates the opportunity to comment on the Department of Environmental Quality's (DEQ's) draft Oregon 2018/2020 Integrated Report. Gresham respectfully submits the following for DEQ's consideration.

Ensure that tributaries are mapped within the same watershed as their parent stream/river. One specific example noted within Gresham:

- The headwaters of Fairview Creek are mapped with the Johnson Creek tributaries (AU ID: OR_WS_170900120101_02_104550). This area, located between Powell Blvd. and Division St. and between SE 182nd and NW Birdsdale Ave, has no hydraulic connectivity with Johnson Creek. It is connected to Fairview Creek, which is part of the Columbia Slough watershed. While Johnson Creek and the Columbia Slough are both within the Willamette Basin TMDL, there are specific pollutants and allocations within the Lower Willamette Subbasin TMDL for Johnson Creek, Fairview Creek and the Columbia Slough.

Ensure that the Active TMDLs listed for each stream assessment unit is accurate and only reflects the TMDLs that apply to the stream segments selected. Some specific examples noted within Gresham:

- The Beaver Creek tributaries (AU ID: OR_WS_170800010703_02_103703) are currently listed as having Active TMDLs for not just the Sandy River Basin (which is where it belongs), but also for Columbia Slough and Willamette Basin. The active TMDLs list needs to be updated to reflect that only the Sandy River Basin TMDL applies to these tributaries.
- The Upper Johnson Creek tributaries (AU ID: OR_WS_170900120101_02_104550) are currently listed as having Active TMDLs for Columbia Slough and Willamette Basin. The active TMDLs list needs to be updated to reflect that only the Willamette Basin TMDL applies to these tributaries. There is actually a specific Johnson Creek TMDL that is part of the Lower Willamette Subbasin TMDL. The Johnson Creek TMDL is at a similar scale to the Columbia Slough TMDL, which DEQ currently calls out, so it would be good to be consistent in the TMDL listing scale – either stick with just Willamette Basin for all, or add Johnson Creek in the same way Columbia Slough is used.
- Fairview Creek, which is lumped in with the Columbia Slough (AU ID: OR_WS_170900120201_02_104554) currently lists Active TMDLs for Columbia Slough, Willamette Basin, and Sandy River Basin. Fairview Creek has no connection to the Sandy River Basin, so that TMDL should be removed from the list. It appears as though all of those TMDLs may be included in the list since some of the tributaries in Troutdale/Wood Village are in this same assessment unit (e.g. Arata and Salmon Creeks). Those tributaries are unique in that they aren't connected to the Columbia Slough/Willamette, but also don't connect to the Sandy River – they are primarily

controlled by a drainage district that pumps them directly to the Columbia River. The City of Troutdale has provided more detailed comments related to these tributaries.

Is there a way to manually alter segments for areas where watersheds are better characterized, and the data exists to do so? Some specific examples in Gresham are based on data the City has collected on numerous tributaries currently lumped into the Upper Johnson Creek assessment unit:

- Temperature. Some tributaries have high temperatures due to inline ponds while others are cool year-round due to groundwater flows. The City has data demonstrating several tributaries are meeting the temperature standard, with data on other tributaries showing exceedances, yet the entire group of tributaries (as a segment) are shown as impaired. When data demonstrates a tributary is not impaired, it doesn't seem logical to display it as impaired. The current way of representing segments allows a few tributaries exceeding a standard to supersede data on other tributaries demonstrating that an impairment does not exist.
- Similar to temperature, the City has collected other data (i.e. water quality, biocriteria) on small first-order streams that demonstrate differences between streams which are currently lumped into the same "segment," which gets listed based on the least common denominator.

The City appreciates the opportunity to provide comments on this draft. If you have questions regarding the comments provided, please contact Katie Holzer at katie.holzer@greshamoregon.gov or 503-618-2377 for more information.

Sincerely,

Torrey Lindbo
Water Sciences Program Manager
City of Gresham, Department of Environmental Services

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33. Comments from: Columbia County Public Works

From: Mike Russell
Subject: 2018 -2020 DEQ Integrated Report Comments
Date: Jan. 3, 2020

COLUMBIA COUNTY
Department of Public Works

ST. HELENS, OR 97051
1054 Oregon St.
Direct (503) 397–5090
Fax (503) 397–7215
publicworks@co.columbia.or.us
www.co.columbia.or.us

January 6, 2020

Oregon Department of Environmental Quality
Attn: Mr. Richard Whitman, Director
700 NE Multnomah Street, Suite 600
Portland, OR 97232-4100

Submitted via electronic mail to: richard.whitman@state.or.us

Dear Director Whitman,

I am writing to express concern regarding the draft 2018-2020 Integrated Report. The primary concern is around the inclusion of roadside drainage ditches or "intermittent drainage ditches" as regulated water bodies. It is unclear what this means and there may be unintended consequences in expanding Federal Clean Water Act regulations to regulate waterways that are typically exempt.

In Columbia County's case, the Public Works Department maintains approximately 550 miles of roadways. A vast majority of these roads use roadside ditches to drain rainwater. That is over 1,000 miles of ditch lines that we are responsible to maintain. We are a small department with very limited resources and have to prioritize everything we do to effectively serve our citizens. What this typically means is that we are responding to the worst spots first. These are drainage issues that are usually impacting the safety of the roadway or have the potential to cause damage to private property if we do not respond in a timely manner. My concern is that adding the regulatory weight of the Federal Clean Water Act to roadside ditches will hamper our ability to quickly and efficiently address drainage issues so that damage is minimized and our resources can be focused on other priorities.

Columbia County is committed to operating in an environmentally conscious manner. Columbia County Public Works currently applies Best Management Practices based on the National Marine Fisheries Services approved Oregon Department of Transportation's *Routine Road Maintenance Water Quality Guide Best Management Practices* to operations of the Public Works Department. While the guide focuses on conservation of salmon and steelhead fish under the Endangered Species Act, it inherently addresses maintaining water quality to the maximum extent practicable when performing routine road maintenance activities such as ditch cleaning, road grading, etc. without the need to get regulatory permitting authority for each activity at each location. This practical approach allows road maintenance activities to flow easily and efficiently while establishing a standard that places emphasis on being environmentally aware.

My concern with the potential of expanding Clean Water Act requirements to these activities is based on experience. For individual projects that we do apply Clean Water Act requirements, we instinctively add a significant amount of time and resources to them because we know that the permitting timelines can range from 6 months to a couple of years depending on the complexity of the project. I have seen permitting processes take much longer even. The thought of having to do the same for the various routine road maintenance activities we do is distressing. Without further definition or discussion to define exactly what the impact of this decision will have, it is hard to see it being applied without further hampering our ability to efficiently serve our citizens.

As a member of the Association of Oregon Counties (AOC) and OACES, an affiliate of the AOC, I support their request for clarification on what DEQ categorizes as an intermittent drainage ditch, specifically if drainage ditches in the county right-of-way are included in the assessment even if they do not feed into an adjacent stream.

Similarly, I affirm OACES's disappointment that representatives of local government were not included in the workgroup that evaluated the updated methodology, as the subsequent policy changes will have a severe impact on counties and county land. We hope to have the opportunity for more in-depth conversations going forward.

Thank you for the opportunity to comment.

Sincerely,

Mike Russell, Director
Columbia County Public Works

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34. Comments from: Coos County

From: Melissa Cribbins
Subject: Comments from Coos Court re Integrated Water Report
Date: Jan. 5, 2020

MELISSA CRIBBINS
COUNTY COMMISSIONER
250 N. Baxter Street, Coquille, Oregon 97423
541-396-7539
mcribbins@co.coos.or.us

January 6, 2020

Mr. Richard Whitman, Director
Oregon Department of Environmental Quality
TRANSMITTED BY EMAIL

Dear Director Whitman,

These comments are submitted to oppose DEQ's decision to include agricultural irrigation, drainage ditches, and other man-made ditches in its list of water quality impaired waterways. These are not natural waterways, and we are concerned about the long-term ramifications to county programs and our constituents as a result of this large and unnecessary policy change.

We also oppose DEQ's decision to extrapolate listings of waterways and ditches based upon data collected from neighboring properties by pooling data on a watershed wide scale. Water quality naturally differs from water body to water body, particularly when those waterways are under different ownerships and may have experienced differing current and historic riparian management. DEQ has presented no evidence that this extrapolation is scientifically valid or sound. Instead, it appears to be an attempt to list and regulate waterways without first going through the necessary step of determining that data actually shows an impairment. In order to be scientifically defensible, decisions to list waterbodies as impaired must be based on water body specific data and cannot be extrapolated from samples from neighboring waterways or tributaries. To do otherwise is not sound science or sound agency policy. Without using actual data, DEQ may be making water quality on county lands, which are largely agricultural and forest lands, look worse than it may actually be. Agriculture and timber jobs are critical to economic and social stability in rural counties. Destabilizing these sectors without specific and verifiable data is bad public policy.

Our county government, including our public works department, along with our farm, ranch, forest, manufacturing, industrial and commercial business constituents, have always been good partners with DEQ and their associated

non-point source designated management agencies. Forest and agricultural lands have among the highest water quality in the state, and county constituencies have significant investments over time improving and protecting water quality.

It is disappointing that the report makes it appear that vast amounts of county lands, especially farm and forest lands, are experiencing declining water quality, particularly when it appears that DEQ lacks water body specific data for significant portions of the waterways listed.

We are disappointed that the agency did not reach out to county officials about the Integrated Report prior to listing the vast majority of our waterbodies as water quality impaired. We believe we were entitled, as local government, to forewarning and a more in depth discussion of the methodologies used and the assumptions that the Integrated Report makes about waterways in our county, particularly when the agency has made some very significant policy calls that will have a direct impact on county programs and county lands. We are additionally surprised that this very impactful policy work has left us with such a narrow window of opportunity to comment now that we have been alerted.

Thank you for the opportunity to comment and we hope we can have a more productive dialogue about the Integrated Report moving forward.

Sincerely,

Melissa Cribbins
Coos County Commissioner

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35. Comments from: Raymond Kaser

From: Raymond Kaser
Subject: Oppose DEQ's Draft Integrated Report
Date: Jan. 4, 2020

Dear Director Whitman,

Butte Creek is listed as being impaired because of water temperature. I own a farm that borders Butte Creek near Scotts Mills. The stream is shaded, and the water temperature is cool in the summer. I strongly oppose the listing without data that support warm stream conditions. Trout survive just fine in the summer by remaining in deep pools.

Sincerely,

Raymond Kaser
828 Sun Valley Ct
Silverton, OR 97381
rkaser.enif1@frontier.com

36. Comments from: Eagle Point Irrigation District

From: Lolly Anderson
Subject Eagle Point Irrigation District – Comment Submittal
Date: Jan. 6, 2020

Eagle Point Irrigation District ("District") is an Oregon irrigation district formed under Oregon Revised Statutes Chapter 545. The District provides irrigation water to 8,260 acres of land and 540 patrons within the Rogue Valley. The District boundaries stretch from Butte Falls to Antelope Creek and to the Rogue River. The District diverts agricultural irrigation water rights from Big Butte Creek and delivers agricultural irrigation water via an 18-mile main canal and 165 miles of lateral ditches ("District Facilities"). The District is a responsible partner in the Rogue Basin TMDL and has committed significant resources to improving water quality in District Facilities.

The District's initial review of the Draft 2018/2020 Integrated Report ("Draft Report") indicates that DEQ has designated a significant portion of the District Facilities as water quality impaired. The District does not have the technical resources, given the complexity of the tools comprising the Draft Report, to fully analyze DEQ's listing of District Facilities. The District understands the importance and potential regulatory consequences of DEQ listing the District Facilities and requests that DEQ include the District in any future discussion of the Draft Report.

The District appreciates the opportunity to comment and looks forward to working with DEQ to resolve these concerns.

37. Comments from: Ochoco Irrigation District

From: Bruce Scanion
Subject Ochoco Irrigation District Comments
Date: Jan. 6. 2020

OCHOCO IRRIGATION DISTRICT
1001 NW DEER ST.
PRINEVILLE, OREGON 97754
(541) 447-5449

December 17, 2019

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

Dear Oregon Department of Environmental Quality,

I'm writing in response to the DEQ invitation to comment on the Draft 2018/2019 Integrated Report. I appreciate the opportunity to share my thoughts and concerns regarding the information contained in this report.

Ochoco Irrigation District has been a major proponent of efforts to improve water quality in the various streams, rivers and lakes that serve our patrons. The District has invested generously in time, money and resources to protect and improve those waters to which the district exercises its certificated rights. OID is proud of its history of collaboration with the various local entities like the Crooked River Watershed Council, Crook County Soil and Water Conservation District, Crook County Natural Resources Advisory Committee, City of Prineville, Oregon Department of Fish and Wildlife, Deschutes River Conservancy and many others who continue to work to improve the conditions in those waterways that we rely upon.

It is in this spirit of collaboration that Ochoco Irrigation District submits comments regarding the DEQ Draft Integrated Report:

- The District was surprised and concerned to see that sections of OID canals, pipelines and ditches were included in this report.

- Not only are these district operated conveyances included erroneously in the report but they were also listed as "impaired" for the use of fish and aquatic life with little or no data provided to the district to support that listing.

- Additionally, DEQ has incorrectly attributed several District canals as being attached to natural waterways. For example, a section of the Crooked River Distribution Canal was included with Lower McKay Creek as "impaired" for fish and aquatic life. This particular stretch of canal does not contain water from McKay Creek (It is from the Crooked River) and does not divert water from the creek. Other examples include sections of the OID Ryegrass Canal, Ochoco Main Canal and Grimes Flat East and West Canals.

- These inaccuracies show a lack of understanding of the conveyances operated by OID, but more importantly demonstrate the complete lack of communication from DEQ prior to including these District owned and operated resources in this report.

Ochoco Irrigation District will continue to be actively involved in the various local initiatives that are currently focused on improving the quality of these associated waterways. We appreciate the opportunity to inform and educate ODEQ regarding these inaccuracies and look forward to working with the department to correctly identify those waters which should be included in this report as well as those that should not.

Sincerely,

Bruce Scanlon
Manager
Ochoco Irrigation District
Prineville, Oregon

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38. Comments from: Farmers, Middle Fork and East Fork Irrigation Districts

From: Les Perkins, Craig DeHart, John Backley
Subject: Comments on integrated Report
Date: Jan. 6, 2020

Farmers Irrigation District
1985 Country Club Road
Hood River, OR 97031

Middle Fork Irrigation District
8235 Clear Creek Road
PO Box 291
Parkdale, OR 97041

East Fork Irrigation District
3500 Graves Road
PO Box 162
Odell, OR 97044

Farmers Irrigation District took the lead for the irrigation community in the Hood River Basin in reviewing DEQ's draft *2018/2020 Integrated Report*. This review was shared widely in the basin to provide notice to other entities who may be interested in providing comment, including at the regular November meeting of the Hood River Watershed Group. In almost every case, organizations who may be interested and affected by this report were not aware of the review period or that there was an update happening. Farmers Irrigation District, Middle Fork Irrigation District, and East Fork Irrigation District would not have known if it weren't for notification from Oregon Water Resources Congress. The lack of notification and the very short window to review and comment is ridiculous, as this report will have major ramifications moving forward. Farmers Irrigation District is fortunate to have a staff member with significant experience in reviewing technical documents, a robust understanding of the Hood River Basin, and significant experience in collecting and analyzing monitoring data. Most organizations do not have this specialized expertise and would struggle to review and comment in depth. Through our review, we found significant concerns with the assessment methodology and results, report/data presentation, public accessibility of the report, translation of past data to the new report, and waterway mapping. With this problematic process, DEQ risks loss of trust with communities, as well as loss of credibility generally. Updates like this should be well vetted and reviewed, and should rely heavily on local input, as it is the local communities made up of watershed councils, soil & water conservation districts, businesses, agriculture, timber managers, irrigation districts, and average citizens who will have to deal with the long-term ramifications of poorly thought out and scientifically indefensible methodologies.

DEQ's *Methodology for Oregon's 2018 Water Quality Report and List of Water Quality Limited Waters* states that assessment units were defined to "incorporate environmentally and hydrologically relevant breaks"[i] and that assessment units should "represent homogeneous segments of surface waters"[i]. The watershed assessment units used in the 2018/2020 Integrated Report do neither (see bullets below). The methodology states that "through the assessment process, DEQ will review the watershed units more closely"[i]. This is desperately needed based on what these HUC-12 watersheds include on-the-ground and their management implications. Subdivision or complete reworking of the watershed assessment units needs to be based on significantly more than "where other relevant data layers indicate differences in watershed homogeneity"[i]. The stream layer itself should be enough for DEQ to determine differences in watershed homogeneity (e.g. there are multiple waterways in the same HUC-12 sub-watershed that are not hydrologically connected). Watershed assessment unit divisions should be based on stream order changes and the other breaks used for the river/stream assessment units. The draft assessments based on the currently used watershed assessment units is a gross misuse of available hydrologic and water quality data.

Farmers Irrigation District, Middle Fork Irrigation District, and East Fork Irrigation District thoughts/concerns on

Oregon's 2018/2020 Integrated Report:

- Our main concern is with the use of sub-watersheds (HUC-12) as the assessment unit. The sub- watersheds often include multiple waterways that come from separate source waters, flow through different land-uses, and are in no way hydrologically connected. E.g. the Odell Creek-Hood River sub- watershed includes both Odell Creek (flowing from the east, predominately through agricultural and residential uses, before its confluence with the mainstem Hood River) and Ditch Creek (flowing from the west, predominately through forestry and agricultural uses, before its confluence with the mainstem Hood River), as well as multiple other smaller tributaries to the mainstem Hood River. Given the lack of hydrologic connection between the waterways, and the variety of land uses along them, it is

non-sensical to assume that an impairment measured in one waterway means that same impairment is present in the other waterways, or even that said impairment is suggested. If that were the case, an impairment in any waterway in the state would or could suggest/mean that every other waterway in the state is equally impaired. These same issues with sub-watersheds and disconnected waterways are present in 8 of the 11 mapped sub-watersheds in the Hood River Basin, as well as the Grays Creek-Columbia sub-watershed (and, we assume, many other sub-watersheds around that state outside of our service areas). See attached spreadsheet for which hydrologically separate waterways are within each HUC-12 sub-watershed.

- At a minimum, the assessment unit should include just the waterways/sub-watersheds that are actually hydrologically connected (e.g. Odell Creek and its tributaries are one assessment unit, Ditch Creek and its tributaries are another, Pine Creek and its tributaries are another, etc.), instead of lumping them all together based on the HUC-12 boundaries.
- More logically, the assessment units for watersheds should follow similar assessment unit divisions as the river/stream assessment units – e.g. unit breaks occur when there is a change in designated use, a change in stream order, and/or at the HUC-12 boundary. This would provide significantly more confidence that the data collected is correctly informing the assessment of "homogeneous segments of surface waters"[i].
- We would question why there is a "need to classify headwater streams and small feeder drainages, many of which are intermittent"[i] if these waterways have not been included in past assessments or past Integrated Reports. Many of the intermittent waterways identified as impaired on the maps in the Hood River Basin rarely have surface water present and, in many cases, have no defined channel. Collecting data to show impairment would be difficult to nearly impossible due to the extremely intermittent nature of presence of flow. Also, the vast majority of these intermittent/feeder systems are located in areas without development and protected by land use classification. Inclusion of these intermittent and feeder systems appears to be a substantial overreach.

The assessment units for rivers/streams generally seem to make better sense, but still make significant assumptions. E.g. the mainstem Hood River (from the mouth to confluence of the East and West forks) is a reasonable stream/river stretch to manage and to reasonably assume impairment in one section suggests impairment on other sections. But it is important to note that given the length of river, limited data available, multiple inputs into a river system, etc. that an impairment at one monitoring site does other relevant data layers indicate differences in watershed homogeneity"[i]. The stream layer itself should be enough for DEQ to determine differences in watershed homogeneity (e.g. there are multiple waterways in the same HUC-12 sub-watershed that are not hydrologically connected). Watershed assessment unit divisions should be based on stream order changes and the other breaks used for the river/stream assessment units. The draft assessments based on the currently used watershed assessment units is a gross misuse of available hydrologic and water quality data.

Farmers Irrigation District, Middle Fork Irrigation District, and East Fork Irrigation District thoughts/concerns on

Oregon's 2018/2020 Integrated Report:

- Our main concern is with the use of sub-watersheds (HUC-12) as the assessment unit. The sub- watersheds often include multiple waterways that come from separate source waters, flow through different land-uses, and are in no way hydrologically connected. E.g. the Odell

Creek-Hood River sub- watershed includes both Odell Creek (flowing from the east, predominately through agricultural and residential uses, before its confluence with the mainstem Hood River) and Ditch Creek (flowing from the west, predominately through forestry and agricultural uses, before its confluence with the mainstem Hood River), as well as multiple other smaller tributaries to the mainstem Hood River. Given the lack of hydrologic connection between the waterways, and the variety of land uses along them, it is non-sensical to assume that an impairment measured in one waterway means that same impairment is present in the other waterways, or even that said impairment is suggested. If that were the case, an impairment in any waterway in the state would or could suggest/mean that every other waterway in the state is equally impaired. These same issues with sub-watersheds and disconnected waterways are present in 8 of the 11 mapped sub-watersheds in the Hood River Basin, as well as the Grays Creek-Columbia sub-watershed (and, we assume, many other sub-watersheds around that state outside of our service areas). See attached spreadsheet for which hydrologically separate waterways are within each HUC-12 sub-watershed.

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- More logically, the assessment units for watersheds should follow similar assessment unit divisions as the river/stream assessment units – e.g. unit breaks occur when there is a change in designated use, a change in stream order, and/or at the HUC-12 boundary. This would provide significantly more confidence that the data collected is correctly informing the assessment of "homogeneous segments of surface waters"[i].
- We would question why there is a "need to classify headwater streams and small feeder drainages, many of which are intermittent"[i] if these waterways have not been included in past assessments or past Integrated Reports. Many of the intermittent waterways identified as impaired on the maps in the Hood River Basin rarely have surface water present and, in many cases, have no defined channel. Collecting data to show impairment would be difficult to nearly impossible due to the extremely intermittent nature of presence of flow. Also, the vast majority of these intermittent/feeder systems are located in areas without development and protected by land use classification. Inclusion of these intermittent and feeder systems appears to be a substantial overreach.

- The assessment units for rivers/streams generally seem to make better sense, but still make significant assumptions. E.g. the mainstem Hood River (from the mouth to confluence of the East and West forks) is a reasonable stream/river stretch to manage and to reasonably assume impairment in one section suggests impairment on other sections. But it is important to note that given the length of river, limited data available, multiple inputs into a river system, etc. that an impairment at one monitoring site does
  - See attached spreadsheet for all of the crosswalk issues between the 2012 and 2018/2020 assessments within each assessment unit. Issues include:
    - For a number of waterways/parameters, there are no records of parameter listings for the assessment unit (or any component waterway) in the 2012 database, although the 2018/2020 database claims said parameters were listed in or prior to 2012.
    - For a number of waterways/parameters, the 2018/2020 database states a parameter was listed as Category 5 for the assessment unit (or any

component waterway) in 2012, but the 2012 database shows that same parameter as Category 2 or 3 (depending on parameter and waterway).

- Many of the listings in the 2018/2020 database do not match up with the 2018/2020 story map[iv] resulting in confusion and/or a high likelihood that some segment of the public has been misinformed about what is actually being proposed for listing.
- Waterways mapped in the database/map do not match up with realities on-the-ground:
    - A number of irrigation canals and other irrigation infrastructure are mapped as waterways and listed as impaired. We strongly dispute the suggestion that irrigation canals/infrastructure are waterways under the Clean Water Act or are subject to 303(d) listings.
        - If irrigation canals were going to be mapped as waterways, and, again, we strongly oppose this, the waterways need to be mapped in a hydrologically sensible manner, instead of being lumped into the watershed assessment unit they are geographically closest to. E.g. the East Fork Irrigation District Main Canal diverts water from the East Fork Hood River and "releases" water to the Eastside Canal, Central Lateral Pipeline, etc., but sections of it are lumped into the East Fork Hood River, Lower East Fork Hood River, and Odell Creek-Hood River assessment units and mapped as if it is another tributary within each assessment unit. This is not a logical or defensible use of the geographic, hydrologic, or operational realities of this infrastructure.
    - A number of waterways are mapped that do not exist and/or do not have defined channels on- the-ground. E.g. The map shows a waterway entering the Upper Green Point Reservoir from the west. While there would be drainage into the reservoir from the west during storm events, there is no defined or identifiable waterway in this location.
    - There are a number of sections of mapped waterway that are disconnected from any other waterway/system. They are likely not real waterways, or there is something else wrong with the mapping.
    - There are a number of sections of mapped waterway that seem to be attached to the wrong sub- watershed, or there is something else wrong with the mapping.
    - See attached spreadsheet for all of the mapping issues for each assessment unit.
- We'd also suggest using the DEQ hydrography[ii], instead of the NHD for mapping/waterway definition, since the NHD includes a number of waterways that are questionable at best (e.g. waterway flowing into the Upper Green Point Reservoir). This could solve the issue with needing "to classify headwater streams and small feeder drainages, many of which are intermittent"[i].
- There is no assessment at all for the Green Point Creek, Dead Point Creek, or Shingle Creek watersheds.
- There is no assessment at all for the East Fork Hood River between the confluence of the Middle Fork Hood River and West Fork Hood River.
- The 2018/2020 database does not list monitoring locations for most parameters, including sites newly listed in the 2018 assessment. This makes it very difficult to assess whether a listing makes sense for the entire assessment unit or not.
- An AWQMS login is required to view any of the data used during these assessments, so we (and, we assume, others in the public) were not able to review the underlying data that was used to form the assessment results. This undermines our ability to be confident in DEQ's methods and/or results.
- Information on which parameters or waterways were delisted in the draft report is not publicly

provided. We were able to receive a list of said delistings for the Hood River Basin from our regional representative, but, as with many bullets above, this makes it difficult for members of the public to have full access to (and therefore confidence in) the assessment and its results.

In summary, DEQ did not use scientifically or technically sound methodologies in developing this update to listings of impaired waterways, did not use accurate maps to develop this update or its presentation, did not develop defensible conclusions based on the data available, did not correctly translate past assessments into this update, and did not provide accurate/consistent data or its presentation for the public to adequately review this assessment and its results. In order to properly assess the waterways of Oregon, DEQ would need to establish a much more robust system of monitoring. Lacking actual data for the vast majority of the stream systems in Oregon is not an excuse and does not give DEQ the authority to make broad brushed assumptions to list most of the stream systems in the state. This methodology ignores all of the hard work that watershed groups, SWCD's, conservation groups, state agencies, federal agencies, irrigation districts, local governments, and citizens of the state have been doing, and continue to do, to address water quality and habitat concerns in our communities. We had hoped that the top down regulation concept had largely died and that we were in an era where collaboration and input from local communities matters. DEQ needs to start over and create a process and methodology that will foster support from communities, take input from those who actually work in these watersheds, and that is actually based in science and data.

Sincerely,

Les Perkins
Manager
Farmers Irrigation District

Craig DeHart
Manager
Middle Fork Irrigation District

John Buckley
Manager
East Fork Irrigation District

Attachment: Hood River Basin Integrated Report Spreadsheet

Hood River Basin
Integrated Report Spre

39. Comments from: Polk County Board of Commissioners

From: Craig Pope, Mike Ainsworth, Lyle Murdhorst
Subject: Letter from the Commissioners

Date: Jan. 6, 2020

POLK COUNTY BOARD OF COMMISSIONERS
POLK COUNTY COURTHOUSE * DALLAS, OREGON 97338-3174
(503) 623-8173 * FAX (503) 623-0896

Commissioners
CRAIG A. POPE
MIKE AINSWORTH
LYLE MORDHORST

GREGORY P. HANSEN
Administrative Officer

The Polk County Board of Commissioners are writing to oppose DEQ's decision to list water bodies throughout the state as water quality impaired without data to support those listings, as it has done in its 2018-2020 Integrated Report. We also oppose DEQ's decision to include agricultural irrigation, drainage ditches, and other man-made ditches in its list of water quality impaired waterways. These are not natural waterways, and we are concerned about the long-term ramifications to county programs and our constituents as a result of this large and unnecessary policy change.

Polk County also opposes DEQ's decision to extrapolate listings of waterways and ditches based upon data collected from neighboring properties by pooling data on a watershed wide scale. Water quality naturally differs from water body to water body, particularly when those waterways are under different ownerships and may have experienced differing current and historic riparian management. DEQ has presented no evidence that this extrapolation is scientifically valid or sound.

Instead, it appears to be an attempt to list and regulate waterways without first going through the necessary step of determining that data actually shows an impairment. In order to be scientifically defensible, decisions to list waterbodies as impaired must be based on *water body specific data* and cannot be extrapolated from samples from neighboring waterways or tributaries. To do otherwise is not sound science or sound agency policy. Without using actual data, DEQ may be making water quality on county lands, which are largely agricultural and forest lands, look worse than it may actually be. Agriculture and timber jobs are critical to economic and social stability in rural counties. Destabilizing these sectors without specific and verifiable data is bad public policy.

Our county government, including our public works department, along with our farm, ranch, forest, manufacturing, industrial and commercial business constituents, have always been good partners with DEQ and their associated non- point source designated management agencies. Forest and agricultural lands have among the highest water quality in the state, and county constituencies have significant investments over time improving and protecting water quality.

It is disappointing that the report makes it appear that vast amounts of county lands, especially farm and forest lands, are experiencing declining water quality, particularly when it appears that DEQ lacks water body specific data for significant portions of the waterways listed.

We are disappointed that the agency did not reach out to county officials about the Integrated Report prior to listing the vast majority of our waterbodies as water quality impaired. We believe we were entitled, as local government, to forewarning and a more in depth discussion of the methodologies used and the assumptions that the Integrated Report makes about waterways in our county, particularly when

the agency has made some very significant policy calls that will have a direct impact on county programs and county lands. We are additionally surprised that this very impactful policy work has left us with such a narrow window of opportunity to comment now that we have been alerted.

The Polk County Board of Commissioners governance mission is based on supporting cooperative relationships with state agencies, including those with significant roles in establishing and implementing water policy in the state; along with the values of collaboration; applying sound, verified, peer reviewed science,. and achieving balance.

Thank you for the opportunity to comment and we hope we can have a more productive dialogue about the Integrated Report moving forward.

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40. Comments from: Marion County

From: Colin Willis, Samuel A. Brentano, Kevin Cameron
Subject Marion County Comments 2018 – 2020 Integrated Report
Date: Jan. 6, 2020

Marion County
OREGON
Board of Commissioners

The Marion County Board of Commissioners is writing to oppose DEQ's decision to list water bodies throughout the state as water quality impaired without data to supp01t those listings, as it has done in its 2018-2020 Integrated Report. We are concerned the new methodology adopted by DEQ in the 2018-2020 Integrated Rep01t will result in all roadside ditches and agricultural irrigation channels being treated as jurisdictional waterways in a manner inconsistent with past DEQ practice simply because they are located within a degraded natural watershed. Man-made ditches are not natural waterways, and we aie concerned about the long-term ramifications, whether intentional or unintentional, to county programs as a result of this change.

Marion County is concerned about DEQ's decision to extrapolate listings of wate1ways and ditches based upon data collected from same-order tributaries by pooling data on a watershed- wide scale. DEQ has presented no evidence that this extrapolation is valid or sound. Decisions to list waterbodies as

impaired should be based on water-body-specific data and cannot be extrapolated from samples from neighboring waterways or tributaries.

Without using actual data, DEQ may be making water quality on county lands, which are largely agricultural and forest lands, look worse than it may actually be. Our county government, including our public works department, along with our farmers, ranchers, foresters, manufacturers, and industrial and commercial businesses, have made significant investments over time to improve and protect water quality throughout the county. Fmthermore, forest and agricultural lands have among the highest water quality in the state. We believe DEQ has failed to demonstrate that the analysis methodology used in the 2018-2020 Integrated Report accurately reflects real world conditions.

Thank you for this opportunity to comment on the 2018-2020 Integrated Report.

