Oregon’s 2024 Integrated Report - Informational

Environmental Quality Commission

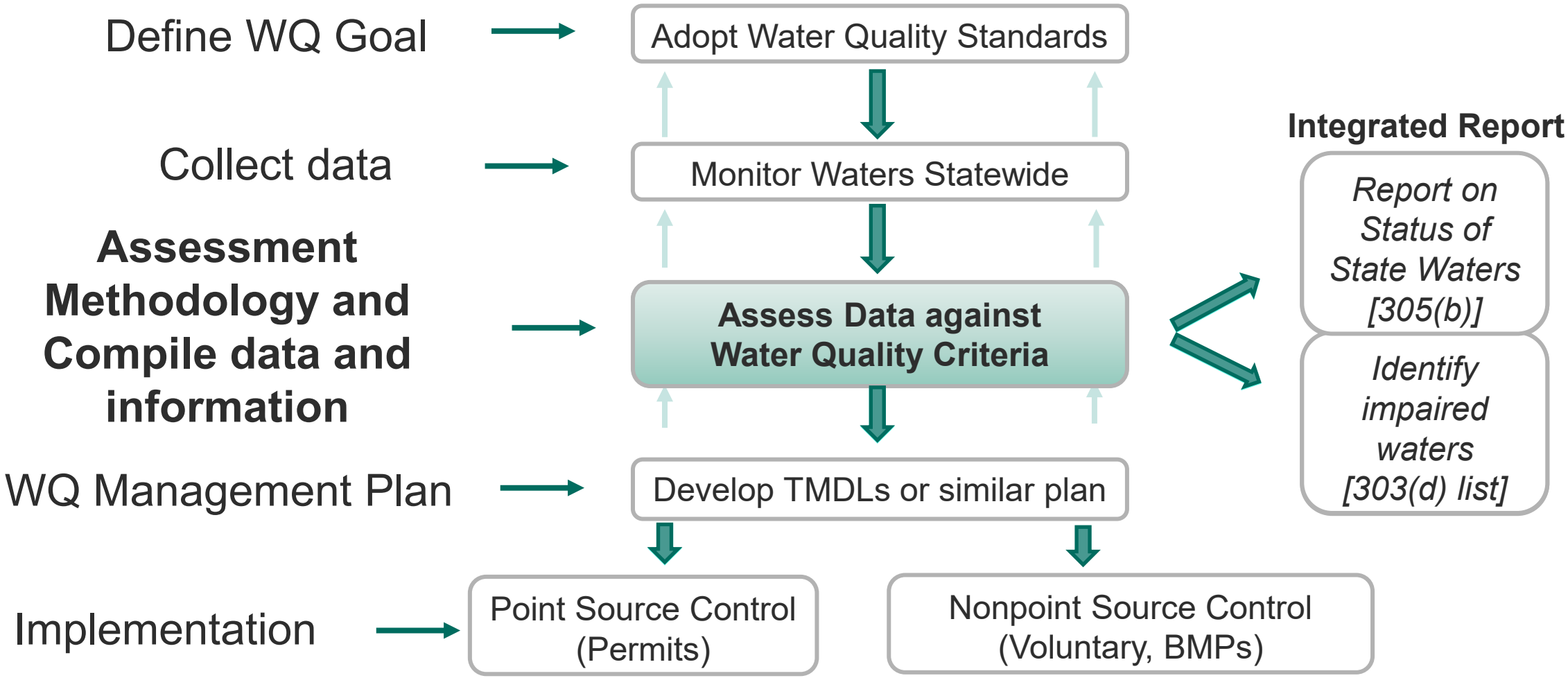
March 14, 2025

Water Quality Standards, Source Water Protection and Assessment

Presentation Overview

- Clean Water Act Framework
- Integrated Report process
- 2024 Integrated Report
  - Assessment methodology updates
  - Summary of findings
  - Public engagement

Clean Water Act Framework



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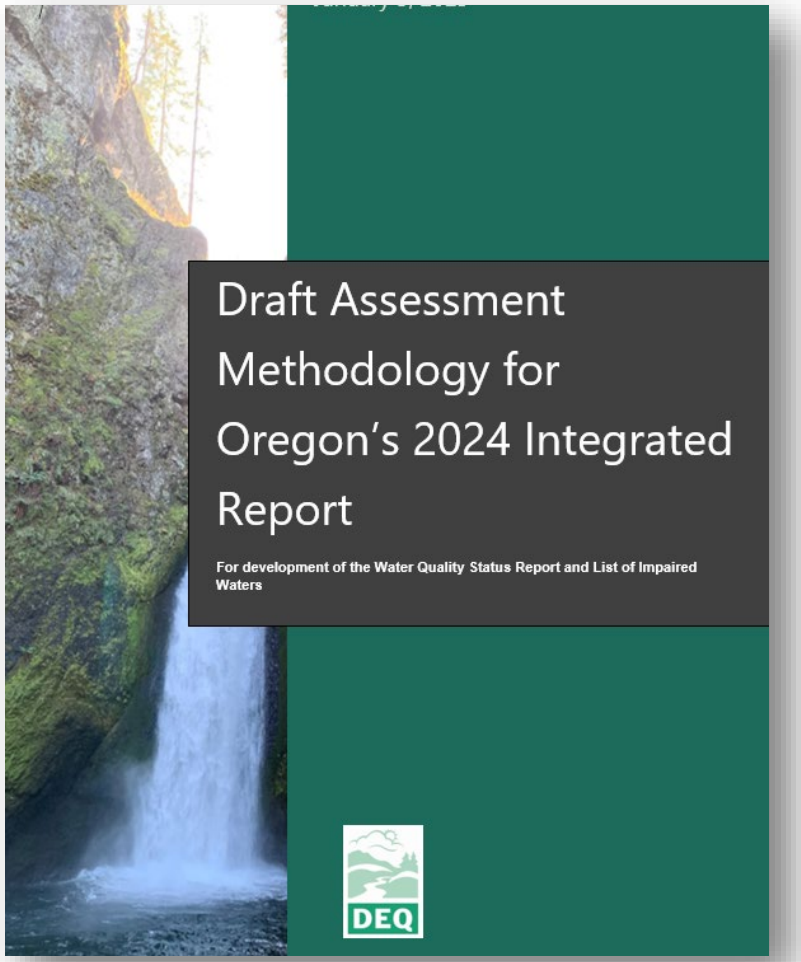
What is Assessment Methodology?

- Documents the "decision rules"
- How to compare data against numeric and narrative water quality standards
- To determine waterbody status
- Scientifically and technically defensible



