

# Water Quality Assessment

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7/24/2024

# Overview

- 1** The Water Quality Assessment and Policy 1-11
- 2** The WQA Process
- 3** Tools for Viewing the WQA
- 4** Questions

# The Federal Clean Water Act (CWA)

- **Objective:** “Restore and maintain the chemical, physical and biological integrity of the Nation’s waters”
- Requires states to regulates pollutants within state waters.
  - Adopt water quality standards
  - Submit 303(d) list and 305(b) report —————→ The Water Quality Assessment
  - Develop and implement Clean Up Plans (TMDLs) for 303(d) waters
    - Limit pollutant discharge through NPDES permits

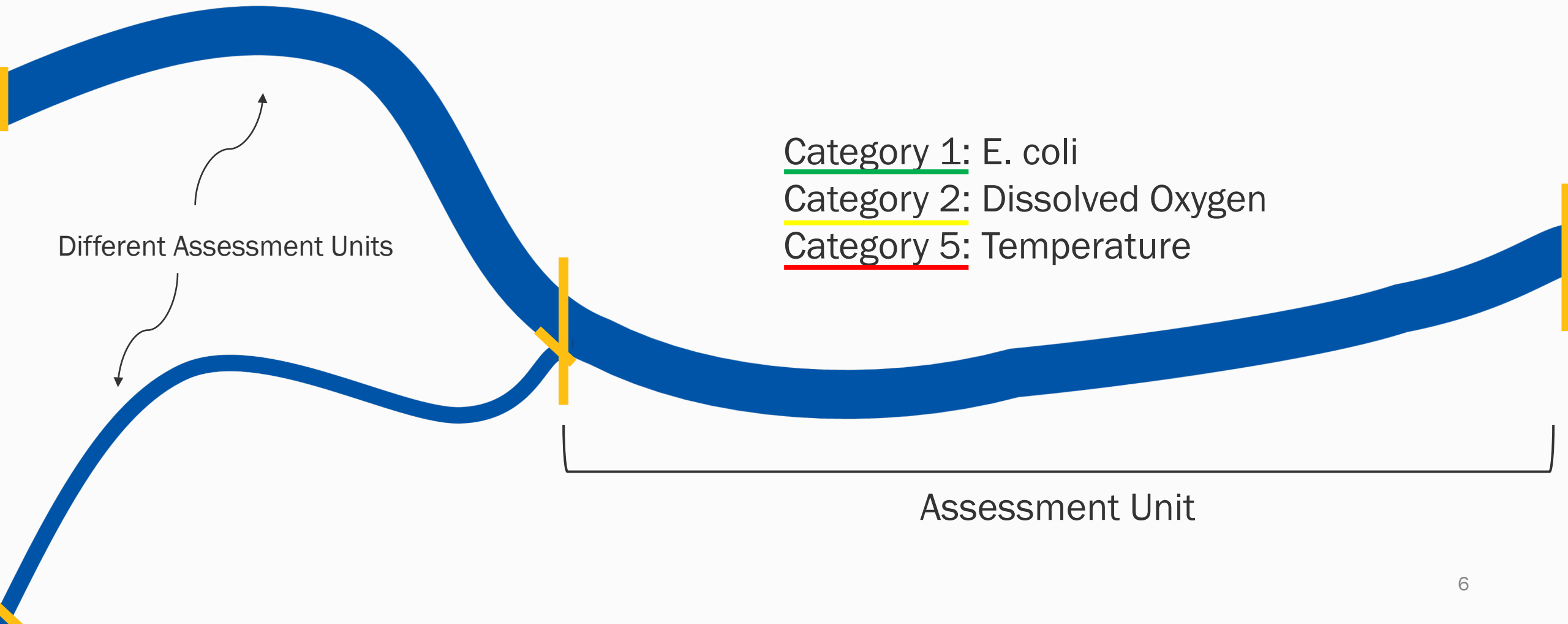
# What is the Water Quality Assessment?

- Clean Water Act requirement to provide “Integrated Report” on Water Quality to EPA every two years
  - 303(d) – Impaired waters not supporting designated uses
  - 305(b) – General report on water quality
- Comprehensive assessment of health of Washington’s surface waters based on all **readily available data**
- Analyzes data within a waterbody to determine if a designated use is persistently impaired – parameter specific