Sincerely,

Colin Willis	Samuel A. Brentano	Kevin Cameron
Chair	Vice Chair	Commissioner

41. Comments from: Union County Board of Commissioners

From: Michael Horton
Subject: Owyhee Irrigation District 2018/2020 Integrated Report
Date: Jan. 6, 2020

UNION COUNTY
BOARD OF COMMISSIONERS

Donna Beverage, Commissioner
Paul Anderes, Commissioner
R. Matthew Scarfo, Commissioner

Shelley Burgess, Administrative Officer

1106 K Avenue La Grande, OR 97850 PHONE (541)963-1001 FAX (541)963-1079 TTY 1-800-735-1232

As Chair of Union County Board of Commissioners, I am writing to oppose DEQ's decision to list water bodies throughout the state as water quality impaired without data to support those listings, as it has done in its 2018-2020 Integrated Report. I also oppose DEQ's decision to include agricultural irrigation, drainage ditches, and other man-made ditches in its list of water quality impaired waterways. These are not natural waterways, and I am concerned about the long-term ramifications to county programs and our constituents as a result of this large and unnecessary policy change.

Union County also opposes DEQ's decision to extrapolate listings of waterways and ditches based upon data collected from neighboring properties by pooling data on a watershed wide scale. Water quality naturally differs from water body to water body, particularly when those waterways are under different

ownerships and may have experienced differing current and historic riparian management. DEQ has presented no evidence that this extrapolation is scientifically valid or sound.

Instead, it appears to be an attempt to list and regulate waterways without first going through the necessary step of determining that data actually shows an impairment. In order to be scientifically defensible, decisions to list waterbodies as impaired must be based on water body specific data and cannot be extrapolated from samples from neighboring waterways or tributaries. To do otherwise is not sound science or sound agency policy. Without using actual data, DEQ may be making water quality on county lands, which are largely agricultural and forest lands, look worse than it may actually be. Agriculture and timber jobs are critical to economic and social stability in rural counties. Destabilizing these sectors without specific and verifiable data is bad public policy.

Our County government, including our public works department, along with our farm, ranch, forest, manufacturing, industrial and commercial business constituents, have always been good partners with DEQ and their associated non-point source designated management

agencies. Forest and agricultural lands have among the highest water quality in the state, and county constituencies have significant investments over time improving and protecting water quality.

It is disappointing that the report makes it appear that vast amounts of county lands, especially farm and forest lands, are experiencing declining water quality, particularly when it appears that DEQ lacks water body specific data for significant portions of the waterways listed.

I am disappointed that the agency did not reach out to county officials about the Integrated Report prior to listing the vast majority of our waterbodies as water quality impaired. I believe that we are entitled, as local government, to forewarning and a more in depth discussion of the methodologies used and the assumptions that the Integrated Report makes about waterways in our county, particularly when the agency has made some very significant policy calls that will have a direct impact on county programs and county lands. I am additionally surprised that this very impactful policy work has left us with such a narrow window of opportunity to comment.

The Union County Board of Commissioners governance mission is based on supporting cooperative relationships with state agencies, including those with significant roles in establishing and implementing water policy in the state; along with the values of collaboration; applying sound, verified, peer reviewed science, and achieving balance.

Thank you for the opportunity to comment and I hope that Union County can have a more productive dialogue about the Integrated Report moving forward.

Sincerely,

Paul M. Anderes
Union County Commission Chair

42. Comments from: Owyhee Irrigation District

From: Michael Horton
Subject: Owyhee Irrigation District 2018/2020 Integrated Report
Date: Jan. 6, 2020

STUNZ, FONDA, KIYUNA, & HORTON, LLP
ATTORNEYS AT LAW

GENE STUNZ (1959-1992)
STEPHEN B. FONDA (1966-2006)
RETIRED

GARY K. KIYUNA
MICHAEL W. HORTON*

*ADMITTED TO PRACTICE
IN IDAHO AND OREGON

106 MAIN STREET
P.O. Box 1565
NYSSA, OREGON 97913

TEL (541)372-2268
FAX 5413722848

I am an attorney and I represent Owyhee Irrigation District ("OID") located at 422 Thunderegg Blvd., Nyssa, Oregon 97913. OID is the largest irrigation district in the state of Oregon by size. District staff have reviewed the Draft 2018-2020 Integrated Report and have serious concerns with regard to the report, specifically the listing of OID's canals, pipelines, laterals, and drains as 303(d) Impaired Waters.

Owyhee Irrigation District operates under Oregon State law as an irrigation district with the directive to supply irrigation water to farmland for the production of crops. The specific beneficial use of the water is for crop production and is not for wildlife, recreation, fishing, nor drinking water. The report fails to take into consideration the fact that OID's conveyance systems do not use natural streams as part of their conveyance system. In reviewing the maps in the report, it appears that a shotgun approach was used in listing impaired waters in that OID closed systems and pipelines are listed as impaired waters which require a TMDL. This overreach by Oregon DEQ is not supported by proper sampling, testing, nor on the ground research.

Given the lack of data supporting the findings, OID is unable to specifically address all of the errors in the report and all of the incorrectly identified water conveyance systems of the district.

OID requests and strongly encourages DEQ to remove OID's canals, pipelines, laterals, and drains as impaired waters from this report

Questions regarding these comments and further DEQ inquires on this subject should be made to OID's manager, Jay Chamberlin, at the district office (541)372-3540.

Very truly yours,

Michael W. Horton

43. Comments from: Oregon Association of County Engineers and Surveyors

From: Mike Bezner

Subject: 2018 – 2020 Integrated Report Comments from OACES

Date: Jan. 6, 2020

The Oregon Association of County Engineers and Surveyors (OACES), an affiliate of the Association of Oregon Counties (AOC), represents county public works agencies and road departments across the state and provides a forum to share best practices and overcome challenges. County roads are a critical component of Oregon's integrated road system and are responsible for 60% of Oregon's non-federal road network (32,831 total miles). The county road system also includes 3,421 bridges and approximately 26,000 culverts.

OACES is writing to express concern with the draft 2018-2020 Integrated Rep01i, which includes intermittent drainage ditches as regulated water bodies without clear intent. On the surface, the rep01i appears to be an attempt to regulate waterways that are typically exempt under the Federal Clean Water Act, such as roadside and agricultural ditches. The assessment methodology does not specify what type of drainage ditches are included, which implies that all drainage ditches within the assessment area are subject to the same regulations as the adjacent streams and rivers, even if they do not serve the same function. Many roadside ditches are not connected to adjacent water bodies and do not have an impact on the water quality of the watershed overall.

County road depaiiments play a key role in managing Oregon's water quality, as they maintain a large number of bridges and culve1s that are critical for water quality and fish passage. However, including drainage ditches as impaired waterways will expand the regulatory requirements to most road maintenance, which would make it more difficult for counties to maintain their system.

OACES is requesting clarification on what DEQ categorizes as an intermittent drainage ditch, specifically if drainage ditches in the county right-of-way are included in the assessment even if they do not feed into an adjacent stream.

We are disappointed that representatives of local government were not included in the workgroup that evaluated the updated methodology, as the subsequent policy changes will have a severe impact on counties and county land. We hope to have the opportunity for more in-depth conversations going forward.

Thank you for the opportunity to provide comments.

Sincerely,

Mike Bezner
President Elect
Oregon Association of County Engineers and Surveyors

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44. Comments from: City of Troutdale

From: Ryan Largura
Subject: City of Troutdale Comments on the 2018/2020 Integrated Report
Date: Jan. 6, 2020

CITY OF TROUTDALE
Engineering Division

The City of Troutdale ("City") herewith formally submits its public review comments on the Oregon Department of Environmental Quality (DEQ) draft 2018/2020 Integrated Report (Report). The City appreciates the opportunity to provide feedback during the draft review process and respectfully submits the following comments for DEQ's consideration.

The City agrees with DEQ's desire to create fixed AUs that satisfy the desired outcomes outlined in the report. According to the interactive web map application, the City has four separate assessment units (AU) within its jurisdictional limits. Two of the City's AUs, HUC 12 Name: Beaver Creek-Sandy River (OR_WS_170800010703_02_103703) and HUC 12 Name: Columbia Slough (OR_WS_170900120201_02_104554), fall under the AU classification of streams that are grouped into a watershed unit at the HUC12 or sub-watershed scale. These represent streams of Strahler Stream Order of 4 or less. DEQ's Methodology for Oregon's 2018 Water Quality Report and List of Water Quality Limited Waters says, "Using environmentally and/or hydrologically relevant breaks means the assessments units should represent homogeneous segments of surface waters." The report goes on to mention under the watershed AU classification that, "Where other relevant data layers indicate differences in watershed homogeneity, further divisions may be warranted in the assessment unit."

To this point, watershed homogeneity does not appear to match the AU for HUC 12 Name: Columbia Slough (OR_WS_170900120201_02_104554) in Figure 1 or HUC 12 Name: Beaver Creek-Sandy River (OR_WS_170800010703_02_103703) in Figure 2. The City requests DEQ to review the delineation of these two watershed AUs. From the City's understanding, the natural waterways of Arata and Salmon Creek in Figure 1 do not drain into Fairview Lake. Instead, the Sandy Drainage Improvement Company of the Multnomah County Drainage District oversees drainage from these two creeks into the Columbia River through a pump station via the West Sundial Wetlands. In Figure 2, the tributaries that comprise their AU (OR_WS_170800010703_02_103703) within the City's jurisdiction would be better served with their parent stream/river AU of Beaver Creek (OR_SR_1708000107_02_103612). The following screen shots from the interactive web viewer map shows the two AUs in question.

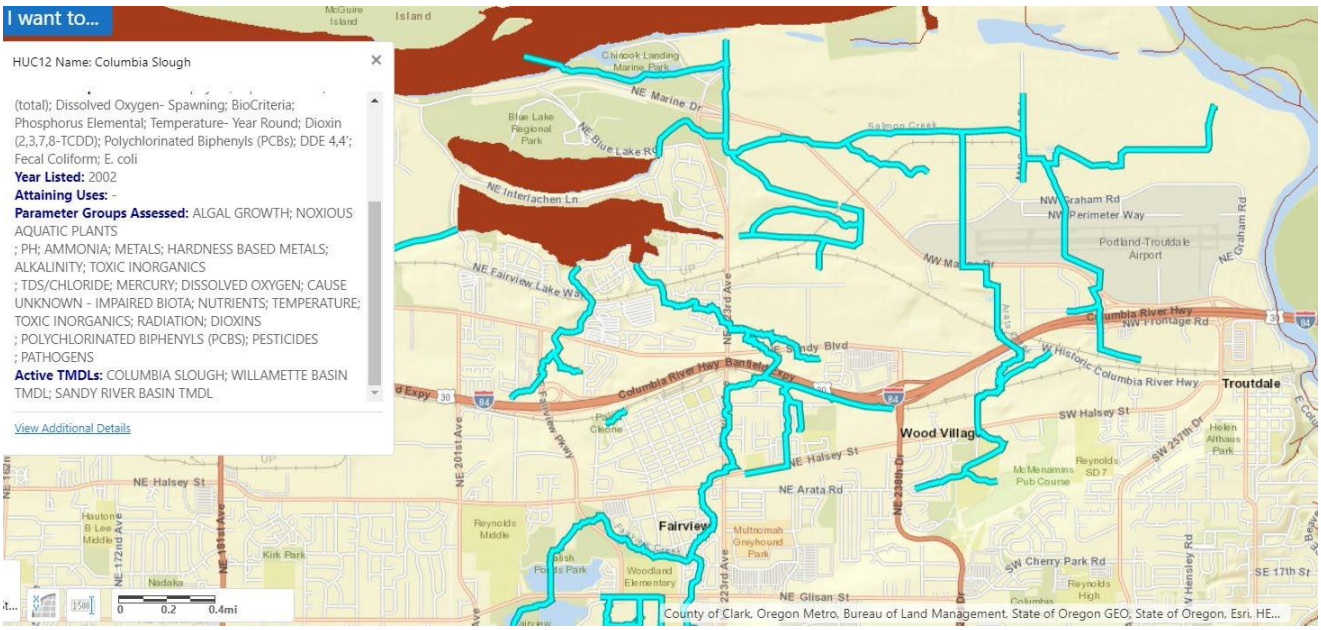

Figure 1. HUC12 Name: Columbia Slough watershed assessment unit.

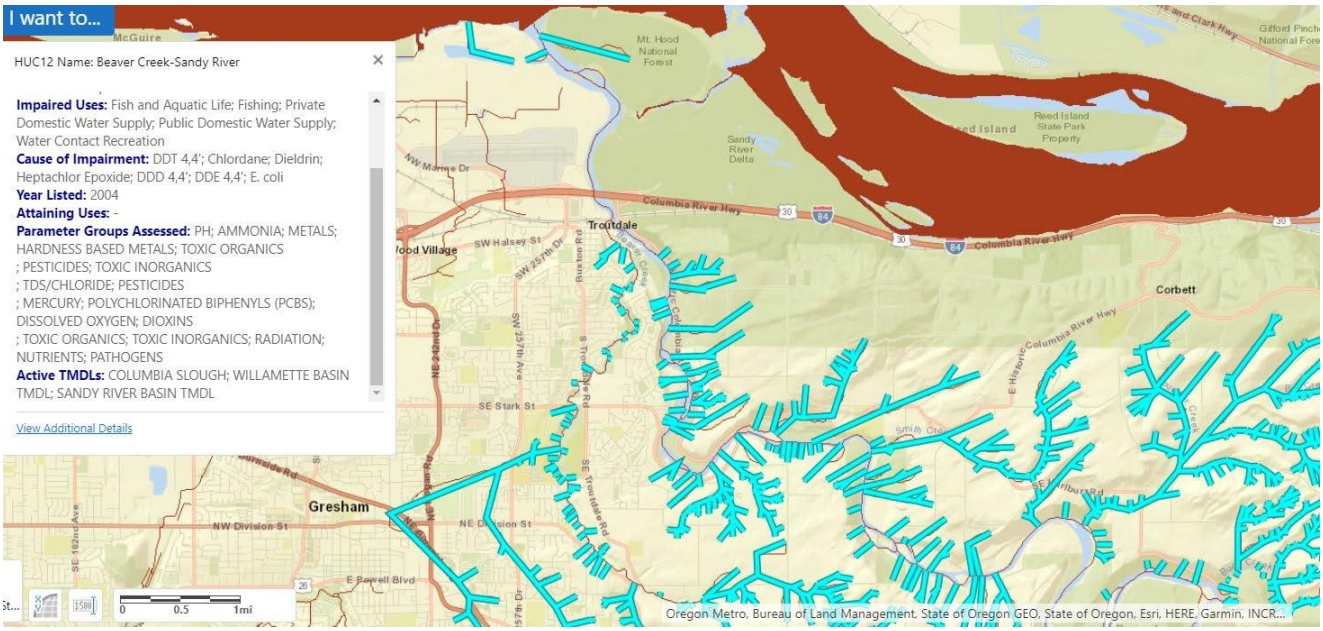

Figure 2. HUC12 Name: Beaver Creek-Sandy River watershed assessment unit.

Currently, the Integrated Report draft has the active total maximum daily loads (TMDL) listed for HUC 12 Name: Columbia Slough and HUC 12 Name: Beaver Creek-Sandy River as the Columbia Slough-Willamette Basin TMDL and Sandy River Basin TMDL. The Columbia Slough-Willamette Basin TMDL, however, should be removed as an active TMDL for both AUs because the streams are not hydrologically connected to those watersheds. The inclusion of the Columbia Slough-Willamette Basin

TMDL appears to be a mistake. For reference, the 2012 Integrated Report did not have the Columbia Slough-Willamette Basin TMDL listed for the streams under the new AUs, nor does the recently approved Willamette Basin Mercury TMDL include these streams. There are no monitoring locations within the City's jurisdiction for either the HUC 12 Name: Columbia Slough AU or HUC 12 Name: Beaver Creek-Sandy River AU.

"Unnamed streams" of both natural and man-made conveyance are found within the HUC 12 Name: Columbia Slough AU and HUC 12 Name: Beaver Creek-Sandy River AU. The National Hydrography Dataset (NHD) includes man-made features in both Figures 1 and 2 as "waters of the state", but the City believes some of these features should not be classified in this manner. A closer review of these features is needed for these AUs, and clarification of what qualifies as "waters of the state" in terms of "…bodies of surface or underground waters, natural or artificial…" as it applies to underground pipes etc. would be helpful.

In summary, the City requests DEQ to revisit the assessment methodology applied to the two AUs highlighted above in order to better meet water quality improvement objectives.

Listing Results

Another item that was noticed when reviewing the data in the assessment database was the repeat listing of chlordane in the Beaver Creek AU (OR_SR_1708000107_02_103612) and HUC 12 Name: Beaver Creek-Sandy River AU (OR_WS_170800010703_02_103703) for the human health criteria. The HUC12 Name: Beaver Creek-Sandy River AU also had a repeat listing of DDT 4/4' for human health criteria.

Thank you again for your consideration of these comments. Please feel free to contact me if you have any questions regarding these comments using my contact information below.

Sincerely,

Ryan Largura

Ryan Largura
Environmental
Specialist

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45. Comments from: Oregon Association of Clean Water Agencies (ACWA)

From: Susan L. Smith
Subject: ACWA Comments on the 2018 – 2020 Integrated Report
Date: Jan. 6, 2020

oregon association of CLEAN WATER agencies

Working with community wastewater treatment and stormwater management agencies across the state to protect Oregon's water quality since 1987

The Oregon Association of Clean Water Agencies (ACWA) appreciates the opportunity to provide comments on the public review draft of the Oregon 2018/2020 Integrated Report (Report). ACWA is a private, not-for-profit organization of Oregon wastewater treatment and stormwater management agencies, along with associated professional consulting firms, which are dedicated to protecting and enhancing Oregon's water quality. ACWA strives to provide high value, science-based practical services for our members, which serve over 2.5 million Oregonians and over 65% of Oregon's homes and businesses.

ACWA endeavors to partner with DEQ to provide input on how water quality regulations administered by the Department impact local governments in their ability to implement vital water quality programs. Oregon's Report is the result of an ambitious effort by DEQ to improve its methods and advance the accessibility of environmental data and the communication of water quality conditions of our state's water bodies. The precursor work DEQ completed to evaluate and improve the underlying methodology, with robust technical advisory committee input, has greatly improved the Report as compared to previous reports. We commend DEQ for these efforts and the foresight to move interaction and communication forward with this new reporting framework. We also recognize that the transition from a traditional document-based structure to the graphical, web-based structure will continue to take time for our members to fully familiarize their respective agencies with the framework and its contents.

ACWA's comments on the Report reflect a collection of review comments received from local agencies, and are categorized into four areas as follows:

Interface/Operability

Comments on the interface/operability of the Report relate to accessibility of the website and various pages/maps within the Report, how intuitive information is presented in the Report, and ability to understand how the Report relates to past reports. Specific comments include:

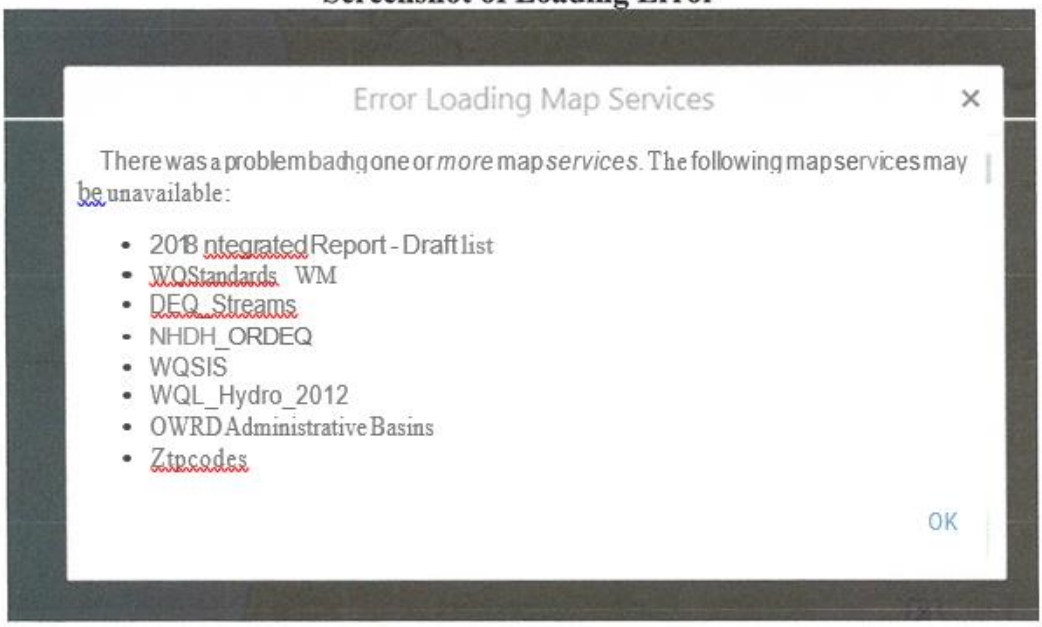
Some local agencies have had challenges accessing the site, downloading pages, accessing the online database, and working with the interactive online map. DEQ should improve the site's performance and accessibility, perhaps by creating a means of downloading some or all portions of the system for local access.

Efforts to access data through the map periodically fail-the system crashes or times out with errors. See error screen shot below.

The Assessment Geodatabase would be more helpful if it included the sampling locations and water quality data used in the analysis.

Public access to the geospatial methodology used to coordinate the 2012 with the 2018/2020 reports should be provided to enable understanding of how conclusions were reached in cases of potential discrepancies between the reports.

Screenshot of Loading Error



Assessment Unit Framework

ACWA recognizes that DEQ updated its approach to establishing assessment units (AU) and that some changes in this Report reflect that update. Although we have not conducted a comprehensive review of all assessment units, we note that in several cases, there are problems related to the combination of tributaries into single assessment units and assessment units that are actually not water bodies. Specific concerns are outlined below.

AUs for 'unnamed streams' include a wide range of natural and man-made features, such as irrigation canals, city streets, buried pipelines, dry creek beds, and land depressions. The database should be revised to remove those AUs that are not applicable.

Combining all upstream 1st through 4th order streams into a single AU classification, as described in the 2018 assessment methodology document, is creating a few different challenges, which are described below.

- The combined stream AU has created a loss of detail that was available in previous reports for tributaries.
- It is less clear what water bodies are covered in a given AU, because naming conventions may not be completely accurate or may not include sufficient naming to better recognize tributaries included in the AU.
- Limited data are being applied across all of the tributaries within the new combined AUs. There does not appear to be a means of recognizing portions of these AUs that are meeting water quality when all of the streams are now listed within a combined AU.

- It is unclear what the ramifications of combined tributary AUs will have on TMDL implementation in watersheds and whether blanket inclusion of tributaries that lack data will result in management of portions of the system that are not necessary.

We offer the following suggestions to help clarify the difference between impaired and unimpaired tributaries within the watershed boundaries: 1) provide clear distinctions between tributaries that have data showing impairments and those that don't in the report data and graphics/mapping; and 2) re-evaluate this aspect of the methodology document in the next iteration (2021/2023?) of the Integrated Report to improve clarity and accuracy.

Data Integrity

The following comments highlight the challenges of collecting, combining, verifying, using, and presenting an enormous amount of data needed to drive the analysis of water quality in our state. The integrity of the data relied upon for the Report is very important. We identify some general issues that emerged from local agencies evaluations of the Report. We recommend that a final round of quality assurance/quality control review be conducted to ensure the accuracy of the data included in the Report and a clear process with support from impacted agencies for validating or determining the use of data that may result in an impairment listing.

Some local agencies have identified missing data.that should have been included in the Report. It appears there are a variety of reasons for missing data, including how data is submitted, issues with unit conversions, issues with electronic submissions, and time necessary to submit data.

Challenges with performing analysis of USGS data results in incorrect categories applied to some AUs.

Some data are missing location identification, making it challenging to verify accuracy of data for the associated AU that has been evaluated.

Tables generated within the Report do not match data submitted by local agencies, particularly as they relate to whether values exceed water quality criteria.

Some listings have been associated with very old and suspect data. There should be a clear process with support from impacted agencies for validating or determining the use of data that may result in an impairment listing.

Listing Results

Listing streams as impaired results in significant implications for local agencies, and accordingly, it is very important that the listings are correct. We note that a variety of issues have been identified with some of the listings, including duplicate listings, conflicting listings,

incorrect beneficial uses, incorrect application of water quality criteria, and unclear reasoning for listing of some criteria. As with data review described above, we recommend that a final round of quality assurance/quality control review be conducted to ensure the accuracy of the listings included in the Report. Some of the specific findings of local agencies include:

Copper – Several listings for copper were triggered by the use of Willamette Basin default values for the biotic ligand model parameters. DEQ should use the default values to conduct a screening level evaluation to determine if additional data are necessary. If the screening level evaluation suggests that

there is potential to exceed water quality criteria, the pollutant should be listed as category 3A or 3B (insufficient data) and additional site-specific data should be gathered. Because of the significant implications of a category 5 listing on Oregon's water quality programs, a category 5 listing should not be based on regional default values.

When adopting the biotic ligand model-based criteria for copper, DEQ had specified that concurrent data would take precedent over default values. Oregon Administrative Rules 340- 041-8033, Table 30 (Endnote N) states that biotic ligand model results based on sufficient measured input parameter data are more accurate and supersede results based on estimates or default values. Thus, DEQ should use site-specific data where available and give more weight to these data in assessing copper.

Hexavalent Chromium -There are instances where a stream has been listed for hexavalent chromium based on total chromium data. DEQ did not assess the validity of these listings in the Report. DEQ should re-examine these listings and ensure that the listings are appropriate.

Harmful Algal Blooms (HABs) -HABs are identified for some water bodies, with a prerequisite for listing being the reporting or a public health warning by the Oregon Health Authority (OHA). No data has been provided in the Report to indicate the OHA warnings associated with listing of AUs for HABs. This information should be added.

Biocriteria -DEQ is proposing category 5 listings for a number of streams for biocriteria. It is not clear how DEQ plans to address the biocriteria listings. Additionally,the implications of the biocriteria listings on the NPDES permit program are not clear. Since a TMDL cannot be developed for biocriteria, DEQ should focus its efforts to identify the underlying

pollutants causing the impairment. Temperature and dissolved oxygen are often identified as the primary stressors for macro invertebrate communities. Thus, biocriteria impairment should be addressed and resolved through listings for these pollutants.

Elemental Phosphorus -DEQ is proposing category 5 listings for dozens of streams for elemental phosphorus. There is no freshwater water quality criterion for phosphorus; there is only a marine water quality criterion for elemental phosphorus (see excerpt from Oregon Administrative Rules (OAR 340-041-8033, Table 30). DEQ should remove these listings from the Report.

Water Quality Criteria for Elemental Phosphorus

No.	Pollutant	CAS Number	Human Health Criterion	Freshwater (µg/L)		Saltwater (µg/L)	
				Acute Criterion (CMC)	Chronic Criterion (CCC)	Acute Criterion (CMC)	Chronic Criterion (CCC)
31	*Phosphorus Elemental*	7723140	n	--	--	--	0.1

Dieldrin – There are several instances where AUs received dieldrin listings associated with approved TMDLs for dieldrin (Deep Creek/Clackamas River, Fanno Creek). However, we cannot identify any established TMDLs for dieldrin. These listings should be re-evaluated.

Aquatic weeds – There are multiple listings of impairments for aquatic weeds, however, the assessment database does not specify the source data used to make the determination. The source data needs to be identified for us to evaluate the validity of the impairment.

Incorrect beneficial uses -In some cases, we identified incorrect application of designated beneficial uses and associated criteria to an AU, such as spawning in areas where spawning does not occur. In other cases, we note a lack of presence of specific fish species and then use of associated fish health criteria that is not appropriate. Again, a final comprehensive QA/QC review should be conducted to ensure accurate application of beneficial uses.

Conflicting listings – Some assessment units include two different (and conflicting) categories for the same criterion.

Duplicate listings -There are some assessment units that have two identical entries in DEQ's database. It's not entirely clear why there are identical listings in the assessment database. The database should be cleaned of the duplicates for clarity and accuracy purposes.

Thank you for your consideration of these comments. Again, ACWA wants to express its appreciation and commendation for the updated work on the methodology, which has improved the overall Report significantly. Addressing the comments and issues raised above will go a long way towards producing a clear, transparent, defensible and accessible Report that will support state and local agencies in meeting water quality improvement objectives. Please do not hesitate to contact me with any questions you may have.

Sincerely,

Susan L. Smith
Executive Director

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46. Comments from: Elaine Steenson

From: Elaine Steenson
Subject: Comment for Integrated Report
Date: Jan. 6, 2020

I am strongly IN FAVOR of DEQ's decision to list water bodies on farm and forestland as water quality impaired, as it has done in its 2018-2020 Integrated Report. I also FULLY SUPPORT DEQ's decision to include agricultural irrigation and drainage ditches in its list of water quality impaired waterways.

Farmers, ranchers, and foresters have some of the largest possible impact on water quality in the state, and must be held responsible for the stewardship of our shared natural resources. We cannot continue to think in terms of separate and individual ownership as if our waterways are not flowing from one property into the next, and the next.

I strongly SUPPORT DEQ's decision to extrapolate listings of waterways and ditches based upon data collected from neighboring properties. Water quality is inextricably linked water body to water body, and we are together left with the consequences of poor management of our shared (and only) natural resources. DEQ is tasked with a profoundly important duty, to safeguard our entire system of watersheds, in all its complexity.

While the role of each individual landowner is critical to the whole, we need to avoid fetishizing individual rights while missing the bigger picture. The critically important scientific work we ask governmental bodies to do can only be done in large aggregate, with the costs born in aggregate.

I welcome DEQ's decision to expand the listing of waterways in this most recent report. I urge DEQ to continue to establish water quality assessments in the greatest detail possible, using the best possible scientific methods to do so.

It is a privilege to be farming in Oregon, and I take pride and care in the responsibilities inherent to land stewardship. I'm delighted to do my part, and eager to work with agencies whose mission is also to care for our environment. I know many other farmers who feel the same way.

Thank you for the opportunity to comment.

Elaine Steenson

Salem OR

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47. Comments from: Gordon Dromgoole

From: Gordon Dromgoole
Subject: Oppose DEQ's Draft Intergrated Report
Date: Jan. 6, 2020\

Dear Director Whitman,

I strongly oppose DEQ's decision to list water bodies on farm and forestland as water quality impaired without water body specific data to support those listings, as it has done in its 2018-2020 Integrated Report. I also oppose DEQ's decision to include agricultural irrigation and drainage ditches in its list of water quality impaired waterways. In order to be scientifically defensible, decisions to list waterbodies as impaired must be based on water body specific data and cannot be done on a watershed wide scale or extrapolated from samples from neighboring waterways or tributaries. To do otherwise is not sound science or sound agency policy. DEQ's decision also appears to be intentionally making agriculture and forest water quality look worse than data supports.

Farmers, ranchers, and foresters have always been good partners with DEQ and our designated management agencies, the Department of Agriculture and the Department of Forestry. Forest and ag lands have among the highest water quality in the state, and farmers and foresters have invested millions in improving and protecting water quality. It is a poor way to reward our hard work with a misleading

report that makes it look like farms and forests are experiencing declining water quality, particularly when it appears that DEQ lacks actual data for a significant portions of the waterways listed.

I strongly oppose DEQ's decision to extrapolate listings of waterways and ditches based upon data collected from neighboring properties. Water quality naturally differs from water body to water body, particularly when those waterways are under different ownership and may have experienced differing current and historic riparian management. DEQ has presented no evidence that this extrapolation is scientifically valid or sound. Instead, it appears to be an attempt to list and regulate waterways without first going through the necessary step of determining that data actually shows an impairment.

In reviewing my farm, I am particularly concerned with DEQ's decision to list waterways that I have not given DEQ permission to sample and where sampling has not occurred. I urge DEQ to revisit these listings.
My farm includes the following properties located in the Yamhill Creek watershed::

1)Tax lot number R2434 00300
Situs address
19035 NE COVE ORCHARD RD
Yamhill, OR 97148

2)Tax lot number R2434 01000
no situs address

3)Tax lot number R2434 00400
Situs address:
19381 HIGHWAY 47
Yamhill, OR 97148

Yamhill Creek runs lengthwise through properties 1 & 2 a total of 4380 ft. On property 3 you show a tributary which is little more than a dip in the terrain. In winter it is damper than the surrounding ground but does not have water running in it.

Concerning the Yamhill Creek watershed:
The so called“tributaries” in this watershed if they ever had water in them, are dried up by May/June. The flow in the main channel of this creek at Cove Orchard Rd varies from a few inches deep at most in the summer to over 4 ft in the winter coursing within inches of the top of a large culvert. It's flow volume and how it varies thourghout the year do not appear to be documented. (By the way, your maps fail to show a 10+ acre pond (coordinates 45.361443, -123.159521) in this watershed. It's located approximately 700 ft east of Cove Orchard Rd and less than ½ mile from Yamhill Creek.)

