

2018/2020 Integrated Report Frequently Asked Questions



State of Oregon
Department of
Environmental
Quality

Oregon DEQ published the draft 2018/2020 Integrated Report. This report is the first one based on a significantly improved methodology. DEQ compiled a list of frequently asked questions to assist with the understanding of the report. The Integrated Report consists of an on-line searchable database and a [web-based map tool](#).

Information on the Integrated Report

What is the Integrated Report?

The federal Clean Water Act requires Oregon to report on the quality of its surface waters every two years. Oregon surface waters are assessed to determine if they contain pollutants at levels that exceed protective water quality standards. The result of these analyses and conclusions is called the “Integrated Report” because it combines the requirements of Clean Water Act section 305(b) to develop a status report and the section 303(d) requirement to develop a list of impaired waters. This is the first time that Oregon’s Integrated Report will be presented in an online database and accessible through a new web-based tool that is both transparent and easy to use.

The Integrated Report categorizes all assessed waterbodies. Oregon Department of Environmental Quality used water quality data to evaluate the most common beneficial uses, such as aquatic life, drinking water or recreation. Waterbodies that exceed protective water quality standards are identified as impaired, (which is also referred to as the “303(d) List”). Identifying a waterbody as impaired initiates the prioritization and development of a Total Maximum Daily Load.

Readily available data and information are reviewed and assessed using the methodology for [Oregon’s 2018 Water Quality Report and List of Water Quality Limited Waters](#). The Integrated Report will be submitted to the U.S. EPA for final approval in April 2020.

What is the 303(d) List?

Under Section 303(d) of the CWA, states, territories, and authorized tribes (referred to here as states) are required to develop lists of impaired waters. These are waters that do not meet the state water quality standards. The law requires that these jurisdictions establish priority rankings for waters on the lists and develop TMDLs for these waters. A Total Maximum Daily Load, or TMDL, is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards.

The 303(d) list identifies where Oregon surface waters are not meeting water quality standards and the cause of those impairments.

The 303(d) list is published by the Oregon Department of Environmental Quality as part of the more comprehensive Integrated Report required every two years. The 303(d) list includes waterbodies identified as Category 5.

Water Quality Assessment

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land and water.*

What is new for the 2018/2020 Integrated Report?

The 2018/2020 Integrated Report is the first statewide assessment based on a significantly improved methodology, which created a framework and foundation for streamlining future assessments. This is the first report based on DEQ's request for a statewide monitoring data submittal since 2004/2006 Integrated Report. The water quality assessment results will be presented using a [web-based map tool](#), which is transparent and easy to use for the user to find the impairment status for a waterbody of interest. The screen shot of the web-based map tool is shown below. The assessment results will also be displayed in a [Searchable Online Database](#).