# WQA Categories

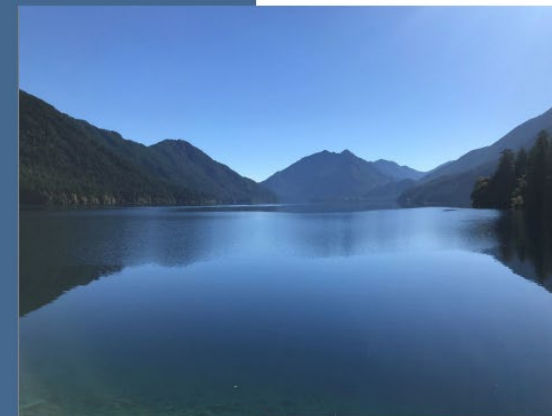
Category	Impairment Status
Category 1: Meets Tested Standards	Not impaired or not known to be impaired No cleanup plan needed
Category 2: Waters of Concern	Not impaired or not known to be impaired No cleanup plan needed
Category 3: Insufficient Data	Not impaired or not known to be impaired No cleanup plan needed
Category 4: A – Has a TMDL B – Pollution Control Program C – Non-pollutant	<b>Impaired</b> No cleanup plan needed
Category 5: The 303(d) List	<b>Impaired</b> <b>Cleanup plan needed</b>

Category determinations are  
parameter and waterbody specific



# Water Quality Policy 1-11

- Chapter 1: Describes all components of the WQA, including parameter specific methodologies.
- Chapter 2: Credible data for water quality management.



## Water Quality Program Policy 1-11

### Chapter 1

**Washington's Water Quality Assessment  
Listing Methodology to Meet Clean Water  
Act Requirements**

**Water Quality Program**  
Washington State Department of Ecology  
Olympia, Washington

**Final:** March 2023

**Revisions:** July 2020 and February 2023

**Original:** July 2018

Publication 18-10-035

# Policy 1-11, Chapter 1

- Narrative description of parameter
- How we evaluate the data
- Data requirements to meet each category

## Category 5

Ecology will place an AU in Category 5 when:

- The geometric mean component of the criterion is exceeded within a single water year (i.e. for any three-consecutive-month period).

OR

- The ten-percent exceedance component of the criterion is exceeded within any three-consecutive-month period in a single water year and at least two samples exceed the associated criterion magnitude during that water year.

## Category 4

Ecology will place an AU in Category 4A when EPA has approved a TMDL for bacterial indicators associated with water contact recreation.

Ecology will place an AU in Category 4B when an alternative pollution control program (meeting the requirements in Section 1F) is actively addressing the associated problem affecting the designated use.

## Category 3

Ecology will place an AU in Category 3 when the available data are insufficient for any other category determination. This information will be maintained in Ecology's WQA database for future use. As additional data and information become available in future listing cycles, Ecology will again assess all available data to update the category determination according to this policy.

## Category 2

Ecology will place an AU in Category 2 when the data exceed the ten-percent exceedance component of the criteria, but the AU does not qualify for Category 5.

## Category 1

Ecology will place an AU in Category 1 in one of two ways:

The data meet both the geometric mean and ten-percent exceedance components of the criteria in each of two water years, under the following conditions:

- In each of the two water years, there must be enough samples to calculate at least one geometric mean for October through March and one for April through September. The ten percent exceedance component must be met for all three-consecutive-month periods with data available, regardless of sample size.
- For AUs where Ecology has identified one or more critical periods, the data must also meet the criteria or approved TMDL load allocation in that period.

# The WQA Process

- 1 Update policy & other items
- 2 “Call for Data”
- 3 Review and analyze the data
- 4 Waters placed into categories
- 5 Internal, Tribal, public reviews
- 6 Submit to EPA for approval