Because this creek is listed as temperature impaired year round and has such a variable flow rate I was curious about when and where measurements were taken. Using the identifiers from your interactive map to search the 2018/2020 data base returned “file not found”. Indeed the HUC12 number does not show up in the dropdown list. So I tried DEQ's AWQMS. In the stretch north of Yamhill according to DEQ's AWQMS the two so called monitoring stations consist of a single well monitoring station located approximately 700 ft from this creek and a location at a county road (presumably Lincoln Ave) for which there are no data for the last 15 years!

So when and where were these temperature measurements taken and what was the flow rate at time of measurement?

Where are the data?

Thank you for the opportunity to comment.

Sincerely,

Gordon Dromgoole
19643 NW Goodrich Rd
Yamhill, OR 97148
bjmatt9@gmail.com

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48. Comments from: Ken Holliday

From: Mr. & Mrs. Ken Holiday
Subject: Oppose DEQ's Draft Intergrated Report
Date: Jan. 6, 2020

Dear Director Whitman,

We own a cow/calf cattle ranch located in Grant County in Eastern Oregon. We raise hay to support our cattle operation and rely heavily on irrigation water. We are very concerned about the impact OR Dept. of Environmental Quality's draft 2018-2020 Integrated Report will have on our agricultural business.

We object strongly to DEQ's proposal to list waterways on agriculture and forestry lands as water quality impaired without any data showing those waterbodies are impaired.

The Draft Integrated Report lists irrigation ditches on our property which come off Pine Creek, located between John Day and Prairie City, as being impaired. We believe DEQ does not have data to support this listing on our private property. This unsupported listing has the potential for our agriculture business to face needless regulations.

In conclusion, we object to DEQ's draft 2018-2020 Integrated Report, on the basis it includes waterbodies as impaired without any supporting data.

Thank you for the opportunity to comment.

Ken & Pat Holliday
Holliday Land & Livestock, Inc.

Sincerely,

Ken Holliday
62394 Highway 26
John Day, OR 97845
kpholliday@ortelco.net

49. Comments from: Roger/Meredith Ediger

From: Roger Ediger
Subject: Public Comment on Draft Integrated Report
Date: Jan. 6, 2020

As an original and still actively involved member of the Local Advisory Committee (LAC) for Ag Water Quality Management of the Upper Main Stem of the John Day River Basin I am very familiar with the evolution of our "local and unique" Ag Water Quality Plan. As the third generation to be the steward of our OFB recognized Century Ranch I am very aware of the many changes already made to our "local and unique" plan brought about by your agency and other agenda driven entities and agencies. These changes clearly set aside the countless hours of meetings, work, research and efforts over the past decade plus by the Local Advisory Committee, and our ODA guide, with the apparent goal of replacing the "local and unique" plan with one that better fits the specific desires, views and goals of these outside agencies and entities along with the increase in regulations as an apparent means of "convincing" the members of the LAC that you and your allies know best how private property agriculture lands should be managed and their natural resources best be used by them.

What we, the local owners and stewards of agriculture lands in the John Day Valley, are facing at this point in time is a "proposed" new set of rules, and their associated regulations, which have been developed without historic baseline or wide spread current data to support the validity of, or need for, any regulations to be imposed upon our agriculture operations. When one studies your provided map of "impaired" streams and then searches for the supporting data to substantiate the "impaired classification" it becomes evident that, perhaps, some stretching of the interpretation of data and the amount of data needed to be considered significant to draw a broad conclusion means different things to different individuals depending on the agenda they represent.

Again, the DEQ map of "water impaired" streams in our area, the Upper Main Stem of the John Day River Basin, suggests a temperature issue for nearly the entire basin. But this is backed by minimal current and no identifiable historic data from which to draw, or support, such a broad, and far reaching conclusion. This example seems to suggest a desire by DEQ to regulate all waters on agriculture lands within the JDR basin watershed. Such an effort will have a devastating impact on the economy of all counties within the basin as agriculture is the largest contributor to these rural economies. Such a desire for control will also have significant impact on many normal, and non-contributors to water quality impairment, activities as ditch and drains being cleaned as part of best practices for enhancing irrigation efficiencies. In our area this normal cleaning of ditches and established drains is a normal necessity as water-events/floods deposit sediments and trash in our ditches and drains which is removed as part of normal maintenance. Our valley has a significant population of Reed Canary Grass, an imported species for ground cover which has unintended side effects. In our ditches and established drains it assumes hydroponic status and begins the process of impeding the flow of water and completely restricting normal water movement. If left undisturbed it will start the process of eutrification and completely block the ditch or established drain. It is difficult to understand how the normal and established practice of cleaning these water connivance systems on private agriculture lands contributes to any water quality issues.

Among the top most significant reasons/factors deterring our interested young people from perusing a life in agriculture is the ever increasing involvement of "outside interests" feeling the need to regulate private agriculture property management practices due to a lack of realistic knowledge of those practices. They have no desire to be encumbered by the obtrusive and increasing burden of unfounded and intrusive regulations that impede their management decisions and tell them how best to manage their property and operate their business. This unfounded and intrusive governmental overreach will not only continue to contribute to the trend of family farms and ranches not transitioning to the next generation but will have a profound impact on our small rural communities with the loss of the economic dollars once generated from our current agricultural enterprises.

The desire of DEQ to regulate agriculture and its related water use practices seems to be a state sanctioned mini version WOTUS. The proposed "program and its rules and regulations" mimic WOTUS in the same intrusion on private property and agriculture management practices for unfounded reasons based on insignificant and/or erroneous data. As such we strongly oppose this effort by Oregon Department of Environmental Quality, its allied agencies and entities to impose unnecessary, intrusive, unfounded and unrealistic regulations on the farming and ranching communities of our state.

Respectfully submitted,

Roger O. and Meredith L. Ediger
Box T Ranch LLC
54229 Hwy 26
Mt. Vernon, OR 97865

541-932-4772

50. Comments from: Oregon Cattlemen's Association

From: Jerome Rose
Subject: Comment Submission
Date: Jan. 6, 2020

Oregon Cattlemen's Association
OCA
1320 Capitol Street NE. Suite 150
Salem, Oregon 97301
503-361-8941
oca@orcattle.com

RE: Oregon Cattlemen's Association's Comments to DEQ's 2018-2020 Integrated Report

The Oregon Cattlemen's Association is writing on behalf of its members to strongly oppose DEQ's decision to list waterbodies on agricultural land as water quality impaired without waterbody-specific data to support those listings, as DEQ has done in its 2018-2020 Integrated Report. Decisions to list waterbodies as impaired must be based on waterbody-specific data, and it is not scientifically defensible for DEQ to list waterbodies as impaired using a watershed-wide scale or using extrapolated data samples from neighboring waterways or tributaries.

Water quality naturally differs from waterbody to waterbody, particularly when those waterways are under different ownership and may have experienced differing current and historic riparian management. DEQ has presented no evidence that its extrapolation is scientifically valid or sound. Instead, DEQ's methodology appears to be an attempt to list and regulate waterways without first going through the necessary step of determining that data actually evidence impairment. The Oregon Cattlemen's Association also opposes DEQ's decision to include agricultural irrigation and drainage ditches in its list of water quality impaired waterways, as such ditches are not waters of the State or United States.

Oregon farmers and ranchers are good partners with DEQ and our designated management agency, the Oregon Department of Agriculture. Agricultural lands have among the highest water quality in the State, and farmers and ranchers have invested millions of dollars in improving and protecting water quality. Farmers' and ranchers' efforts are continuing through Agricultural Water Quality Plans and the voluntary efforts of farmers and ranchers to engage in water quality improvement projects.

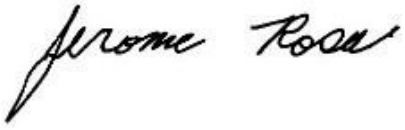
However, DEQ's decision to use extrapolated data and list ditches as impaired waterways appears to be an intentional decision by DEQ to make agricultural water quality look worse than data supports. It is disappointing that the 2018-2020 Integrated Report gives the impression that agricultural lands are experiencing declining water quality, particularly when DEQ lacks actual data for significant portions of the waterways listed. The current draft of the Integrated Report is not supported by sound science or sound agency policy.

Oregon farming and ranching are critical to Oregon's economy and food security. DEQ's listing of impaired waterways without scientifically sound evidence of impairment will make it more difficult for these industries to operate, creating negative consequences not only for individual farmers and ranchers, but for all residents in the State of Oregon. The Oregon Cattlemen's Association urges DEQ to revisit and reconsider its listings of waterways where existing data does not support the listings. Additionally, the Oregon Cattlemen's

Association requests that DEQ remove agricultural irrigation and drainage ditches in its list of water quality impaired waterways.

Thank you for the opportunity to comment.

Sincerely,



51. Comments from: R Blackman

From: Mr. & Mrs. Blackman
Subject: Comments on the Oregon Released Draft 2018/2020 Integrated Report
Date: Jan. 6, 2020

The Oregon DEQ released Draft 2018/2020 Integrated Report is an excellent report. The following comments submitted about this report may constructively assist with monitoring, understanding and determining the health of the Willamette River.

The Inorganic Nitrogen average values for the Mid and Lower Willamette River are in the fair to poor range. Organic Nitrogen may also be playing a role in the Mid and Lower Willamette River. Total Nitrogen Analysis by pyrolysis and chemiluminescence may be useful in determining if organic nitrogen is adding to the nitrogen problem.

The Biochemical Oxygen Demand (BOD) average values for the Willamette River are in the fair to poor range. Total Organic Carbon (TOC) Analysis data are available for these streams. Consideration should be given to adding Chemical Oxygen Demand (COD) analysis as a monitoring parameter for the Willamette River. The combination of BOD, COD and TOC analyses may help to explain these BOD trends.

The average Dissolved Organic Carbon values in the report are in many cases equal to or greater than the Total Organic Carbon values. Was this the result of the error associated with the analytical methods? Were both chemical oxidation and high temperature catalytic oxidation methods used to determine Total Organic Carbon and Dissolved Organic Carbon values? Many large naturally occurring organic molecules, consumer products, pesticides and herbicides have poor recoveries using chemical oxidation for Organic Carbon Analysis. Therefore, high temperature catalytic oxidation and infrared detection should be the method of choice.

Addition of Bacterial Bioluminescence Analyses to the Willamette River monitoring program (especially in the Mid and Lower Sections) may provide essential scientific data to assist with determining the health of the Willamette River system.

A response to my comments and questions would be appreciated. My name is Mr. R. Blackman and my Email address is kfbrb1200@att.net.

52. Comments from: Water Environment Services (WES)

From: Greg Geist
Subject: DEQ Draft 2018 – 2020 Integrated Report – Surface Water Quality & List of Water Quality Limited Waters
Date: Jan. 6, 2020

Water Quality Protection
Surface Water Management
Wastewater Collection & Treatment

Gregory L. Geist
Director

January 6, 2020

DEQ Water Quality Division,

My staff at Water Environment Services (WES) have reviewed the DEQ's draft 2018-2020 Integrated Report on Surface Water Quality and List of Water Quality Limited Waters and have offered the following comments:

General Comments:

- In many instances, DEQ chose to combine two or more smaller streams into sub-watershed-size groupings, which are based on the U.S. Geological Survey's HUC-12 classification, the smallest federally-derived hydrologic classification available in Oregon at this time. So for listings of interest to WES, all of the water quality data from several different creeks were apparently pooled together into a single Assessment Unit (unit) and an assessment conclusion was then drawn for the units as a whole. This is a loss of detail compared to previous 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 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.

- Listing a group of creeks in an assessment unit as impaired for a particular pollutant found in only one creek is inappropriate. As such, we request that DEQ, at least for existing listings, retain the geographic specificity of the listing, and moving forward use data to list assessment units. If DEQ decides to combine creeks and streams into larger units in this report, it should note which areas of the combined unit have specific impairments to allow for appropriate water quality management of that unit. Also, to reduce confusion,

we request that the Rock-Sieben Creek unit's name be changed to the following: *"HUC12 Name: Rock **and Sieben Creeks** - Clackamas River"*. Furthermore, we encourage DEQ to provide updated, more inclusive names for the other units in Oregon which include several different smaller creeks, such as the unit which includes the North Fork of Deep Creek and Noyer Creek in the Clackamas River's watershed.

- An additional concern related to the aggregation of water bodies into larger units and the application of listings to within the units is the potential for DEQ to inappropriately list waters that should not be listed, like roadside ditches and potentially even parts of our municipal storm system. This issue seems to exist in the current draft, although it is difficult to tell. We request that DEQ include a statement in defining the geographic units that such units specifically do not include waters or conveyance infrastructure that otherwise would not be included so as to avoid any inappropriate listings. We further request DEQ conduct a thorough quality assurance review to ensure if a listing is made that it is allowable, warranted and does not include any inappropriate designations such as those described above.

- In recent years, DEQ's 303(d) list/integrated report website provided a summary of the water quality data which was used by DEQ to support listing and de-listing decisions. Having this data on the website was very helpful when my staff conducted our reviews of previous 303(d) lists. Unfortunately, this data isn't on the DEQ's website at this time, which is a step backwards. During our review over the past few months, my staff have been able to eventually obtain much of the information they've sought, but they needed to contact DEQ staff for this information each time they've wanted to access the data and important gaps remain. This additional communication has taken time from WES staff and DEQ staff, time which could have been spent in a more productive manner. We urge DEQ to provide the summaries of water quality data on the website again in the future when the 303(d) list is updated again.

<u>Our other, more specific comments are listed below:</u>

- The Lower Willamette River (Johnson Creek to the Columbia River) has two new proposed category 5 listings for dissolved oxygen. One of these proposed listings is for fish spawning. In the data set which was used to support this listing, 6 of 30 samples exceed the spawning criteria, but the monitoring site or sites that showed exceedances are in the Swan Island channel in the industrialized portion of the river in Portland. This is a low-incidence spawning area generally. Further, the species of concern for this listing seems to be salmon and steelhead. If so, this proposed listing should be reviewed and potentially removed since salmon and steelhead are highly unlikely to be spawning in t his location.

- The Rock Creek/Sieben Creek unit in the Clackamas River's watershed has a new proposed category 5 listing for harmful algae blooms (HAB). The "Methodology for Oregon's 2018 Water Quality Report and List of Water Quality Limited Waters" appears to say a public health advisory issued by the Oregon Health Authority (OHA) is a prerequisite for listing a water body for HABs. Has OHA ever issued a public health advisory for HABs in Rock and/or Sieben Creeks? We are not aware of one. If not, does this water body still qualify for a category 5 listing for HABs? If this water body does qualify for a category 5 listing for HABs, please provide us with the explanation.

- The unit which includes the North Fork of Deep Creek in the Clackamas River's watershed has a category 4A listing for dieldrin. This is a mistake, since this category is for pollutants with a TMDL, and there isn't a dieldrin TMDL for the North Fork of Deep Creek or for any other water body in the Clackamas River's watershed. Please revise this listing.

- The portion of Kellogg Creek from the mouth of the Willamette to the confluence with Mt Scott Creek (OR_SR_1709001201_02_104171) was incorrectly classified in the NHD layer as Mount Scott Creek, Assessment Unit Name: Mount Scott Creek. There were two monitoring locations on this portion of the stream: 10623-ORDEQ, Kellogg Creek at Hwy 99E (Milwaukie) and 452552122373700-USGS, Kellogg Creek at Rowe Middle School, at Milwaukie, OR. We request that DEQ report this suspected error to the NHD Markup App: (https://edits.nationalmap.gov/markup-app) and correctly identify the unit as Kellogg Creek.

- The proposed category 5 listings for zinc and copper in Saum Creek (Tualatin River watershed) should be withdrawn, since this water quality data was collected from a water body in the City of West Linn, and no portion of the City of West Linn is in Saum Creek's watershed.

Please direct any specific questions you may have about the comments to WES' Andrew Swanson, Water Quality Analyst, at andrews@clackamas.us or 503-742-4598. Thank you for the opportunity to review this draft report.

Sincerely,

Greg Geist
Water Environment Services Director

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53. Comments from: Multnomah County Drainage District

From: Carrie Sanneman
Subject: Comment on 2018/2020 Integrated Report
Date: Jan. 6, 2020

To whom it may concern:

On behalf of Multnomah County Drainage District No. 1 ("MCDD"), Peninsula Drainage District No. 1, Peninsula Drainage District No. 2, and Sandy Drainage Improvement Company, collectively the

"Districts," please consider the following comments on the 2018/2020 Integrated Report, as represented in the online Story Map,[1] Interactive Web Map,[2] and the associated methodology.[3]

Background - Districts' Flood Management System

The Districts help protect lives and property from flooding by operating and maintaining flood management systems for nearly 13,000 acres of land along the Columbia Slough and the lower Columbia River. Over the course of their history, the Districts' system has evolved into one that primarily provides urban flood management.

The Districts maintain 27 miles of levees and 45 miles of surface water conveyance systems, including primary and secondary features, and operate 12 pumping facilities. Surface waters within the Districts include primary water bodies, private water bodies, and secondary ditches. Primary water bodies are the named rivers, lakes, slough, and canals (e.g. Columbia River, Blue Lake, Columbia Slough, and Peninsula Drainage Canal). Private water bodies include ditches and ponds that are not under the jurisdiction of the

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[1] Oregon DEQ. 2018/2020 Draft Integrated Report Draft. 2019. Story Map. Accessed 12/20/19 at: https://geo.maps.arcgis.com/apps/MapJournal/index.html?appid=f2e8fd446c404661ae6a435a9b7a19a9

[2] Oregon DEQ. DEQ Water Quality Standards & Assessment Interactive Viewer. 2019. Accessed 12/20/19 at: https://hdcgcx2.deq.state.or.us/HVR291/?viewer=wqsa

[3] Anthony, Becky. September 2019. Methodology for Oregon's 2018 Water Quality Report and List of Water Quality Limited Waters. Accessed 12/20/19 at: https://www.oregon.gov/deq/FilterDocs/ir2018assessMethod.pdf

Districts (e.g. Heron Lakes Golf Course ponds). Secondary ditches are surface water conveyance systems that carry water to the primary water bodies.

The Districts operate and maintain the flood management system pursuant to the United States Army Corps of Engineers (USACE) under Public Law (PL) 84-99 and the National Flood Insurance Program of the Federal Emergency Management Agency (FEMA). Under the regulation and guidelines of USACE's levee safety and FEMA's NFIP, accredited levees must at least meet design, operation, and maintenance standards for the protection against a 1%• annual -chance flood.

In order to meet these federal levee safety standards and protect lives and properties, in the past, the Districts conducted in-water dredging to remove accumulated sediment an average of every 3 years. As with any in-water work, the Districts complied with all relevant law. This included the dredge and fill regulatory requirements and permits administered by the USACE and Division of State Lands, 401 Water Quality Certification by DEQ, and the City of Portland Erosion Control Manual. Given the fact that the Columbia Slough and its tributaries are a remedial site subject to a Remedial Action Record of Decision, the Districts' in-water work is not only already regulated, but it also resulted in a net benefit to the environment by removing previously-deposited pollutants from the waterways. The Districts' work complies with an DEQ•approved *Environmental Management and Testing Plan for Ditch Maintenance*. Given recent evaluations, the Districts' need for future dredging is likely to be limited.

COMMENTS

Please consider the following comments, requests, and suggestions related to the 2018/2020 Integrated Report.

A. Reserve the right to submit additional comments

The Districts reserve the right to submit additional comments. It is extremely challenging for a small staff to meaningfully review and respond to such complex information in the allowed comment period.

B. Methods for water body assessment

The Districts appreciate the revised methods for assessing water body condition. The statistical approach, described in the methods section 3.3.4, has provided a more accurate representation of water body condition than the previous approach, which effectively penalized waterbodies with more water monitoring data, like the Columbia Slough.

C. Subdivide "watershed units" to reflect sub-watershed characteristics

The report results demonstrate that the methods applied to delineate "watershed assessment units" (described in section 3.3.3.) are not sufficiently granular. Assesing all streams with a Strahler Stream Order of 4 or less as one "watershed unit" does not reflect the diversity of impacts and opportunities within a dense urban watershed like the Columbia Slough. Portions of the Slough drain natural areas, residential developments,

heavy industrial use areas, and interstate transportation corridors, and yet are lumped together as if they were homogenous.

The Districts suggest that the "watershed units" in the Columbia Slough be further divided to reflect the prevailing land cover, and that any future investigations of water quality in the Slough (e.g., updated TMDL), include an analysis that can reflect watershed impacts and opportunities on a reach-by- reach scale.

A. Review misclassifications

The Districts request that DEQ remove line segments that do not represent surface waters. The maps show multiple line features that are in fact stormwater pipes or other conveyance infrastructure. We ask that DEQ review the Columbia Slough watershed for these misclassifications, and that any future investigations of water quality in the Slough (e.g., updated TMDL), include an analysis that can reflect the location of open channels in the watershed.

B. Revise Conflicts

Where there are conflicting determinations in the assessment database, DEQ should review the assessments and clarify the determinations. The conflicting determination within MCDD's service area is included below.

Conflicting Categories			
Assessment Unit ID	**AU Name**	**Assessment**	**IR**
OR_WS_170900120201_02_104554	HUC12 Name: Columbia Slough	Dissolved Oxygen- Year Round	Category 2/ Category 4A

C. Publish source data on aquatic weeds

The Districts suggest that DEQ include information on the source data used to assess aquatic weeds in the assessment database. The Columbia Slough (OR_WS_170900120201_02_1045540) is listed as Category 5 for aquatic weeds with no specified data source. Given the lack of information included in the assessment database, it is not possible for the public to review and confirm the water quality status for aquatic weeds.

D. Analysis the Columbia Slough as two watersheds to reflect current hydrology

The Districts suggest that DEQ divide the Columbia Slough watershed assessment unit (OR_WS_170900120201_02_104554) so that the lower 8.5 miles of the mainstem channel, from the confluence with the Willamette River to the levee at Elrod Drive, is delineated as a separate stream assessment unit.

The lower 8.5 miles of the Columbia Slough represent a unique waterbody with many features that differentiate it from the rest of the watershed. The lower Slough is tidally influenced, free-flowing, and directly connected to the Willamette River, providing important habitat for migrating salmonids. This segment of the Slough has been designated as critical habitat for Lower Columbia River Chinook, coho, and steelhead.

The lower Slough terminates on the western side of MCDD's Peninsula Canal Levee, built in 1959, and the middle Slough begins on the eastern side. The upper Slough begins at the 142nd Avenue cross-levee. The middle and upper sloughs are connected to each other via a gate in the 142nd Avenue cross-levee, which is open except during extreme flood events.

The middle and upper Sloughs are not, however, typically hydrologically connected to the Columbia River or the lower Slough. The only connectivity comes from stormwater exiting the middle and upper Sloughs, in the following two ways:

- Pump Station #1, located at the MCDD Headquarters on NE Elrod Drive, expels stormwater from the middle to lower Slough.
- Gated gravity outfalls in the middle and upper Slough expel stormwater to the Columbia River. They are only opened in the low-water periods in the summer months when there is no flood potential or possibility of fish passage or entrapment.

For these reasons, the current classification is not appropriate and fails to capture known environmental variability. The middle and upper Sloughs should be considered a separate watershed from the lower Slough because they are effectively disconnected.

Thank you again for the opportunity to provide input. If you have any questions regarding these comments, please contact me directly.

Sincerely,

Carrie Sanneman
Environmental Program Manager

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54. Comments from: Jackson County

From: Joel Benton
Subject: Letter Jackson County Comments 2018/2020
Date: Jan. 6, 2020

JACKSON COUNTY
Oregon

Office of County Counsel

Joel C. Benton
County Counsel

10 South Oakdale, Room 214
Medford, OR 97501
Phone: (541) 774-6160
Fax: (541) 774-6722
bentonjc@jacksoncounty.org

www.jacksoncounty.org

Dear Director Whitman and the Water Quality Division:

I am writing on behalf of Jackson County to oppose DEQ's decision to list water bodies throughout the State, and specifically Jackson County, as water quality impaired without data to support those listings or because of circumstances natural to our region, as it has done in its 2018-2020 Integrated Report.

Jackson County also oppose DEQ's decision to include agricultural irrigation, drainage ditches, and other man-made ditches in its list of water quality impaired waterways. These are not natural waterways and there may be long-term ramifications to county programs and our constituents as a result of this action.

Specifically, Jackson County opposes DEQ's decision to extrapolate listings of waterways and ditches based upon data collected from neighboring properties by pooling data on a watershed wide scale. Water quality naturally differs from water body to water body, particularly when those waterways are under different ownerships and may have experienced differing current and historic riparian management.

DEQ has presented no evidence that this extrapolation is scientifically valid or sound. Instead, it appears to be an attempt to list and regulate waterways without first going through the necessary step of determining that data actually shows an impairment. In order to be scientifically defensible, decisions to list waterbodies as impaired must be based on water body specific data and cannot be extrapolated from samples from neighboring waterways or tributaries. To do otherwise is not sound science or sound agency policy. Without using actual data, DEQ may be making water quality on county lands, which are largely agricultural and forest lands, look worse than it may actually be. Agriculture and timber jobs are critical to economic and social stability in rural counties. Destabilizing these sectors without specific and verifiable data is bad public policy.

Further, a review of the Integrated Web Map for Jackson County, and the underlying data, shows that the vast majority of the water bodies in this County are being listed as impaired waters solely or mostly due to temperature. Southern Oregon has a distinctly different climate than Northern Oregon or other parts of Oregon. The average high temperature in Medford, Oregon, for example, in June and especially

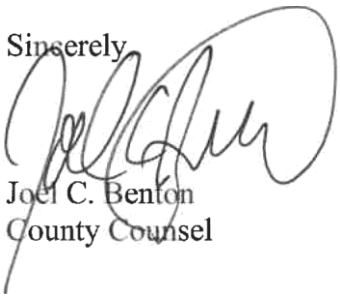
July and August is nearly 90 degrees F. During these months, Southern Oregon also experiences negligible rainfall. With such naturally occurring conditions, the waterways in Jackson County are going to experience high temperatures. As there is no reasonable course of action by which those temperatures can be mitigated, listing such waterways as impaired is creating a problem without a solution.

The County, along with our farm, ranch, forest, manufacturing, industrial and commercial business constituents, have always been good partners with DEQ and their associated non-point source designated management agencies. Forest and agricultural lands have among the highest water quality in the state, and county constituencies have significant investments over time improving and protecting water quality. It is disappointing that the report makes it appear that vast amounts of county lands, especially farm and forest lands, are experiencing declining water quality, particularly when it appears that DEQ lacks water body specific data for significant portions of the waterways listed or when such impairment is a natural condition of the environment.

Jackson County is also disappointed that the agency did not reach out to county officials about the Integrated Water Quality Report prior to listing the vast majority of our waterbodies as water quality impaired. Jackson County is entitled, as local government, to forewarning and a more in-depth discussion of the methodologies used and the assumptions that the Integrated Report makes about waterways in the county, particularly when the agency has made some very significant policy calls that will have a direct impact on county programs and county lands. This very impactful policy work also left the County with such a narrow window of opportunity to comment.

Thank you for the opportunity to comment and Jackson County hopes we can have a more productive dialogue about the Integrated Report moving forward.

Sincerely,



Joel C. Benton
County Counsel

55. Comments from: Mike/Joanne Keerins

From: Michael Keerins
Subject: Oppose DEQ's Draft Intergrated Report
Date: Jan. 6, 2020

Dear Director Whitman,

It is not acceptable that DEQ should list waterways over a large area with only one data point used for data. They need to have a larger data base with a longer period of time (years) before increasing the list of " impaired water bodies".
We need to work with what rules and regulation are in place to see if they are improving water quality before adding more rules and regulation that will destroy Oregon working people.
Nature changes things and there needs to be numerous data points to get a clear picture of how nature is changing the landscape with drought and floods. The data used for Pine Creek was gathered during a drought. The data collectors told me that they could not get a clear picture of the area because of the drought.

Keerins Ranch
Mike and Joanne Keerins
42174 Izee Paulina Ln
Canyon City, Or 97820
541-477-3301
jkeerins@gmail.com

56. Comments from: Oregon Farm Bureau and other agencies

From: Mary Anne Cooper, VP Oregon Farm Bureau Federation;, Blake S. Rowe, Executive Director, Oregon Wheat Growers League; Ryan Beyer, Executive Director, Oregon Seed Council; David Phipps, President, Oregonians for Food & Shelter; Jim James, Executive Director, Oregon Small Woodlans Association; Jerome Rosa, Executive Director, Oregon Cattlemen's Association; April Snell, Executive Director, Oregon Water Resources Congress; Jeff Stone, Executive Director, Oregon Association of Nurseries; Helle Ruddenklau, President, Oregon Women for Agriculture; Tami Kerr, Executive Director; Oregon Dairy Farmers Association; Meridith Nagely, Manger, Oregon Hazelnut Industry Office

Subject: Comments on the Draft 2018 – 2020 Integrated Report and Methodology

Date: Jan. 6, 2020

Our organizations write to comment on the Draft 2018-2020 Integrated Report and Methodology released by the Oregon Department of Environmental Quality (DEQ). The Oregon Farm Bureau, Oregon Small Woodlands Association, Oregon Seed Council, Oregon Water Resources Congress, Oregonians for Food & Shelter, Oregon Cattlemen's Association, Oregon Wheat Growers League, Oregon Women for Agriculture, Oregon Dairy Farmers Association, Associated Oregon Hazelnut Industries and Oregon Association of Nurseries are agricultural and forestry trade associations who represent over 14,000 farmers, ranchers, and foresters across the state in the legislative and policymaking arenas. Our members raise all of Oregon's 225+ commodities in all regions of the state and represent Oregon's diversity of family run farms and ranches.

In reviewing the Report and Methodology, it is apparent DEQ has made some very significant and concerning policy decisions which make it appear that water quality on agricultural and forestry lands across the state has declined drastically since the last Integrated Report was completed in 2012. Chief among our concerns is DEQ's decision to introduce watershed scale assessment units (AU) across the state, resulting in the listing of hundreds (if not thousands) of miles of waterways as impaired *without waterbody specific data*. Additionally, DEQ has made decisions on its approach to refining AUs, visualizing data, and generally presenting information in the Report that make it misleading and difficult for users to understand. Our organizations write to express our opposition to DEQ's new approach in its Report and Methodology, and to encourage DEQ to revisit the significant policy decisions it has made throughout this process.

Background on Agriculture and Water Quality

Since the inception of our nonpoint source water quality programs, and for years before, our members have worked to protect, maintain and enhance water quality throughout the state. The agricultural and forestry sectors have always been proactive about protecting, maintaining and enhancing water quality on agricultural and forestry lands, which combined represent by far the largest land use in the state. Indeed, our industries were proactive in developing the Agricultural Water Quality Management Program and Forest Practices Act years before most states had thought of developing their nonpoint source programs. Since that time, we have invested millions in studies, on-the-ground work, and compliance with our respective programs. We will continue to be proactive into the future, as evidenced by the millions invested by each of our sectors each year in proactive water quality improvements.

Oregon's farmers, ranchers, and foresters are doing an exceptional job investing in water quality improvements, studying water quality on our lands, and meeting the requirements of our programs, and we will continue to do so after DEQ adopts its Report and Methodology. That said, we have concerns about the picture of water quality on agriculture and forest lands painted by DEQ in the Report, the approach to listing waterways DEQ proposes in its Methodology, and the application of the Methodology to watersheds across the state.

Comments on the Draft 2018-2020 Integrated Report and Methodology

1. *DEQ Should Accept Comments on the Methodology*

As in initial matter, we urge DEQ to reconsider its decision not to accept comments on the Methodology document. While DEQ correctly notes that the Methodology was put out for public comment in 2018, that comment period was well before DEQ completed its call for data, developed its 303(d) list, and published its map illustrating DEQ's revised approach to listing. DEQ's significant changes in approach were not immediately apparent in its draft Methodology, especially the meaning of DEQ moving to a "watershed scale" approach for assessing units that are stream order 4 or less. Indeed, members of the workgroup, including the Oregon Farm Bureau, do not recall talking about the changes to the approach to stream order 4 or less streams and moving to a watershed scale assessment unit; instead, the focus of the assessment unit conversation was almost entirely on the new approach to segmentation of stream order 5 or higher streams. Further, what was meant by an assessment unit was very vague – from reading the methodology, it appears that the watershed scale assessment unit is simply a means of dividing those smaller streams into segments. It is not clear that DEQ would actually list an entire watershed based on data from one stream in that watershed. At any rate, it is appropriate to take comments on the entirety of the Report and Methodology now that DEQ has completed its call for data and developed its proposed 303(d) list of waterways; only now can the public can fully understand the implications of DEQ's decisions in its Methodology.