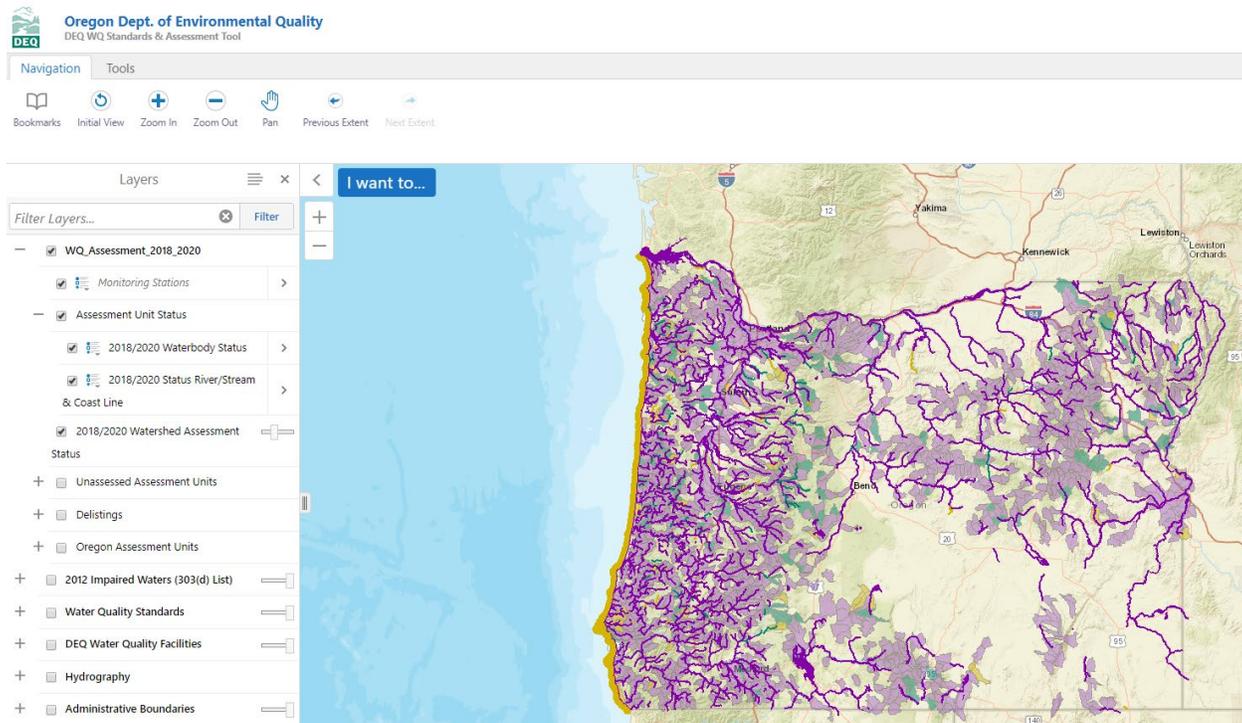


Figure 1: Screen shot of the web-based map tool

Were any changes made in the final report?

DEQ updated its interactive map to automatically display monitoring locations used in the assessment at certain zoom levels. The online Assessment Database was updated to include the ability to filter by attainment status and by beneficial use. In addition, users now have the ability to download raw data used in the 2018/2020 assessments.

In response to comments received on ocean hypoxia, DEQ identified Oregon territorial waters as Category 3B for dissolved oxygen. DEQ recognizes that climate change and coastal upwelling make Oregon waters increasingly vulnerable to hypoxia, as well as ocean acidification. Both ocean acidification and hypoxia are complex and challenging issues, and DEQ looks forward to strengthening coordination efforts with other state agencies and interested partners to chart the best path forward to address these issues in a comprehensive and collaborative way.

The Columbia Slough assessment unit, or OR_WS_170900120201_02_104554, was split into two assessment units based on information received in comments. The two new assessment units are OR_WS_170900120201_02_104554.1 and OR_WS_170900120201_02_104554.2.

The chlordane human health criteria was reassessed based on errors identified in the original assessment. In addition, various corrections to individual assessments were completed based on comments received.

What are the categories used in the Integrated Report?

For this assessment, DEQ analysed readily available data to determine whether their beneficial uses are supported. In Oregon, these uses could include: aesthetic quality, boating, commercial navigation and transportation, fish and aquatic life, fishing, hydropower, industrial water supply, irrigation, livestock watering, water supply (public and private), water contact recreation, and wildlife and hunting. DEQ used the 2018 assessment methodology to determine a waterbody meets the beneficial uses. Based on guidance from U.S. EPA, states use the following condition categories:

Oregon also uses several sub-categories. The subcategories used in the 2018/2020 Integrated Report are:

-  **Category 1:** All beneficial uses are supported and none is known to be impaired. Oregon does not have sufficiently robust data to be able to use this Category.
-  **Category 2:** At least one core beneficial use is supported and none is known to be impaired.
-  **Category 3*:** Not enough information to determine beneficial use support.
-  **Category 4*:** Available data and/or information indicate that at least one designated use is not being supported but a TMDL is not needed.
-  **Category 5*:** At least one beneficial use is not supported and a TMDL is needed.

- **Category 3B: Insufficient Data; Exceedance**
 - This category is used when there is insufficient data to determine use support, but some data indicate non-attainment of a criterion.
- **Category 3C: Insufficient Data; Potential Concern**
 - This category is used to identify waters when data are insufficient to determine full use of support, but show potential concern.
- **Category 3D Insufficient Data; not Technologically Feasible to Assess**
 - Some of our water quality criteria values are below the ability to detect using common laboratory analysis techniques. This category is used when all the available data has criteria values below the test method's quantification limits.
- **Category 4A**
 - Clean-up plans ([also called TMDLs](#)) that will result in the waterbody meeting water quality standards and supporting its beneficial uses have been approved.