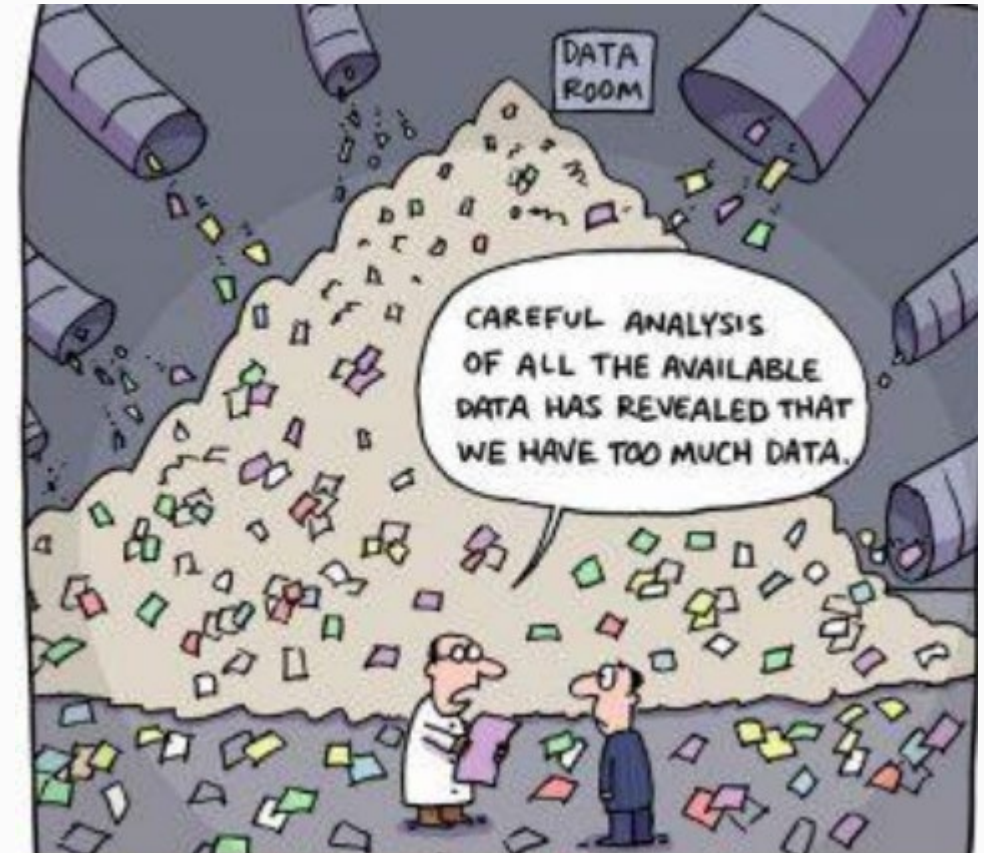
# Policy 1-11 Update

- Updated March 2023
  1. NEW - Harmful Algae Blooms Methodology
  2. Non-substantial revisions
  3. Overall accessibility update



# “Call for Data”

- Completed Fall 2022
  - > 115 million data points
- Notification to partners to submit data
  - Numeric Data
  - Narrative Submittals
- Evaluating data 2012 – 2021



# Data Evaluated

- Numeric Data

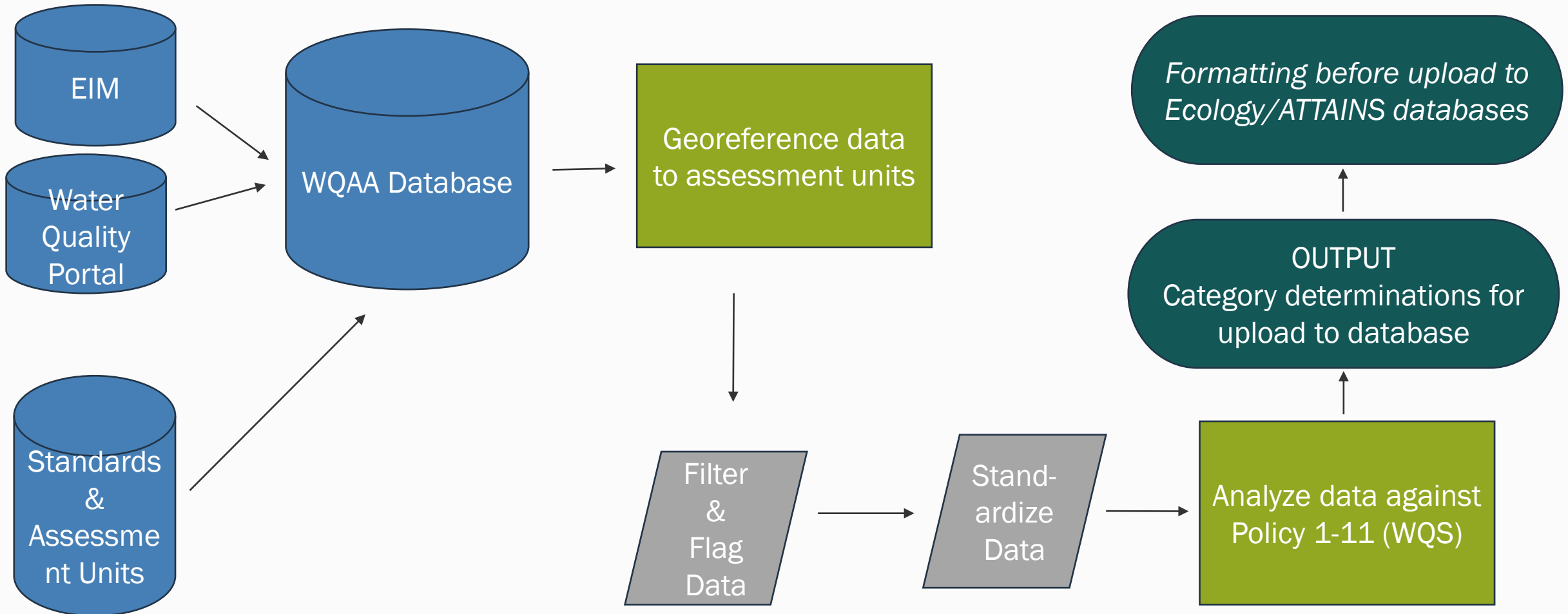
- Parameters in our water quality standards and sediment management standards
  - WAC 173-201A
  - WAC 173-204
- EIM, Water Quality Portal, USGS gauge data