2. *We Oppose DEQ's Decision to Move to Watershed Scale Assessment Units and Listings in the Methodology*

We strongly oppose DEQ's decision to move to watershed scale assessment units for stream order 4 or less streams in the Methodology. The Methodology represents a significant policy call by DEQ to drastically alter how DEQ developed AUs across all water bodies. Previously, AUs were identified using three factors: the water body, the pollutant or parameter of concern, and the season. They were always water body specific and relied on data from the specific water body. The number and location of monitoring sites were taken into consideration, and, in some cases, monitoring locations determined AU boundaries. The previous methodologies resulted in a complex system where a single water body could be represented by multiple AUs with separate criteria for the same parameter at different times of the year. However, it was much more water body and pollutant specific, and did not result in listing any waterbodies where DEQ lacked data from that specific water body.

To make its listings more simplistic, DEQ updated the Methodology in two key ways. First, DEQ made AUs constant throughout the year. Second, DEQ decided to make AUs correspond to geographic and hydrologic information in the High Resolution National Hydrography (NHDH) framework. Under the new Methodology, there are now four broad categories of AUs:

- *River and Stream*: Used only for Strahler Stream Order of 5 or higher (these are the larger rivers and streams of Oregon)
- *Watershed*: Used for all streams that are Strahler Stream Order 4 or lower.
- *Lakes, Reservoirs, and Estuaries*: Lakes and reservoirs greater than 20 hectares are separate AUs.
- *Columbia and Snake River*: Similar units to Washington and Idaho designations

DEQ has decided to pool all data for a given AU when comparing them to the water quality standards for the beneficial uses of the AU. This means that all locations within an AU are considered equivalent when assessing the AU, regardless of whether data exists for a specific water body in the AU. Under the Methodology, the approach to assigning AUs to water quality categories in the Report is automatic and does not account for local variation *or even whether all the waterbodies identified in the watershed to be listed actually exist*. Once the beneficial use has been designated for the AU, the limits per pollutant are set and little interpretation is given to the water body specific data.

Our organizations strongly oppose this approach. While it may meet the goal of making the listing process more straightforward for DEQ, it does not represent sound agency policy or standards for scientific rigor. In order to be scientifically defensible, decisions to list waterbodies as impaired must be based on water body specific data and cannot be done on a watershed wide scale or based upon pooling data (i.e. extrapolating data from samples from neighboring waterways or tributaries). Watersheds are composed of hundreds of individual water bodies. Within a watershed, water quality can easily differ from water body to water body, particularly when those waterways are under different ownership and may have experienced differing current and historic riparian management.

Further, it does not appear that DEQ analyzed whether the selected beneficial use for the sampled tributary would actually apply to all waterbodies in the watershed AU or be an appropriate basis for listing all waterbodies in the watershed AU. This is particularly important in the context of irrigation and drainage ditches, many of which are closed diversion systems which are screened to prevent fish

from entering the system. Many of the standards for fish life or human drinking water would not apply to these water bodies, as they are separate systems that do not support those beneficial uses.

Instead of undertaking a site-specific analysis based on site specific data, DEQ has chosen to aggregate almost all of this man-made infrastructure across the state into its watershed scale analysis, in the process applying inappropriate beneficial uses and listing criteria to these waterbodies. This approach is not scientifically justified or legally appropriate.

DEQ has presented no evidence that its decision to list on a watershed-wide scale is scientifically valid or sound.[1] Instead, it appears to be an attempt to list and regulate all waterways within a watershed AU without first going through the necessary step of determining that the data actually shows an impairment for each specific waterway. By listing entire watersheds without showing waterbody specific evidence of an impairment for each water body in the watershed, DEQ is subjecting landowners to regulation without data supporting that regulation.

1. At Any Rate, DEQ Did Not Properly Delineate Assessment Units

While we disagree with DEQ moving to watershed AUs, if DEQ chooses to adopt this approach, DEQ needs to properly delineate assessment units. In its application of the Methodology, DEQ has failed to properly look at the homogeneity of the watersheds, and thus has made improper judgements regarding where to sub-divide new watershed AUs. In the areas where we performed a specific analysis of relevant data and listings, we found that the watershed AUs are much too large because they capture regions of widely varying land use, major differences in beneficial uses, or

[1] While we understand that EPA has supported the creation of watershed scale assessment units, we disagree that this approach is appropriate in a state with as many diverse stream systems as Oregon and we do not believe it is defensible under the Clean Water Act. At any rate, the display and approach used by other states and EPA is vastly different from that undertaken by DEQ.

where the original listing data is too stale to be extrapolated to the rest of the basin.[2] This has led to prior 303(d) listings being applied to additional miles of rivers and streams where monitoring data may be scant or nonexistent, and where conditions on the ground are very likely to be different from the locations where the monitoring data was collected. [3]

According to the Methodology, DEQ was supposed to assess the homogeneity of Watershed Units when defining AUs and reassess geographical areas over which a beneficial use extends (i.e., the extent of fish habitat) when mapping previous AUs to new ones ("using environmentally and/or hydrologically relevant breaks means the assessment units should represent homogenous segments of surface waters" and "where other relevant data layers indicate differences in watershed homogeneity, further divisions may be warranted in the assessment unit").[4] This analysis is intended to determine whether the new watershed AU is appropriate for the water body and pollutant previously listed on a single waterbody in the watershed AU, and ensure that DEQ is not pursuing listings where additional data is likely to demonstrate a listing isn't warranted. However, it does not appear that a homogeneity analysis happened for many – if any – watershed AUs listed in the Report.

DEQ failed to complete a waterbody specific evaluation of land use patterns – including changes in riparian condition –prior to extending an AU to include an entire watershed. For most of the new watershed scale AUs, the agricultural land use and regional conditions vary considerably, making it very unlikely that a sample from a waterbody in one part of a watershed would be representative of a waterbody where the land use, land features, or stream condition is different. This is particularly true when all waterbodies in a watershed AU are not the same classification. For example, where a watershed AU is comprised of natural waterways, irrigation ditches, and drainage or other man altered channels, it is very unlikely that a sample from one type of system in the watershed would be representative of all the waterbodies in that watershed.

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[2] In developing our comments, we completed a more in-depth review of a few representative watersheds to determine what data DEQ relied on for the assessment, the age of the data relied upon, and the extent to which DEQ evaluated the systems and landscape for homogeneity. Our findings on these reviews are discussed in Appendix A to this report and support our comments below.

[3] For stream order 5 and higher waterways, DEQ's refinement to its assessment unit designations appears to be largely positive. However, even among the stream order 5 and higher waterways that have data, DEQ appears to have failed to evaluate the homogeneity of those systems, and therefore failed to account for local variation that may make the computer modeled assessment delineations improper.

[4] Citation: Section 3.3.3 in Anthony, B. 2019. *Methodology for Oregon's 2018 Water Quality Report and List of Water Quality Limited Waters*. Oregon Department of Environmental Quality. Accessed online at https://www.oregon.gov/deq/FilterDocs/ir2018assessMethod.pdf.

Similarly, when there are varying land uses or systems that are impacted by different types of legacy conditions, it is not appropriate to use data from one part of the watershed to represent the entire watershed. DEQ failed to review each watershed AU for changes in land use, riparian condition, and other landscape features that could indicate that the waterbody where the data collected may be differently situated than other waterbodies in the same watershed, and further subdivide watershed AUs based on this analysis. For any new watershed AUs where DEQ lacks that data to assess the condition, they should be listed as Category 3.

Extending the geographic reach of a former listing under the watershed units also had the effect of extending the reach of the beneficial use that the original listing was based upon. It appears that across the state, DEQ simply extended the reach of the assessment unit, and thus the geographic reach of the beneficial use, without first evaluating whether that beneficial use should extend to the whole watershed AU. As part of its homogeneity analysis, DEQ should have looked at the beneficial uses for the stream with the original impairment to make sure that the same beneficial use would apply throughout the new watershed AU. In its final Report, DEQ must ensure that AUs in the Report are homogeneous with respect to their beneficial uses.

In watersheds with ditches or other man-made infrastructure, DEQ should not extend the beneficial use to that infrastructure. Including irrigation ditches in watershed AUs is not consistent with the requirement that watershed AUs be divided at points of heterogeneity. Instead, the stream from the 2012 Integrated Report should be one AU with its beneficial uses and nearby irrigation ditches

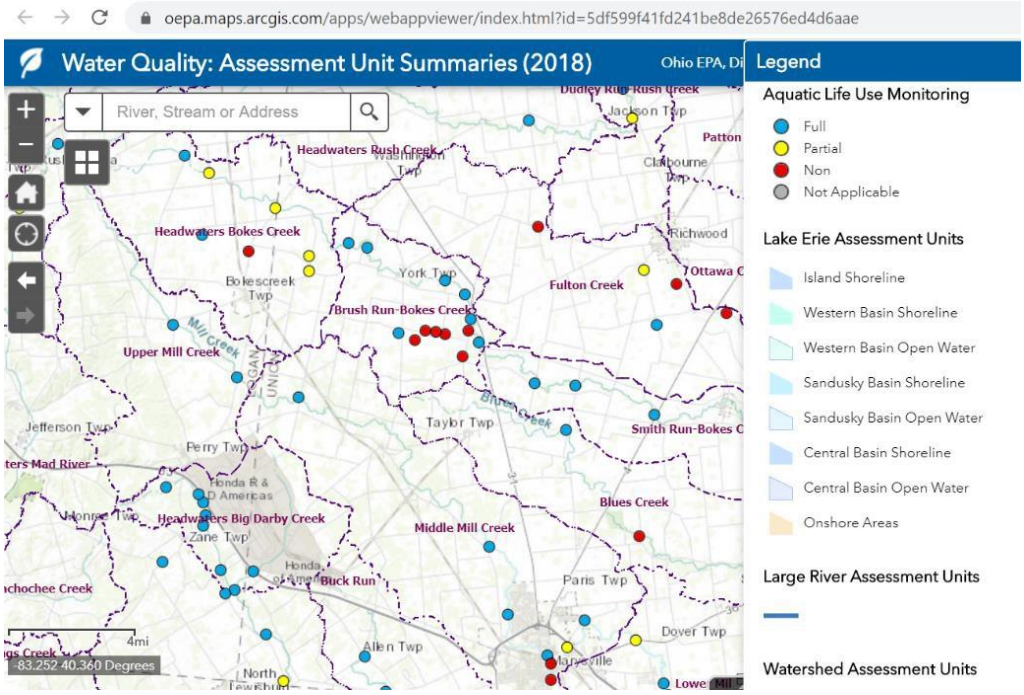
identified in the NHDH data set should be a separate AU with beneficial uses identified separately from the stream. This is particularly relevant for irrigation ditches because they are usually screened to prevent fish from entering, and thus extending the beneficial use of Fish Habitat from a free- flowing stream to irrigation ditches is not reasonable. To that end, we recommend that DEQ should develop a filter for the High Resolution National Hydrography data set that separates unnatural channels and areas with modified flow patterns (e.g., irrigation ditches) from natural channels. If DEQ lacks data on the water quality status of these ditches, they should be listed as Category 3 and treated separately from nearby natural waterways.

Finally, where the only data supporting a previous listing for a stream that will carry over to a new watershed AU in the Report is stale (more than a decade old), DEQ should not extrapolate that data out to an entire watershed AU, and thus expand the stale listing to a broader watershed. Instead, DEQ should list the remaining waters of the watershed as Category 3 if there is not sufficient new data to determine their status.

1. *DEQ Must Improve its Display of Assessment Units*

DEQ's current display paints a very inaccurate picture of water quality in the state, particularly on agriculture and forest lands. While DEQ does not have significant new data driving new listings,

DEQ's decision to map the status of every waterbody in a watershed AU makes it appear as if DEQ has sampled nearly every water body in the state and has found widespread impairments, and makes it impossible for the user to tell which waterbodies DEQ actually has data for. It also makes it appear as though water quality on agriculture and forest lands has declined drastically since 2012, when we know the opposite to be true. If DEQ chooses to continue to pursue watershed scale AUs, DEQ must modify how it displays the data it has such that 1) the user can easily see where in a watershed the data points driving a listing are coming from and 2) DEQ doesn't highlight as "impaired" any waterbodies it lacks data for.



For example, Ohio evaluates its waterbodies on a watershed scale, but displays the specific data points where that data was collected with the attainment status so the user can easily see where in the watershed the agency has found a problem and where attainment is occurring. This approach results in a much more accurate display of available data without the indication that more waterbodies have impairments than DEQ has data to support (see Figure 1, below). If DEQ continues to pursue its ill- advised decision to move to watershed AUs, DEQ should consider displaying the data as Ohio does\In addition to the points raised above, we noticed a number of key improvements DEQ must make to its presentation, user interface, and data sharing prior to finalizing the Report. These are summarized below.

<u>Presentation and User Interface</u>

- The Interactive Web Map should color AUs to match the colors of the categories that are described in the Interactive Story Map. Colors should correspond to categories, not impairment, such that Category 4 and Category 5 AUs appear differently.
- The Assessment Database is not currently searchable by beneficial use. Being able to find water bodies that are listed for the same beneficial uses would be helpful in understanding precedents for establishing water quality standards, developing TMDLs, delisting segments, and implementing point and non-point source pollutant controls. Please add this functionality.
- Any data display must include monitoring locations referenced in the Assessment Database. Additionally, we request that you add monitoring locations and existing analytical data to the Geodatabase. Without it, we cannot evaluate the data that led to the water quality categorization.
- To properly use the Interactive Web 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.
- The AWQMS is critical to understanding the categorization of an Assessment Unit of interest, but it is remarkably difficult to use. Please undertake a comprehensive review of

the user interface of this system and make the database public to facilitate intuitive custom searches.

- Please make it possible to search by Assessment Unit, not merely monitoring location identification numbers, in the AWQMS.

Completeness of Data

- Our comparison of the data received from DEQ in spreadsheet form and the data available on the AWQMS web portal indicates that, in at least one case, the web portal does not include all the data that are available for an AU. Importantly, data that were not on the AWQMS web portal were the data that led to a Category 5 determination for a specific AU. All data that lead to categorizations of AUs should be publicly accessible without the personal assistance of DEQ personnel.

- The analytical data represented in the integrated report are not accessible via the Interactive Web Map and the Assessment Database. Connecting these resources to the AWQMS web portal is cumbersome. Without being able to efficiently link a water quality categorization to the data that were used in the Report, users cannot effectively: A) verify that 303(d) listings are fair and accurate, B) understand the sources of pollution, and C) understand what water quality improvements may be necessary in a basin. The inaccessibility of the data that underlie the Report must be rectified. The analytical data should be accessible in a spreadsheet and geospatial format to allow for multiple forms of analysis.

- The Assessment Database should identify the organization that collected the data. This will enable users to look up data from AWQMS with a specific monitoring location ID. If at all possible, PDF files of the studies in which the data appear or the documentation of data collection methods and laboratory reports should be accessible along with the data themselves.

DEQ's Decision to List Watersheds without Waterbody Specific Data Has Significant Regulatory Consequences.

While we appreciate DEQ's assurances that it does not anticipate significant changes to result to the TMDL process or water quality regulation as a result of DEQ's watershed AU listing approach, DEQ cannot actually assure regulated entities that the changes will not have consequences for their businesses and communities.

A reasonable, fair, and defensible Report is critically important to our members. When a stream reach is included in an watershed AU that is subsequently included in the 303(d) list, those who interact with that stream (e.g., by discharging to it, releasing stormwater runoff to it, or managing land near it) are unwillingly drawn into a multi-year period of regulatory uncertainty while they wait for a TMDL to be created. First, they must manage their operations in light of the increased risk that this uncertainty creates, then they must invest resources in tracking the development of the TMDL, and finally they

must understand the implementation of the TMDL and its implications for their operations. Make no mistake, the regulatory burden on our members starts as soon as a waterway is included on the state 303(d) list due to the period of uncertainty between the listing and the creation of the TMDL.

Additionally, a 303(d) listing of a waterway near our members' operations has other important consequences that our members feel long before a TMDL is created. Once the label of "impaired waterway" is placed upon a river or stream, the activities of our members face greater scrutiny by members of the public who do not necessarily comprehend our operations or our many existing efforts to control our impact on Oregon's waterways, and who likely will not understand that the watershed scale listing was not driven by water body specific data. Moreover, in some cases, a 303(d) listing triggers additional regulations before a TMDL and its associated implementation are pursued.

When a 303(d) listing is water body specific and supported by a recent and robust data set and a transparent comparison between data and water quality criteria, our members are willing to do their part to protect and improve the water quality of our state's waterways. However, based on the concerns outlined in this comment letter, we cannot be confident that data exist to support the "impaired" status of all stream reaches included in the 303(d)-listed Assessment Units of the Report. Should stream reaches be 303(d)-listed without recent and robust data and a transparent means of understanding that listing, our members will be unreasonably and unfairly impacted. These impacts will begin immediately upon adoption of the new 303(d) list, not in several years when specific TMDL processes begin, and they will unnecessarily add to the regulatory burden of our members' operations without producing any meaningful benefit to the water quality of Oregon.

Our organizations are very concerned about the significant policy decisions DEQ made without sufficient stakeholder engagement as part of its Report and Methodology. We hope DEQ will reconsider its approach to listing at the watershed scale and more accurately display relevant data. To do otherwise would paint a very inaccurate and misleading picture of water quality in Oregon at a time when Oregon's farmers, ranchers, foresters, and other industries are doing more than ever to improve and protect water quality in the state.

Thank you for the opportunity to comment and please don't hesitate to contact us if you have any questions about our comments.

Sincerely,

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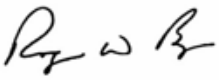

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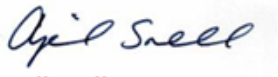

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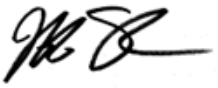

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57. Comments from: Oregon Homebuilders Association

From: Ellen Miller
Subject: OHBA
Date: Jan. 6, 2020

Thank you for granting an extension to provide comments on the 2018/2020 Draft Integrated Report on behalf of the Oregon Home Builders Association (OHBA). OHBA, a statewide non-profit association with over 2,200 members, is the voice of the home building industry and housing consumer that provides the resources, education and leadership to ensure member success, while providing obtainable housing opportunities for all Oregonians. OHBA advocates for issues that affect the housing and business industry while shaping housing policy and providing solutions on emerging issues.

OHBA is in a unique position in the water quality discussions in Oregon. Apart from the 1200-C permits, our members are not storm water permit holders. However, regulations and municipal permits based on the 2018/2020 Draft Integrated Report will potentially decrease housing supply without receiving the anticipated environmental benefits in return. Regulations such as total maximum daily loads (TMDL) and permits such as the Municipal Separate Stormwater Sewer Systems (MS4) include implementation plans requiring site-specific post-construction stormwater controls. This increases the cost of housing and limits buildable land, a resource that is already limited in Oregon due to our statewide land use system.

DEQ's use of the 2018/2020 Draft Integrated report as a starting point will trigger unnecessary permits that will unduly burden industry and development. DEQ's process of identifying and declaring watersheds "impaired", or 303(d) listed, based on data gathered at a single point will cause uncertainty among property owners and operations within the watershed. Although current DEQ staff state that TMDLs will only be developed for data supported, specific impaired water bodies, there is no assurance that others within DEQ or outside agencies utilizing the 303(d) list will not impose regulations throughout the waters

OHBA was not previously engaged in the development and adoption of the Assessment Unit (AU) methodology and was not aware of the implications until DEQ applied its 303(d) listing process in the

2018/2020 Draft Integrated Report. Given the assimilation of the interdependent nature of the methodology and the 303(d) listing, OHBA submits the following comments.

Comment #1 Reevaluate Assessment Units based on land use and beneficial uses.

The 2018/2020 Integrated Report AUs capture regions of widely varying land use or major differences in beneficial uses. This has led to prior 303(d) listings being applied to additional miles of rivers and streams where monitoring data may be scant or nonexistent. Measurements in Portland Harbor could lead to reported water quality impairments in the upstream segments of the Lower Willamette River, measurements near developed land of McMinnville could lead to reported impairments in agricultural areas southeast of that city, or that measurements in those agricultural areas could impact development in the urbanized portions of McMinnville. Please ensure that AUs in the Draft 2018/2020 Integrated Report are homogeneous with respect to their land and beneficial uses.

Example[1]: Assessment Unit OR_WS_170900080701_02_104451, the South Yamhill River HUC12 Watershed Assessment Unit, should be divided into multiple AUs because its southern and northern portions are neither homogenous nor hydrologically connected. Notably, the part of this AU that lies south of the South Yamhill River drains agricultural land, whereas the part of this AU on the north side of the South Yamhill River drains developed urban land.

Comment #2: Reconsider the transfer of 2012 beneficial uses to 2018/2020 Assessment Units.

We are concerned that, when DEQ created the Draft 2018/2020 Integrated Report, the beneficial uses from the 2012 Integrated Report were transferred to 2018/2020 AUs through an automated algorithm

whose results need additional review for reasonableness. Please confirm that the beneficial uses in the AUs of the Draft 2018/2020 Integrated Report extend throughout each AUs.

The Draft 2018/2020 Integrated Report used the High-Resolution National Hydrography (NHDH) data set to define the geographical extent of new AUs. These were compared with AUs from the 2012 Integrated Report, and, when they overlapped, the beneficial uses of 2012 AUs were inherited by the 2018/2020 AUs. In many cases involving HUC12 Watershed AUs in the Draft 2018/2020 Integrated Report, the 2018/2020 AU includes a much longer distance of streams than did the 2012 AU. Consequently, in many cases, the creation of HUC12 Watershed AUs represents a geographical expansion of beneficial uses relative to the 2012 Integrated Report.

The geographic expansion of beneficial uses described above can violate the principle of homogeneity that should separate neighboring AUs from each other. The 2018 Assessment Methodology states that "using environmentally and/or hydrologically relevant breaks means the AUs should represent homogenous segments of surface waters" and "where other relevant

[1] See further explanation of AU analysis in Appendix A.

data layers indicate differences in watershed homogeneity, further divisions may be warranted in the assessment unit." There are several examples where it appears that heterogeneous water bodies have been incorporated into the same AU. This led to the application of beneficial uses and water quality criteria that do not represent the entirety of several newly expanded AUs.

Most notably, this occurs when irrigation ditches are included in a new AU that also includes a previously categorized free-flowing stream. DEQ must not assume that the beneficial uses of the stream can be extended to the irrigation ditches. Instead, the stream from the 2012 Integrated Report should be one AU with its beneficial uses and nearby irrigation ditches identified in the NHDH data set should be a separate AU with beneficial uses identified separately from the stream. This is particularly relevant for irrigation ditches because they are usually screened to prevent fish from entering, and thus extending the beneficial use of Fish Habitat from a free- flowing stream to irrigation ditches is not reasonable.

Comment #3 – Consider the regulatory uncertainty implications of DEQ's characterization of 2018/2020 Integrated Report as a "starting point"

A reasonable, fair, and defensible 2018/2020 Integrated Report is critically important to our members. When a stream reach is included in an AU that is subsequently included in the 303(d) list, those who interact with that stream (e.g., by discharging to it, releasing stormwater runoff to it, or harvesting from the land near it) are unwillingly drawn into a multi-year period of regulatory uncertainty while they wait for a TMDL to be created. First, they must manage their operations in light of the increased risk that this uncertainty creates, then they must invest resources in tracking the development of the TMDL, and finally they must understand the implementation of the TMDL and its implications for their operations. Make no mistake, the regulatory burden on our members starts as soon as a waterway is included on the state 303(d) list due to the period of uncertainty between the listing and the creation of the TMDL.

Additionally, a 303(d) listing of a waterway near our members' operations has other important consequences that our members feel long before a TMDL is created. Once the label of "impaired waterway" is placed upon a river or stream, the activities of our members face greater scrutiny by members of the public who do not necessarily comprehend our operations or our many existing efforts to control our impact on Oregon's waterways. Moreover, in some cases, a 303(d) listing triggers additional regulations before a TMDL and its associated implementation are enacted.

When a 303(d) listing is supported by a recent and robust data set and a transparent comparison between data and water quality criteria, our members are willing to do their part to protect the water quality of our state's waterways. However, based on the concerns outlined in this comment letter, we cannot be confident that data exist to support the "impaired" status of all stream reaches included in the 303(d)-listed AUs of the Draft 2018/2020 Integrated Report.

Should stream reaches be 303(d)-listed without recent and robust data and a transparent means of understanding that listing, our members will be unreasonably and unfairly impacted. These impacts will begin immediately upon adoption of the new 303(d) list, not in several years when specific TMDL processes begin, and they will unnecessarily add to the regulatory burden on housing development without producing any meaningful benefit to the water quality of Oregon.

Thank you for the opportunity to provide comments on the 2018/2020 Draft Integrated Report. We hope that our feedback helps improve DEQ's Integrated Report process. OHBA remains committed to our legal obligation to comply with state and federal law and responsibility to protect Oregon's waters. We are committed to working productively with DEQ staff and our local government partners to improve water quality in Oregon.

Sincerely,

Ellen Miller
OHBA Government Affairs Director

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58. Comments from: Klamath Water Users Association

From: Mark Johnson
Subject: Comments on Oregon's Draft 2018/2020 Integrated Report
Date: Jan. 6, 2020

KWUA Klamath Water Users ASSOCIATION
Phone (541) 883-6100 ~ Fax (541) 883-8893 ~ 735 Commercial Street, Suite 3000, Klamath Falls, Oregon 97601

Thank you for the opportunity to comment on the September 2019 Draft 2018/2020 Integrated Report, which is Oregon's first statewide water quality assessment based on use of a new assessment methodology. The Klamath Water Users Association (KWUA) submits these comments on behalf of its constituent districts and irrigators of the United States Bureau of Reclamation Klamath Project (Project).

KWUA is a non-profit private corporation that has represented Project farmers and ranchers since 1953. The Association's membership includes rural and suburban irrigation districts, other public and private entities, and individuals who operate on both sides of the California-Oregon border. These entities and individuals typically hold water delivery contracts with the United States Bureau of Reclamation. The Project, authorized in 1905, is home to over 1,200 family farms and ranches. Project facilities store or deliver water for approximately 200,000 acres of productive farm and ranch land, most of which is diverted from the Klamath River system. In addition, Project facilities and district-owned facilities make water available to two prized national wildlife refuges.

KWUA supports practical and science-based approaches to protect and improve Oregon's water resources. Based on the presently available information, KWUA cannot independently validate the display, datasets, and underlying methodology in support of the draft Integrated Report. For example, the combined display of impaired waterways is confusing, difficult to use, and has yielded anxiety amongst Klamath Project stakeholders. Furthermore, KWUA believes that the display of impaired waterways in the draft Integrated Report may be inconsistent with the approach taken by the Department of Environmental Quality in the recent Klamath Basin total maximum daily loads (nutrients and temperature).

KWUA is familiar with three separate comment letters that have been filed by the Klamath Drainage District, Oregon Water Resources Congress, and Oregon Farm Bureau, and supports and joins in those comments.

Sincerely,

Mark Johnson
Deputy Director

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59. Comments from: EPA

From: Jill Fullagar

Subject EPA Comments on Draft 2018/2020 IR

Date: Jan. 6, 2020

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 155
Seattle, WA 98101-3188

WATER
DIVISION

Thank you for the opportunity to comment on the Oregon Department of Environmental Quality's draft 2018-2020 Integrated Report. The EPA understands that this report encompasses an assessment of data covering the 2014 through 2020 Integrated Report periods. EPA recognizes that there were a number of significant updates since the 2012 Integrated Report submittal, including listing methodology revisions and resegmentation of waterbody assessment units, in addition to the transition to the new EPA Assessment, Total Maximum Daily Load (TMDL) Tracking and Implementation System (ATTAINS) online database system. The EPA believes these efforts will lead to accurate, transparent and timely assessment submittals.

The EPA requests that additional information be provided by ODEQ. For example, for the waters that ODEQ is reporting as Category 3, i.e. there is insufficient available data and/or information to make a use support determination, please provide a rationale that demonstrates good cause for not including these waters on the list of impaired waters under the Clean Water Act section 303(d). Additionally, if ODEQ has chosen not to rely on certain existing and readily available data and/or information for making impairment determinations, please provide a rationale detailing this decision.

The EPA appreciates the resources and effort that ODEQ has invested in the Integrated Reporting program and hopes these comments will be considered in the final version. Please feel free to contact me if you would like to discuss the EPA's comments or have any questions.

Sincerely,

Jill Fullagar

60. Comments from: Oregon State University

From: Francis Chan, John A. Bartha
Subject Public Comment for 2018/2020 Integrated Report
Date: Jan. 6, 2020

Department of Integrative Biology
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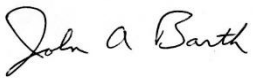
3029 Cordley Hall
Corvallis, Oregon 97331
P 541-737-9131
chanfr@science.oregonstate.edu

We write in response to the call for public comments for the Oregon DEQ draft 2018/2020 Integrated Report. My colleague, Jack Barth and I are members of the faculty at Oregon State University. We are actively involved in the study of ocean acidification and hypoxia and have research programs that directly monitor dissolved oxygen, carbonate chemistry and associated ocean properties in Oregon's nearshore waters. Understanding the status and trends of ocean acidification and hypoxia is an important endeavor and we are supportive of DEQ's efforts to address these stressors in the Integrated Report. Ideally, we would be providing an in-depth response to the data sources, quality and interpretation of the Report. Unfortunately, we found that the interactive story map and the on-line searchable database to be rather difficult to navigate for pulling out detailed information. Instead, we emphasize that we are a source of data on dissolved oxygen and carbonate chemistry in Oregon's nearshore ocean. Some of these data sets are publicly available in federally-funded data portals, others are freely available upon request. These data sets highlight the particular vulnerability of Oregon coastal ecosystems to further declines in water quality from ocean acidification and intensification of hypoxia. We were not directly contacted by DEQ for the preparation of this draft Integrated Report, but we would be more than happy to point to data access portals or share data sets to support management. This is an important effort for Oregon and we stand ready to assist.

Sincerely yours,



61. Comments from: Klamath Drainage District

From: Scott White
Subject: KDD's Comments on DEQ's Draft IRVT
Date: Jan. 6, 2020

Klamath Drainage District ("KDD" or "District") submits these comments on the Department of Environmental Quality's ("ODEQ") Draft 2018/2020 Integrated Report and Assessment Conclusions and Visualization Tools (released September 2019) ("Report") in conformance with the request for public comment and based on its inclusion in the identification and mapping of impaired water bodies.

KDD is a drainage district organized under the laws of Oregon. The District delivers water to 15 landowners who farm or ranch approximately 27,000 acres of irrigated land. Also, KDD has contracts with the United States Bureau of Reclamation relating to water delivery, drainage, and operation and maintenance of certain facilities within the Klamath Reclamation Project ("Project"). KDD supports protecting and improving water quality in the state and in its region. To that end, the District utilizes best practices and various tools to measure and maintain water quality within its boundaries.

ODEQ Has Exceeded Its Authority. Specifically, KDD believes ODEQ has exceeded its authority in including and mapping KDD's irrigation canals as impaired water bodies subject to the Report and Visualization Tools. Irrigation canals do not fall squarely under the Oregon "waters of the state" definition. 2017 Oregon Revised Statutes section 460B.005 (10) omits "ditches" and includes canals except "those private waters which do not combine or effect a junction with natural surface or underground waters." As a policy matter and under federal law, agricultural conduits have been historically exempt, and the state should mirror this important public policy. 40 CFR § 232.3(d) (exempting normal farming operations from 404 permitting requirements).

The Report and Visualization Tool Lack Support. Without explanation or a clearly stated rationale, the Report improperly blends man-made infrastructure and District facilities with natural waterways as listed water bodies. Not only is listing agricultural infrastructure inconsistent with public policy, but also the regulatory impacts are far-reaching and onerous.

These man-made systems should be removed from the Visualization Tool and inclusion in general.