- **Category 4B**
 - Other pollution control requirements are expected to address pollutant of concern and will result in attainment of water quality standards.
- **Category 4C:**
 - The impairment is caused by pollution, not a pollutant. For example, flow, or lack of flow, are not considered pollutants, but may be affecting the waterbody’s beneficial uses.

See page 7 in the [Methodology for Oregon’s 2018 Water Quality Report and List of Water Quality Limited Waters](#), document for a more through explanation of the categories.

What does an impairment mean?

A water body is listed as impaired if data or information indicates that at least one beneficial use is not being fully supported and a TMDL or other plan is needed to address the issue. The waterbody may meet water quality criteria during some years, but data indicate that the beneficial use is not always supported.

Assessment methodology

How is the Integrated Report assessment information organized?

The Integrated Report assessments uses the Oregon Water Resources Department (OWRD) basin as a high level organizing feature. Within each basin, DEQ divides waters up further into Assessment Units. For each assessment unit, DEQ assigns one of five status categories based on whether beneficial uses are supported. If uses are not supported, parameters causing the impairment are also identified when they are known.

How are surface waters subdivided for the assessment?

Because waterbody characteristics change as they flow from headwaters to the mouth (flow, adjacent land uses, other characteristics), DEQ divides up waterbodies into “Assessment Units.” Assessment Units are segments or areas of streams that are predetermined based on similar hydrology and represent similar environmental/hydrographic characteristics. Assessment Units can vary in size from less than one stream mile to greater than 200 stream miles. Assessment Units are further grouped into five distinct types.

Rivers and Streams	Lakes, Reservoirs, Estuaries	Watersheds	Coastal - Beaches	Ocean
<ul style="list-style-type: none"> • Strahler stream order 5 or higher • Divided by: <ul style="list-style-type: none"> • Change in designated use • Change in stream order • HUC-10 boundry 	<ul style="list-style-type: none"> • Greater than 20 hectares • Broken by change in designated uses 	<ul style="list-style-type: none"> • Strahler stream order 4 or less • Divided by <ul style="list-style-type: none"> • Sub-watershed • HUC-12 boundary 	<ul style="list-style-type: none"> • OR Health Authority and EPA beach designations that already exist • Remaining beaches were visually delineated 	<ul style="list-style-type: none"> • Oregon territorial waters • 9 assessment units • Based on HUC-8 boundaries

What is the difference between the Assessment Units in the 2018/2020 Integrated Report and the Segments used in previous Integrated Reports?

Segments in past Integrated Reports were divided on a complex system based on monitoring station locations and designated uses. Those segments could change with each assessment cycle. This process led to a series of overlapping segments that differed by parameter assessed, and an entire waterbody was sometimes identified as impaired based on a single monitoring station. The new Assessment Units established for the 2018/2020 and future Integrated Reports are designed to be fixed in time, and remain the same for all assessed parameters.