Integrated Report Requirements

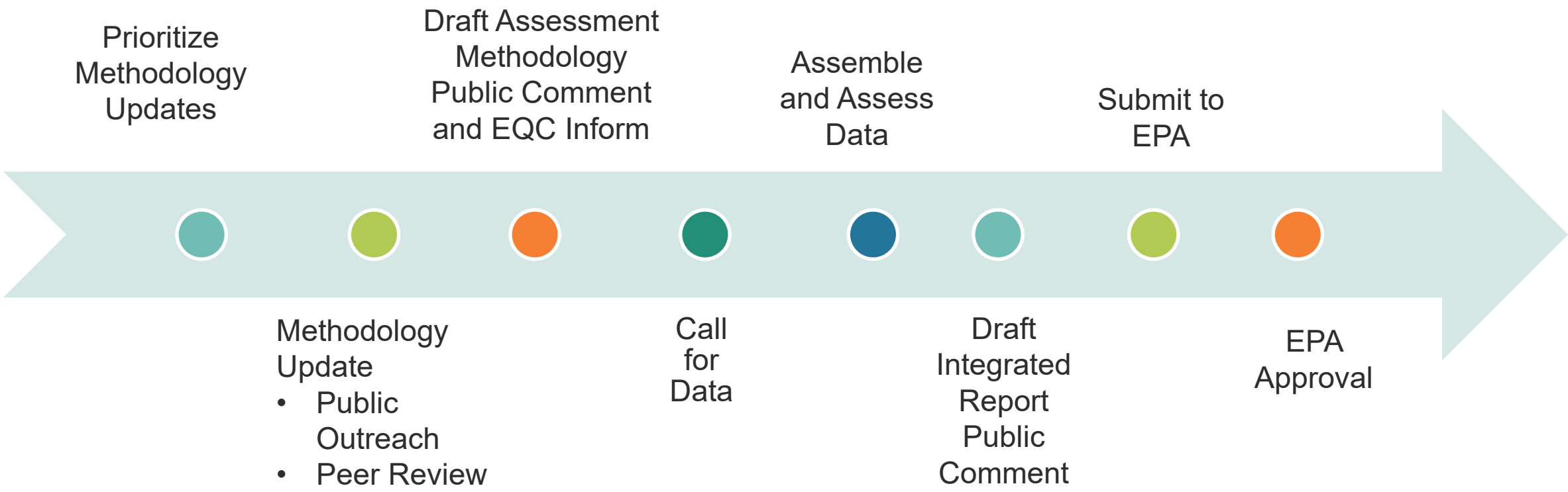
State Requirements for Assessment Methodology

- Assess attainment of beneficial uses of Waters of the State
  - Assessment Methodology updates
    - Peer review of substantive methodologies
    - Public comment
- EQC informational overview

Federal Requirements for Integrated Report

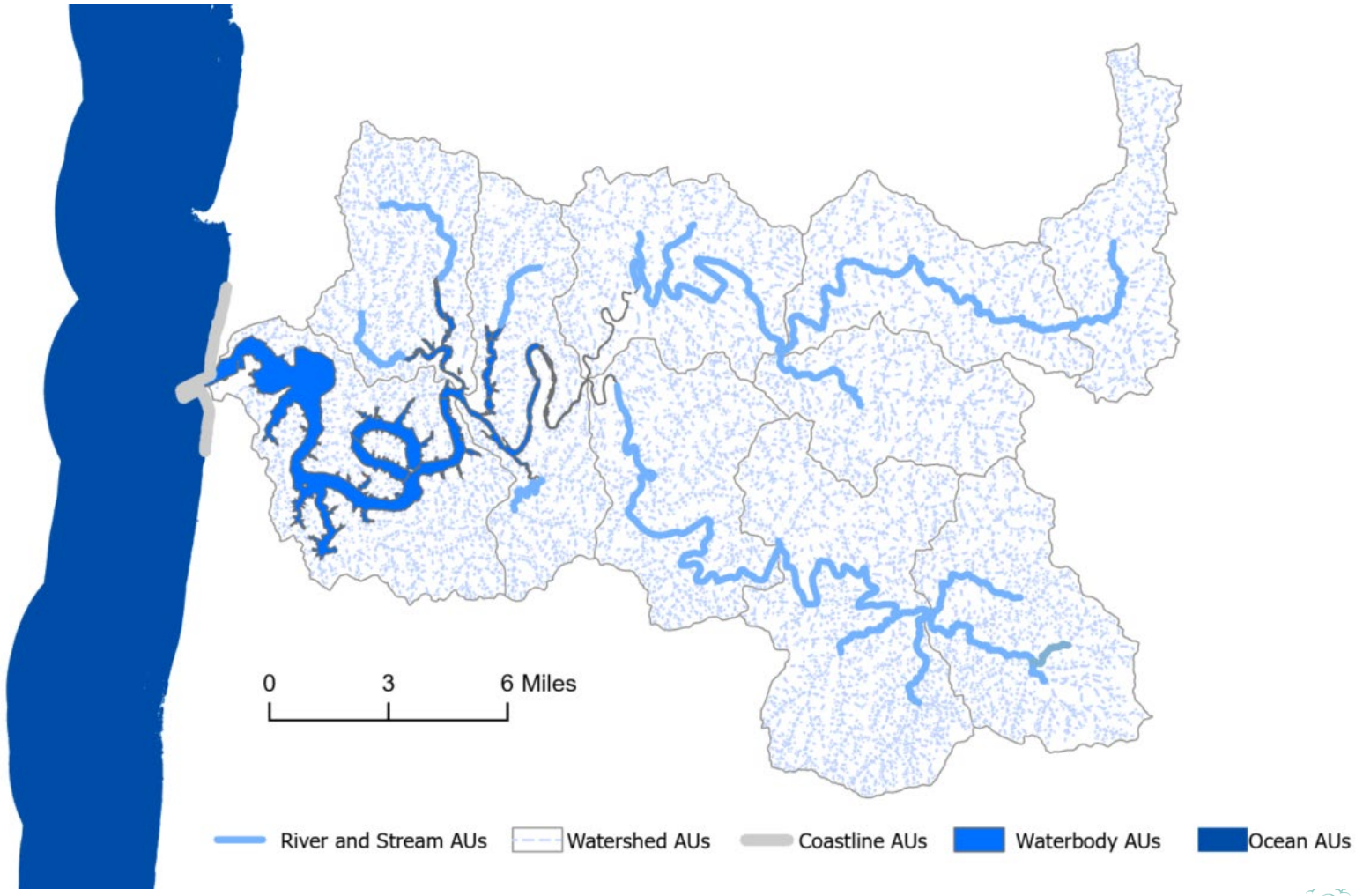
- Assess Oregon's waters every two years
  - Overall condition of Oregon's waters
  - Water quality impairment
  - Open call for data
  - Public comment on report
- Submit to EPA for approval

Oregon's Integrated Report Process



Oregon's Assessment Units

- River and Stream - medium to large streams
- Watershed - small, typically headwater streams
- Waterbodies - lakes, reservoirs, estuaries
- Coastline - beaches
- Oregon territorial marine waters



Most Assessed Beneficial Uses

Fish and Aquatic Life

- Temperature
- Dissolved Oxygen
- pH
- Biocriteria
- Aquatic life WQ criteria for toxic pollutants
- Total Dissolved Gas

Water Contact Recreation

- Bacteria indicators
- Recreational advisories for Harmful Algae Blooms

Fishing (Consumption)

- Human health WQ criteria for toxic pollutants
- Fish and shellfish consumption advisories

Drinking Water (Source Water)

- Human health WQ criteria for toxic pollutants
- Cyanotoxins related to Harmful Algae Blooms
- Turbidity

Aesthetic Quality

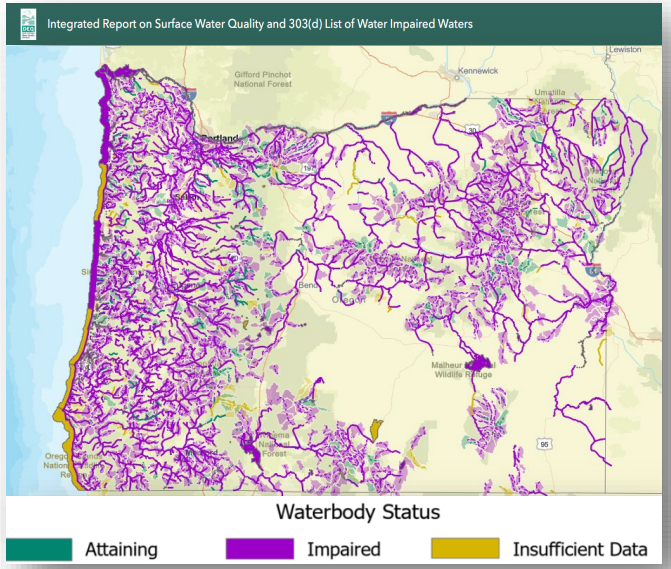
- Chlorophyll-a
- Aquatic Weeds and Algae