Designations are Arbitrary and Unsupported. KDD recognizes water quality challenges within the Klamath River Basin, however, for ODEQ to hold KDD solely responsible for the water quality of water coming from upstream sources into KDD's canals is unjust, inequitable and in exceedance of ODEQ's authority. Nothing in the Report explains or justifies why KDD's canals have

been designated as impaired, and no other irrigation canals within the Project using the same water have been so designated. Due to other regulatory burdens and operation of the Project as a whole, KDD has limited control over the quality of water entering its system. Analysis of water quality within the Project and the Basin should be the subject of a more involved and comprehensive inquiry before portions of the existing infrastructure are labeled as impaired.

The Report and Visualization Tool Constitute an Unfunded Mandate. KDD understands the purpose of the Integrated Report is to identify areas of the state that may have water quality issues, however, being identified on the Visualization Tool map could have serious detrimental impacts. Even though a listing as impaired may not impose immediate regulatory requirements, the inference and the risk is real. Operational costs to conform to future regulatory action would be devastating to a small district like KDD. Requiring compliance with the program without state funding would constitute an unfunded mandate under Article XI, section 15(3) of the Oregon Constitution.

ODEQ Must Consider Regulatory Complexities Associated with the Klamath Project and the 2019 Biological Opinion. Klamath Project operations and Endangered Species Act requirements (some of which are presently under consideration in the 9th Circuit and in state court) are very complicated and will impact the quantity, and potentially quality, of water flowing through KDD's canals and ditches. In low water years especially, KDD may have very little control over the amount of water flowing into and out of its infrastructure. ODEQ's methodology and the outcome (the Report and Visualization Tool) fail to take these realities into account.

ODEQ Failed to Engage Affected and/or Interested Parties in the Process. KDD was taken by surprise to learn that ODEQ had generated a draft Report and Visualization Tool that identified the District's manmade ditches as impaired water bodies. Given the draft Report has a 2018/2020 timeframe, the Draft Integrated Report and Visualization Tool clearly has been worked on for some time. Why was the District never informed? Why were there no public meetings to educate the public?

For all of the reasons above, KDD requests ODEQ reconsider and remove the identification of KDD's private infrastructure on the Visualization Tool and remove its ditches and canals from the "impaired water bodies" designation. To this end, KDD invites more focused dialogue and study on the impact of the Report and the Visualization Tool. Ultimately, KDD seeks to partner with ODEQ to monitor and maintain or improve water quality flowing to and from its lands, however, the Report and Visualization Tool in the current form represents a flawed approach.

Sincerely,

Scott White District Manager

Klamath Drainage District

62. Comments from: City of Albany

From: David A. Gilbey
Subject: City of Albany, Oregon Comments on Oregon's 20182019 Integrated Report
Date: Jan. 6, 2020

PUBLIC WORKS - OPERATIONS
310 Waverly Drive NE, Albany, Oregon 97321 |
PHONE 541-917-7600

The City of Albany (City) appreciates the opportunity to provide comments of the public review draft of the Oregon 2018/2020 Integrated Report. The City of Albany, with a population of over 50,000 is in the heart of the Willamette Valley and is home to both farming and a diverse set of manufacturing, commercial, and industrial businesses. Surface water quality is important to the City of Albany, its residents and businesses, as local streams and rivers are the source of the City's drinking water supply as well as for irrigation, agriculture, and industry needs. Local streams and rivers also provide recreational, environmental, and social benefits for our community.

As the Designated Management Agency (DMA) identified in the 2006 Willamette River Basin TMDL, the City has actively implemented its own Water Quality Management Plan (now in its third, 5-year implementation plan) and partnered throughout the basin with agencies and organizations to improve the Willamette River and its tributaries. The City greatly appreciates the effort and direction of the latest 2018/2020 Integrated Report in identifying impaired water bodies while also focusing on improving the methodology used to list and track these impaired assessment units.

The City's provides the following comments on the 2018/2020 Integrated report:

Interface/Communication

Assessment Units

Listings specific the City of Albany

Interface/Communication of Listings

The City greatly appreciates and encourages the continued use of geographic information centric technology to communicate water quality impairments throughout Oregon. Although the updated technology was welcomed, the AQWMS, Report Database, and Interactive Web map are not intuitive and do not always yield results, or consistent results, for interested stakeholders. We also suggest the Department of Environmental Quality (DEQ) derive a way to link the data used for the Integrated

Report directly to the report database so that the listing or impairment can be matched with its location and compendium of data.

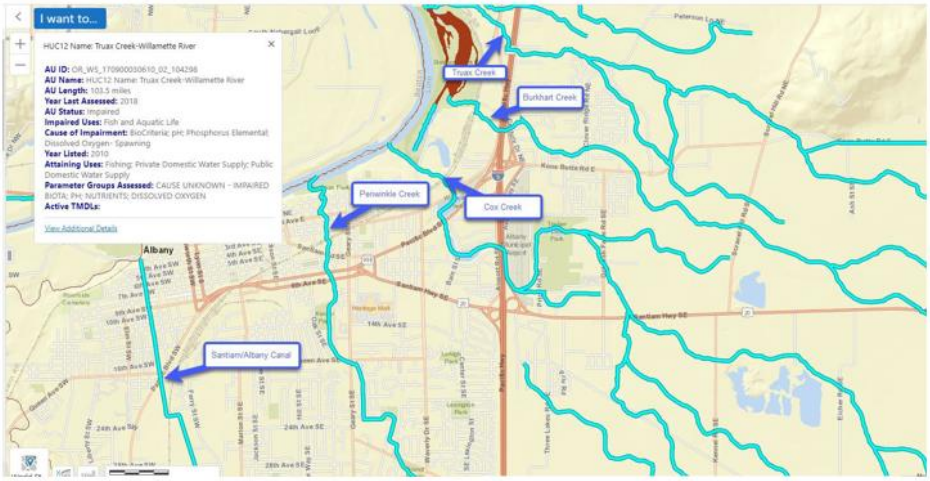
The most consistent, but somewhat incomplete, way to review listings within the City's jurisdiction became downloading the Assessment Geodatabase. Although using the Assessment Geodatabase helped identify categories and listings in the City's jurisdiction, accessing the actual data for the listings was not straightforward and often led to not being able to identify the supporting information.

The Report Database was helpful in finding listings located within the City's jurisdiction but locating the listing data through AQWMS or the Interactive Web Map was not consistent or reproduceable. The City is also concerned with the age of data used to evaluate some of the listings and how representative they are of current impairments within the City's jurisdiction. The City could provide specific examples and suggestions upon request.

Assessment Units

The City noted that the classification of the new assessment units has dissolved stream names, which can be problematic. The City believes this may be a result of the new assessment unit delineation methodology. As an example, in Figure 1, waterbodies like Burkhart Creek, Periwinkle Creek, Cox Creek, and the Santiam/Albany Canal have been grouped together in the same assessment unit (Truax Creek-Willamette River). In this example, the Santiam/Albany Canal is a man-made canal that is used primarily as a drinking water and hydropower source, while Periwinkle Creek is an urban stream through Albany, and neither are connected to Truax Creek. Although the City understands the reasoning for this delineation of these 1-4 order streams, there is concern that this methodology will lead to broad listings across diverse land uses that require different approaches for water quality improvement. Furthermore, when the City attempted to recover the data used for the listings, it is unclear what data was collected, how many data points were used, by what organization, for which tributary, and when the original listing was made. It appears that limited data is being applied across the different tributaries without recognizing their differences or that some portions may be meeting water quality standards.

Figure 1 DEQ Web Map (callouts added by City of Albany)



Based on the report database, there is a Biocriteria listing for the Truax Creek-Willamette unit. It is not clear what a Biocriteria impairment may mean as far as what physical or chemical stressor is causing

the impairment (e.g., temperature, sediment). Specific pollutants should be relied upon for impairment listings since there is no way to create TMDLs for Biocriteria. Searching the AQWMS database did not return any results for this listing and in a discussion with regional DEQ staff in Eugene, the City was told it may need to submit a public records request for this data.

There is also a Phosphorus-Elemental-Aquatic Life Criteria listing for the Truax Creek-Willamette unit along with Dissolved Oxygen and pH listings from 2012 (OR_WS_170900030610_02_104298). Again, it is unclear what waterbody these listings represent and what data was used to determine the listings.

Thank you for consideration of the City's comments. The City greatly appreciates the efforts that were made in updating the listing methodologies and the overall improvements from past Integrated Reports. Please feel free to contact me at 541-497-6223 or david.gilbey@cityofalbany.net if you have any question or if the City can provide more detailed information.

Sincerely,

David A. Gilbey
Environmental Services Manager

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63. Comments from: Port of Portland

From: Dorothy Sperry
Subject: Oregon's Draft 2018/2020 Integrated Report
Date: Jan. 6, 2020

Mission: To enhance the region's economy and quality of life by providing efficient cargo and air passenger access to national and global markets.

PORT OF PORTLAND
Possibility. In every direction.

The Port of Portland (Port) appreciates the opportunity to provide comments on the Oregon Department of Environmental Quality's (DEQ) Draft 2018/2020 Integrated Report. We commend DEQ's efforts to improve on the methodology and format of the report and commitment to consider and incorporate input from the public.

The Port's mission is to enhance the region's economy and quality of life by providing efficient cargo and air passenger access to national and global markets, and by promoting industrial development. Our mission, as well as our Water Resource Policy, provide the foundation for conservation and protection of water resources impacted by our operations. The purpose of the proposed report is to assess the quality Oregon's water bodies and determine whether beneficial uses are supported. The beneficial uses include water quality that supports habitat for fish and aquatic life, as well as supporting commercial navigation and transportation on rivers such as the Willamette and Columbia. We believe water quality should be protected to support all applicable beneficial uses.

Although our review of this complex report is not comprehensive, we find the report overall is significantly improved and we understand it is a work in progress that will continue to evolve over time. Our general comments are provided below. We also support comments provided by the Association of Clean Water Agencies (ACWA), as a member agency.

Comments

The fact sheet and supporting documents are very useful and provided a good overview of the water quality assessment process. The interactive map and database provide an efficient method to navigate and access the results of the water quality assessment. However, there remain some aspects that need improvement such as addressing loading errors and correcting database access problems.

Although it's relatively easy to identify what specific listings DEQ proposes, it's not easy to evaluate the basis for the listings. DEQ, in future iterations of the Integrated Report, should include links to the supporting data and rationale for individual proposed listing decisions in a format that allows the public to evaluate and meaningfully comment on a proposed listing decision.

The new assessment unit maps show water features that should not be included because they do not exist or are not waters of the state to which water quality standards apply. These include, for example, the ditches and other stormwater features on Port International Airport property discharging to the Columbia Slough. Many of the depicted features that should be removed represent stormwater pipes or other conveyances or surface waters that may have existed in the past but today no longer exist.

The draft Integrated Report appears to list as impaired, all waterbodies within an assessment unit, regardless whether there is any data for that waterbody that demonstrates impairment.

This is particularly true of tributaries in HUC12 watershed assessment units. Broadly applying water quality data to upstream tributaries where assessment data has not been obtained is not appropriate. Upstream tributaries may meet water quality standards and therefore should not be listed as impaired solely based on the expansion of the assessment unit. DEQ should carefully review and remove listed tributaries where no or insufficient data to demonstrate impairment exists, or, where that is not feasible, clearly state in the final Integrated Report that

only the waterbodies in an assessment unit that are designated as impaired, are those for which there is data demonstrating impairment, not all waterbodies within the assessment unit.

DEQ should divide the Columbia Slough assessment unit so that the lower 8.5 miles of the mainstem channel is delineated as a separate stream assessment unit. The Lower Slough is tidally influenced and free-flowing. The water quality is heavily influenced by the Willamette River and important

habitat for migrating salmonids is present. The middle and upper Slough however, are highly managed water systems with dikes and pumps managed by the Multnomah County Drainage District No.1. The hydraulic management can have a significant impact on the local water quality and beneficial uses. Notably, there are no salmonids present in the Middle and Upper Slough, primarily due to a dike that physically separates the Lower Slough.

Impaired stream listings may have significant regulatory consequences, including effects on NPDES discharge permits and National Environmental Policy Act documents. DEQ should continue to refine its methodology and provide for an ongoing process to review and correct inaccurate or arbitrary applications of data.

Thank you for this opportunity to comment on this critical body of work The Port looks forward to continued participation with DEQ in our common goal of improved water quality. Please feel free to contact me at (503) 415-6642; dorothy.sperry@portofportland.com.

Dorothy Sperry

Land & Water Resources Manager

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64. Comments from: Oregon Water Resources Congress

From: April Snell
Subject: OWRC Comments on the Draft 2018/2020 Integrated Report
Date: Jan. 6, 2020

Oregon Water Resources Congress
795 Winter St. NE | Salem, OR 97301 | Phone: 503-363-0121 | Fax: 503-371-4926 | www.owrc.org

On behalf of the Oregon Water Resources Congress (OWRC), I am submitting the following comments on the draft 2018/2020 Integrated Report (Report), issued by the Oregon Department of Environmental Quality (DEQ) in September 2019. Our organization and its members are supportive of achievable and implementable water quality standards throughout Oregon. However, we are concerned the Report's assessment process, draft conclusions, and visualization tools may negatively impact irrigated agriculture and only lead to further litigation rather than improved water quality. We urge DEQ to revise the Report and its underlying approach to better identify Oregon's impaired waterways using a more refined dataset, a more transparent process, and a less confusing visual display.

OWRC is a nonprofit trade association representing irrigation districts, water control districts, water improvement districts, drainage districts, and other local government entities that primarily deliver agricultural water supplies. These water stewards operate complex water management systems, including water supply reservoirs, canals, ditches, pipelines, pumps, and hydropower facilities. More than one-third of all irrigated land in Oregon is dependent on infrastructure managed by agricultural water suppliers.

As a general comment, the Report would benefit greatly from the addition of a summary document that better explains the approach used to evaluate the status of water quality in Oregon and provides a comprehensive list of waters considered to be impaired as a result of the Report. As DEQ notes on the website portal for the Report, an actual comprehensive document does not exist and instead can be accessed through a combination of information housed in an interactive story map, interactive web map application, 2018/2020 Integrated Report Assessment Database, and ArcGIS Assessment Geodatabase. The lack of any sort of comprehensive document or even a rudimentary summary poses a significant barrier to understanding the Report and its potential ramifications to our members.

Our major concerns are primarily focused on how the Report's assessment and visualization tools have blended district facilities and other man-made infrastructure with natural waterways without adequate or verified data to justify such listings. Being listed as an impaired waterway has serious ramifications to irrigated agriculture, including regulatory impacts of being included on a 303(d) list, increased legal costs, and negative public perception.

The Report needs to be revised to either remove water conveyance systems altogether or, at a minimum, properly distinguish between natural and man-made infrastructure where there is adequate data to justify inclusion. The burden should not be on conveyance system operators to justify exclusion; rather, the burden should be on DEQ in the first instance to justify the basis for inclusion. DEQ's presumption of inclusion has no basis in law.

Watershed Assessment Units Need Revision

The Report uses the High-Resolution National Hydrography (NHDH)dataset to define the geographical extent of new Assessment Units (AU) to characterize Oregon waterways.

These were compared with AUs from the 2012 Integrated Report, and, when they overlapped, the beneficial uses of 2012 AUs were inherited by the 2018/2020 AUs. In many cases involving HUC12 Watershed Assessment Units in the Draft 2018/2020 Integrated Report, the 2018/2020 Assessment Unit includes a much longer stream distance than did the 2012 Assessment Unit. Consequently, in many cases, the creation of HUC12 Watershed Assessment Units represents a geographical expansion of beneficial uses relative to the 2012 Integrated Report without any rational or reasonable basis.

While DEQ may assert that a more complete dataset is being used to give a detailed assessment of the state's waterways, the geographic expansion of beneficial uses as described often results in the violation of the principle of homogeneity, which should result in the separation of neighboring Watershed Assessment Units from one another. The 2018 Assessment Methodology states that "using environmentally and/or hydrologically relevant breaks means the assessment units should represent homogenous segments of surface waters" and "where other relevant data layers indicate differences in watershed homogeneity, further divisions may be warranted in the assessment unit."

There are several examples where it appears that heterogeneous water bodies have been incorporated into the same AU. This leads to the application of beneficial uses and water quality criteria that do not represent the entirety of several newly expanded AUs. It would also seem that beneficial use criteria have been extended to cover agricultural water delivery and drainage systems that may or may not have any

connection to natural waterways. Most notably, this occurs when irrigation systems (ditches, canals, pipes, etc.) are included in a new AU that also includes a previously categorized free-flowing stream.

DEQ must not simply assume that the beneficial uses of a particular stream can be extended to district infrastructure that may in some way be connected to such a stream, whether as a result of diversion of water from the stream into the conveyance system or otherwise. Instead, each stream as identified in the 2012 Integrated Report should be one AU with its own beneficial uses, while nearby irrigation ditches identified in the NHDH dataset should be a separate AU with beneficial uses identified separately from the stream. This is particularly relevant for district infrastructure because there are almost always fish screens at the major points of diversion from natural waterways to prevent fish from entering, and thus haphazardly extending the beneficial use of Fish Habitat from a free- flowing stream to irrigation canals and ditches is not legally rational or reasonable.

We are concerned the Report incorporates beneficial uses from the 2012 Integrated Report that were automatically and indiscriminately transferred to 2018/2020 AUs without any additional review for reasonableness or quality control. Please ensure that the beneficial uses in the AUs of the Draft 2018/2020 Integrated Report extend throughout each AU and are homogeneous with respect to their beneficial uses. Where there is not homogeneity, please ensure that the necessary additional analyses and appropriate divisions of heterogenous AUs occurs.

Visual Display Is Confusing and Lacks Validity

Maps can be powerful educational tools. However, navigating the Report's story map and interactive map requires a high level of technical expertise to understand the display, datasets, and underlying methodology. Overall, the Report's combined display of impaired waterways is exceedingly confusing and difficult to use, and has yielded nothing but fear and angst amongst many stakeholders. The overlapping and inconsistent datasets behind the maps only add to the confusion. If anything, this Report is little more than a roadmap for litigation on virtually every waterbody in Oregon.

The Report's story map and interactive map appear to be populated with data using a computer algorithm and lack evidence that a human ever doublechecked the validity of the resulting display of impaired waterways. It is unclear how many district facilities are erroneously included or mischaracterized as our association does not have direct knowledge or GIS data regarding where these facilities are located statewide. Districts have limited staff and very few have GIS-specific staff that can dive into the datasets, identify their infrastructure, and where there are inaccuracies or misrepresentations. That being said, we have heard from numerous members that there are obvious errors and misrepresentations of how and where district infrastructure is included.

Some district systems are completely piped or are made up of canals and ditches with no direct discharges or return flows to natural waterways. There is no rational basis for any of these types of infrastructure systems to be listed as waterways let alone as impaired waterbodies. The Report needs to be revised to differentiate between man-made conveyances and natural streams. Not only does the inability to visually distinguish between these systems pose significant and unwarranted liability to our members, it also discredits the validity of the Report itself.

Lack of Clarity Creates Unfunded Regulatory Burden

Our members are local government entities dependent on annual assessments from their patrons—often a small group of farmers—for the operation and maintenance of water delivery infrastructure. Districts have limited ability to pay for additional legal and technical assistance that may be required to respond to the regulatory burden created by new 303(d) listings, the related legal uncertainties, and likely lawsuits.

Furthermore, the process and underlying methodology used to develop the Report appear inconsistent with previous efforts and represent a significant policy shift that was not adequately communicated to affected stakeholders during development.

When a 303(d) listing is supported by a robust dataset and a transparent comparison between data and water quality criteria, our members are willing to do their part to protect the water quality of our state's waterways. However, based on the concerns outlined in this comment letter, we cannot be confident that data exist to support the "impaired" status of all stream reaches included in the 303(d) listed AUs as set forth in the Report. Should stream reaches be 303(d) listed without recent and robust data and a transparent means of understanding the listing, our members will be unreasonably and unfairly impacted. These impacts will begin immediately upon adoption of the new 303(d) list—not in several years when specific TMDL processes begin—and they will unnecessarily add to the regulatory burden of our members' operations without producing any meaningful benefits to the water quality of Oregon.

Potential Unintended Impacts to Piping and Water Conservation Projects

OWRC members are actively involved in water conservation, water supply, and modernization of aging infrastructure projects that lead to improved water efficiency and reliability to farmers, increased instream flows for fish and wildlife, and other community- wide benefits. Being listed as an impaired waterway could cause unintended negative consequences to these beneficial projects by causing delays or loss of funding due to conflicts with funding parameters or lack of knowledge about the listing. Furthermore, the visual display tools could cause loss of trust with collaborative partners and other stakeholders due to misperceptions about water quality near and around agricultural operations.

In sum, OWRC has numerous concerns about DEQ's draft 2018/2020 Integrated Report and urges the agency to modify the report format, assessment results, visual display, and methodological processes for developing subsequent reports. Our organization and its members are supportive of efforts to improve water quality in Oregon's streams and rivers but are gravely concerned that the current Report will lead to increased litigation to the detriment of on-the-ground restoration. We appreciate the opportunity to comment and look forward to future dialogue about practical and science-based approaches to protect and improve Oregon's water resources.

Please contact me if you need any additional information.

Sincerely,

April Snell Executive Director

65. Comments from: Clatsop County District 5

From: Lianne Thompson
Subject: Comment 2018/2020 IR
Date: Jan.6, 2020

Clatsop County
District 5 Commissioner

800 Exchange St., Suite 410
Astoria, OR 97103
(503) 325-1000 phone / (503) 325-8325 fax
www.co.clatsop.or.us

I am writing to oppose DEQ's decision to list water bodies throughout the state as water quality impaired without data to support those listings, as it has done in its 2018-2020 Integrated Report. I also oppose DEQ's decision to include agricultural irrigation, drainage ditches, and other man-made ditches in its list of water quality impaired waterways. These are not natural waterways, and we are concerned about the long-term ramifications to county programs and our constituents as a result of this large and unnecessary policy change.

I also oppose DEQ's decision to extrapolate listings of waterways and ditches based upon data collected from neighboring properties by pooling data on a watershed wide scale. Water quality naturally differs from water body to water body, particularly when those waterways are under different ownerships and may have experienced differing current and historic riparian management. DEQ has presented no evidence that this extrapolation is scientifically valid or sound. Instead, it appears to be an attempt to list and regulate waterways without first going through the necessary step of determining that data actually shows an impairment. In order to be scientifically defensible, decisions to list waterbodies as impaired must be based on water body specific data and cannot be extrapolated from samples from neighboring waterways or tributaries. To do otherwise is not sound science or sound agency policy. Without using actual data, DEQ may be making water quality on county lands, which are largely agricultural and forest lands, look worse than it may actually be. Agriculture and timber jobs are critical to economic and social stability in rural counties.

Destabilizing these sectors without specific and verifiable data is bad public policy.

Our county government, including our public works department, along with our farm, ranch, forest, manufacturing, industrial and commercial business constituents, have always been good partners with DEQ and their associated non-point source designated management agencies. Forest and agricultural lands have among the highest water quality in the state, and county constituencies have significant investments over time improving and protecting water quality.

It is disappointing that the report makes it appear that vast amounts of county lands, especially farm and forest lands, are experiencing declining water quality, particularly when it appears that DEQ lacks water body specific data for significant portions of the waterways listed.

I am disappointed that the agency did not reach out to county officials about the Integrated Report prior to listing the vast majority of our waterbodies as water quality impaired. I believe we were entitled, as local government, to forewarning and a more in depth discussion of the methodologies used and the assumptions that the Integrated Report makes about waterways in our county, particularly when the agency has made some very significant policy calls that will have a direct impact on county programs and county lands. I am additionally surprised that this very impactful policy work has left me with such a narrow window of opportunity to comment now that we have been alerted.

The Clatsop County Board of Commissioners governance mission is based on supporting cooperative relationships with state agencies, including those with significant roles in establishing and implementing water policy in the state; along with the values of collaboration; applying sound, verified, peer reviewed science, and achieving balance.

Thank you for the opportunity to comment and I hope we can have a more productive dialogue about the Integrated Report moving forward.

Sincerely,

Lianne Thompson

Lianne Thompson
District 5 Clatsop County Commissioner

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66. Comments from: Oregon Coordinating Council on Ocean Acidification and Hypoxia

From: John Barth, PhD; Caren Braby, PhD
Subject: Oregon's 2018/2020 Integrated Report
Date: Jan. 6, 2020

Oregon Coordinating Council on Ocean Acidification & Hypoxia

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 public comment on Oregon's 2018/2020 Integrated Report, as part of the State's Clean Water Act reporting. We first want to

recognize and show appreciation for the work that the Oregon Department of Environmental Quality (ODEQ) staff and managers have done in the development of Oregon's 2018/2020 Integrated Report 303(d) list. With this letter, we provide ODEQ with comments and suggestions on how to improve Oregon's water quality standards so that we can better protect our state's coastal communities and ecosystems in l\ght of changing ocean conditions. Below are four key areas of the Integrated Report on which we will focus.

- We commend ODEQ for listing Oregon coastal waters as being impaired for ocean acidification (3B categorization – likely impaired but lacking data) through the use of a biocriteria for pteropods. However, we encourage ODEQ to also review methodology for pH narrative criteria to consider including a "0.2 unit excursions from natural conditions" clause similar to as was done in California and Washington. Also we encourage ODEQ to work with regional academics and resource managers to reconsider developing other criteria for ocean acidification such as aragonite saturation state.

- We would also like to commend ODEQ for listing of marine waters as being impaired (category 5 listing) for Harmful Algal Blooms (HABs) through the application of shellfish harvest use impairment. HABs affect not only Oregonians' ability to harvest marine resources (e.g., clams and crab), but can also have detrimental cascading effects throughout the whole marine ecosystem. As ocean conditions continue to change with changing climate, it will be important for the State to continue to consider the compounding effects of water quality criteria of HABs, ocean acidification, and hypoxia. Several research studies suggest that as ocean OAH conditions increase in intensity and duration, this could have a direct effect on the concentration and toxicity of HABs within our coastal waters.
- We strongly encourage ODEQ to list Oregon coastal waters as impaired for dissolved oxygen. The Oregon coast has been experiencing ocean hypoxia since the early 2000s, which has impacted our coastal fisheries and marine ecosystems. There are data currently available to support listing our State's coastal waters as a Category 5 impairment, and we would like to offer our ongoing assistance to ODEQ in accessing these publically available data sets so that dissolved oxygen could be include in the 2018/2020 Integrated Report, as well as in future Integrated Reports.

- We would once again like to acknowledge ODEQ on the great strides forward in the data collecting and consideration of some marine water quality standards in the 2018/2020 Integrated Report. While we support ODEQ for the modernization of their reporting system with new story maps and data portals, we encourage ODEQ to provide some supplemental summary tables to make it clear which marine water bodies have been listed and for what. This information is difficult to access through the current online interfaces. We offer our assistance to ODEQ in future calls for data to help facilitate better access to the wider marine community and increase regional participation in this important process of setting and amending State water quality standards.

Background

Oregon's coastal economies rely on our vibrant marine ecosystem. Our nearshore waters are home to sport and commercial fisheries, all of 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 our 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 September 2018 report 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 and HAB conditions. We once again want to commend ODEQ staff and managers for their dedication to protecting our States water resources, and offer our ongoing support in developing and improving the State water quality standards 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

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67. Comments from: Clatsop County District 4

From:Kathleen Sullivan
Subject: Comment 2018/2020 IR
Date: Jan.6, 2020

Clatsop County
District 4 Commissioner

800 Exchange St., Suite 410
Astoria, OR 97103
(503) 325-1000 phone / (503) 325-8325 fax
www.co.clatsop.or.us

I am writing to oppose DEQ's decision to list water bodies throughout the state as water quality impaired without data to support those listings, as it has done in its 2018-2020 Integrated Report. I also oppose DEQ's decision to include agricultural irrigation, drainage ditches, and other man-made ditches in its list of water quality impaired waterways. These are not natural waterways, and we are concerned about the long-term ramifications to county programs and our constituents as a result of this large and unnecessary policy change.

I also oppose DEQ's decision to extrapolate listings of waterways and ditches based upon data collected from neighboring properties by pooling data on a watershed wide scale. Water quality naturally differs from water body to water body, particularly when those waterways are under different ownerships and may have experienced differing current and historic riparian management. DEQ has presented no evidence that this extrapolation is scientifically valid or sound. Instead, it appears to be an attempt to list and regulate waterways without first going through the necessary step of determining that data actually shows an impairment. In order to be scientifically defensible, decisions to list waterbodies as impaired must be based on water body specific data and cannot be extrapolated from samples from neighboring waterways or tributaries. To do otherwise is not sound science or sound agency policy. Without using actual data, DEQ may be making water quality on county lands, which are largely agricultural and forest lands, look worse than it may actually be. Agriculture and timber jobs are critical to economic and social stability in rural counties.

Destabilizing these sectors without specific and verifiable data is bad public policy.

Our county government, including our public works department, along with our farm, ranch, forest, manufacturing, industrial and commercial business constituents, have always been good partners with DEQ and their associated non-point source designated management agencies. Forest and agricultural lands have among the highest water quality in the state, and county constituencies have significant investments over time improving and protecting water quality.

It is disappointing that the report makes it appear that vast amounts of county lands, especially farm and forest lands, are experiencing declining water quality, particularly when it appears that DEQ lacks water body specific data for significant portions of the waterways listed.

I am disappointed that the agency did not reach out to county officials about the Integrated Report prior to listing the vast majority of our waterbodies as water quality impaired. I believe we were entitled, as local government, to forewarning and a more in depth discussion of the methodologies used and the assumptions that the Integrated Report makes about waterways in our county, particularly when the agency has made

some very significant policy calls that will have a direct impact on county programs and county lands. I am additionally surprised that this very impactful policy work has left me with such a narrow window of opportunity to comment now that we have been alerted.

The Clatsop County Board of Commissioners governance mission is based on supporting cooperative relationships with state agencies, including those with significant roles in establishing and implementing water policy in the state; along with the values of collaboration; applying sound, verified, peer reviewed science, and achieving balance.

Thank you for the opportunity to comment and I hope we can have a more productive dialogue about the Integrated Report moving forward.

Kathleen Sullivan
District 4 Clatsop County Commissioner

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68. Comments from: Oregon Dept of Fish and Wildlife and Dept of Land Conservation and Development

From Caren Braby, Program Manager; Patty Snow, Program Manager
Subject: ODFW and DLCD Public Comments on the Draft 2018/2020 Integrated Report
Date: Jan. 6, 2020

As State of Oregon agencies who are mandated to protect Oregon's rich natural resources, the Oregon Department of Fish and Wildlife (ODFW) and the Oregon Department of Land Conservation and Development (DLCD) appreciate the opportunity to provide the Oregon Department of Environmental Quality (ODEQ) with comments on the State's draft 2018/2020 Integrated Report. The State of Oregon, through the guidance of our legislature and Governor, has demonstrated great leadership to understand and address the changes occurring in ocean and estuarine marine ecosystems, including adverse effects from ocean acidification, hypoxia (low oxygen), and marine harmful algal blooms (HABs). Oregon is currently at a crossroads, with a substantial amount of data to inform our actions and the momentum from ongoing initiatives to act on those changes. Here, we outline our recommendations to inform the state's water quality standards and broaden the state's consideration of listed waters, in light of our understanding of current and anticipated impacts to Oregon ecosystems and coastal communities from changing ocean conditions.

Oregon has a long cultural and economic history surrounding our robust ocean and estuarine fisheries and recreational opportunities. Salmon, halibut, Dungeness crab, razor clams, oysters, bay clams, pink shrimp, lamprey, as well as flatfish and rockfish have supported Oregon's coastal communities for generations. Yet, Oregon's ocean is changing, and each of these species or groups of species, and the human communities that rely on them, have already shown signs of distress from ocean acidification,

hypoxia, and/or HABs. The state has already started to act on changing ocean conditions through the development of new advisory councils and updating statewide management plans, but there is more that we can do. These adverse impacts are of the upmost importance to Oregon to address through additional strategic and targeted responses, including the state's water quality standards and listings made in the 2018/2020 Integrated Report.