Old segmentation

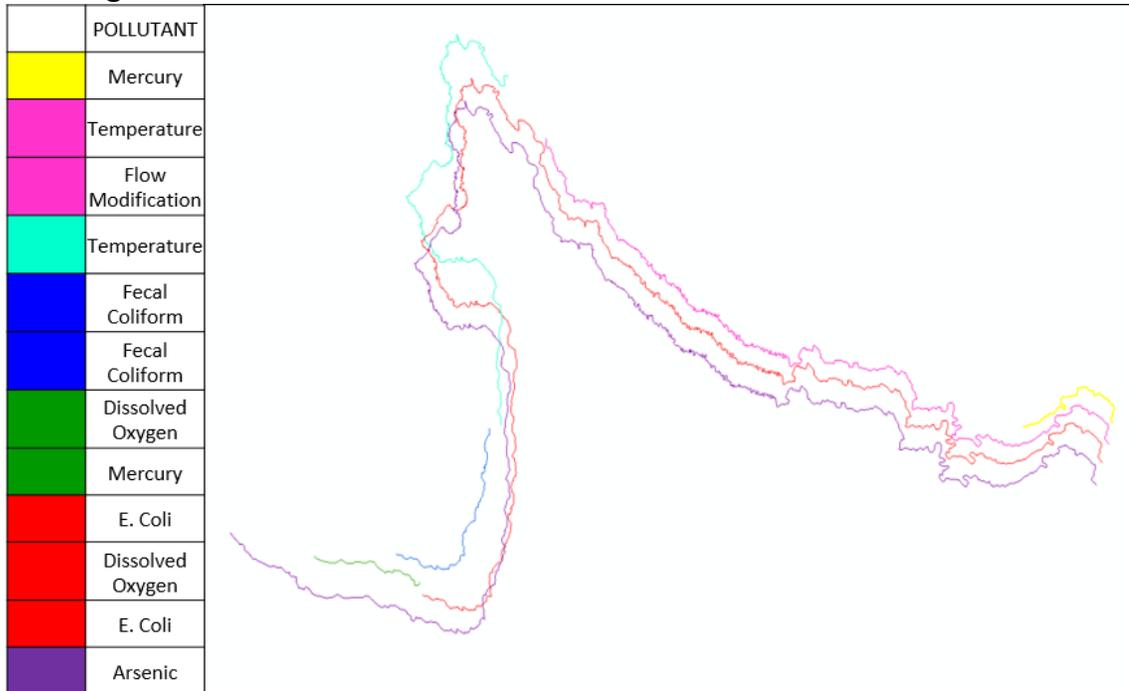


Figure 2. DEQ's 2012 assessment methodology defines 8 overlapping segments for Powder River for reporting assessments.

New Assessment Units

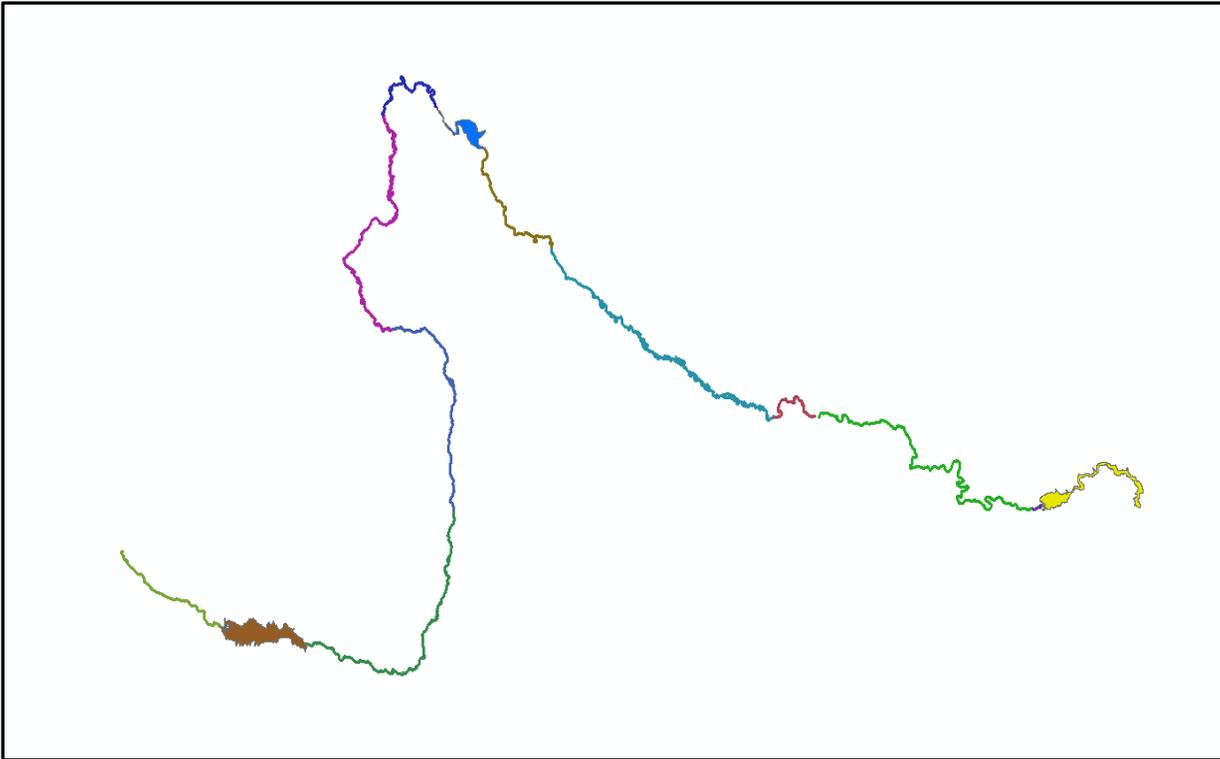


Figure 3. In the 2018/2020 Methodology, Powder River is divided into two spatial distinct “Assessment Units” for reporting assessments.