- Narrative Information

- Turbidity – Spokane River
- Ocean Acidification
- 6PPD



# Review and analyze data



# Waters placed into categories

Listing ID =  
parameter +  
medium +  
designated use +  
assessment unit

Category 5/4A listings carry over  
until designated uses are met

Category
Category 1: Meets Tested Standards
Category 2: Waters of Concern
Category 3: Insufficient Data
Category 4: A – Has a TMDL B – Pollution Control Program C – Non-pollutant
Category 5: The 303(d) List

# Internal, tribal and public review

- 3 stages of review
- ~9 months for all review and responses

Result =

- Final 303(d) list and 305(b) report
- Integrated Report ready for submission to EPA



# Submit to EPA for approval

## EPA Review

- EPA *has* 30 days to review
- Ensure submission meets Clean Water Act requirements
- Approve 303(d) list
  - Category 5, 4A, and 4B
- EPA can place waters on the list during review

# Outcomes of WQA

- States use WQA results to prioritize and develop TMDLs to clean-up impaired waters
- Considered in environmental permits
- Inform funding decisions
- Tribes, governments, and stakeholders use results
  - Design monitoring/improvement projects
  - Incorporate into environmental reporting/analyses
  - Telling WQ success stories



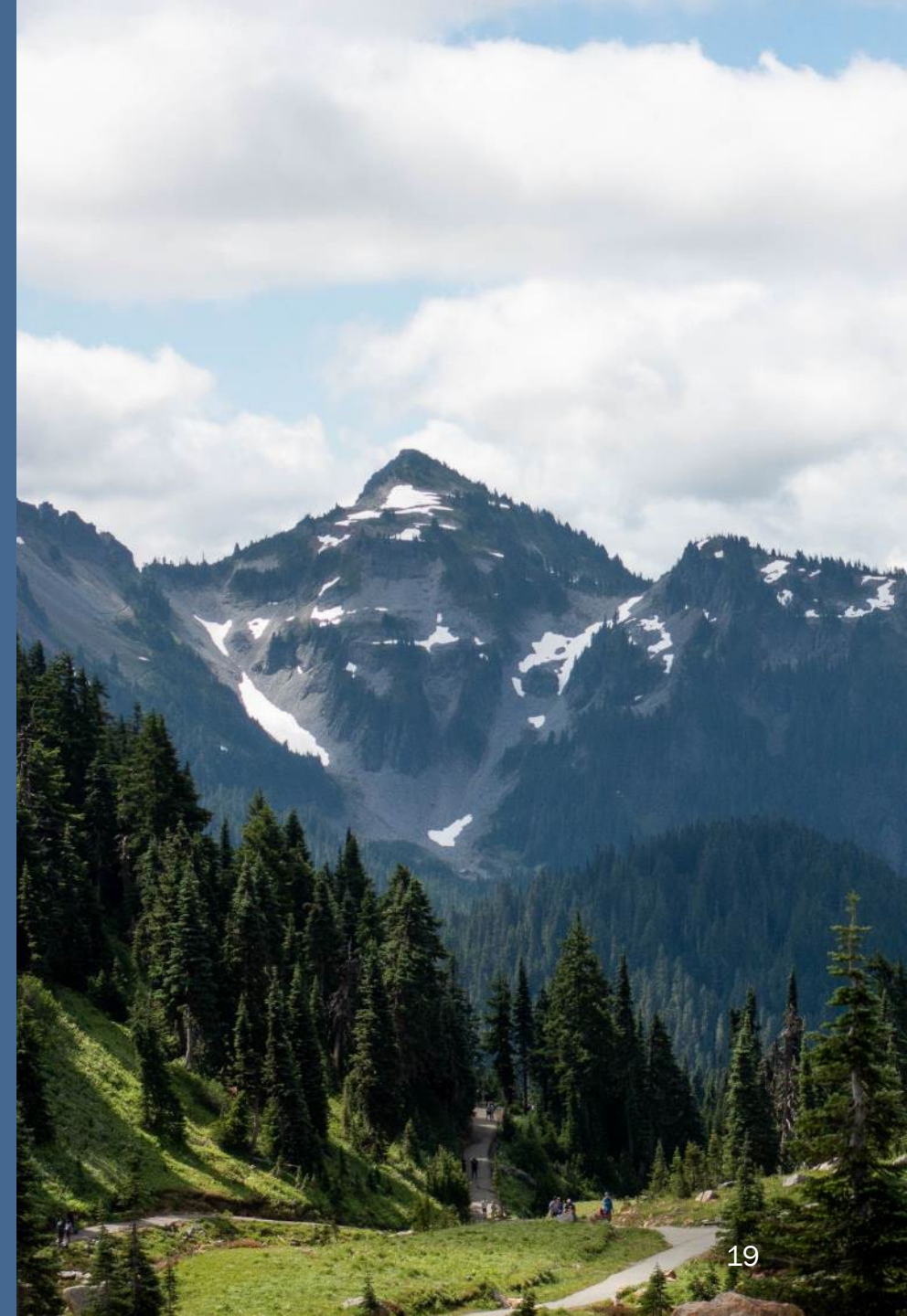
# Limitations of WQA

- Data availability (spatial/temporal)
- Standards/policy changes
- Regulatory requirements
- Pollution sources not identified





# Tools for Viewing the WQA



# Current Water Quality Assessment



View the [Water Quality Policy 1-11](#) for more information about how Washington's waters are assessed.