Reporting Tools

305(b) Story map

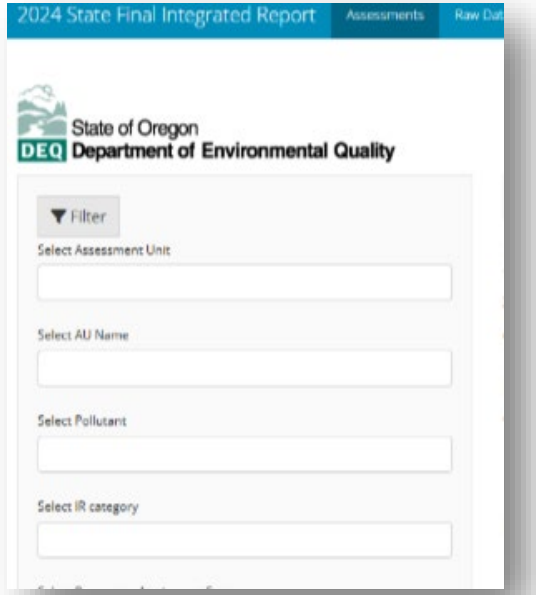
General Overview

Web map



Assessment Unit level reporting
Overall status of the unit based on all assessed parameters

Online database



Assessment Unit – Parameter level reporting = Categories
One unit can have up 140 unique assessments

Impaired Status – Example of Reporting

Assessment Unit level

Parameter level

Categorization

Impaired Status
Does not meet water quality criteria for all assessed parameters

Parameter	Meeting WQ Criteria?
Temperature – Year Round	**No**
Temperature – Spawning	**No**
Dissolved Oxygen	**No**
pH	Yes
Copper	Yes
Zinc	Yes

Is a TMDL Needed?

Yes

No

303(d) List

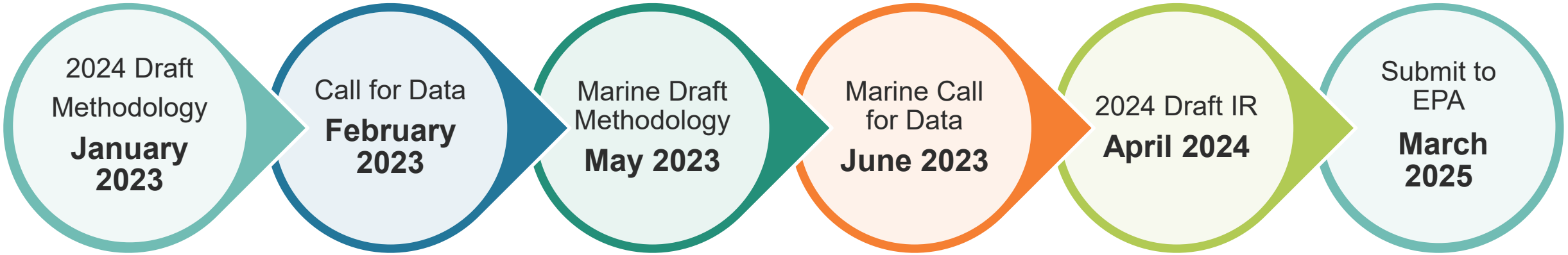
Priority ranking for TMDL development

TMDL in place or is not needed

2024 Integrated Report Schedule

Inland and Estuarine

Marine Water



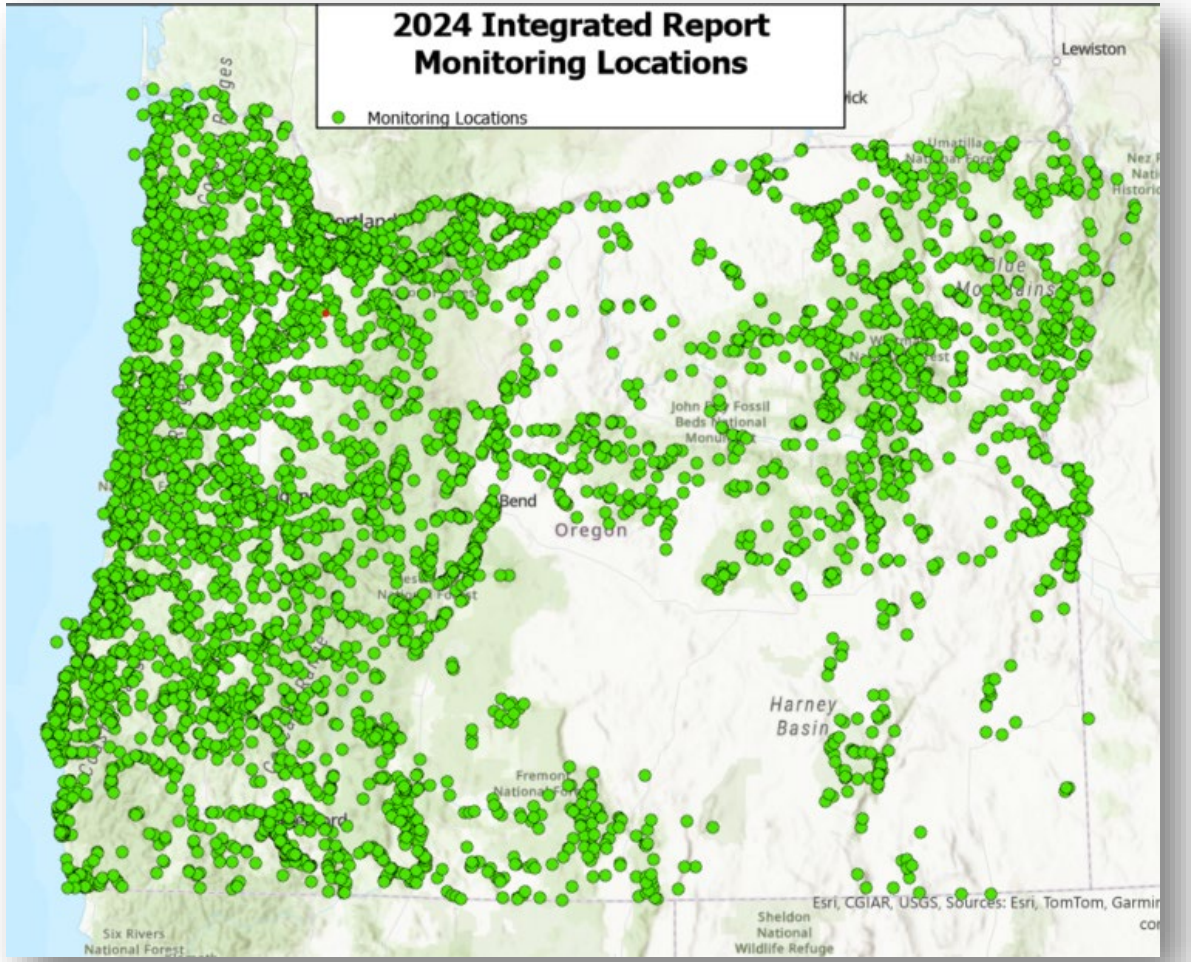
2024 Assessment Methodology Updates

- **Inland and estuarine - minor updates**
  - Update for process to delist temperature impairments
  - Revisions to bacteria-based water contact recreation assessments
- **Marine waters - major updates**
  - New Ocean Acidification and Hypoxia methodologies
- Updated look and structure of the methodology document