What is a Watershed Assessment Unit?

In order to meet Clean Water Act requirements for assessing water quality in Oregon, the Oregon Department of Environmental Quality must partition the state’s waterbodies – such as streams, rivers and lakes – into assessment units. These assessment units reflect that the water quality of one part of a waterbody may be different than another part. DEQ developed several types of assessment units based on the nationally recognized hydrography dataset. In addition to assessment units established for segments of larger streams and rivers, the methods also established an assessment unit referred to as a “watershed unit,” which collectively represents small streams within a sub-watershed (HUC-12). These watershed units capture the smallest stream hydrologic classification areas in Oregon, and provide a tractable method for conducting a statewide assessment.

Because the number of waterbodies in Oregon totals over 2 million, DEQ needed to group smaller waterbodies into manageable units for assessment purposes. In the absence of this approach for smaller streams, Oregon would have over 2 million assessment units, which would be impractical relative to the state’s monitoring and assessment resources. This grouping of smaller order streams is a standard practice employed by a number of other states that conduct their assessments in this manner.

Data within assessment units were pooled together and an assessment conclusion was drawn for the whole unit.

The conclusions of the Integrated Report are a required snapshot of water quality across the state and are the beginning of the regulatory process, not the end. The data or information resulting in an identification

of impairment is most relevant to the stream in which it was collected. Before a Total Maximum Daily Load or permit can be developed, a deeper analysis into the extent of the water quality impairment and its possible causes must be conducted. Further data collection can then be targeted to refine report conclusions before beginning any follow-up action or implementing regulatory requirements, such as TMDLs or permits.

How does DEQ make its assessment conclusions?

DEQ follows U.S. EPA guidance when developing its assessment methodology. DEQ uses its [Methodology for Oregon's 2018 Water Quality Report and List of Water Quality Limited Waters](#), which was developed and updated based on federal Clean Water Act requirements and Oregon's beneficial uses.

Using the [assessment methodology](#), DEQ staff review water quality data and determine which Assessment Units do not meet either numeric water quality standards (such as dissolved oxygen or temperature) or narrative standards, and thus do not support their beneficial uses. Narrative standards include biological criteria which states; "*Waters of the State must be of sufficient quality to support aquatic species without detrimental changes in the resident biological communities*" (OAR 340-041-0011). DEQ staff also use the methodology to determine when an Assessment Unit should be removed (delisted) from the 303(d) list.

What are DEQ's minimum data thresholds?

Minimum data thresholds for classifying a waterbody as impaired vary depending upon the pollutant standard being considered. A total of 140 different pollutants are evaluated as part of the Integrated Report. Depending on the standard, different parameters have different minimum data thresholds to be classified as attaining or impaired. The [Methodology for Oregon's 2018 Water Quality Report and List of Water Quality Limited Waters](#) document describes these minimum data thresholds.

For example, in order to make a determination whether pH standards are being met within a given assessment unit, DEQ must have at least five pH samples collected on separate days within that area. In cases where the minimum data threshold within an assessment unit is not met, a determination of attains or impaired cannot be made; instead the waterbody is categorized as having insufficient data.

How is a waterbody removed from the 303(d) list?

Waterbodies may be removed from the 303(d) list for a variety of reasons:

1. current data may indicate that water quality standards are attained and the waterbody is no longer impaired,
2. there may have been an error in the original Category 5 determination,
3. water quality standards, such as through updated science or improved measuring processes, have changed or no longer apply to a waterbody,
4. the expression of water quality standard pollutant has changed (e.g., now being measured as the dissolved fraction, when previously had been measured as the total amount of the pollutant),
5. a TMDL or other pollution control plan is in place, or
6. the impairment is caused by pollution rather than a known pollutant (i.e. flow or habitat modification).