## Listing Details

**i** Listing ID:

**i** Medium:

**i** Parameter:

**i** Designated Use:

### Sample Date(s) (Sediment Listing Only):

**i** On/From:

To:

## Categories

Year Category

Current

ALL

[Add](#)

### **i** Listed in 1998

☒ All ☐ Yes ☐ No

### **i** Listed in 1996

☒ All ☐ Yes ☐ No

**i** \*Category Descriptions\*

## Sources

**i** Study ID:

**i** Location ID:

**i** Source Database:

## Location

**i** Assessment Unit ID:

**i** Reach Code:

**i** Waterbody:

**i** Waterbody Type:

**i** Grid Cell:

**i** County:

**i** WRIA:

## WQI Project/TMDL

### **i** Active WQI Project

## Supporting Documentation

**i** Basis Statement:

**i** Remarks:

Search

Clear Search Parameters

# Current Water Quality Assessment



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## Listing Details

**i** Listing ID:

**i** Medium:

**i** Parameter:

**i** Designated Use:

**Sample Date(s) (Sediment Listing Only):**

**i** On/From:

To:

## Categories

Year Category

Current  [Add](#)

**i** List

**i** List

**i** \*Catego

ALL

1

2

2 Rank 1

2 Rank 2

2 Rank 3

2 Rank 4

3

4A

4B

4C

5

**i** WRIA:

## Sources

**i** Study ID:

**i** Location ID:

**i** Source Database:

## Location

**i** Assessment Unit ID:

**i** Reach Code:

**i** Waterbody:

**i** Waterbody Type:

## WQI Project/TMDL

**i** Active WQI Project

## Supporting Documentation

**i** Basis Statement:

**i** Remarks:

Search

Clear Search Parameters

Listing Details		Categories		Sources	
<b>i</b> Listing ID:	<input type="text"/>	<b>Year</b> Current <input type="button" value="v"/> ALL <input type="button" value="v"/> <a href="#">Add</a>		<b>i</b> Study ID:	<input type="text"/>
<b>i</b> Medium:	Nothing selected <input type="button" value="v"/>			<b>i</b> Location ID:	<input type="text"/>
<b>i</b> Parameter:	pH, Polychlorinated Biphenyls <input type="button" value="v"/>			<b>i</b> Source Database:	Nothing selected <input type="button" value="v"/>
<b>i</b> Designated Use:	Methyl mercury Methylene Chloride N-Nitrosodi-n-propylamine N-Nitrosodimethylamine N-Nitrosodiphenylamine Naphthalene Nickel Nitrobenzene Non-Native Aquatic Plants Non-Native Fish/Shellfish/Zooplankton Parathion Pentachlorophenol <b>pH</b> ✓ Phenanthrene Phenol Polychlorinated Biphenyl Ethers (PCBEs) <b>Polychlorinated Biphenyls (PCBs)</b> ✓ Pyrene Sediment Bioassay Selenium <b>Silver</b> ✓ <b>Temperature</b> ✓ Tetrachloroethylene Thallium Toluene Total Chlordane				
<b>Sample Date(s)</b>					
<b>i</b> On/From:					
<b>To:</b>					
<b>i</b> Assessment Unit					
<b>i</b> Reach Co					
<b>i</b> Waterbo					
<b>i</b> Waterbody Ty					
<b>i</b> Basis State					
<b>WQI Project/TMDL</b> <b>i</b> Active WQI Project: Nothing selected <input type="button" value="v"/>					

# Current Water Quality Assessment



View the [Water Quality Policy 1-11](#) for more information about how Washington's waters are assessed.

Listing Details		Categories	Sources				
<b>i</b> Listing ID:	<input type="text"/>	<table border="1"> <thead> <tr> <th>Year</th> <th>Category</th> </tr> </thead> <tbody> <tr> <td>Current</td> <td>ALL</td> </tr> </tbody> </table> <a href="#">Add</a>	Year	Category	Current	ALL	<b>i</b> Study ID:
Year	Category						
Current	ALL						
<b>i</b> Medium:	Nothing selected		<b>i</b> Location ID:				
<b>i</b> Parameter:	Nothing selected	<b>i</b> Source Database:					
<b>i</b> Designated Use:	Nothing selected						
<b>Sample Date(s) (Sediment Listing Only):</b> <b>i</b> On/From: <input type="text"/> ON / FROM To: <input type="text"/> TO		<b>i</b> Listed in 1998 <input checked="" type="radio"/> ALL <input type="radio"/> Yes <input type="radio"/> No  <b>i</b> Listed in 1996 <input checked="" type="radio"/> ALL <input type="radio"/> Yes <input type="radio"/> No  <b>i</b> *Category Descriptions*					
Location		WQI Project/TMDL					
<b>i</b> Assessment Unit ID:	<input type="text"/>	<b>i</b> Grid Cell:	<input type="text"/>				
<b>i</b> Reach Code:	<input type="text"/>	<b>i</b> County:	Nothing selected				
<b>i</b> Waterbody:	SPOKANE RIVER	<b>i</b> WRIA:	Nothing selected				
<b>i</b> Waterbody Type:	Nothing selected	<b>i</b> Active WQI Project:	Nothing selected				
Supporting Documentation							
<b>i</b> Basis Statement:	<input type="text"/>						
<b>i</b> Remarks:	<input type="text"/>						