Data and Information Used in the Assessment

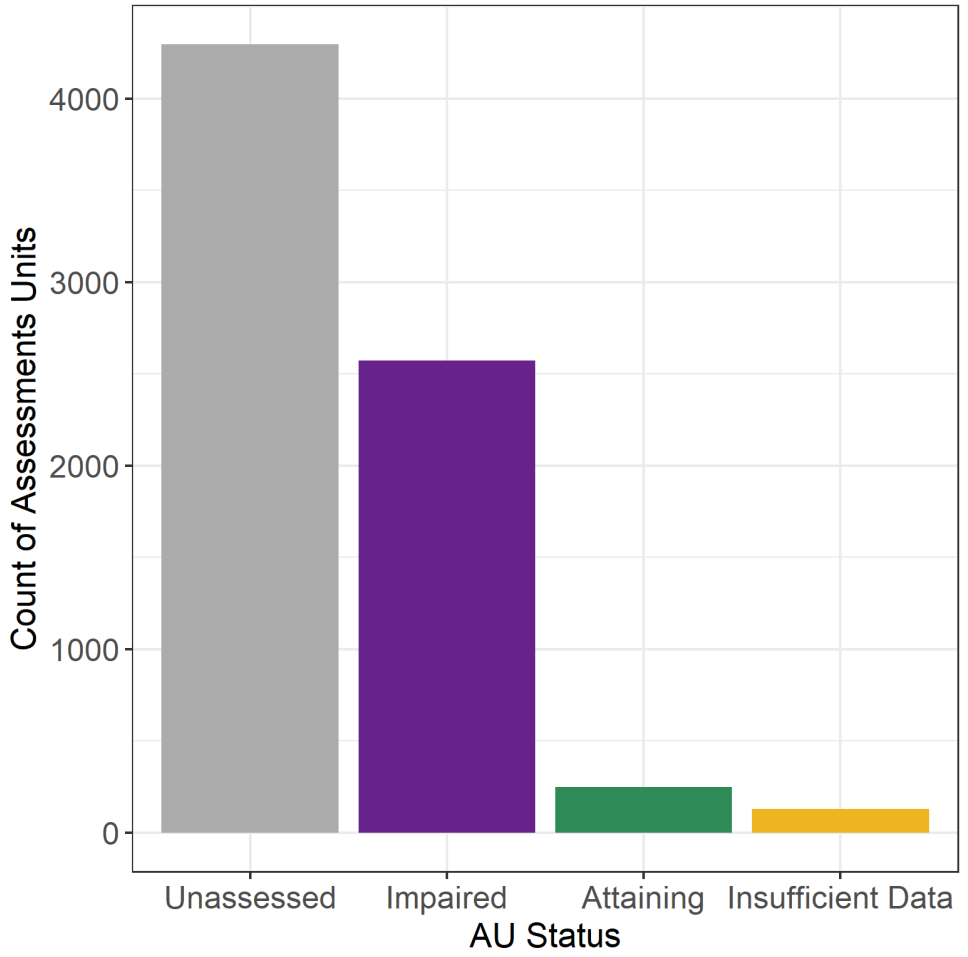
- Over 3,100 monitoring locations
- Over 9.2 million numeric results
  - 141 organizations

- Non-Numeric
  - Recreation and human health related advisories
  - Aquatic Invasive Species hotline reports
  - Call for Data submissions