DEQ has developed a delisting methodology outlined in its [Methodology for Oregon's 2018 Water Quality Report and List of Water Quality Limited Waters](#). DEQ staff use this methodology to review water quality data and determine whether a waterbody is in attainment of WQ criteria and supports its beneficial uses. Delisted waters must also receive EPA approval before they are considered final.

Special Topics

What sort of outreach did DEQ do around the Integrated Report?

DEQ performed extensive outreach on its 2018/2020 Integrated Report and provided multiple opportunities to comment on its methodology and draft report.

In 2015, the Oregon Legislature directed DEQ to publish the listing methodology prior to the start of drafting the Integrated Report. This process ensured that the methodology was unbiased, transparent and not developed or altered in an ad hoc manner in response to assessment results. Updates to its Assessment Methodology were vetted through a stakeholder work group process and a subsequent 60-day public comment period. In addition, there was an opportunity for public comment on the draft assessment methodologies during the July 2018 Environmental Quality Commission meeting.

The draft Integrated Report was open for public comment from Sept. 30, 2019, through Jan. 6, 2020, for a total of 99 days, which included a 34-day extension in response to stakeholder requests. Notifications were sent to over 3,000 individuals signed up on the GovDelivery listserv. DEQ staff subsequently held six informational sessions across the state to review the results of the report and assist participants with its new interactive tools. The six informational sessions included: Portland on Oct. 15, 2019; Bend on Oct. 22, 2019; Medford on Oct. 29, 2019; Newport on Nov. 5, 2019; Corvallis on Nov. 12, 2019; and Salem on Nov. 14, 2019. DEQ staff also held a webinar on Nov. 4, 2019, and the webinar was recorded and available on the Integrated Report website as an online webinar.

DEQ will continue to adapt its approach to outreach and communications in the next Integrated Report and encourages your input and participation. The agency anticipates convening a stakeholder group in 2020 to evaluate and make recommended changes to the methodology, with the methodology going out for public comment in approximately December 2020.

Why do all of Oregon's waters appear impaired?

The 2018/2020 Integrated Report is the most comprehensive look at water quality that DEQ has prepared in over 10 years. The combination of DEQ's migration to a finer resolution stream network and the volume of data that were assessed are an illustration of the depth of the assessment. DEQ analyzed over 7 million rows of data and assessed 140 different pollutants. Most of the waterbodies identified as impaired, which appear purple on the map, are impaired for a single parameter – temperature.

Additionally, the map appears purple because it is a reflection of how DEQ is required to report its conclusions to the U.S. Environmental Protection Agency DEQ must report whether or not a waterbody is attaining each applicable criteria. For example, if DEQ received data for 100 pollutants on a waterbody and that waterbody attained 99 out of 100 of its criteria, the waterbody appears purple on the map because one of its criteria was not attained.

In response to comments received, DEQ updated its visual display to reflect watershed units as shaded areas, rather than a collection of stream networks. When a watershed unit is identified as impaired, it indicates that an impairment exists within the watershed unit, not that the entire sub-watershed is impaired.

Although the map of Oregon looks purple for impaired waterbodies, Oregon waters continue to support high quality waters for most parameters, as demonstrated by its assessment conclusions.

Why does a stream that does not exist appear on the map?

DEQ used the High Resolution National Hydrography Dataset, specifically the NHDPlus HR, to identify and delineate its assessment units. The National Hydrography Dataset is developed and maintained by a partnership between the U.S. Geological Survey and EPA. The dataset is intended to “develop nationally-consistent geospatial datasets for the Nation” and provide agencies and organizations a common baseline for mapping aquatic resources. A user can report suspected errors to the National Hydrography Dataset Markup App at <https://edits.nationalmap.gov/markup-app>. This tool allows users to suggest edits, or markups, to the dataset, Watershed Boundary Dataset, and NHDPlus HR. Anyone can suggest corrections and improvements to the data. Suggested edits are reviewed by the USGS and the National Hydrography Dataset state data stewards before they are approved for incorporation into the national or watershed datasets.

Can I swim at a beach listed as impaired for Water Contact Recreation?