In 2019, Governor Brown endorsed the Oregon Ocean Acidification and Hypoxia (OAH) Action Plan, which contains recommendations for future management strategies aimed at responding to the adverse effects of OAH.[1] Through the guidance of the legislatively created Oregon Coordinating Council on OAH, which is co-chaired by ODFW and has representatives from DLCD and ODEQ, the OAH Action Plan prioritizes several key actions which the state plans to implement to address changing ocean conditions. These actions include the mobilization of agencies to address OAH concerns and evaluating state water quality standards in light of increasing intensity and severity of OAH events. The OAH Action Plan also recognizes that there is a need to build from ongoing efforts throughout the state in order to leverage existing state resources.

One of the many efforts that the OAH Action Plan aligns with is the Rocky Habitat Management Strategy. Also in 2019, DLCD in collaboration with the Governor-appointed Oregon Ocean Policy Advisory Council (OPAC), began updating the Rocky Habitat Management Strategy Part 3 (Phase I) of the Oregon Territorial Sea Plan.[2] Under the guidance of the Oregon Coastal Management Program within DLCD, the new Rocky Habitat Management Strategy incorporates the best available science and considers the needs, concerns, and values of Oregonians with the state's goals for resilient coastal ecosystems. The Rocky Habitat Management Strategy is in alignment with the Statewide Land Use Planning Goals, which provide a framework for Oregon's policy and management of ocean resources. statewide planning goals 16-19 focus on coastal and marine environments around Oregon and are aimed at the protection of ocean resources; water quality is an essential tool in the management of our coastal resources.[3]

In light of these ongoing efforts, ODFW and DLCD, would like to offer the following support and recommendations on the further development of Oregon's draft 2018/2020 Integrated Report. Brief recommendations are listed here, with the Appendix (following signature) providing detailed rationale for the recommendations.

- Recommend additional data acquisition and agency coordination to ensure that all available data are collected, analyzed, and used for consideration in water quality management during the 2020/2022 Integrated Report process.
- Urge the listing of coastal waters as impaired for oxygen as Category 5 for the 2018/2020 Integrated Report, based on the abundance of available data showing decreased oxygen concentrations and adverse effects on Oregon's marine ecosystems.
- Support the designation of coastal waters as a Category 3B for ocean acidification under a biocriteria for the 2018/2020 Integrated Report; but suggest further refinement of existing pH water quality standards, thresholds, and observation methods as part of the 2020/2022 Integrated Report.
- Support the listing of coastal waters as Category 5 for shellfish use impairment due to HABs and related biotoxins for the 2018/2020 Integrated Report, and offer assistance in the continued monitoring and management of biotoxins.

Moving forward, ocean acidification, hypoxia, and HABs 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. The 2018/2020 Integrated Report will have 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 ODEQ to protecting Oregon's natural resources, there are improvements that need to be made to the Integrated Report in order to maximize its effectiveness in light of our current state of ocean knowledge. The state is currently working on the 2020 Oregon Climate Adaptation Framework, which builds on the foundation of the State's 2010 Climate Adaptation Framework, and will draw on guidance from existing State policies, strategies, and action plans to help shape Oregon's path forward to adapt and mitigate to changing ocean conditions. [4]

Managing marine resources is a shared responsibility and is of great importance to Oregon. ODFW and DLCD remain dedicated to addressing changing ocean conditions and we look forward to working collaboratively with ODEQ by helping to continue to shape the draft 2018/2020 Integrated Report.

ODFW.DLCD_letterODEQ_2018_2020WQListir

Sincerely,

Caren Braby, PhD

Marine Resources Program Manager
Oregon Department of Fish and Wildlife
2040 SE Marine Science Drive; Newport, Oregon
97365 541-867-0300 ext. 226;
Caren.E.Braby@state.or.us

Patty Snow

Oregon Coastal Program Manager
Oregon Department of Land Conservation and Development
635 Capitol Street NE, Suite 150; Salem, OR 97301-2540
503-934-0052; patty.snow@state.or.us

69. Comments from: Lake County Waterway

From: Brand Winters, Chair; James Williams, Vice Chair; Mark Albertson, Commissioner
Subject: Lake County Waterway Letter
Date: Jan. 6, 2020

The Lake County Board of Commissioners are writing to oppose DEQ's decision to list water bodies throughout the state as water quality impaired without data to support those listings, as it has done in its 2018-2020 Integrated

Report. We also oppose DEQ's decision to include agricultural irrigation, drainage ditches, and other man-made ditches in its list of water quality impaired waterways. These are not natural waterways, and we are concerned about the long-term ramifications to county programs and our constituents as a result of this large and unnecessary policy change.

Lake County also opposes DEQ's decision to extrapolate listings of waterways and ditches based upon data collected from neighboring properties by pooling data on a watershed wide scale. Water quality naturally differs from water body to water body, particularly when those waterways are under different ownerships and may have experienced differing current and historic riparian management. DEQ has presented no evidence that this extrapolation is scientifically valid or sound. Instead, it appears to be an attempt to list and regulate waterways without first going through the necessary step of determining that data actually shows an impairment. In order to be scientifically defensible, decisions to list waterbodies as impaired must be based on water body specific data and cannot be extrapolated from samples from neighboring waterways or tributaries. To do otherwise is not sound science or sound agency policy. Without using actual data, DEQ may be making water quality on county lands, which are largely agricultural and forest lands, look worse than it may actually be. Agriculture and timber jobs are critical to economic and social stability in rural counties. Destabilizing these sectors without specific and verifiable data is bad public policy.

Our county government, including our public works department, along with our farm, ranch, forest, manufacturing, industrial and commercial business constituents, have always been good partners with DEQ and their associated non-point source designated management agencies. Forest and agricultural lands have among the highest water quality in the state, and county constituencies have significant investments over time improving and protecting water quality.

It is disappointing that the report makes it appear that vast amounts of county lands, especially farm and forest lands, are experiencing declining water quality, particularly when it appears that DEQ lacks water body specific data for significant portions of the waterways listed.

We are disappointed that the agency did not reach out to county officials about the Integrated Report prior to listing the vast majority of our waterbodies as water quality impaired. We believe we were entitled, as local government, to forewarning and a more in depth discussion of the methodologies used and the assumptions that the Integrated Report makes about waterways in our county, particularly when the agency has made some very significant policy calls that will have a direct impact on county programs and county lands. We are additionally surprised that this very impactful policy work has left us with such a narrow window of opportunity to comment now that we have been alerted.

The Lake County Board of Commissioners governance mission is based on supporting cooperative relationships with state agencies, including those with significant roles in establishing and implementing water policy in the state; along with the values of collaboration; applying sound, verified, peer reviewed science, and achieving balance.

Thank you for the opportunity to comment and we hope we can have a more productive dialogue about the Integrated Report moving forward.

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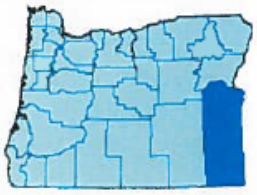
70. Comments from: Malheur County SWCD

From:Tim Newton
Subject: DEQ Assessment
Date: Jan. 6, 2020



Malheur County Soil & Water Conservation District
2925 SW 6th Avenue, Suite #2
Ontario, OR 97914
(541) 889-2588 Ext 114

The Malheur SWCD has issue with the water quality assessment showing drains as impaired within the Malheur County Region. It appears that one sample is taken in the watershed, and then all totality of the entire watershed is impaired, even though the pollution maybe a few feet upstream and not in the whole watershed.

The low number of samples taken is questionable to make an assumption as to fact that the watershed is impaired. Old data and sampling technique is questionable as well.

Adoption of water quality standards based on limited data has potential for dire consequence economically as well as culturally. We believe such assessment should be done with most current and

accurate data available to differentiate between man-made and natural occurring effects within the entire watersheds.

71. Comments from: City of Klamath Falls

From: Mark Willrett
Subject Comments on the Integrated Report
Date: Jan. 6, 2020

CITY OF KLAMATH FALLS, OREGON
500 KLAMATH AVENUE – P.O. BOX 237
KLAMATH FALLS, OREGON 97601

Sister City
ROTORUA, NEW ZEALAND

The City of Klamath Falls appreciates the opportunity to provide comments on the public review draft of the Oregon 2018/2020 Integrated Report.

We would like to suggest that DEQ remove Category 5 listings for temperature in river sections (or assessment units) located within the Upper Klamath and Lost River Subbasins and reassign those assessment units to Category 4A listings for that parameter, as a temperature TMDL has been approved in 2019.

Thank you for your consideration

72. Comments from: Dennis Hebard

From Dennis Hebard
Subject: Comments
Date: Jan. 6, 2020

You've taken a single listing for Dorena reservoir from the 2012 report for mercury and made two listings from the Dam and Row river floodplain, some fish went up stream a few hundred feet, because of the new hydrologic units you have extended the listing another 5 miles.
the sampling that showed elevated mercury or methylmercury was several hundred feet below the Row river gauging station this should still be considered slack water or flood area from the dam.

please consider making the unit start at King creek at the top of the floodplain to Sharps Creek instead of from Vaughn creek to sharps creek, all of the tributaries in this watershed have the designation HUC12 Name King Creek-Row River
so should the upper Row River AU ID, OR_SR_1709000202_02_103766

Dennis Hebard
3800 Barger Eugene
Oregon 97402
541-606-2872

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73. Comments from: Wallowa County

From: Susan Roberts
Subject: Comment to 2018/2020 IR
Date: Jan. 6, 2020

State of Oregon
WALLOWA COUNTY
BOARD of COMMISSIONERS
101 S. River Street #301
Enterprise, Oregon 97828

541-426-4543 ext#1130
Fax: 541-426-0582
Email: con1missioners@co.\vallowa.or.us

CHAIRMAN, JOHN HILLOCK
COMMISSIONER, TODD NASH
COMMISSIONER, SUSAN ROBERTS

The Wallowa County Board of Commissioners opposes the Oregon Department of Water Quality's decision to list water bodies throughout the state as water quality impaired without the support of appropriate data, as written in the 2018-2020 Integrated Report. The Commission also opposes the agency's decision to include agricultural irrigation, drainage ditches and other man-made waterways in its list of water quality impaired bodies. This policy change would greatly harm the county's economy by potentially lumping these bodies of water in with live water bodies - two functions that are quite dissimilar.

Wallowa County has a natural resource based economy that is struggling for viability. Over the last 25 years our local sawmills closed and the U.S. Forest Service staff shrunk considerably to about a third of its size in 1994. Around the year 2000 the county boasted 40,000 head of mother cows - we now count about 25,000 to 28,000 a year. State and federal regulations including Endangered Species

Act listings are the main culprit for this economic downturn as well as a constant onslaught of environmental groups filing lawsuits on most every timber sale and rangeland analysis published by the Forest Service. Recommendations based on incomplete science would further disrupt an already fragile system.

The county would also like to express concern about how agency gathered the data for its recent recommendations. On review, the determinations were not based on site specific data before being determined "impaired".

Wallowa County is home to four rivers that flow from the Eagle Cap Wilderness to the Snake River - some of the cleanest and most ample water supplies found in the state. The Board of Commissioners takes great pride in protecting not only our economy, but also protecting our precious water resources, working with federal agencies like the U.S. Forest Service, Natural Resource Conservation Service, Farm Services Agency, U.S. Fish and Wildlife and National Marine Fisheries so that local projects on federal land comply with federal laws such as the Endangered Species Act and the National Environmental Policy Act. We owe our constituents the opportunity to earn a living and enjoy the county's landscape for recreation, wood cutting, hunting, fishing and foraging.

Further restrictions without adequate science would harm not only traditional natural resource- based businesses, but our fastest growing economic contributor - tourism. Without gas stations, grocery stores and hotels, visitors from around the world wouldn't have the amenities necessary for the vacation experience they have come to expect.

The Board of Commissioners also has a long running relationship with many of the state agencies, especially Oregon Department of Forestry, Oregon Department of Agriculture and DEQ. We would appreciate the opportunity to have more input on the agency's determinations on water quality and believe the county deserves better data-based science and site-specific information to be included in the state's report.

To protect both our water supplies and our local economies we ask your agency to take another look at its process of determining water quality and to include Oregon county leadership in your decision making so that the state makes policy that its citizens can live with.

Thank you for the opportunity to comment.

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74. Comments from: Northwest Pulp and Paper Association

From: Kathryn VanNatta
Subject: NWPPA 2018/2020 Integrated Report Comment
Date: Jan. 6, 2020

VIA EMAIL: integratedreport@deq.state.or.us

Oregon Department of Environmental Quality
Water Quality Assessment
Water Quality Division
700 NE Multnomah Street, Suite 600
Portland, OR 97232-4100

RE: Oregon's Draft 2018/2020 Integrated Report

Thank you for the opportunity for the Northwest Pulp & Paper Association (NWPPA) to provide formal comment on the Department of Environmental Quality's (DEQ) draft Oregon 2018/2020 Integrated Report and thank you for allowing NWPPA to be a member of DEQ's Integrated Report Improvements Work Group.

NWPPA represents five Oregon mills and hundreds of employees all over Oregon

The Northwest Pulp and Paper Association (NWPPA) is a 63-year old regional trade association representing 12-member companies and 16 pulp and paper mills and various forest product manufacturing facilities in Oregon, Washington and Idaho.

NWPPA members hold Clean Water Act wastewater and stormwater discharge permits issued by DEQ that may be affected by the identification and categorization of waterbodies in the final 2018/2020 Integrated Report.

NWPPA participated in the Integrated Report Improvements Work Group. We commend DEQ for working with stakeholders through the Work Group between 2017 and 2019 to thoroughly and thoughtfully revise the Integrated Report assessment methodology. The improvements in the assessment methodology are reflected in the draft 2018/2020 Integrated Report, which contains a much more accurate and useful assessment of the water quality status of Oregon's waters than previous Integrated Reports. As DEQ has acknowledged, however, the assessment methodology and the Integrated Report are works in progress. NWPPA appreciates DEQ's commitment to a continuous process of improvement in its assessments of the quality of Oregon's waters and looks forward to working with DEQ and other stakeholders to further improve the assessment methodology and future Integrated Reports.

NWPPA OVERARCHING COMMENTS

<u>Presentation of the Integrated Report and Supporting Data</u>

The presentation of the draft Integrated Report is much improved from previous reports. In general, with the Interactive Web Map and Assessment Database, it is relatively easy to identify assessment units, applicable water quality standards, the proposed classifications for assessment units, and the asserted basis for the proposed classifications. However, it is still difficult, and in some instances extremely difficult, to identify and evaluate the water quality data or other information supporting a proposed classification. The AWQMS and the Assessment Database do not appear to be linked. For example, the AWQMS cannot be searched by Assessment Unit, which makes it difficult to find data supporting specific classifications. Ultimately, multiple databases must be consulted to determine the basis for a proposed classification, and in many instances the supporting data is not readily identifiable or available in a user-friendly format.

For future Integrated Reports, NWPPA urges DEQ to provide user-friendly access to all the information pertinent to a specific classification decision, including supporting water quality data, through a single, readily accessible location. For example, if the Integrated Report proposes to list a specific river segment

as impaired for temperature, DEQ's website should provide a single location through which one can ascertain: (1) the geographic location and extent of the segment; (2) the temperature criteria that DEQ has applied to the segment; (3) DEQ's rationale for identifying the segment as impaired for temperature (*e.g.*, there were more than two instances of the 7-day-average daily maximum temperature exceeding the applicable spawning temperature criterion within a 3-year period); and (4) the temperature data and any other information used in the assessment for that segment, including monitoring locations, dates, and QA/QC information. Making this information readily accessible from a single location would not only assist the public in providing meaningful comments on draft Integrated Reports, it would allow both DEQ staff and the public to correctly interpret and apply Integrated Report classifications of waterbodies to other regulatory decisions, including the issuance of discharge permits and water quality certifications.

Classification of Watershed Assessment Units

The assessment methodology for the Integrated Report includes all waterbodies within the state within an assessment unit. Because it is not practicable to place every small stream and drainage, including intermittent streams, into its own unique assessment unit, the assessment methodology groups into a single assessment unit all small streams and drainages, *i.e.*, all those with a Strahler Stream Order of 4 or less, that are within a single subwatershed (a Hydrologic Unit Code 12 (HUC12) drainage). Although the assessment methodology states that DEQ may create further divisions of the HUC12 assessment units based on "differences in watershed homogeneity," the draft Integrated Report does not appear to have undertaken such finer-scale divisions.

NWPPA is concerned that the draft Integrated Report lists all the streams and drainages within entire HUC12 subwatersheds as impaired based on data from only a single, or at most only a few, streams or drainages within the subwatershed. Moreover, many of the "streams" that the draft Integrated Report shows as impaired within the subwatershed are pipes, stormwater ditches, and other conveyances that do not support and are not intended to support, aquatic life. NWPPA understands based on statements by DEQ personnel that DEQ does not intend to list as impaired all streams and drainages within a HUC12 subwatershed that are shown as impaired in the draft Integrated Report, but only those streams for which there is water quality data demonstrating impairment. This distinction, however, is not apparent from assessment methodology or the draft Integrated Report.

Identifying a waterbody as impaired in the Integrated Report may have regulatory consequences beyond simply requiring the development of a total maximum daily load (TMDL) for the waterbody. For example, DEQ's general industrial stormwater permit number 1200-Z requires additional monitoring and, potentially, corrective actions for permit registrants that discharge stormwater to waterbodies that the Integrated Report identifies as impaired. The Integrated Report should not identify entire HUC12 subwatersheds as impaired based on data from only one or a few streams or drainages within the subwatershed. Where there is no data demonstrating that a specific stream or drainage is impaired, the Integrated Report should clearly state that such streams or drainages are not listed as impaired merely because they are included within the same HUC12 subwatershed as a stream or drainage for which there is such data. Only the stream or drainage for which there is sufficient data demonstrating impairment should be identified as impaired.

Continuation of Unsupported PCB Impairment Listings

Several assessment units, including Columbia River assessment units, are listed as impaired by polychlorinated biphenyls (PCBs). The sole basis for these listings is that waterbodies were listed as impaired for PCBs in 1998, and those listings have been carried forward. Moreover, the draft Integrated Report does not identify any specific data on which the 1998 listing was based.

DEQ's assessment methodology provides for delisting a waterbody if current information shows that the applicable water quality standard is attained or that the original listing was erroneous. NWPPA believes that the 1998 PCB impairment listings for the Columbia River were erroneous because they were not based on data using EPA-approved methods or scientifically sound conclusions. But because the draft Integrated Report does not rely on any information other than a two-decade-old listing decision and does not identify the data in support of that decision, NWPPA cannot comment meaningfully on the proposed continuation of the listing. Although the absence of recent data may not in itself justify delisting, an impairment listing cannot be maintained in the absence of *any* information justifying the listing. NWPPA asks DEQ to review the data and factual basis for the 1998 listing. Absent any information other than that the Columbia River was listed as impaired for PCBs more than 20 years ago, the final Integrated Report should delist the river for PCBs.

NWPPA SPECIFIC COMMENTS ON SEGMENTS

Arsenic

Comment 1. NWPPA supports the following Category 2 and 3 listings for either Aquatic Life or Human Health Arsenic (including Inorganic Arsenic) and believes the listing actions are statistically justified.

NWPPA #	DEQ Assessment Unit ID	Parameter	Category
1	OR_SR_1709000407_02_103884	Arsenic aquatic life	2
2	OR_SR_1709000407_02_103884	Arsenic human health Inorganic	2
3	OR_SR_1709000306_05_103854	Arsenic aquatic life	2
4	OR_SR_1709000306_05_103854	Arsenic human health Inorganic	2
5	OR_SR_1709000802_02_104034	Arsenic aquatic life	3
6	OR_SR_1709000802_02_104034	Arsenic human health Inorganic	3
7	OR_SR_1710030802_04_105816	Arsenic aquatic life	2

NWPPA #	DEQ Assessment Unit ID	Parameter	Category
	OR_SR_1710030802_04_105816	Arsenic HH Inorganic	
8	OR_SR_1710030801_05_105552	Arsenic aquatic life	2
	OR_SR_1710030801_05_105552	Arsenic human health Inorganic	
9	OR_SR_1706010411_02_103339	Arsenic aquatic life	2
10	OR_SR_1706010411_02_103339	Arsenic human health Inorganic	2

Dissolved Oxygen

Comment 2. NWPPA supports the following Category 2 and 3 listings for either spawning or year round Dissolved Oxygen and believes the listing actions are statistically justified.

NWPPA #	DEQ Assessment Unit ID	Parameter	Category
11	OR_SR_1709000407_02_103884	Dissolved Oxygen (DO) – Year round	2
13	OR_EB_1710020403_01_107231	DO – Year round	2
14	OR_EB_1710020403_01_107231	DO estuary Year round	2
15	OR_SR_1709000306_02_103838	DO – Year round	2
17	OR_WS_170900030604_02_104291	DO- Spawning	3B
18	OR_WS_170900030604_02_104291	DO- Year Round	3
20	OR_SR_1709000802_02_104034	DO – Year round	3

NWPPA #	DEQ Assessment Unit ID	Parameter	Category
21	OR_SR_1710030802_04_105816	DO - Spawning	2
22	OR_SR_1710030802_04_105816	DO- Year Round	2
23	OR_SR_1706010411_02_103339	DO- Spawning	2
24	OR_SR_1706010411_02_103339	DO- Year Round	2

Bacteria

Comment 3. NWPPA supports the following Category 2 listings for E. Coli and believes the listing actions are statistically justified.

Comment 4. NWPPA questions the Fecal Coliform listing for NWPPA segment number 29, DEQ Segment OR_SR_1709000802_02_104034k, and asks DEQ to review the data and factual basis for the listing.

NWPPA #	DEQ Assessment Unit ID	Parameter	Category
25	OR_SR_1709000407_02_103884	E. Coli	2
26	OR_EB_1710020403_01_107231	E. Coli	2
27	OR_SR_1709000306_05_103854	E. Coli	2
28	OR_SR_1709000802_02_104034	E. Coli	2
29	OR_SR_1709000802_02_104034	Fecal Coliform	5
30	OR_SR_1710030802_04_105816	E. coli	2
32	OR_SR_1706010411_02_103339	E coli	2

Copper

Comment 5. NWPPA supports the following Category 2 and 3 listings for Aquatic Life and Human Health Copper and believe the listing actions are statistically justified.

NWPPA #	DEQ Assessment Unit ID	Parameter	Category
33	OR_SR_1709000407_02_103884	Copper- Aquatic Life Criteria	2
34	OR_SR_1709000407_02_103884	Copper- Human Health Criteria	2
35	OR_SR_1708000309_04_100663	Copper- Aquatic Life Criteria	2
36	OR_SR_1708000309_04_100663	Copper- Human Health Criteria	2

NWPPA #	DEQ Assessment Unit ID	Parameter	Category
37	OR_SR_1709000306_05_103854	Copper- Aquatic Life Criteria	2
38	OR_SR_1709000306_05_103854	Copper- Human Health Criteria	2
39	OR_SR_1709000802_02_104034	Copper- Aquatic Life Criteria	3
40	OR_SR_1709000802_02_104034	Copper- Human Health Criteria	3
41	OR_SR_1710030802_04_105816	Copper- Aquatic Life Criteria	2
42	OR_SR_1710030802_04_105816	Copper- Human Health Criteria	2
43	OR_SR_1710030801_05_105552	Copper- Aquatic Life Criteria	2
44	OR_SR_1706010411_02_103339	Copper- Aquatic Life Criteria	2
45	OR_SR_1706010411_02_103339	Copper- Human Health Criteria	2

Iron

Comment 6. NWPPA supports the following Category 2 and 3 listings Iron and believe the listing actions are statistically justified.

Comment 7. NWPPA questions the Category 5 Iron listings NWPPA segment numbers 46, 49 and 50 and asks for a review of the underlying data and conversion factors.

NWPPA #	DEQ Assessment Unit ID	Parameter	Category
45a	OR_SR_1709000407_02_103884	Iron	2
46	OR_SR_1709000306_05_103854	Iron - total - aquatic life	5
47	OR_SR_1709000802_02_104034	Iron - total - aquatic life	3
48	OR_SR_1710030802_04_105816	Iron - total - aquatic life	2
49	OR_SR_1710030801_05_105552	Iron - total - aquatic life	5
50	OR_SR_1706010411_02_103339	Iron (total)- Aquatic Life Criteria	5

PCB's

Comment 8. NWPPA supports the Category 3D PCB listings for NWPPA segments numbers 54-59 and believes the listings are statistically justified.

Comment 9. NWPPA directs the DEQ's attention to our overarching comments on use of PCB data in relation to NWPPA segment number 53.

NWPPA #	DEQ Assessment Unit ID	Parameter	Category
53	OR_SR_1708000309_04_100663	PCB human health	5
54	OR_SR_1709000306_05_103854	PCB aquatic life	3D
55	OR_SR_1709000306_05_103854	PCB human health	3D
56	OR_SR_1710030802_04_105816	PCB aquatic life	3D
57	OR_SR_1710030802_04_105816	PCB human health	3D
58	OR_SR_1706010411_02_103339	PCB aquatic life	3D
59	OR_SR_1706010411_02_103339	PCB human health	3D

Methylmercury

Comment 10. NWPPA questions the age and segmentation analysis of the underlying fish tissue data for the Category 5 Human Health Mercury listing for NWPPA segment number 68.

NWPPA #	DEQ Assessment Unit ID	Parameter	Category
68	OR_SR_1710030802_04_105816	MeHg, human health	5

Thank you for the opportunity to comment on Oregon's Draft 2018/2020 Integrated Report. I can be contacted at 503-844-9540 to answer any questions.

Sincerely,

Kathryn VanNatta
Director of Regulatory and Government Affairs
Northwest Pulp and Paper Association
cc: NWPPA Oregon members

75. Comments from: Oregon Forest & Industries Council

From: Mike Eliason
Subject: OFIC Comments on Draft 2018/2020 Integrated Report
Date: Jan. 6, 2020

Thank you for the opportunity to comment on the Draft 2018/2020 Integrated Report of the water quality of the status of the state of Oregon's waterways for approval by the U.S. Environmental Protection Agency. The Oregon Forest & Industries Council (OFIC) represents over 50 large forestland owners and wood products manufacturers in Oregon, who provide over 60,000 well-paying jobs. Of the nearly 30 million acres of forestland in Oregon, OFIC members are responsible for managing over 6 million. OFIC's members are acutely interested in both the development and results of the Integrated Report. Forested watersheds, including those actively managed for timber production, provide the highest level of water quality in the state and Oregon's forest sector does an outstanding job investing in water quality improvements

This new draft report, mandated by the U.S. Clean Water Act, contains the latest 303(d) list of impaired waters for which pollution control plans (generally accomplished through the development of Total Maximum Daily Loads or TMDL's) are required. Because the methodology employed by DEQ is considerably different than in past Integrated Reports, it has significant implications for the number of individual water bodies and stream miles that appear on the proposed 303(d) list in this report. While it is our understanding that DEQ considers the methodology to be a settled issue and is not accepting comments on the methodology, OFIC considers this component to be too problematic not to offer thoughts on the significant changes incorporated into the methodology used to determine the Assessment Units (AU). We also have several suggestions on how to better present the information and make it more user-friendly.

In advance of providing more specific comments, concerns and suggestions for improvements, there are two overarching and interconnected issues that must be addressed before the Integrated Report becomes a finished product: ***One***, if DEQ does not have sufficient data to assess a water body within an Assessment Unit, that water body should not be listed as impaired and should instead be listed as a Category 3. ***Two***, the current display must be corrected in order to not present a misleading and inaccurate picture of forest and agricultural water quality. Showing every stream and waterbody within a watershed AU to be

impaired is grossly misleading when DEQ lacks data for many, if not most, of those waterbodies. DEQ should develop a display so that a user can see where a true impairment is occurring based on the specific data collection point.

Comments on the Integrated Report and Methodology

Although a workgroup developed the methodology in 2018, certain challenging aspects of the new methodology were either not stressed or not well understood at the time. In particular, there does not seem to be a consensus that changes to the approach to stream order 4 or less streams that led to a decision to move to a watershed scale approach to AU's were understood and accepted. We oppose this decision to move to watershed scale AU's because it now results in listing waterbodies where DEQ lacks any data from that specific water body.

The previous process, while admittedly complex and not without challenges, at least was more water body and pollutant specific and did not result in listing waterbodies without data. To make its listings more simplistic, DEQ updated the methodology in two ways: First, DEQ made AU's constant throughout the year (the previous process resulted in seasonal AU's). Second, DEQ decided to make AU's correspond to geographic and hydrologic information in the High Resolution National Hydrography (NHDH) framework. This has now resulted in four broad categories of AU's:

- *River and Streams* (Larger rivers and streams; Strahler Stream Order of 5 or higher)
- *Watershed* (Strahler Stream Order 4 or lower)
- *Lakes, Reservoirs, and Estuaries* (Lakes or reservoirs greater than 20 hectares are separate AU's)
- *Columbia and Snake River* (Similar to Washington and Idaho designations)

In addition, no sampling was completed specifically for the Draft 2018/2020 report; instead the report represents a collection of data gathered for other purposes. The location and samples were therefore not implemented with an understanding of the AU's. All data for a given AU are pooled when comparing them to the water quality standards for the beneficial uses of the AU. This results in all locations within an AU being considered equivalent when assessing the AU. Data incorporated into the Draft 2018/2020 report include data from 2008-2017 that met data quality requirements stated by DEQ. This does not allow for local variation or even an assurance that all the water bodies listed in a given AU even exist. In fact, we are confident many of the independent, disconnected upstream locations exist for, at best, only a few days or weeks a year.

OFIC has significant concerns with this new approach. Though it may make for a more straightforward process for DEQ, it is not scientifically defensible. Decisions to list waterbodies as impaired must be based on water body specific data and should not be done on a watershed scale or based on pooling (often very outdated and disconnected) data from neighboring waterways. DEQ has not presented evidence that its decision to list on such a broad scale is either scientifically valid or sound. It appears to be an attempt to list and regulate waterbodies without first providing data that actually shows an impairment for the specific waterway.

We also have concerns that AU's are not properly sub-divided based on common characteristics. In the areas that we specificly analyzed, the AU's are too large and capture regions that have widely disparate land uses. There are also AU's where the original sampling data or modeling is much too old to be extrapolated to larger, sometimes disconnected areas within the newly formed AU. Our understanding was DEQ was to undertake an assessment of the homogeneity of Watershed Units when defining AU's on

smaller streams and reassess the geographical areas over which a beneficial use extends when mapping previous AU's to new ones. We see no evidence this analysis took place.

Below is one example of a forestland specific AU that we believe extrapolates older data over a larger AU and results in many more streams being (very likely) incorrectly classified as impaired:

Assessment Unit: OR_WS_171002030205_05_106104

Description: Moon Creek HUC12 Watershed Unit

The Moon Creek HUC12 Watershed AU is a network of forested headwaters 12 miles southeast of Tillamook. It is listed as impaired for Fish and Aquatic Life due to BioCriteria. As stated in the explanation of the AWQMS database, BioCriteria data were not available because this information is derived from modeling results, so we could not examine the values that led to this 303(d) listing.

The methodology used to define this new AU impacted the number of streams categorized as impaired. Previously, only one stream was listed as impaired in this area. However, there has only been one sample for this AU, and it was taken in August of 1999. This is another case in which the new definition of an AU has led to previously unassessed areas inheriting the 303(d) listing of a nearby waterway. Notably, this HUC12 AU has two main streams, a northern fork and a southern fork, that are fed by many smaller streams. The map figure shows that the northern fork is now part of an impaired AU because the southern fork (the blue line in the map figure) was included on the 2012 303(d) list.

The assessment unit adjacent to the north meets Fish and Aquatic Life criteria. This is an AU in the well-studied Trask River watershed that has more available data than for the Moon Creek HUC12 AU. Because each AU is treated separately, no information from the Trask River is brought to bear on this neighboring, data-poor AU. Additional sampling may alter the impairment status of the Moon Creek HUC12 AU.

Suggestions for Improving the Integrated Report

OFIC suggests the following improvements that might be included in the final version of the 2018/2020 Integrated Report. We recognize that not all of these may be feasible given both budget and contractor constraints; however, incorporating these suggestions as appropriate would improve the usability and effectiveness of the finished product.

Presentation and Ease of Use

1) The Interactive Web Map should color AUs to match the colors of the categories that are described in the Interactive Story Map. Colors should correspond to categories, not impairment, such that Category 4 and Category 5 AUs appear differently.

2) A map tool that includes the monitoring locations referenced in the Assessment Database should be included in the Integrated Web Map tool. Additionally, please add monitoring locations and existing analytical data to the Geodatabase. Without it, we cannot interrogate the data that led to the water quality categorization.