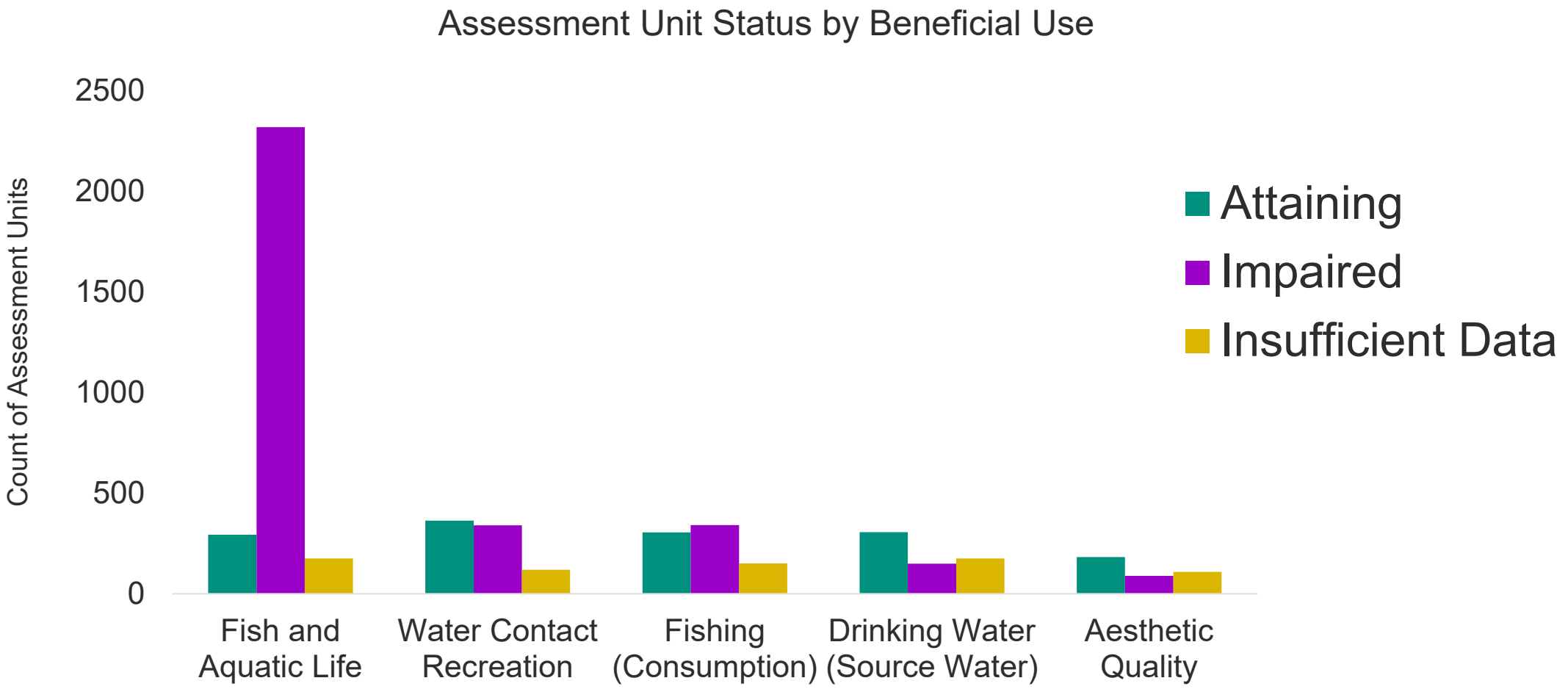


Summary of Findings – High Level Overview

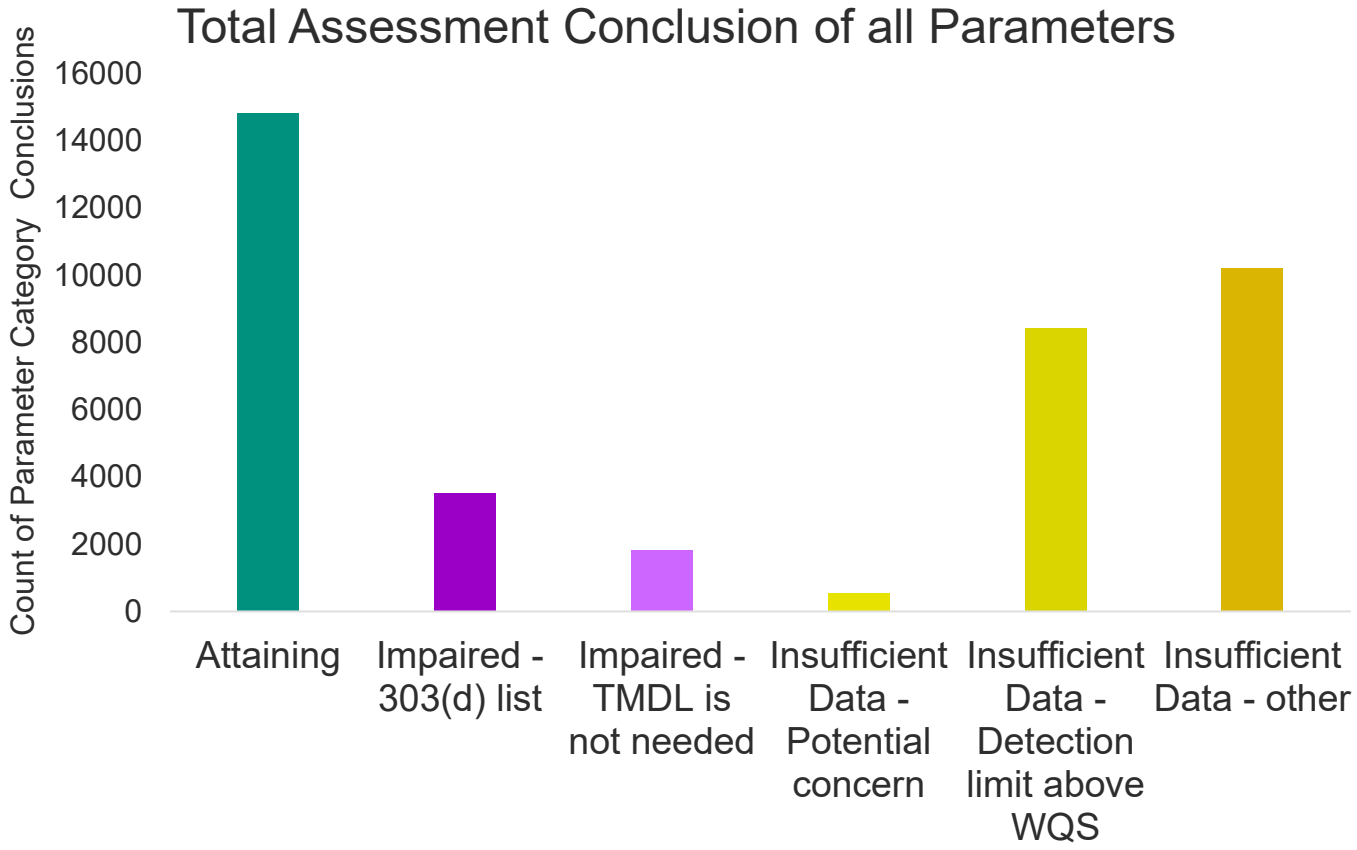
- Statewide, DEQ has assessed 42% of all assessment units
- Of those assessed units, 87% are impaired for one or more pollutants
- Four new parameters assessed
  - PFOS
  - Aquatic trash
  - Ocean acidification
  - Hypoxia



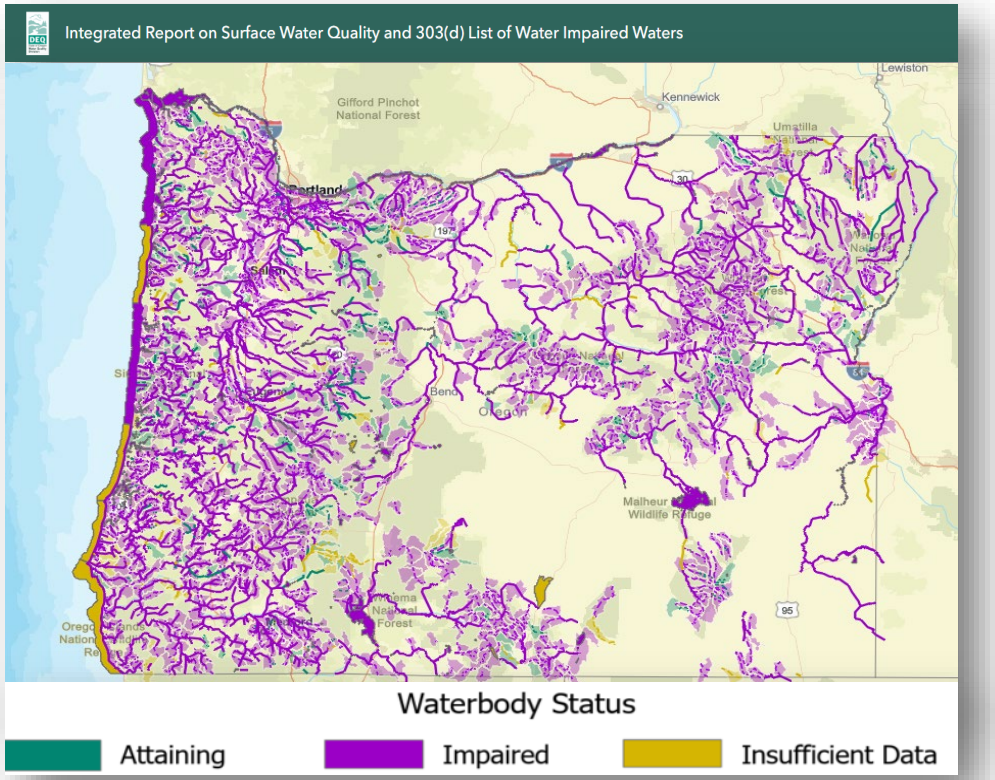
Beneficial Use Status



Interpreting the Results

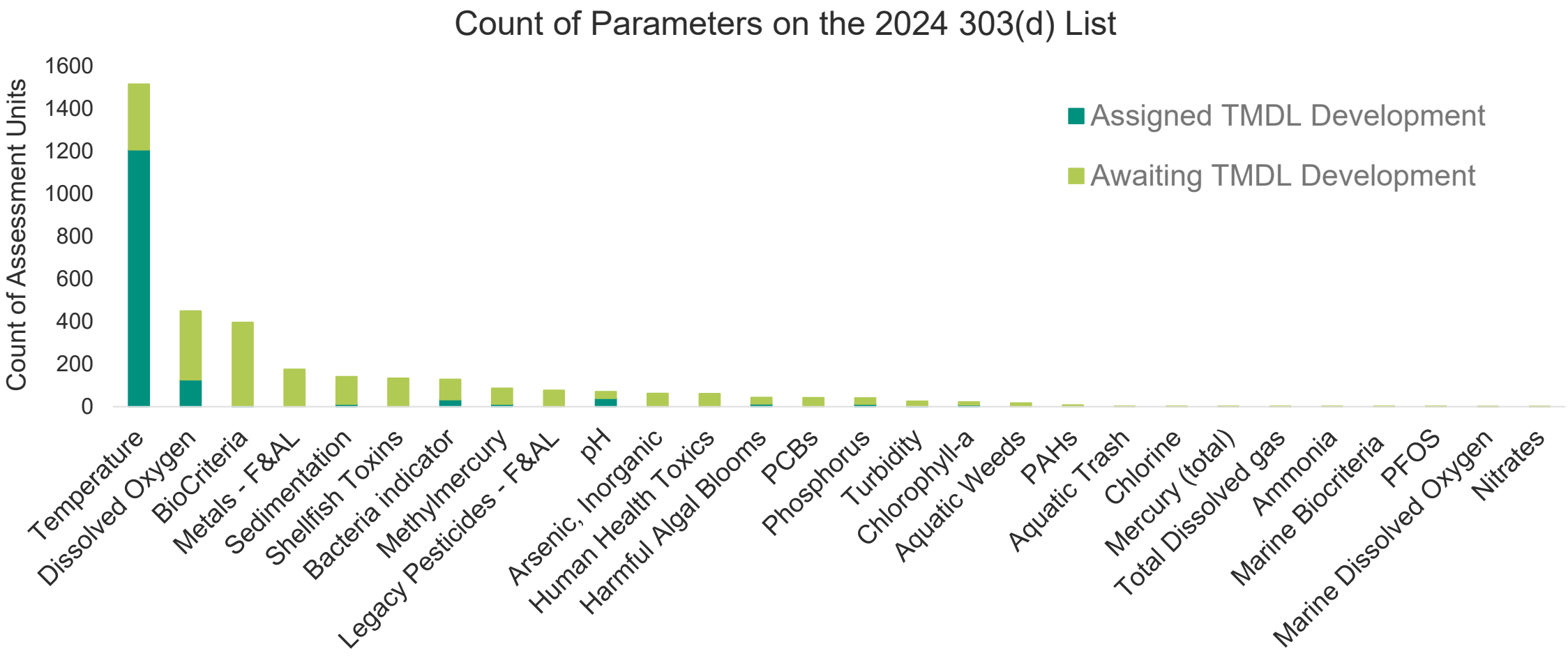


Assessment Unit – Parameter level reporting
One unit can have up 140 unique assessments