Beaches listed as impaired mean that the beach does not fully support its Water Contact Recreation designated use. Higher than normal bacteria levels may occur periodically throughout the year, and there may be times when swimming is not recommended. Before recreating in the water, visit the Oregon Health Authority’s website, which maintains current advisories at <http://www.healthoregon.org/beach>.

Can I harvest shellfish at a beach listed as impaired for Shellfish Harvesting?

The most commonly occurring toxins in shellfish harvested in Oregon waters are Paralytic Shellfish Toxin (PST) and Domoic Acid. These shellfish toxins are produced by species of naturally occurring marine algae and accumulate in shellfish that feed on the algae. Over the last 10 years, all of Oregon’s coastline has had at least one closure issued by the Oregon Department of Agriculture which led to DEQ’s determination of impairment for not fully supporting the Shellfish Harvesting use.

DEQ is identifying Oregon’s coastal waters as impaired due to the recurring nature of these advisories which indicate that there could be waterbody pollutants or conditions that should be investigated, identified, and controlled.

Shellfish from Oregon’s coast continue to be safe to harvest and eat most of the time. Advisories issued by the Department of Agriculture continue to be the best source of information about when and where conditions do not support shellfish harvesting and consumption. For additional information regarding when and where you should take precaution for harvesting shellfish containing natural toxins, see the Oregon Department of Agriculture current advisories and shellfish bed closures at <https://www.oregon.gov/oda/programs/foodsafety/shellfish/pages/shellfishclosures.aspx>.

Is it safe to eat fish from a waterbody listed as impaired for fish consumption?

The purpose of the 303(d) listings is to indicate where water quality does not meet water quality standards that protect beneficial uses of the water. DEQ does not issue advisories or guidance to the public on the safety or risk of consuming specific kinds of fish from specific streams in Oregon. The Oregon Health Authority provides advisories to the public on when and how the public should limit consumption of fish using data and information for specific waters and fish. The most commonly occurring advisories are based on mercury and PCBs in fish tissue. OHA have developed fact sheets and websites to provide the public information on mercury and PCBs in Oregon waters. Please see the following:

- <https://www.oregon.gov/deq/FilterDocs/MercuryORwaters.pdf> and
- <https://www.oregon.gov/oha/ph/HealthyEnvironments/Recreation/FishConsumption/Pages/index.aspx>

What if I have data that I would like DEQ to use for future Integrated Reports?

DEQ intends to begin its statewide request for data for the 2022 Integrated Report in early 2021. Unfortunately, we cannot accept data outside of the call for data time period. However, if groups would like to begin preparations for data submittal, the data submission templates, instructions, and tutorials can be found at <https://www.oregon.gov/deq/wq/Pages/call-for-data.aspx>

What is ocean acidification?

Ocean acidification refers to a reduction in the pH of the ocean over an extended period of time, caused primarily by uptake of carbon dioxide (CO₂) from the atmosphere. For more than 200 years, or since the industrial revolution, the concentration of carbon dioxide (CO₂) in the atmosphere has increased due to the burning of fossil fuels and land use change. The ocean absorbs about 30 percent of the CO₂ that is released in the atmosphere, and as levels of atmospheric CO₂ increase, so do the levels in the ocean. When CO₂ is absorbed by seawater, a series of chemical reactions occur resulting in the seawater becoming more acidic. This can cause a detrimental impact on organisms such as oysters, clams, sea urchins, shallow water corals, deep sea corals, and calcareous plankton (<https://oceanservice.noaa.gov/facts/acidification.html>).

Water currents unique to the Pacific Northwest coastline make Oregon particularly vulnerable to ocean acidification and low dissolved oxygen (hypoxia). Seasonal winds during the spring and summer bring deep ocean water to the surface in a process called upwelling. Decomposition of organic matter near the ocean floor enriches upwelled water with carbon dioxide on top of the enrichment caused by fossil fuel combustion. Carbon dioxide-enriched water with increased acidity can impair shell formation by snails, clams, and oysters, decreasing the numbers and growth rates of native and commercially important species (Chan, F., et al The West Coast Ocean Acidification and Hypoxia Science Panel: Major Findings, Recommendations, and Actions. California Ocean Science Trust, Oakland, California, USA. April 2).