3) The Assessment Database is not currently searchable by beneficial use. Being able to find water bodies that are listed for the same beneficial uses would be helpful in understanding precedents for establishing water quality standards, developing TMDLs, delisting segments, and implementing point and non-point source pollutant controls. Please add this functionality.

To properly use the Interactive Web 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 seardhing by geographical areas that would be commonly used by Oregonians.

4) The AWQMS is critical to understanding the categorization of an Assessment Unit of interest, but it is remarkably difficult to use. Please undertake a comprehensive 2018/2020 review of the user interface of this system and make the database public to facilitate intuitive custom searches.

5) Please make it possible to search by Assessment Unit, not merely monitoring location identification numbers, in the AWQMS.

Completeness of Data

1) Our comparison of the data received from ODEQ in spreadsheet form and the data available on the AWQMS web portal indicates that, in at least one case, the web portal does not include all the data that are available for an AU. Importantly, data that were not on the AWQMS web portal were the data that led to a Category 5 determination for a specific AU. All data that lead to categorizations of AUs should be publicly accessible without the personal assistance of ODEQ personnel.

2) The analytical data represented in the integrated report are not accessible via the Interactive Web Map and the Assessment Database. Connecting these resources to the AWQMS web portal is cumbersome. Without being able to efficiently link a water quality categorization to the data that were used in the Integrated Report, users cannot effectively: A) verify that 303(d) listings are fair and accurate, B) understand the sources of pollution, and C) identify and implement effective water quality improvements. The inaccessibility of the data that underlie the Draft 2018/2020 Integrated Report must be rectified. The analytical data should be accessible in a spreadsheet and geospatial format to allow for multiple forms of analysis.

3) The Assessment Database should identify the organization that collected the data. This will enable users to look up data from AWQMS with a specific monitoring location ID. If at all possible, PDF files of the studies in which the data appear or the documentation of data collection methods and laboratory reports should be accessible along with the data themselves.

Suggestions for Improvements to Several Example Assessment Units

1) Assessment Unit OR_WS_170900080701_02_104451, the South Yamhill River HUC12 Watershed Assessment Unit, should be divided into multiple Assessment Units because its southern and northern portions are neither homogenous nor hydrologically connected. Notably, the part of this Assessment Unit that lies south of the South Yamhill River drains agricultural land, whereas the part of this Assessment Unit on the north side of the South Yamhill River drains developed urban land.

When an Assessment Unit is listed in Category 5 due to BioCriteria, too little information is provided on the Assessment Database. This implies that an interested party cannot proactively improve stewardship of that Assessment Unit. We acknowledge that the Methodology for the Draft 2018/2020 Integrated Report states that the BioCriteria protocol "does not by itself indicate if changes [in the integrity of biological communities] are related to pollutants, or identify which pollutant should be addressed by point source or other controls through a Total Maximum Daily Load." However, the available information (accessed preferably in the Assessment Database, but potentially via pasting the sampling location into AWQMS) should be enhanced to provide: A) the number of samples that were collected and B) the locations of the reference sites used in the PREDATOR BioCriteria model. Without these, it is impossible to understand the scientific basis behind a water quality categorization.

2) We examined Assessment Unit OR_WS_171002030205_05_106104, the Moon Creek HUC12 Watershed. We searched this on the Assessment Database and found that it is impaired for BioCriteria at a monitoring location called "dfw_20240". We searched this location on the AWQMS web portal and downloaded a "Standard Export" report. This shows no "Results" or "Metrics"; it contains only "Indices". Please provide the result on which BioCriteria model output are based and the date of data collection for all data used in any Assessment Unit where BioCriteria are mentioned. The indices reported were calculated in 2008, the first year of the window when data were eligible for inclusion in the Draft 2018/2020 Integrated Report. However, model output is not a data set, and we cannot know that this model output has been rightfully included without knowing the dates of data collection. Additionally, this Assessment Unit is listed as Category 5, but its "% Taxa Loss" index has two values of "-3". The Methodology for the Integrated Report states that an Assessment Unit will receive a Category 5 listing if >20% taxa loss has occurred in the Marine Western Coastal Forest. Please explain whether this Category 5 listing is an error. If it is, please check for other similar errors. If it is not, please explain the justification for this Category 5 listing.

In summary, we have concerns with the major policy changes encapsulated in the Draft Integrated Report. Our hopes are that DEQ will take concerns seriously and change both the approach to listing at the watershed level and also create maps and displays that portray a more accurate picture of water quality in Oregon.

Thank you for the opportunity to comment and we look forward to the final version of the report.

Mike Eliason

General Counsel & Director of Government Affairs
Oregon Forest & Industries Council

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76. Comments from: Blue Mountain Biodiversity Project

From: Paula Hood
Subject: BMBP's Comments on 2018/2020 Integrated Report

Date: Jan. 6, 2020

I am submitting these comments on "Oregon's Draft 2018/2020 Integrated Report on Surface Water Quality and List of Water Quality Limited Waters" public comment period on behalf of Blue Mountains Biodiversity Project.

Blue Mountains Biodiversity Project (BMBP) is a nonprofit environmental advocacy organization dedicated to the conservation of the natural ecosystems in eastern Oregon and the native flora and fauna they harbor. BMBP and our members actively participate in governmental decision-making processes on public lands, including national forests, in eastern Oregon.

Blue Mountains Biodiversity Project wants to thank ODEQ for their extensive and impressive work in organizing and analyzing the large quantity of data submitted during the recent 'call for data', and for their excellent work reorganizing the ODEQ website. BMBP also wishes to thank ODEQ for extending the initial 'call for data' and working with the US Forest Service (USFS) so that they could submit a large portion of their water quality data. BMBP fully recognizes the large quantity of data that ODEQ is working with, and the challenges that come with that.

BMBP does have some remaining concerns about the water quality data submitted by the Forest Service. In future calls for data, is it expected that the USFS will submit their data? We were confused to read that the USFS had only "short notice" for submitting their data (Pg. 10, ODEQ's Response to Comments in Sept. 2018). Doesn't the USFS expect to submit data during ODEQ calls for data? Why was this long-overdue sharing of USFS water quality data not planned for by both the USFS and ODEQ? This is an issue that BMBP has repeatedly raised with the USFS over the past several years. We have repeatedly noted it in writing in public comments and objections with FS staff, including Forest Supervisors. We have given this issue clear and pointed focus during multiple recent and large timber sales within the past 3-4 years.

While we understand that it is very unlikely that additional data will be considered for the 2018/2020 Integrated Report, we request confirmation from ODEQ that the USFS is planning to submit additional data during the next ODEQ call for data. In addition, all agencies and organizations that have collected water quality data on National Forest lands in Oregon in recent years should be asked to share these data with ODEQ during the next call for data.

We note that with just a cursory examination of streams within recent timber sales on National Forests in eastern Oregon, BMBP has found data summaries for stream temperature data that do not appear to have not been submitted to ODEQ. For example: water quality data for streams on National Forest lands from NortWeST:

(https://www.fs.fed.us/rm/boise/AWAE/projects/NorWeST/StreamTemperatureDataSummaries.shtml#MidColumbia)

include data that do not seem to have been submitted. Some of these data are from the USFS; some appear to be from NOAA and from Watershed Councils. Examples of stream temperature data within NorWeST that ODEQ does not seem to have include data for the following streams within the Middle Fork of the John Day River watershed:

- Sunshine Creek (data from 2001; summary weekly temps include temperatures up to 19.1, 18.6 degrees C)
- Ruby Creek (data available from as recently as 2004; summaries of weekly temperatures

include temperatures up to 25.7, 24.36, 21.09 degrees C since 2000);

- Coyote Creek (data available from as recently as 2007; summaries of weekly temperatures include those up to 21.22 and 21.69 degrees C)

Adding to the confusion of this issue, the USFS states in recent NEPA documents that stream temperature data exist for the following creeks as a result of the 2014 Region 6 Pacific Northwest survey efforts (ODEQ does not seem to have these 2014 data, either): Lemon, Beaver, Bennett, Butte, Coyote, Dry, Granite Boulder, Ruby, and Ragged Creeks (Pg. 11, Aquatic specialist report of Ragged Ruby FEIS, which can be found here:

https://www.fs.usda.gov/nfs/11558/www/nepa/104258_FSPLT3_4839715.pdf).

Most if not all of these data do not appear to have been submitted to ODEQ. In addition, no data were not provided as part of BMBP's recent FOIA for stream temperature data for these creeks, nor are these data not reflected on the NorWeST website. As a result, it is unclear where the USFS stores these data or if their summaries of these data in recent NEPA documents is accurate. The NorWeST temperature data consistently show higher stream temperatures compared to the 2014 data to which the USFS has limited their NEPA analysis in their Ragged Ruby Aquatics Report (including for Coyote, Sunshine, Beaver, Ruby, Ragged, and Windlass Creeks). Much of the NorWeST data that the USFS has omitted consistently show stream temperatures in violation of standards, and that violate standards with greater frequency and magnitude than the USFS included in their NEPA analysis.

The issues raised above are in relation to streams within one timber sale (the Ragged Ruby timber sale) within the Middle Fork of the John Day. The streams in the Ragged Ruby sale are likely the tip of a larger iceberg. Consistently, when BMBP has investigated USFS water quality data in association with NEPA analyses documents on timber sales and grazing allotments, USFS FOIA responses, and USFS data submissions to ODEQ, USFS inaccuracies and omissions are widespread. (Please see BMBP's previous comments submitted to ODEQ for more in-depth discussion and more examples of these issues). Given that the Forest Service continues to increase both the pace and scale of logging, including widespread heavy logging and logging on never-logged areas, in steep slopes above creeks, and within Riparian Habitat Conservation Areas, the Forest Service's inability to keep track of, accurately report, or share water quality data is a very concerning problem that needs to be taken seriously by regulatory agencies. We recognize that management of complex and large data sets is difficult and mistakes are understandable. However, the USFS has a decades-long and persistent track record of poor management regarding these issues. In addition, the USFS does not appear to be showing a good-faith effort to incorporate these shortcomings in data collection and management or the existing data gaps when considering possible impacts to streams from management actions. Given threats from climate change, habitat loss, and poor or misguided forest management, we cannot afford to ignore these issues.

BMBP recognizes that the omissions and inaccuracies regarding water quality data in environmental analyses on National Forest lands are likely outside the scope of the current ODEQ considerations for the 2018/2020 Integrated Report. However, we bring up these issues to illustrate the importance of ensuring that the USFS shares additional data with ODEQ—at least during the next call for data. The widespread and persistent water quality problems on public lands are serious issues for stream ecosystems, ESA- listed aquatic species, and watershed health. Additional scrutiny from regulatory agencies and the public is clearly needed to ensure that Forest Service water quality monitoring and reporting efforts are adequate and accurate.

Thank you very much for considering our comments. We appreciate your time and consideration in these matters.

Sincerely,

Paula Hood, Co-Director
Blue Mountains Biodiversity Project

77. Comments from: Santiam Water Control District

From: Lolly Anderson, Anderson Schultz LLP
Subject: SWCD Comments to the Draft Report
Date: Jan. 6, 2020

Background.

In September 2019, the State of Oregon, Department of Environmental Quality ("DEQ") released its Draft 2018/2020 Integrated Report ("Draft Report"). The Draft Report is comprised of the Interactive Story map, the Interactive Web Map, the Assessment Database, and the Assessment Geodatabase. The purpose of an integrated report is to present the results of assessing available data to determine where water quality standards are met or not met, and to identify the pollutants causing water quality limitations or impairments in compliance with Clean Water Act Section 305(b) and Section 303(d) requirements.

Santiam Water Control District ("SWCD") is an Oregon water control district operating under the power and authority granted to water control districts by Oregon Revised Statutes, Chapter 553. SWCD is controlled by a board of directors comprised of local farmers. SWCD provides irrigation water to agricultural patrons in the Willamette Basin and along the North Santiam River. SWCD holds water rights to irrigate over 17,000 acres.

The SWCD water conveyance facilities ("SWCD Facilities") run approximately 118 miles and consist primarily of open canals located on rights-of-way across the agricultural lands of district members. The SWCD Facilities encompass all or a portion of the following HUC12 watershed assessment units: Croisan Creek – Willamette River; Bear Branch – North Santiam; Beaver Creek; Marion Creek – North Santiam River; McKinney Creek; Upper Mill Creek; and Lower Mill Creek. DEQ has designated five of these seven watershed assessment units as "impaired."

SWCD Participation in Public Process.

SWCD has committed resources to meaningful participation in the DEQ administrative process surrounding the Draft Report. The SWCD District Manager and SWCD attorneys have participated in

multiple public meetings and information sessions. SWCD technical staff has corresponded with DEQ staff to better understand the Draft Report tools and methodology.

SWCD submits the following comments to the Draft Report.

SWCD Comments to the Draft Report.

SWCD recognizes the effort DEQ made to improve its integrated report process and appreciates the time DEQ staff have invested in educating and responding to questions from regulated entities. These comments focus on several areas of concern with the Draft Report that adversely impact SWCD and other agricultural water districts. These SWCD comments detail the concerns impacting districts, describe how these issues impact SWCD, and make recommendations for improvement.

In particular, in order for DEQ to alleviate district concerns and create a framework that is both legally and scientifically sound, DEQ must address the following:

Either remove waterbodies from the 303(d) list that were added solely because of monitoring data from the assessment unit in general, and not from the waterbody itself, or clearly differentiate impaired waterbodies from potential contributing waterbodies; Define a process to divide non-homogenous watershed assessment units; Clearly identify natural vs. unnatural /constructed water bodies; and As the NHD was used as the basis for the hydrologic system, provide a method to comment and provide input as to the accuracy of that information.

<u>Improper 303(d) Listing of All Waterbodies in an Assessment Unit.</u>

DEQ is not meeting the requirement to designate a waterbody as water quality limited based on whether *that waterbody* is impaired for its designated beneficial uses. Specifically, a "*receiving stream* may be designated as water quality limited through the biennial water quality status assessment report prepared to meet the requirements of section 305(b) of the Federal Clean Water Act. Appendix A of the Status Assessment report will identify: what *water bodies* are water quality limited, the time of year the water quality standards violations occur, the *segment of stream or area of water body* limited, the parameter(s) of concern, and whether it is water quality limited under the definition of "Water Quality Limited" in OAR 340-041-0002." OAR 340-041-0046(1), *emphasis added*.

Instead of meeting this requirement, DEQ pools all available monitoring results from waterbodies within a watershed assessment unit ("Assessment Unit") to evaluate the entire unit for impairment. DEQ then designates the entire Assessment Unit as impaired, rather than just the specific impaired waterbody. *Methodology S3.3.2.*

Pooling of monitoring results leads to clearly erroneous water quality classifications. For example, there is an approved TMDL for an E. coli impacted stream in the southern portion of the Lower Mill Creek Assessment Unit. The TMDL for a single stream has resulted in listing the entire unit as Category 4A: Water Quality Limited TMDL Approved for E. coli. DEQ notes in its Response to Methodology Comments that it does not have the discretion not to list a waterbody as impaired if there is evidence of impairment. However, in the Draft Report, DEQ is not only listing the impaired waterbody, but listing all the waterbodies with no evidence of impairment in the Assessment Unit.

Another issue with the pooling methodology is that monitoring results are based on available data since 2002, not data strategically sampled at monitoring locations to confirm whether Assessment Unit waterbodies share impairment. The Draft Report describes the imprecise application of historical data

from monitoring locations within a new Assessment Unit to all the waterbodies in the Assessment Unit as "Crosswalk".

Failure to Create Homogeneous Assessment Units.

The Draft Report changed the method by which it identifies the segments of waterbodies used to conduct assessments to fixed waterbody assessment units ("Assessment Units"). DEQ states that the new waterbody Assessment Units represent homogeneous surface water quality, because they incorporate environmentally and hydrologically relevant breaks (such as flow, adjacent land uses, and other characteristics). *Draft Report Fact Sheet.* However, many Assessment Units are not homogenous.

Homogeneity within an Assessment Unit is important because, in order to retain the information from previous assessments and apply the information to the new Assessment Units, DEQ "crosswalks" the monitoring results from certain waterbodies to the entire new Assessment Unit. Then DEQ applies the beneficial uses and the impairment of one waterbody within an Assessment Unit to all waterbodies in the same Assessment Unit. Therefore, Assessment Units must contain waterbodies with the same qualities. Otherwise, the methodology applies incorrect beneficial uses and thus, incorrect designations of impairment, to waterbodies within the Assessment Unit. Incorrect designations prevent DEQ from using the Assessment Unit to accurately assess water quality.

In the 2018 Report Methodology, DEQ acknowledged that differences in waterbody characteristics within a HUC12 may require breaking the HUC12 down into smaller units and stated that it could do so in the Draft Report to facilitate accurate water quality assessment. The Report Methodology also stated that DEQ would further evaluate the Assessment Units and subdivide as needed to preserve homogeneity. Specifically, the Report Methodology notes that during "the assessment process, DEQ will review the watershed units more closely. Where other relevant data layers indicate differences in watershed homogeneity, further divisions may be warranted in the assessment unit." *Report Methodology S 3.3.3.* Additionally, "[o]ther environmentally relevant data layers, such as land cover and ecoregion may be used to further divide these [HUC12] units if needed." *Id.* However, DEQ does not appear to have performed these additional steps. Consequently, the Draft Report includes Assessment Units that encompass significantly diverse waterbodies.

DEQ addressed this issue in its Response to Comments to Oregon's 2018 Draft Assessment Methodology by stating that the Assessment Units are considered preliminary, that establishing the boundaries of the Assessment Units remains an iterative process, and any splits or division of watershed AUs will be done on a consistent basis with environmentally relevant GIS layers. Upon review of the draft assessment findings, DEQ states that it will be better able to define a rationale for how and when assessment units may be split.

Therefore, in order to facilitate DEQ's creation of a process to further divide Assessment Units, SWCD provides the following analysis of the material environmental and hydrological breaks between irrigation ditches and natural streams. Because of the significant differences between irrigation ditches and natural waterbodies, DEQ should subdivide Assessment Units that contain both.

Including irrigation ditches in Watershed Assessment Units with natural waterways is not consistent with the requirement that Watershed Assessment Units be divided at points of heterogeneity.

Irrigation canals have significantly different attributes from natural waterbodies because they are controlled for flow, seasonal, and operated under the requirements of the applicable water rights and related statues and regulations. In the instance of SWCD, certain facilities are intermittently connected to

other waterbodies by the operation of a system of automated headgates and flow control structures (e.g., weir boards and check dams) to manage water conveyance as required under SWCD water rights.

Consequently, these artificial systems are materially different than the other natural waterways included the Assessment Units within SWCD boundaries. Like "Crosswalking," grouping completely different systems into a single Assessment Unit prohibits accurate evaluating of water quality and effective water quality management. Therefore, DEQ should divide unnatural channels and areas with modified flow patterns, such as irrigation ditches, from natural channels in Assessments Units.

Beneficial Uses within an Assessment Unit.

DEQ has not confirmed that the beneficial uses which trigger impairment of an entire Assessment Unit are actual beneficial uses of the entire Assessment Unit. The Lower Mill Creek HUC12 Watershed AU demonstrates this point. This Assessment Unit primarily consists of irrigation ditches but includes natural waterways. Fish screens prevent fish from entering the irrigation ditches and consequently, the ditches are not fish habitat. But Fish and Aquatic Life is considered a beneficial use for the entire Assessment Unit.

The SWCD Fish Screen map attached as Exhibit 1 locates the SWCD fish screens. Fish and Aquatic Life beneficial uses are based on the actual rearing, spawning, and migration uses of the designated waterbody. SWCD Facilities that are fish-screened or otherwise impassable to fish should not have the Fish and Aquatic Life beneficial use. This discrepancy should be addressed by separating the irrigation ditches into a separate Assessment Unit from the natural portion of Lower Mill Creek.

Negative Impacts of the Assessment Unit Methodology on Regulated Entities.

DEQ has acknowledged that when an Assessment Unit is listed as impaired, not all waterbodies in that Assessment Unit may actually be impaired. DEQ claims that this listing does not create additional regulatory requirements. SWCD disagrees. As detailed below, there are additional regulatory requirements and additional burdens placed on regulated entities that discharge into or control a 303(d) listed waterbody.

Additional Regulatory Requirements.

DEQ claims that being listed as impaired does not impose immediate regulatory requirements and that when DEQ undertakes any additional activities affecting the "impaired" water body, such as the development of a permit or a TMDL, the data will be further evaluated for the relevant waterbody and connected water bodies before any action is taken.

SWCD has several concerns with this approach. First, once a waterbody is listed as impaired, it is subject to a higher regulatory standard. For example, identifying a waterbody as impaired initiates the prioritization and development of a TMDL. Once a water body is found to be water quality limited and is assigned to Category 5: 303(d) status, the water remains on Oregon's 303(d) list until DEQ delists or removes it from Category 5: 303(d), and EPA approves delisting those waters. Even if DEQ determines an error was made in the Category 5 listing, in order to delist, a regulated entity must go through the delisting process described in the 2018 Methodology. Given the amount of process and time required for delisting, DEQ has a responsibility to accurately list only those waterbodies that have monitoring data evidencing impairment.

DEQ should create a streamlined delisting process for waterbodies incorrectly listed as a result of the imprecise Assessment Unit methodology. SWCD understands DEQ's position that delisting a waterbody requires higher level of evidence to overcome the non-attainment finding and show the waterbody is in

fact attaining. However, this rationale does not apply to cases where a waterbody has been listed without actual evidence of non-attainment under the Assessment Unit methodology. For example, the 2018/2020 IR Assessment Database indicates that SWCD's Perrin Lateral irrigation canal is a Category 4A: Water quality limited, TMDL approved. The canal was listed in 2010. This designation appears to have been made based on water quality monitoring data (bacteria) collected during the non-irrigation "OFF season" in 2003 and was not assessed again in 2018. Unless DEQ either revises its listing or creates a simpler process for delisting, SWCD will be forced to invest financial and staff resources correcting potentially improper listings.

DEQ's approach shifts responsibility of maintaining an accurate 303(d) list to regulated entities. The approach also postpones further evaluation of the Assessment Unit until a TMDL or permit is required and when the resources and data may not be available. Accordingly, DEQ may not have sufficient time to perform this additional review when upcoming TMDLs must be created under mandated timelines.

Uncertainty over Future DEQ Regulatory Actions.

DEQ has had multiples discussions with regulated entities about the implications of the Draft Report. DEQ statements vary, and at times contradict a plain reading of the Draft Report. First, DEQ states that there is a regulatory difference between a Watershed Assessment Unit and the water bodies within the watershed. DEQ states that it regards a 303(d) listing of a Watershed Assessment Unit as a means to draw attention to that watershed for water quality improvement. DEQ states that it does not, however, believe that a 303(d) listing of a Watershed AU implies that all water bodies – that is, all the small streams – of the AU are impaired.

DEQ's communications are in direct contrast to the substance of the Draft Report. The Draft Report does not include the waterbody / Assessment Unit distinction. In contrast, the Draft Report shows that all streams within an impaired Watershed Assessment Unit are colored red (impaired) on the Integrated Web Map. DEQ admits that the map is an imperfect visualization but claims that it not symptomatic of an underlying problem.

DEQ communications also indicate that the agency is not certain whether a TMDL would encompass an entire impaired Assessment Unit, or whether the TMDL would include only the waterbodies in the Assessment Unit that are actually impaired. This raises the concern that DEQ will choose the reaches it finds convenient for a TMDL instead of maintaining a clear and predetermined connection between the Assessment Unit and a future TMDL. The omission of a mechanism by which non-impaired waterbodies are distinguished from impaired waterbodies within an assessment unit means that the agency must act arbitrarily. Arbitrary agency actions create regulatory uncertainty and risks improperly bringing entities on non-impaired waterbodies within an impaired Assessment Unit into a TMDL.

<u>Correcting Errors in the NHD Database.</u>

When DEQ migrated its hydrologic framework from the prior system to the National Hydrography Dataset (NHD) framework, the agency appeared not to verify the NHD hydrology information. That information contains numerous errors within the SWCD Facilities. The NHD contains incorrect flow information. Some of the ditches within the SWCD Facilities are described as flowing backwards in the lower area of the district. This NHD incorrect flow information is not shown on the DEQ model. Therefore, it is unclear how DEQ is evaluating flow.

Flow is a highly important piece of information for the Draft Report because it impacts Assessment Unit boundaries, demonstrates how waterbodies impact other waterbodies, and illustrates how impairment travels. For example, NHD indicates that Coates Lateral contributes to Mill Creek. It does not. The Coates

Lateral receives water from Mill Creek. Therefore, the Coates Lateral should not be considered a contributing water that impacts Mill Creek impairment. Other examples of error include identification of a natural waterway, the North Santiam River, as an "Artificial Path" and the NHD map determination that the SWCD Main Canal does not connect, via approved fish screens, to the North Santiam River.

SWCD recommends that DEQ incorporate corrected information from regulated entities into their tools and in cases where there are significant corrections required, reevaluate the applicable Assessment Unit.

Conflict with Existing Programs and Plans.

The Draft Report methodology may lead to public confusion and delay of conservation efforts related to SWCD's existing plans and efforts. The District has three major planning efforts, two finalized and one underway. A Water Management and Conservation Plan ("WMCP") approved by Oregon Water Resources Department, a Drought Contingency Plan ("DCP") approved by the US Bureau of Reclamation, and the current effort of System Optimization Planning (SOP) being completed by the Farmers Conservation Alliance.

The District has developed plans to pipe certain District Facilities through a public process which involved relevant state agencies, including DEQ. These piping projects facilitate water conservation and efficiency and improve water quality. However, the improper listing of SWCD Facilities as impaired has the potential to confuse the public and to cause delays in permitting and funding. The listing of the District Facilities infers that ditches and canals are part of a natural stream system with fish and aquatic use, rather than a completely artificial system which may impact a natural stream.

For example, future piping of SWCD's Coates Canal is categorized as a "Drought mitigation project" in our DCP and will support water conservation efforts. In the Draft Report, the same waterbody (Coates Reach Codes: 17090007006442 and 17090007006476) is proposed for listing due to Temperature- Year Round, Dissolved Oxygen- Spawning, Dissolved Oxygen- Year Round, E. coli. SWCD will likely face challenges attempting to pipe Coates Canal if DEQ does not remove the impairment designation for fish and aquatic life.

Recommendations.

SWCD submits the following recommendations for DEQ consideration.

Division of Non-Homogenous Assessment Units.

Assessment Units containing irrigation ditches and natural waterbodies should be divided into separate Assessment Units. As detailed above, there are material environmental and hydrological breaks between irrigation ditches and natural streams. These two types of waterbodies have significantly different beneficial uses and characteristics. Many irrigation ditches are operated to control flow.

Water quality in irrigation ditches and natural streams within one Assessment Unit will be materially different and they should not be assessed together to determine impairment of the entire Assessment Unit.

Division out of irrigation ditches could be used to develop separate water quality management plans for agricultural water district facilities that would take in account the unique characteristics of these facilities and improve water quality at the locations and times when the facilities discharge into other waterbodies.

Request ODEQ Conduct Use Attainability Analysis/Assessment (UAAs) of SWCD Conveyance Systems (Ditches and Canals) within ODEQ Watershed Assessment Units

Under 40 CFR 131.10(g) states may remove a designated use which is not an existing use, as defined in § 131.3, or establish sub-categories of a use if the state can demonstrate that attaining the designated use is not feasible because:

1. Naturally occurring pollutant concentrations prevent the attainment of the use; or
2. Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating State water conservation requirements to enable uses to be met; or
3. Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; or
4. Dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; or
5. Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses; or
6. Controls more stringent than those required by sections 301(b) and 306 of the Act would result in substantial and widespread economic and social impact.

In the case of SWCD, current designated uses and water quality standards applied to watershed assessment units within the District may not be attainable because:

Dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; or

Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses.

SWCD therefore requests that DEQ perform a UAA of the district's conveyance system in order to determine whether the current designated uses and resulting water quality standards may be removed from the District Facilities.

https://www.epa.gov/wqs-tech/use-attainability-analysis-uaa
https://www.oregon.gov/deq/Filtered%20Library/WQuseattainabilityIMD.pdf

Request Coordination of DEQ Triennial Water Quality Standards Review and Planning Process with DEQ Biennial Water Quality Inventory Reporting

DEQ is currently implementing its 2017 Triennial Water Quality Standards Review Projects. Projects slated for implementation include updates to fish and aquatic life use designations based on updated scientific information.

SWCD recommends that comments submitted to ODEQ via the Biennial 2018/2020 Water Quality Inventory Report scoping process requesting 'splits' to watershed assessment units based on environmentally and/or hydrologically relevant breaks be submitted to the ODEQ Water Quality Standards Review and Planning team for consideration when determining updates to fish and aquatic life use designations and mapping.

https://www.oregon.gov/deq/wq/Pages/WQ-Standards.aspx

78. Comments from: Weyerhaeuser

From: Meghan Tuttle

Subject: Weyerhaeuser Comments on draft 2018/2020 Integrated Report

Date: Jan. 6, 2020

We appreciate the opportunity to provide comments on the Draft 2018-2020 Integrated Report and Methodology released by the Oregon Department of Environmental Quality (DEQ). Weyerhaeuser Company (www.weyerhaeuser.com) is a forest products company that manages 16 million acres in Oregon State. We support comments submitted by various industry associations, including Oregon Farm Bureau and the Oregon Forests and Industries Council (OFIC), As noted in those comments, there are serious concerns with changes to the watershed scale assessment units (AU), report visualization and data used inthe analysis.

Watershed Scale Assessment Units

In developingthe new AUs, DEQ failed to assess watersheds appropriately, with multiple assessment units that are neither homogenous nor hydrologically connected. DEQ further exacerbated the heterogeneity within AUs by extrapolating data from samples from neighboring waterways or tributaries and expanding previous 303(d) listings without water body specific data. This fails to account for the variability of streams across watersheds due to historic land use practices, site location and landscape variability like elevation. Without current site-specific data, DEQ should adjust individual waterbodies within the AUs to be listed as category 3.

While it was not possible at the time to foresee all issues related to the application of DEQ's new methodology, commenters on the methodology document predicted that the AUs would be overinclusive, including because the draft did not provide sufficient detail describing how decisions on dividing assessment units might be reached. These concerns proved prescient. DEQ sought to mitigate this impact by promising additional public input on this process- calling finalization of assessment units "an iterative process" and stated that splits or divisions of watershed units would be considered based on environmentally relevant GIS information. It is not apparent how, when, or

whether DEQ intends to follow through with this "iterative process." The current methodology is inadequate, since it fails to distinguish segments with different characteristics.

Report Visualization

All mapped waterbodies in AUs without impairments must be labeled differently than waterbodies with impairments. The current "report," which is really a series of interactive maps and graphics rather than a true "report," gives the mistaken impression that numerous additional waters are impaired because its mapped overlay shows all streams within the AU in the same color as the impaired waters. To assist the public in interpreting the listing information, data points need to be added explaining beneficial use and the assessment database should be searchable by beneficial use. It is also particularly confusing that the stream colors in the interactive Web Map do not match the colors of the AUs described in the Interactive Story Map, and they should be updated to match.

Data

In closing we would like to meet with DEQ technical staff to review the significant changes in the Report and Methodology, as well as share additional site-specific information to address the deficiencies of the current report.

Meghan Tuttle,

Western Environmental Affairs Manager

Weyerhaeuser Company

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79. Comments from: Baker County Commission

From: Bill Harvey
Subject: Baker County Integrated Report Comment
Date: Jan. 6, 2020

Baker County.is strongly opposed to DEQ's decision to list water bodies throughout. The State as water quality impaired without data to supply the listings, as presented in the 2018-2020 Integrated Report. Powder River flows through Baker County and does not have a TMDL, leaving the County and its citizens no way to dispute findings, address the concerns, or allow for removal of ·om the 303(d) list. Therefore, until a TMDL is developed for the Powder River through a coordinated eff011 between the DEQ, County, and Stakeholders, any proposed inclusion in the 303('d) list of any waterbody within'the County should be null and void.

'The County opposes the DEQ's decision to include agricultural irrigation, drainage ditches, and other man-made ditches/canals in its list of water quality impaired waterways. These are not natural waterways and users have historic rights to access water · flowing through these man-made

conveyances. The County is concerned that ramifications of water quality impairment in man-made systems will impact the County's land use jurisdiction and tax base as well as impart economic hardships on citizens that rely on ditches to provide economic viable conditions.