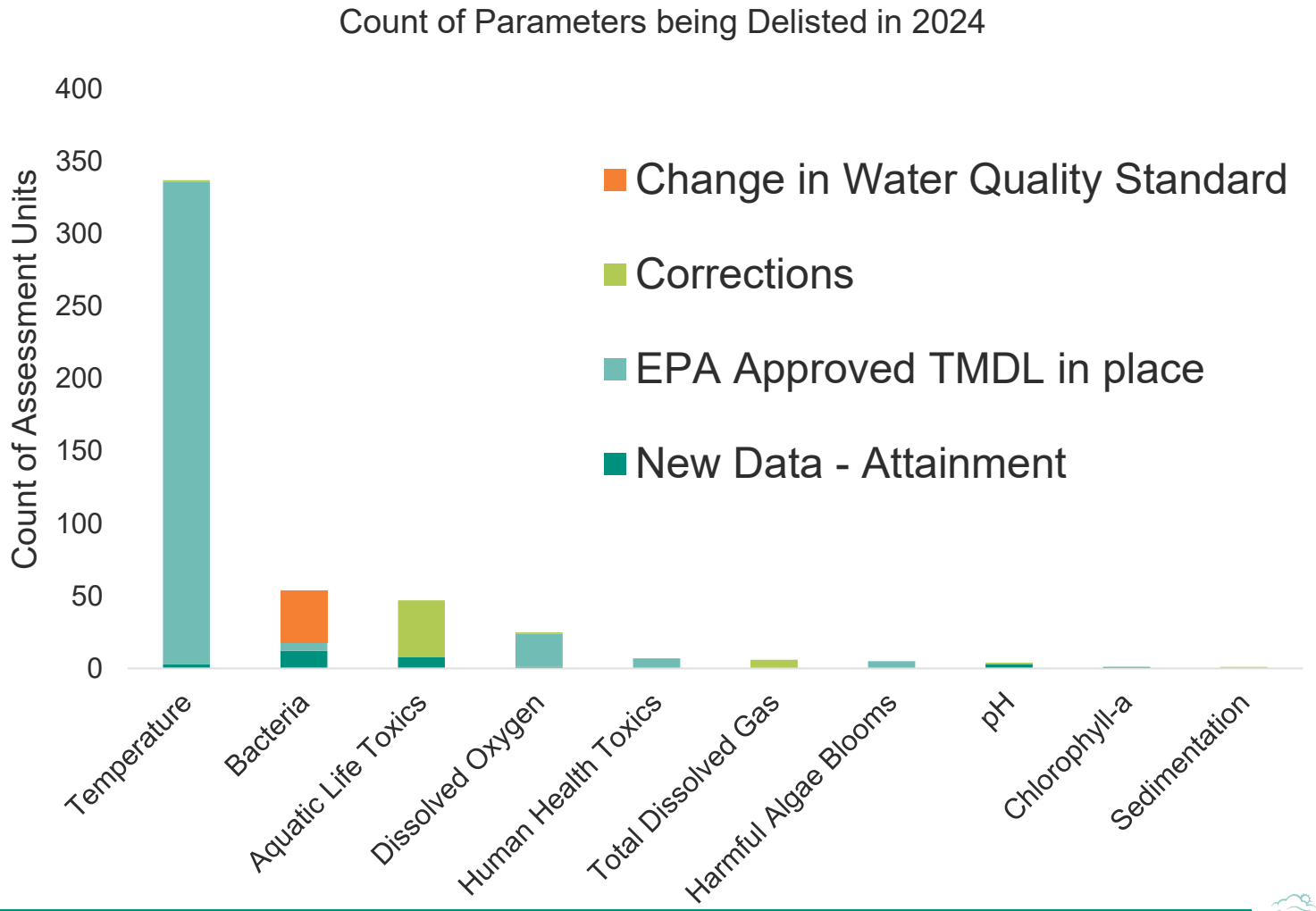
Assessment Unit level reporting
One impaired parameter results in an impaired status

2024 303(d) List



Statewide Delistings for 2024

- EPA approved TMDL
  - 374 listings removed
- Corrections
  - 49 listings removed
- Changes in Water Quality Criteria
  - 36 listings removed
- New Attaining – new data
  - 28 listings removed



PFOS 303(d) Listing

- 2022 Oregon Health Authority revised an existing fish consumption advisory for resident fish in the Columbia Slough to include PFOS
- Existing assessment methodology for 303(d) listing based on OHA fish consumption advisories
  - Both Columbia Slough AUs will be listed as Category 5 for PFOS

Freshwater Monitoring Alert Oregon Health Authority

November 29, 2022

Media contact: Erica Heartquist 503-871-8843
phd.communications@dhsoha.state.or.us

OHA updates recommended meal allowances for resident fish in Columbia Slough

Levels of* perfluorooctane sulfonic acid (PFOS) *found in resident species

PORTLAND, Ore. —Oregon Health Authority (OHA) is changing its recommendation on the amount of whole-body largescale sucker from the Columbia Slough that people should eat.

An OHA advisory for species in the Columbia Slough was last updated in 2019. That advisory was based on levels of polychlorinated biphenyls (PCBs) and mercury measured in fish collected by the City of Portland.

OHA recently developed a method to calculate meal recommendations for fish whose tissue contain per- and polyfluoroalkyl (PFAS) substances. PFAS are persistent and toxic chemicals found in a wide variety of consumer and industrial products, foods and drinking water. Given how prevalent PFAS are in our environment, these chemicals are found in the blood of people and animals worldwide. When consumed at high enough levels, PFAS chemicals can cause significant health issues.

For more information about PFAS, how you can be exposed and associated health

https://content.govdelivery.com/accounts/ORDHS/bulletins/33a92a4

Willamette Riverkeeper – Aquatic Trash Data Submittal

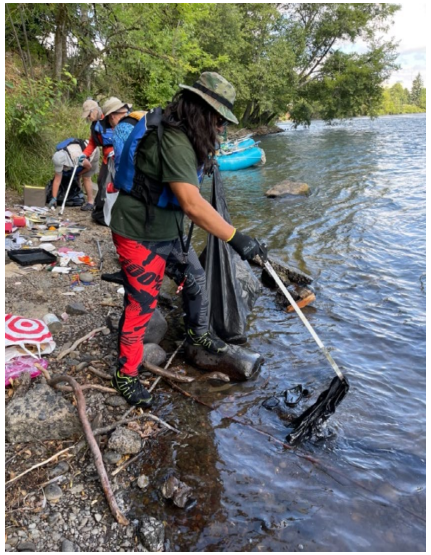
Credible Data – meets IR submission guidelines

- Project Plan and explanation of the beneficial uses impaired by trash
- Numeric data on volume of trash removed from clean up events in water
- Photographs (with coordinates) from the trash clean up events
- WRK 2022 Petition for Rulemaking

No Assessment Methodology

- DEQ does not have an existing Assessment Methodology to assess the impact of aquatic trash
- EPA guidance
  - Aquatic trash is considered pollution under Clean Water Act
  - Lack of an assessment methodology does not negate a state from the requirement to assess attainment
- Overwhelming evidence
  - uses **multiple lines of evidence** based on a specific **rationale** to conclude that a waterbody is impaired