Search

Clear Search Parameters

Category 3 listings contain data insufficient in determining water quality, therefore are removed from your results.  
[Include these 150 omitted listings.](#)

[New Search](#)[Modify Search](#)[Export](#)Show  entriesSearch: 

### Search Results - 219 Matched Listings

Listing ID ^	AU ID	Medium ^	Parameter	Category ^	Waterbody Name	WRIA	WQ Improvement Project	WQ Atlas Map Link ^
<a href="#">3735</a>	17010308000018_001_001	Water	Temperature	4A	LITTLE SPOKANE RIVER	55-Little Spokane	<a href="#">Little Spokane River Watershed Multiparameter TMDL</a>	<a href="#">3735</a>
<a href="#">4884</a>	17010308000657_001_001	Habitat	Non-Native Aquatic Plants	4C	DIAMOND LAKE	55-Little Spokane		<a href="#">4884</a>
<a href="#">4885</a>	17010308007136_001_001	Habitat	Non-Native Aquatic Plants	4C	ELOIKA LAKE	55-Little Spokane		<a href="#">4885</a>
<a href="#">4886</a>	17010308000667_001_001	Habitat	Non-Native Aquatic Plants	4C	FAN LAKE	55-Little Spokane		<a href="#">4886</a>
<a href="#">4887</a>	17010308006689_001_002	Habitat	Non-Native Aquatic Plants	4C	LITTLE SPOKANE RIVER, W.B.	55-Little Spokane		<a href="#">4887</a>
<a href="#">4888</a>	17010308000653_001_001	Habitat	Non-Native Aquatic Plants	4C	SACHEEN LAKE	55-Little Spokane		<a href="#">4888</a>
<a href="#">6309</a>	170200160604_01_01	Water	Temperature	4A	COLUMBIA RIVER (LAKE WALLULA)	31-Rock-Glade, 33-Lower Snake, 36-Esquatzel Coulee, 37-Lower Yakima, 40-Alkali-Squilchuck, 43-Upper Crab-Wilson, 51-Nespelem, 55-Little Spokane, 60-Kettle	<a href="#">Columbia and lower Snake River Temperature TMDL</a>	<a href="#">6309</a>
<a href="#">6334</a>	17010308007136_001_001	Water	Total Phosphorus	2	ELOIKA LAKE	55-Little Spokane		<a href="#">6334</a>
<a href="#">7977</a>	17010308000668_001_001	Water	Mercury	2	CHAIN LAKE	55-Little Spokane		<a href="#">7977</a>
<a href="#">8288</a>	170200160604_01_01	Water	pH	2	COLUMBIA RIVER (LAKE WALLULA)	31-Rock-Glade, 33-Lower Snake, 36-Esquatzel Coulee, 37-Lower Yakima, 40-Alkali-Squilchuck, 43-Upper Crab-Wilson, 51-Nespelem, 55-Little Spokane, 60-Kettle		<a href="#">8288</a>
<a href="#">8289</a>	170200160604_01_01	Water	Total Dissolved Gas	4A	COLUMBIA RIVER (LAKE WALLULA)	31-Rock-Glade, 33-Lower Snake, 36-Esquatzel Coulee, 37-Lower Yakima, 40-Alkali-Squilchuck, 43-Upper Crab-Wilson, 51-Nespelem, 55-Little Spokane, 60-Kettle	<a href="#">Mid Columbia River and Lake Roosevelt TDG TMDL</a>	<a href="#">8289</a>
<a href="#">8442</a>	17010308000125_001_001	Water	Bacteria - Fecal coliform	4A	DRAGOON CREEK	55-Little Spokane	<a href="#">Little Spokane River Watershed Multiparameter TMDL</a>	<a href="#">8442</a>
<a href="#">8443</a>	17010308000118_001_001	Water	Dissolved Oxygen	4A	DRAGOON CREEK	55-Little Spokane	<a href="#">Little Spokane River Dissolved Oxygen, pH and Total Phosphorus TMDL</a>	<a href="#">8443</a>
<a href="#">8444</a>	17010308000266_001_001	Water	Dissolved Oxygen	2	DRAGOON CREEK	55-Little Spokane		<a href="#">8444</a>
<a href="#">8445</a>	17010308000125_001_001	Water	Dissolved Oxygen	4A	DRAGOON CREEK	55-Little Spokane	<a href="#">Little Spokane River Dissolved Oxygen, pH and Total Phosphorus TMDL</a>	<a href="#">8445</a>
<a href="#">8446</a>	17010308000266_001_001	Water	Bacteria - Fecal coliform	4A	DRAGOON CREEK	55-Little Spokane	<a href="#">Little Spokane River Watershed Multiparameter TMDL</a>	<a href="#">8446</a>