DEQ determined that ocean acidification is a potential concern in Oregon's coastal waters, and that the data is insufficient to identify the water as impaired and in need of a TMDL. DEQ is proposing to list the Oregon territorial waters as "of potential concern" (Category 3B) for ocean acidification. DEQ is engaged on a number of front to address the impact of ocean acidification. DEQ operates several programs that track greenhouse gas emissions in Oregon and that reduce these emissions. DEQ's Mandatory Greenhouse Gas Reporting program requires that large sources of GHG emissions in Oregon report those emissions annually, including natural gas suppliers, electric utilities, large industrial facilities, and other suppliers of fossil fuels. Collectively, this program collects data on over 80% of the GHG emissions in the state.

DEQ also operates programs that encourage the reduction of GHG emissions from our transportation sector, which is the largest sector of emissions in Oregon and nationally. Our Clean Fuels Program requires suppliers of gasoline and diesel to invest in projects that procure non-fossil fuels, such as ethanol, biodiesel, and electricity, for Oregon's transportation sector. Recently, DEQ has also begun issuing rebates to Oregonians purchasing electric vehicles to hasten the adoption of these clean vehicles in Oregon. Finally, DEQ has a diverse set of programs that assess Oregonians' contribution to global GHG emissions through our consumption of food, goods and services; these programs raise awareness of different consumption and disposal options for Oregonians that can lower our global contribution to GHG emissions. In addition, DEQ is also participating in efforts within Oregon and other west coast states to address the causes and effects of ocean acidification, such as the West Coast Ocean Acidification and Hypoxia Science Panel and Oregon's Ocean Acidification and Hypoxia Council.

What does it mean for my permit if I discharge to a waterbody that is impaired for Harmful Algal Blooms or biocriteria?

In most cases, DEQ does not have information regarding the specific pollutant(s) of concern that is responsible for the algal blooms, biocriteria impacts, etc. Often the stressor is not known until a TMDL is developed, which will identify the cause of the impairment, including linking a pollutant to the water quality condition. The TMDL will identify the pollutant of concern for the impairments and derive the wasteload allocations for the relevant pollutants from discharging facilities. When a permit is developed prior to having the pollutant(s) of concern identified, no reasonable potential analysis can be conducted. However, when DEQ undertakes a revision of a permit and has information related to the pollutant of concern that is relevant to the facility, DEQ may include monitoring or other appropriate requirements in the permit.

Impaired Watershed Assessment Units

What does it mean for my permit if I discharge to an impaired watershed unit?

The data and/or information resulting in the identification of impairment is most relevant to the stream in which it was collected. If the permittee discharges into a distinctly different stream than where the data is collected with no hydrological connection to the streams used in the assessment within the Watershed Assessment Unit, DEQ will evaluate permit requirements based solely on the water quality within the segment to which the facility discharges.

If the permittee discharges upstream of the impairment in a watershed Assessment Unit, a reasonable potential analysis and assessment will need to be performed to determine if they are causing or contributing to the impairment before a determination can be made as to whether there are specific requirements or limits that will be included based on discharging to an impaired waterbody.

What does it mean to have an impaired watershed unit?

When a watershed unit has been identified as Category 5A (“Impaired”), it indicates that an impairment exists within the watershed unit, not that the entire watershed is impaired. The report/list does not, unto itself, specify or determine any regulatory actions or consequences (other than identifying that an area has impairment and is in need of follow-up investigation and development of management plan). Follow-up monitoring attention on impaired assessment units will be necessary to better delineate/characterized extent of impairment before any prescriptive regulatory actions are taken (e.g. Permit limits, TMDL or other management response). Follow-up investigations would initially focus on the sampling stations in the watershed assessment unit that indicated impairment, the exact locations of which are known, as well as additional sampling efforts, to better delineate/characterize extent of impairment. Source reductions or management responses would be required of nonpoint sources within the watershed through the TMDL development process and resulting WQ Management Plans, not assessments identified in the Integrated Report. Using the watershed unit approach to partition waterbodies does not change how TMDLs are developed, which are developed at a larger scale than assessment units (typically basin or sub-basin scale).

Alternative formats

DEQ can provide documents in an alternate format or in a language other than English upon request. Call DEQ at 800-452-4011 or email deqinfo@deq.state.or.us.