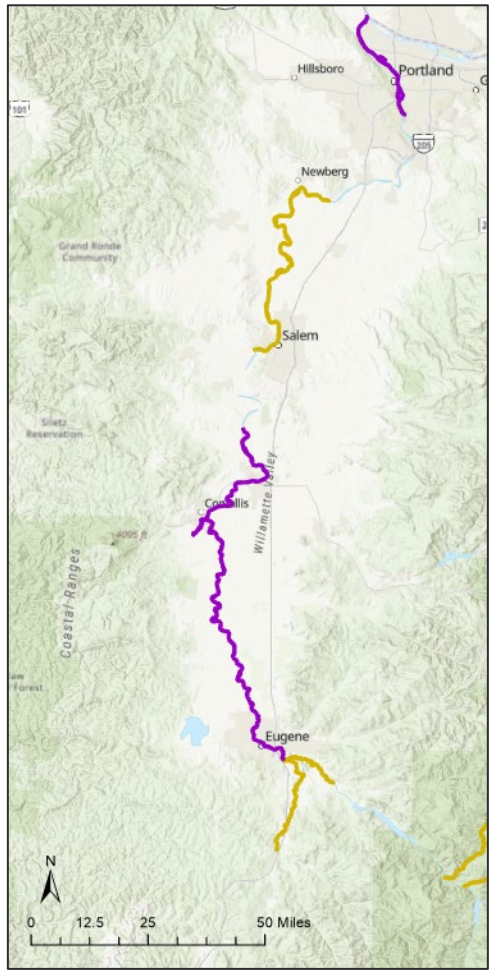
Applying Overwhelming Evidence to Aquatic Trash Data Received



Aesthetic and Recreation Beneficial use

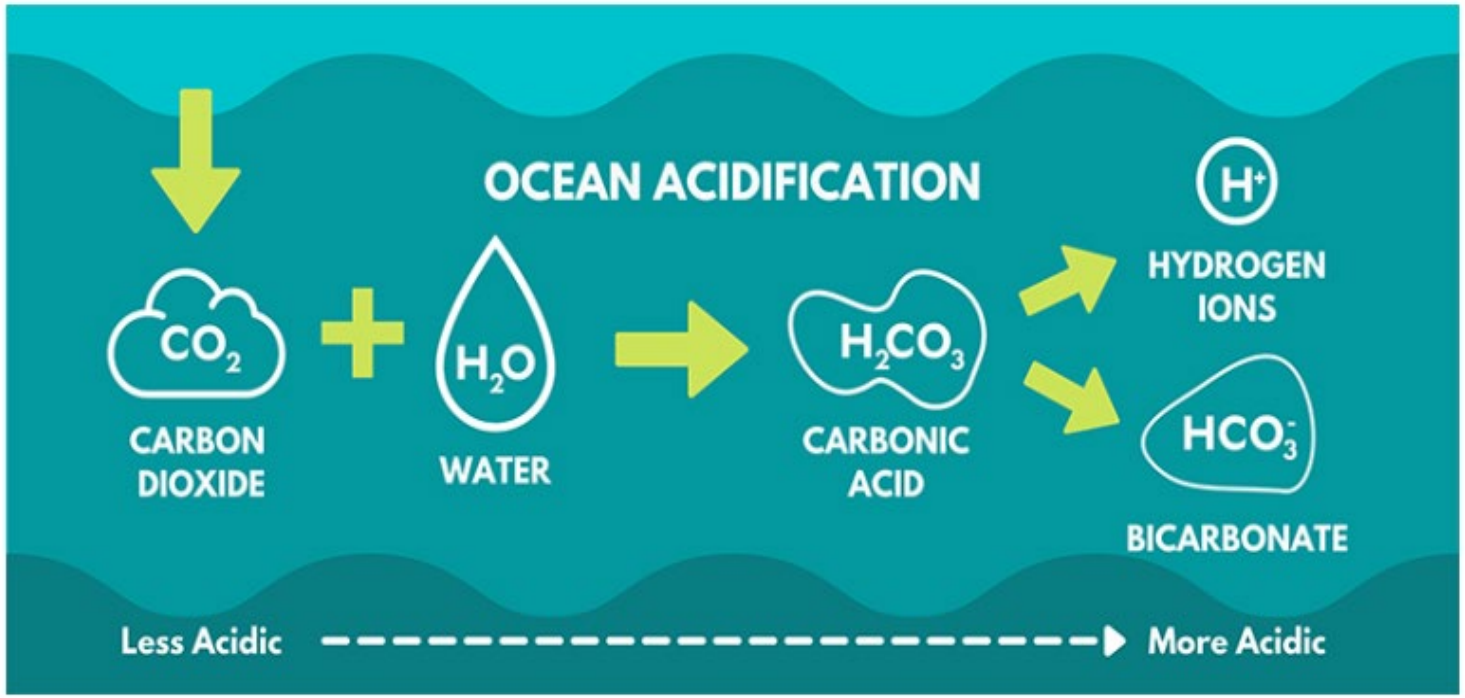
Photos – received from Willamette Riverkeeper

- 3 Assessment Units added to the 303(d) List
- Nine Assessment Units lacked multiple lines of evidence
  - Insufficient data



Ocean Acidification (OA)

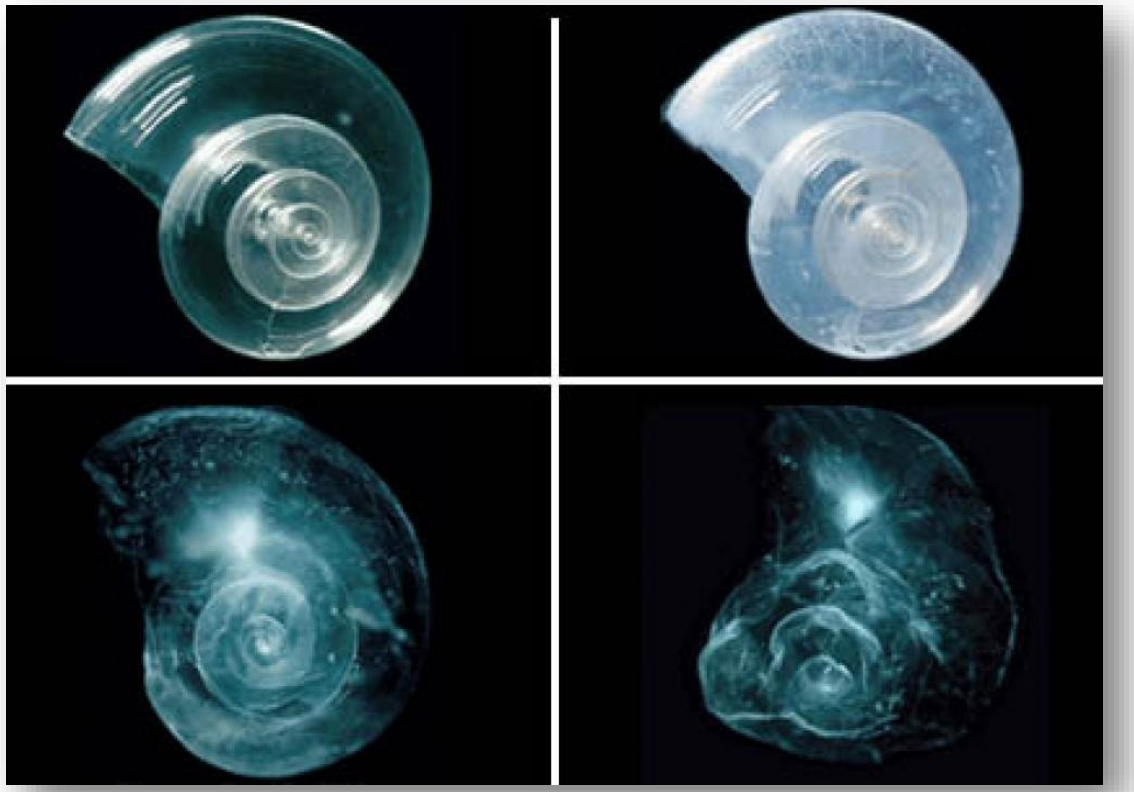
The ocean absorbs around 30% of the carbon dioxide (CO_2) released into the atmosphere → acidifying the water through a series of chemical reactions