## Listing ID: 4806

### Main Listing Information

**Listing ID:** 4806 **Current Category:** 5 [View Category History](#)  
**Waterbody Name:** CEDAR RIVER  
**Medium:** Water  
**Parameter:** Temperature  
**WQI Project:** None  
**Designated Use:** Aquatic Life - Core Summer Salmonid Habitat

### Assessment Unit

**Assessment Unit ID:** 17110012000033\_001\_001 **County:** King  
**Size:** 9.512 Kilometers **WRIA:** Cedar-Sammamish  
**Associated Component(s):** Reach: 17110012000033 0% - 100%, Type: Rivers/Streams

### Basis Table

Assessment Year

2018

Sampling Year	Excursion Count	Sample Count	Criterion/Threshold	Aggregate	Calculated Value	Supplemental Spawning Criterion	Supplemental Spawning Period	Supplemental Spawning Aggregate
2015	4	11	16.0 deg C	Daily Max	18	13.0 deg C	Sep 15 - Jun 15	Daily Max
2016	3	12	16.0 deg C	Daily Max	16.5	13.0 deg C	Sep 15 - Jun 15	Daily Max

### Basis Statement

#### HISTORICAL INFORMATION

Location ID: KCM-A438 -- In 2005, 0 of 3 sample values (0%) showed an excursion of the criteria (16°C) for this waterbody;  
 {Supplemental Spawning Period}: Location ID: KCM-A438 -- In 2005, 0 of 11 sample values (0%) showed an excursion of the criteria (13°C) for this waterbody;  
 Location ID: KCM-A438 -- In 2004, 1 of 4 sample values (25%) showed an excursion of the criteria (16°C) for this waterbody;  
 {Supplemental Spawning Period}: Location ID: KCM-A438 -- In 2004, 0 of 9 sample values (0%) showed an excursion of the criteria

### Remarks

Supplemental Spawning Criteria: 13.0 deg C from Sep 15 - Jun 15  
 Assessment Cycle 2018 - Over multiple years (2015, 2016), the hypergeometric test failed.  
 Supplemental Criteria apply from Sep 15 - Jun 15

### Data Sources

Study Id	Location Id	Source Database
KCstrm-1	KCM-A438	EIM

### Map Link

[Map Link](#)

[Back To Results](#)

Listing info

Assessment unit info

Recent data evaluation (post-2006), applicable criteria

Historical data (pre-2006)

Clarifying notes on listing

Link to raw data

Link to WQ Atlas

## Listing ID: 4806

### Main Listing Information

Listing ID: 4806  
 Waterbody Name: CEDAR RIVER  
 Medium: Water  
 Parameter: Temperature  
 WQI Project: None  
 Designated Use: Aquatic Life - Core Summer Salmonid Habitat  
 Current Category: 5 5  
[View Category History](#)

### Assessment Unit

County: King  
 WRIA: Cedar-Sammamish  
 Waterbody ID (WBID): WA-08-1145  
 Assessment Unit ID: 17110012000033\_001\_001  
 Size: 9.561 Kilometers  
 Associated Component(s): Reach: 17110012000033 0% - 100%, Type: Rivers/Streams