Extrapolating listings of waterways and ditches based upon data collected from neighboring properties by pooling data on a watershed-wide scale is a poor decision by DEQ and Baker County strongly opposes it. Not only does water quality naturally differ between waterbodies through differing topographic, geologic, and riparian. Characteristics, land ownership and use, both current and historic, plays an important role in water quality. There is no evidence presented by DEQ that this extrapolation is scientifically valid or sound. This is a significant overreach by DEQ to implement listings without first going through scientifically valid steps for water quality determination.

In order to be scientifically defensible, decisions to list waterbodies as impaired must be based on waterbody specific data, collected using accepted methodology, and cannot be extrapolated from samples obtained from neighboring waterbodies.In addition, data must he. From multiple teaches within a waterbody so that land use can be accounted for!" to do otherwise is not sound science or "sound agency policy without using scientifically valid data, DEQ is making water quality on rural lands " appear worse than it is.' Baker County's economy, social stability, customs, and culture is based on agriculture, timber and ther' natural resource jobs. Destabilizing these sect9rs without specific, scientific;and verifiable data is bad pblic policy.

Baker County s farmers, ranchers, foresters, miners, and other water users have taken a proactive approach to protecting water quality. There has been, and continues to be, significant investments improving and protecting water quality. Both the Power and Burnt River basins have Agricultural Water Quality Plans and numerous large projects have been implemented to protect water quality throughtout the County. It is not only disappointing, but also disingenuous, that the Report makes it look like county land, especially farm and forst lands, are contributing to decling water quality, particularly when DEQ lacks specific and valid waterbody data.

Baket County believes that the proposed changes in water quality policies is not only a huge agency overreach, but will lead to DEQ running afoul othe Oregon State Agency Coordination laws as they relate to land use and the TMDL process in Baker Couny:

"Each state agency is required to prepare a State Agency Coordination (SAC) Program to assure that its "rules and programs affecting lqnd use" comply with the statewide planning goals, and are compatible with acknow(edged city and county comprehensive plans and land use regulations. (See ORS 197.180, OAR 660-030 and OAR 660-03!.) SAC agreements are used to document the results of an agency evaluation and the coordination of technical assistance provided by DLCD tq assure compliance and compatibility:" (Oregon.gov/lcd/About/Pages/State-Agency-Coordiation.aspx)

ORS 197.180(1) Except asprovided in ORS 197.277 (Oregon Forest Practices Act).or subsection (2) of this section or unless expressly exempted by another statute from any of the requiremen,ts of this section, state agencies shall carry out their planning dutfes, powers and responsibilities and take actions.that are authorized by law with i·espect to programs affecting land use: (a) In

compliance with the goals, rules ·implem'ents the goals and rules implement this 'sectf on; and (b) In a manner compatible, with acknowledged comprehensive plan's ad land use regulations.

In accordance with ORS 197.180 and OAR Chapter 660, Division 30 and 31, ana . approved by the Environmenta l Quality Commission on August 10, 1990, page 34- 35:

Action: Requirement for Implementation Plan to meet Total Maximum Daily Loads (I'MDLs) Restrictions for Water Quality Limited Waterways.

Authorities.: PL '92-500.Sec.303.; ORS 468; OAR Division 41

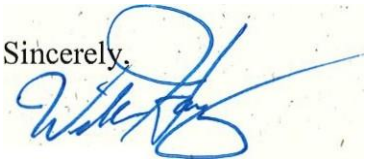
Analys is: To impl'ove water quality in subbasins that are identified as water quality limited, the Commission adopts special requirementfor TMDLS stream allocations and requires the development of an implementation plan. The load restrictios may necessitate a change in land use activities or practices. The 'standards are implemented for poi nt sources thr9ugh te permitting process.

Land Use Compatibility Mechanism: A Commission·designated local government is · genrally responsible for coordinating the development of an implementation plan with the affected local'comprehensive plans. Evidence that the implementati'on plans compatible with or will be compatible with the affected local comprehensive plans ust be provided before the Commission approves the plan.

Baker County is frustrated that the agency did not reach out to county officials prior to the Integrated Report listing waterbodies within the county as water quality impaired. We believe we are entitled, as the local government, to having input and ip-depth discussions of the methodologies used and the assumptions that are made in the Integrated Report. Coordination between state agencies and local governments lead to better policies, especially those that will have significant and direct impact county land uses, economy and social stability.

Thank you for the opportunity to comment and Baker County hopes to engage in coordination and more prpductive dia_logue about the Integrated Report moving forward.

Sincerely,



80. Comments from: Oregon Business & Industry

From: Sharla Moffett
Subject: Comments on Draft 2018/2020 Integrated Report and Methodology
Date: Jan. 6, 2020

OREGON BUSINESS & INDUSTRY OBI

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Thank you for the opportunity to comment on the Draft 2018/2020 Integrated Report assessing the condition of Oregon's surface waters. Oregon Business & Industry (OBI) is the state's leading business association representing Oregon's largest group of manufacturers. OBI represents more than 1,600 member businesses that employ approximately 330,000 Oregonians. Our diverse membership includes many businesses that are regulated by the U.S. Environmental Protection Agency (EPA) and Oregon Department of Environmental Quality (DEQ) water quality programs.

We appreciate the tremendous work DEQ has carried out in compiling and analyzing data and creating an electronic database more accessible and interactive than previous Reports. We recognize the thousands of hours DEQ staff has dedicated to this effort and the significant challenges and judgment calls required to create the report.

The Integrated Report has serious implications for regulated entities, particularly as it relates to the 303(d) list of impaired waters. Although OBI represents numerous nonpoint source dischargers, our comments are more significantly focused on point source dischargers. We refer you to the comments of our partner associations Oregon Farm Bureau, Oregon Forest & Industries Council, Oregon Homebuilders Association and Oregon Water Resources Congress for more comprehensive comments on the nonpoint source issues and concerns of other sectors with the Integrated Report.

Changes to the status of waters in the form of more impaired waters listings will have a significant impact on the manufacturing/industrial sector. In reviewing the Integrated Report, we found significant concerns in DEQ's approach that resulted in the erroneous addition of many new Category 5 listings. Prior to finalizing the Integrated Report, it is critical that DEQ address these fatal flaws in order to present an accurate accounting of water quality and a road map for addressing water quality challenges.

GENERAL COMMENTS

Comment 1: DEQ Must Make Other Important Improvements to the Report

Presenting the Integrated Report as an interactive story map medium is a major improvement over previous Reports, but key improvements must be made to be thoroughly functional.

- The Interactive Web Map should color Assessment Units (AUs) to match the colors of the categories that are described in the Interactive Story Map. Colors should correspond to categories, not impairment, such that Category 4 and Category 5 AUs appear differently.

- A map tool that includes the monitoring locations referenced in the Assessment Database should be included in the Integrated Web Map tool. Additionally, please add monitoring locations and existing analytical data to the Geodatabase. Without it, we cannot evaluate the data that led to the water quality categorization.

- The Assessment Database is not currently searchable by beneficial use. Being able to find water bodies that are listed for the same beneficial uses would be helpful in understanding precedents for establishing water quality standards, developing TMDLs, delisting segments, and implementing point and non-point source pollutant controls. Please add this functionality.

- To properly use the Interactive Web 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.

- The Ambient Water Quality Monitoring System (AWQMS) is critical to understanding the categorization of an Assessment Unit of interest, but it is remarkably difficult to use. Please undertake a comprehensive review of the user interface of this system and make the database public to facilitate intuitive custom searches.

- Please make it possible to search by Assessment Unit, not merely monitoring location identification numbers, in the AWQMS.

Comment 2: Problems with Completeness and Connectivity of Data Must Be Addressed

- Our comparison of the data received from DEQ in spreadsheet form and the data available on the AWQMS web portal indicates that, in at least one case, the web portal does not include all the data that are available for an AU. Importantly, data that were not on the AWQMS web portal were the data that led to a Category 5 determination for a specific AU. All data that lead to categorizations of AUs should be publicly accessible without the personal assistance of DEQ personnel.

- The analytical data represented in the Integrated Report are not accessible via the Interactive Web Map and the Assessment Database. Connecting these resources to the AWQMS web portal is cumbersome. Without being able to efficiently link a water quality categorization to the data that were used in the Integrated Report, users cannot effectively: A) verify that 303(d) listings are fair and accurate, B) understand the sources of pollution, and C) identify and implement effective water quality improvements. The inaccessibility of the data that underlie the Draft 2018/2020 Integrated Report must be rectified. The analytical data should be accessible in a spreadsheet and geospatial format to allow for multiple forms of analysis.

- The Assessment Database should identify the organization that collected the data. This will enable users to look up data from AWQMS with a specific monitoring location ID. If at all possible, PDF files of the studies in which the data appear or the documentation of data collection methods and laboratory reports should be accessible along with the data themselves.

Comment 3: Oregon Should Make Its Water Quality Database More Like Washington's

- Online resources maintained by the State of Washington Department of Ecology (henceforth "Ecology") facilitate access to the data upon which its water quality categorizations are based. Oregon should provide data in a similar way to support the Draft 2018/2020 Integrated Report.

Like Oregon, Washington provides a searchable webpage of recent Water Quality Assessments (https://apps.ecology.wa.gov/approvedwqa/ApprovedSearch.aspx). Like Oregon, searching a specific water body by name yields all 305(b) water quality categorizations for the AUs that contain that water body. Unlike Oregon, the Washington search results contain two important resources. For every listing, a link to the water quality atlas is provided. This is convenient, for it saves the user the step of copying the Assessment Unit identification number into the Interactive Web Map, as is necessary in Oregon.

More importantly, each line of the search results contains a button to "View" a unique webpage for that water quality categorization. Among other information, this webpage presents the history of water quality categorizations for a given Assessment Unit, the Assessment Unit identification number, the citation of the study that included the data used for the water quality characterization, the rationale used by Ecology when determining the water quality characterization, and a link to the study or data set in the Environmental Information Management System database maintained by Ecology. Following this link allows the user to view the data that Ecology used to assess the Assessment Unit,and reading Ecology's rationale allows the user to understand exactly what about the data led to a 303(d) listing. This makes Ecology's 303(d) list of impaired waters understandable and transparent. Oregon should provide the same transparency in the 2018/2020 Integrated Report via similar links for each water quality categorization to the relevant data in the Ambient Water Quality Management System.

SPECIFIC COMMENTS

Comment 4: Policy Decisions in the Methodology Resulted in the Addition of Many Water Bodies That Lack Data

DEQ made many site-specific judgments regarding where to subdivide new AUs. In some areas we examined, we found that AUs were too large because they captured regions of widely varying land use or major differences in beneficial uses. This led to prior 303(d) listings being applied to additional miles of rivers and streams where monitoring data may be scant or nonexistent.

Comment 5: AU Willamette River from Johnson Creek to the Columbia River is Too Large

This AU is too large because the Willamette River's southern upstream reaches differ in many ways from its northern, downstream reaches. This AU should be divided in downtown Portland.

Although we oppose larger AUs on the basis that more layering of beneficial uses and land uses results in more impaired listings in a given AU, we would be concerned if smaller AUs limited water quality trading opportunities. OBI supports water quality trading and urges DEQ to provide the flexibility needed to engage in trading between different AUs.

Comment 6: Large AUs Compounded by Aggregated Data Do Not Provide an Accurate Characterization of Water Quality

Extensive samples have been collected along the Lower Willamette AU, however not all the locations are visible through the AWQMS. The data requested from DEQ does contain all related monitoring locations, but the coordinates for sampling points are not given. Data from the recreational areas south of the Ross Island Bridge is pooled with the Portland Harbor area and, as a result, data collected in either location applies to the assessment of both locations. In other words, water quality near Oaks Amusement Park is

lumped together with water quality in the Portland Harbor. With the possible exception of temperature, there is no basis to conclude that the water quality in these two very different locations would be the same. Additionally, the inclusion of two very different stream characterizations in one AU coupled with the significant public access and water recreation south of Portland Harbor could cause unnecessary concern among recreationists and the public.

Comment 7: Creation of the HUC 12 Watershed Assessment Units Represents a Geographic Expansion of Beneficial Uses

The Draft 2018/2020 Integrated Report used the High-Resolution National Hydrography (NHDH) data set to define the geographical extent of new Assessment Units to characterize Oregon waterways. These were compared with AUs from the 2012 Integrated Report, and, when they overlapped, the beneficial uses of 2012 Assessment Units were inherited by the 2018/2020 Assessment Units. In many cases involving HUC12 Watershed Assessment Units in the Draft 2018/2020 Integrated Report, the 2018/2020 Assessment Unit includes a much longer distance of streams than did the 2012 Assessment Unit. Consequently, in many cases, the creation of HUC12 Watershed Assessment Units represents a geographical expansion of beneficial uses relative to the 2012 Integrated Report.

We appreciate that a more complete data set is being used to give a detailed assessment of the state's waterways. However, the geographic expansion of beneficial uses described above can violate the principle of homogeneity that should separate neighboring Watershed Assessment Units from each other. The 2018 Assessment Methodology states that "using environmentally and/or hydrologically relevant breaks means the assessment units should represent homogenous segments of surface waters" and "where other relevant data layers indicate differences in watershed homogeneity, further divisions may be warranted in the assessment unit." There are several examples where it appears that heterogeneous water bodies have been incorporated into the same Assessment Unit. This leads to the application of beneficial uses and water quality criteria that do not represent the entirety of several newly expanded Assessment Units.

We are concerned that, when DEQ created the Draft 2018/2020 Integrated Report, the beneficial uses from the 2012 Integrated Report were transferred to 2018/2020 Assessment Units through an automated algorithm whose results need additional review for reasonableness. Please ensure that the beneficial uses in the Assessment Units of the Draft 2018/2020 Integrated Report extend throughout each Assessment Unit. Please ensure that Assessment

Units in the Draft 2018/2020 Integrated Report are homogeneous with respect to their beneficial uses.

Comment8: DEQ's Characterization of the Integrated Report as a "Starting Point" Does Not Paint a Complete Regulatory Picture

When a 303(d) listing is supported by a recent and robust data set and a transparent comparison between data and water quality criteria, our members are willing to do their part to protect the water quality of our state's waterways. However, based on the concerns outlined in this comment letter, we cannot be confident that sufficient data exist to support the "impaired" status of all stream reaches included in the 303(d)-listed Assessment Units of the Draft 2018/2020 Integrated Report. Should stream reaches be 303(d)-listed without recent and robust data and a transparent means of understanding that listing, our members will be unreasonably and unfairly impacted. These impacts will begin immediately upon adoption of the new 303(d) list, not in several years when specific TMDL processes begin, and they will unnecessarily add to the regulatory burden of our members' operations without producing any meaningful benefit to the water quality of Oregon.

The regulatory burden on our members starts as soon as a waterway is included on the state 303(d) list. Additionally, a 303(d) listing of a waterway near our members' operations has other important consequences that our members feel long before a TMDL is created. Once the label of "impaired waterway" is placed upon a river or stream, the activities of our members face greater scrutiny by members of the public who do not necessarily comprehend our operations or our many existing efforts to control our impact on Oregon's waterways. Moreover, in some cases, a 303(d) listing triggers additional regulations before a TMDL and its associated implementation are enacted. As an example, the 1200-Z Industrial Stormwater General Permit requires monitoring of all pollutants on the "impaired pollutant list" that is defined in the permit assignment letter for each site. This list of impaired pollutants is taken directly from the 303(d) listings of the waterbody to which the 1200-Z permittee discharges. Thus, a 303(d) listing increases the expense incurred by routine monitoring activities long before DEQ begins the process of creating a TMDL.

We appreciate your consideration of these comments and look forward to reviewing a revised report.

Sincerely,

Sharla Moffett, Director

Energy, Environment, Natural Resources & Infrastructure

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81. Comments from: Horsefly Irrigation District

From: Steve Shropshire, Jordan Ramis Attorney at Law

Subject: Horsefly Irrigation District Comments on Draft 2018/2020 Integrated Report

Date: Jan. 6, 2020

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Our firm represents Horsefly Irrigation District (HID). We are submitting comments on behalf of HID to the Draft 2018/2020 Integrated Report (Draft Report). We write to express our serious concerns about both the broader policy implications of the Draft Report as well as the specific errors with respect to

waters within HID's boundaries. We urge the Department of Environmental Quality (DEQ) to pull back the Draft Report in order to rework its flawed methodology and to gather the data needed to make the Draft Report scientifically and legally defensible.

In its current form, the Draft Report represents a significant departure from DEQ's past approach to determining the scope and extent of water quality limited water bodies in Oregon. Our primary concern is the decision to use watershed scale assessment units (AU) *rather than actual waterbody- specific water quality data*, resulting in the addition of many miles of impaired waterbodies. Our secondary concern is DEQ's apparent unquestioning reliance on the United States Geological Survey's High Resolution National Hydrography Dataset (NHDH) as the baseline data for the scope and location of waterbodies. In HID's case, the NHDH inaccurately depicts waterways that simply do not exist. The combination of this flawed methodology and the inaccurate data yield an indefensible Draft Report, that if implemented, would result in a significant expansion of DEQ water quality program jurisdiction over waters that should not be included as impaired waters in the final 2018/2020 Integrated Report.

The Oregon Farm Bureau Federation and other agricultural organizations have also prepared comments on the Draft Report (OFB Comments). HID supports the OFB Comments and references them where applicable, rather than replicating them here.

HID Background

HID is an Oregon irrigation district organized under ORS Chapter 545. HID delivers irrigation water to approximately 10,000 acres of land located in the upper portion of the Lost River basin in Klamath County, Oregon. HID pumps water from the Lost River via fish-screened intakes. In addition, HID pumps groundwater from deep basalt wells. The combined river and surface water is delivered to agricultural land through a delivery system consisting of open canals and closed pipelines. The area inside HID's boundaries includes the Lost River and Buck Creek, both of which are listed in DEQ's 2012 Impaired Waters 303(d) list and in the Draft Report. It also includes a number of private manmade irrigation lateral ditches and drainage ditches, all of which fall outside HID's jurisdiction.

Draft Report Listing of Artificial Waterways Within HID Boundaries

The Draft Report has identified a significant number of existing open canals, piped canals, drains, and nonexistent waterbodies within HID's boundaries as impaired waters (see map included as **Exhibit A**). By contrast, in this portion of the Lost River basin, only the Lost River and Buck Creek appear on DEQ's 2012 Impaired Waters 303(d) list set forth in OAR 340-041-0180, Table 180A. No part of the HID delivery system is currently included on the 303(d) list.

This greatly expanded listing of impaired waterbodies appears to correlate with the Draft Report creation of an AU that it labels the *Lower Buck Creek-Lost River* level 12 HUC (Assessment Unit ID OR_WS_180102040704_05_107120). The Draft Report indicates that within the AU, the impaired uses are "Fish and Aquatic Life" and that the impairment cause is "Temperature-Year Round." See **Exhibit B** showing this information. However, the existing 303(d) list is more specific, listing the designated beneficial use in Buck Creek (River Miles 0 to 12.8) as limited to "Redband or Lahontan cutthroat trout." OAR 340-041-0180, Table 180A. Despite this difference, it appears that the expanded listings are the result of DEQ's use of the new methodology to impute the Buck Creek impaired status onto the aggregated system of manmade facilities within HID's boundaries. HID is not aware or, nor has it been able to identify any actual DEQ temperature data that supports the expansion of the AU to include the manmade facilitiy.

Comments on the Draft Report

The Draft Report's Reliance on Assumed Water Quality Data Improperly Results in Irrigation Delivery Canals Being Listed as Impaired Waterbodies

We endorse the OFB Comments with regard to the flawed methodology and specifically the use of data pooling. In HID's case, the use of that approach has resulted in irrigation delivery canals (and pipelines) being listed as temperature-impaired waterbodies. This reveals several flaws in DEQ's approach. First, those delivery facilities only deliver water to headgates or pumps located at the high point of private landowners' fields. The delivery facilities have no hydrologic connection to Buck Creek, making it impossible for them to influence the temperature in Buck Creek. Second, the diversion and delivery facilities are equipped with fish screens, making it impossible for fish to enter those manmade structures. This means that the delivery facilities themselves could not possibly serve the designated beneficial use for the *Lower Buck Creek-Lost River* AU of Redband or Lahontan cutthroat trout. Third, the Draft Report has designated the delivery structures without reliance on actual temperature data. This approach fails to account for any actual conditions in the newly designated waters. By way of example, in this particular case, HID's system is supplied with a combination of surface water and low temperature groundwater originating from the basalt aquifer.

Moreover, the delivery facilities are piped through a substantial portion of the total length. Therefore, it is highly unlikely that the high temperature conditions in Buck Creek, which under the Draft Report methodology have now imputed to the surrounding waters, would be present in the HID delivery facilities.

The result of the data pooling and imputation approach is a fundamentally flawed Draft Report with respect to irrigation facilities. It has improperly designated irrigation delivery structures as temperature-impaired waters serving the designated beneficial use. The methodology should be reworked to use actual data, which we anticipate would eliminate the HID delivery facilities from the impaired waters list. At a minimum those manmade waterbodies should be classified as an independent AU for the purpose of designating beneficial uses and potential impairment.

The Draft Report Improperly Relies on the USGS High Resolution National Hydrography Dataset

Based on the information available in the Draft Report and the DEQ webinars offered to explain the Draft Report, it appears that DEQ has simply imported data from the NHDH into the Draft Report without making any effort to verify the validity of that data. In HID's case, this has resulted in the identification and designation of many impaired waterbodies that either don't exist or that have been piped. This lack of rigor by DEQ would not pass legal muster if subjected to an APA challenge.

DEQ has not provided an online tool for the public to offer comments or corrections to the Draft Report. Therefore, HID has attempted to mark up a screen shot of the DEQ WQ Standards & Assessment Tool map available at https://hdcgcx2.deq.state.or.us/HVR291/?viewer=wqsa for the HID service area. That marked-up map is attached as **Exhibit C.** HID requests that DEQ make the changes indicated on Exhibit C.

The marked-up map shows that almost every waterway within HID's boundaries depicted in the Draft Report as being hydraulically connected to Buck Creek are, in fact, not connected. It also shows that a large percentage of the waterways in the Draft Report do not actually exist. Therefore, the Draft Report approach of imputing water quality impairment "upstream" to connected waterbodies is fundamentally flawed. The lack of physical connection between the actual impaired water body (Buck Creek) and the expanded depiction of impaired artificial water bodies lacks factual or legal justification. To remedy

this, the nonexistent waterbodies should be removed from the Draft Report and the waterbodies without a hydraulic connection to Buck Creek should be removed as well.

The Manmade Canals and Drains Within HID Should be Removed Because they Do Not Serve the Designated Beneficial Use for the *Lower Buck Creek-Lost River* AU

The Draft Report methodology extends the blanket of impaired waters within the *Lower Buck Creek-Lost River* AU to the manmade canals and drains within HID's boundaries. However, even if one were to accept use of the flawed methodology, this result is contrary to law. Buck Creek is listed in the existing 303(d) list for only a single beneficial use—Redband or Lahontan cutthroat trout. As noted above, the delivery system could not possibly support that use because the intakes for the system are fully screened and that system has no hydraulic connection to Buck Creek. In addition, the drains that have been listed are not fish habitat. They are artificial structures that occasionally convey agricultural runoff away from fields when they are being irrigated. Additionally, as noted above, most of the drains shown in the Draft Report are not waters that have a hydraulic connection with Buck Creek, making it impossible for fish to enter those structures.

Based on this factual reality—which the Draft Report fails to acknowledge—it is simply impossible for the manmade waterways within the HID boundaries to serve the current 303(d) list designated beneficial use, or to impact waters that do. The same holds true for the expanded beneficial use of "Fish and Aquatic Life" in the Draft Report for this AU. The physical reality of this artificial conveyance system precludes the presence of fish within those newly designated waters. Likewise, for the majority of the newly-designated artificial waterways in the Draft Report, there is no way that water within those structures could impact water quality within Buck Creek given that they are not tributary to that stream.

This is just one example of how the approach taken in the Draft Report yields nonsensical and legally unsupportable results. Rather than using a proven approach based on actual field observations and water temperature measurement, the Draft Report adopts an artificially broad hypothetical approach by making watershed scale inferences. The result is the improper inclusion of hydraulically disconnected manmade conveyance structures that could not serve the designated beneficial uses.

In addition to removing the nonexistent waterbodies from the Draft Report, DEQ should adopt the recommendations in the OFB Comments to distinguish unnatural channels and areas with modified flow patters from natural channels. (See Section 3 on page 6 of the OFB Comments.) The extension of the AU from Buck Creek onto the manmade waterways in HID is a failure to comply with the homogeneity requirement described in the Integrated Report Methodology as a basis for designating a Watershed Assessment Unit.[1] DEQ's failure to even adhere to its own methodology creates an untenable result from both a factual and legal perspective.

The Draft Report Methodology Should Be Subject to Comment

DEQ has indicated that it considers the 2018 Methodology to be beyond the scope of the current round of public comments. However, as made clear above, the Draft Report cannot be separated from the underlying methodology. We endorse the OFB Comments on this point and amplify them as follows.

The Draft Report is the sum of both the underlying methodology and data. By separately publishing the methodology for public comment in 2018, DEQ has effectively deprived the public of an opportunity to understand how the methodology would work in the applied setting. The Draft Report is the first opportunity the public has been afforded to fully understand and appreciate how the new methodology impacts the scope and extent of listed waters. Therefore, if DEQ persists in its position

[1] The *2018 Methodology for Oregon's 2018 Water Quality Report and List of Water Quality Limited Waters* (published September 2019) states that "[u]sing environmentally and/or hydrologically relevant breaks means the assessments units should represent homogeneous segments of surface waters." It further states that, "[w]here other relevant data layers indicate differences in watershed homogeneity, further divisions may be warranted in the assessment unit." Section 3.3.3., pp. 9 and 10.

that the methodology is outside the scope of the current notice and comment period, it will violate the Oregon Administrative Procedures Act and deprive HID and the public of its right to due process.

Conclusion

We appreciate the opportunity to submit comments on the Draft Plan. In light of the piecemeal evolution on this issue to date, HID reserves the right to provide additional comment or to seek other remedies in the event DEQ fails to address the identified flaws.

HID has been hard at work over the last decade to improve agricultural water quality by piping its irrigation delivery system. This conserves water, resulting in benefits to both instream and consumptive uses. However, piping projects are expensive and rely in part on government funding. The designation of irrigation district conveyance systems as 303(d) impaired waters has the very real potential to cause delays or loss of this critical funding.

Therefore, we hope that DEQ will reconsider its current direction and instead, take a more pragmatic approach to the Integrated Report. Oregon's water quality goals can be much better met by working with entities such as HID rather than unilaterally imposing new regulatory programs on them.

Accordingly, HID requests that DEQ rework the Draft Report and methodology in a manner that reflects the on-the-ground reality, that separates natural stream systems from manmade conveyance systems, and that eliminates nonexistent waterbodies.

Sincerely,

JORDAN RAMIS PC

Steven L. Shropshire

HID Comment Letter
on Draft 2018-2020 Int

82. Comments from: City of Eugene

From: Theresa Walch
Subject: City of Eugene Comments on Draft Integrated Report
Date: Jan. 6, 2020

The City of Eugene (City) appreciates the opportunity to provide comments on the draft Oregon 2018/2020 Integrated Report. The City is a NPDES MS4 Phase I permittee, a Designated Management Agency (DMA) in the Willamette Basin TMDLs, responsible for day-to-day operations of the regional Eugene-Springfield Water Pollution Control Facility, and a partner, along with the City of Springfield and Lane County, in the

Metropolitan Wastewater Management Commission. Eugene is a member of the Oregon Association of Clean Water Agencies (ACWA) and supports ACWA's comments on the Integrated Report that were submitted to DEQ via letter dated (and submitted via email) today, January 6.

In addition, the City of Eugene noted several discrepancies in the Department's 2018/2020 Integrated Report on-line searchable database providing categorical assessment conclusions for assessed parameters, as well as issues related to the outputs of the search engine, as follows:

- Monitoring locations listed in the on-line search results inconsistently identify locations for sample data submitted by the City of Eugene; as an example, lead in Amazon Creek is shown as being assessed in 2018 but does not include City of Eugene sample locations, hence it is difficult to ascertain whether the assessments performed by the Department accurately reflect the entire data set.

- The Oregon Water Quality Monitoring Data Portal Single Parameter Statistics by Location Report search engine is not particularly useful in identifying exceedances of acute and chronic toxicity for hardness-dependent metals because the interactive web page requires an upper threshold entry to generate a table of exceedances; thresholds will vary based on the hardness measured for a specific sampling event.

- The Oregon Water Quality Monitoring Data Portal Exceedance Report search engine does not identify any exceedances of water quality standards for all parameters and waterbodies in the Eugene area; we found the exceedance report accurately lists data from the collected samples, however, the table column indicating whether the value exceeds the water quality criterion does not appear to be accurate for parameters we examined, including, for example, metals, dissolved oxygen, temperature, bacteria, and nitrates for which the report indicated no exceedances under the Acute, Chronic and Other threshold types as applicable.

- Multiple stream orders have been combined by the Department into a single AU classification; for example, OR_WS_170900030601_02_104287, OR_WS_170900030106_02_104248, and OR_WS_170900030108_02_104250 include multiple streams originating within differing locales in the upper Willamette River basin. We noted multiple water quality sampling locations within these AU classifications were combined and assessed with resultant categorical listings generated. It is unclear what the ramifications this approach (combined tributary AUs) will have on TMDL implementation in watersheds and we are concerned that it may significantly impede our ability to allocate resources effectively in addressing potential sources and pollutants of highest concern.

- The Department's AWQMS – Water Quality Monitoring Data search engine would be significantly improved if data retrieved from the system also included the input value used by the Department for inclusion in the Integrated Report; data submittals to the Department are sometimes in text format so conversion to numeric format is necessary prior to assessment. Inclusion of both text and numeric entries would provide for a transparent examination of the dataset.

- The Assessment Geodatabase would be more helpful if it included all the sampling locations and water quality data used in the analysis. Also, a close examination of the ArcInfo layer Count_impaired_parameters is recommended to identify and address inaccuracies; for example, we noted that the number of assessed parameters for OR_WS_170900030601_02_104287 is specified as 9, which appears incorrect given the number of parameters in the Department database for this waterbody. The City of Eugene alone submitted data for 29 different parameters, 18 of which have Oregon water quality standards.

Thank you for your consideration of these comments. Please do not hesitate to contact me with any questions.

Sincerely,

Therese Walch, P.E.

Water Resources Manager

City of Eugene Public Works Department, Engineering
Division Phone: 541-682-5549

E-mail:TWalch@eugene-or.gov

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83. Comments from: Wasco County Board of Commissioners Member

From: Steve Kramer
Subject: Oppose DEQ's Draft Integrated Reports
Date: Jan. 6, 2020

Dear Director Whitman,

As a member of the Wasco County Board of Commissioners, I would ask that the Department of Environmental Quality reach out to county officials and other stakeholders about the Integrated Report prior to listing the vast majority of our waterbodies as water quality impaired. Going forward, it would be appropriate to engage in a discussion of the methodologies used and the assumptions that the Integrated Report makes about waterways in in Oregon, particularly when it results in significant policy decisions that have a direct impact on county programs and county lands. This very important policy work deserves input from all stakeholders; however, we have not had time to thoroughly review and understand the report.

I urge you to reopen the comment period and allow for a robust and transparent process for decisions that have such far-reaching impacts for Oregonians.

Thank you for the opportunity to comment

Sincerely,

Steve Kramer
511 Washington St Ste 101
The Dalles, OR 97058
stevek@co.wasco.or.us

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84. Comments from: Dan Andersen

From: Dan Andersen
Subject: Public Comments
Date: Jan. 7, 2020

To Whom It May Concern;

My name is Dan Andersen. I live and work in Northern Malheur County. I have concerns about the ramifications of this report for private land owners in our area. Putting these maps out for public review will open up the ability of non affected entities to access private data.

We have worked very hard to address concerns in our water sheds over the last decades through SWCD and local citizen groups in conjunction with ODA to mitigate issues in our area. Projects to control erosion and prevent e coli contamination are an ongoing concern to irrigation companies and land owners.

I have reviewed the map down to the smallest line. There are points where a waterbody is indicated that no water exists or never reaches an impaired stream. This leads me to believe that there are numerus errors in the new system. I am concerned with the over reach of this report and the lac of respect for the work that has previously been accomplished. The 1010 plans have been working under the guidance of ODA.

Respectfully Submitted,

Dan Andersen