### Basis Table

Assessment Year

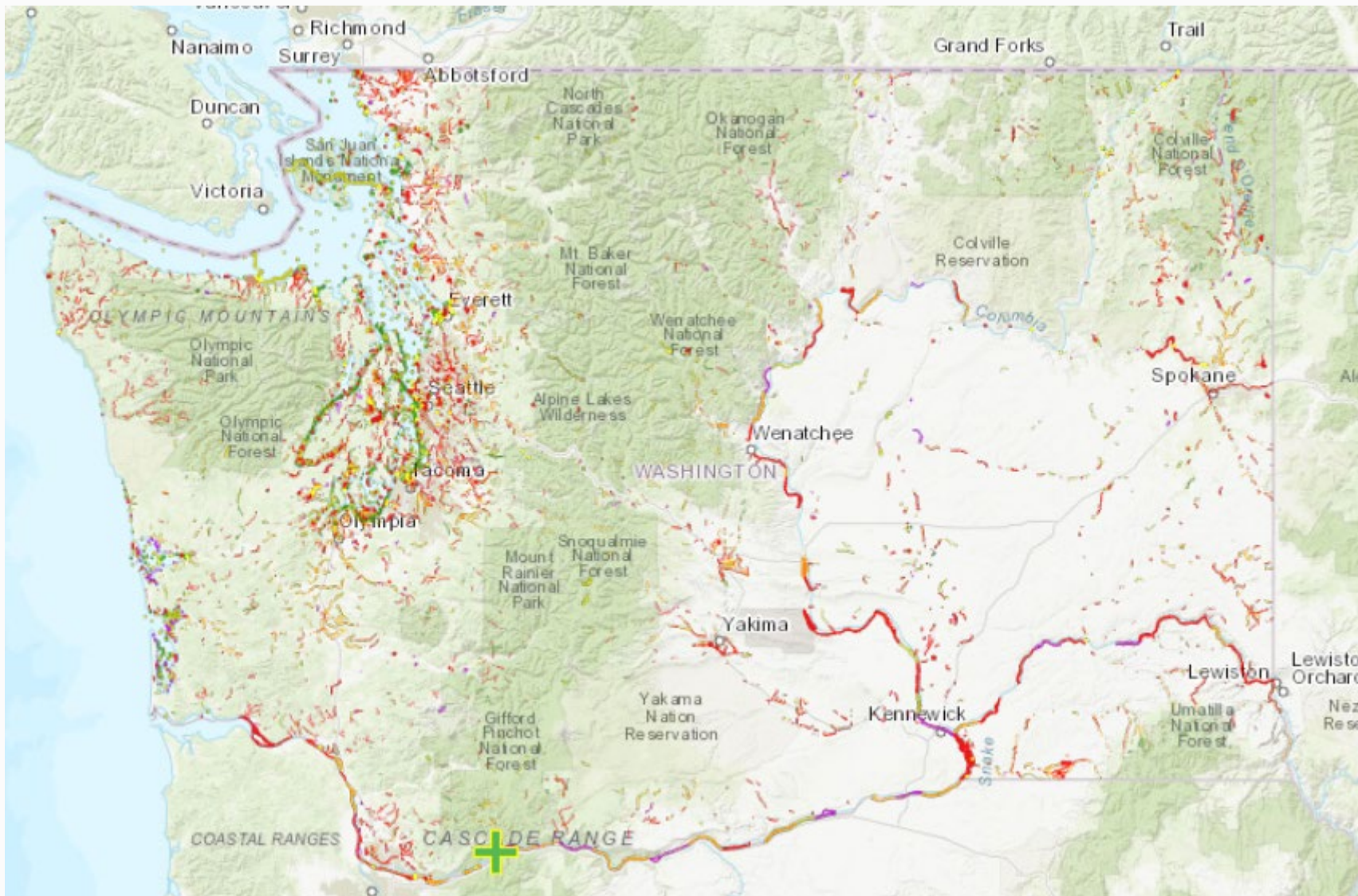
2022

Sampling Year	Excursion Count	Sample Count	Criterion/Threshold	Aggregate	Calculated Value	Continuous Measure	Supplemental Spawning Criterion	Supplemental Spawning Period	Supplemental Spawning Period
2021	1	12	16.0 deg C	Daily Max	15.92	N	13.0 deg C	Sep 15 - Jun 15	
2020	3	11	16.0 deg C	Daily Max	16.32	N	13.0 deg C	Sep 15 - Jun 15	
2019	2	12	16.0 deg C	Daily Max	18.4	N	13.0 deg C	Sep 15 - Jun 15	
2018	2	12	16.0 deg C	Daily Max	17	N	13.0 deg C	Sep 15 - Jun 15	
2017	2	12	16.0 deg C	Daily Max	16.8	N	13.0 deg C	Sep 15 - Jun 15	
2016	3	12	16.0 deg C	Daily Max	16.5	N	13.0 deg C	Sep 15 - Jun 15	
2015	4	11	16.0 deg C	Daily Max	18	N	13.0 deg C	Sep 15 - Jun 15	
2014	0	3	16.0 deg C	7-DADMax			13.0 deg C	Sep 15 - Jun 15	
2008	0	15	16.0 deg C	Daily Max	15.6	N	13.0 deg C	Sep 15 - Jun 15	
2007	1	12	16.0 deg C	Daily Max	16.04	N	13.0 deg C	Sep 15 - Jun 15	
2006	0	12	16.0 deg C	Daily Max	14.3	N	13.0 deg C	Sep 15 - Jun 15	

## 2022 WQA

- Displaying all years with data
- Highlighted years represent years driving category determination

# Water Quality Atlas



<https://apps.ecology.wa.gov/waterqualityatlas/wqa/map>

# 2022 Water Quality Assessment

Current timeline





# Questions?

Stay up to date with the Water Quality Assessment!

## Ecology E-mail List

- Water quality – program information
- Water quality improvement

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