- Calcifying invertebrates (crabs, oysters, zooplankton, etc.) appear to be particularly vulnerable
- OA threatens to disrupt marine species and food webs
- Nearshore processes amplify the effect from global CO_2 emissions

Ocean Acidification Methodology

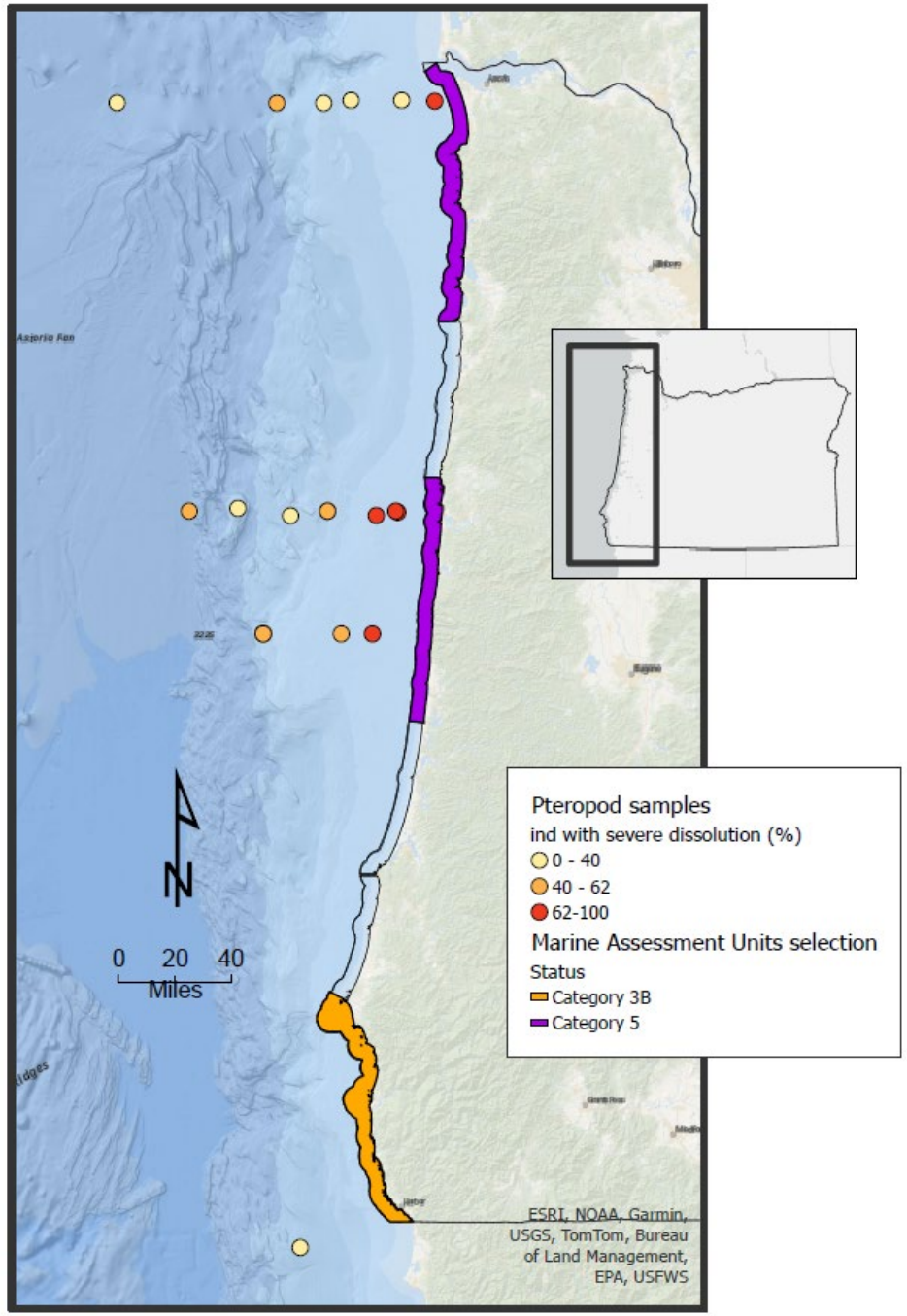
- Uses the Narrative Biocriteria Water Quality Standard
  - Beneficial use = Fish and Aquatic Life
- Multiple lines of evidence approach
  - biological indicator = shell dissolution
  - chemical indicator = carbonate chemistry
- Natural background condition
  - pre-industrial estimations of carbonate chemistry



David Liittschwager and National Geographic Images

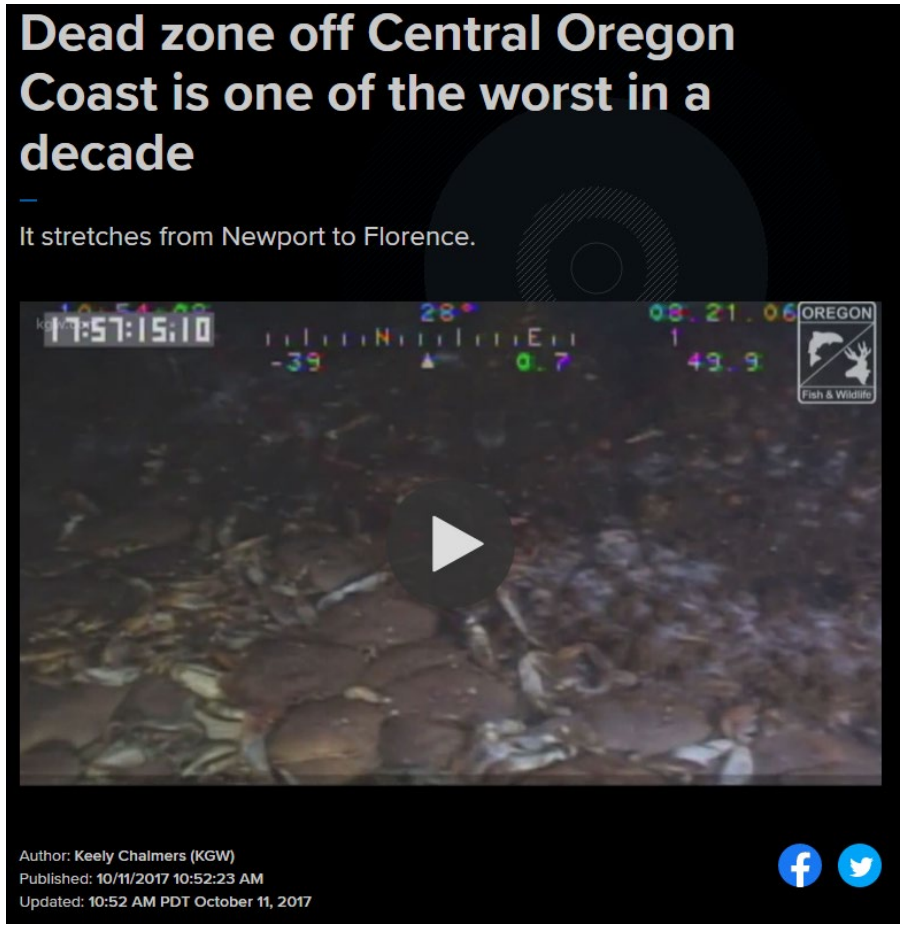
Marine Biocriteria Conclusions

- Conclusions based on chemical data assessment
  - NOAA cruise data – chemical profiles
- Biological data outside of territorial sea support assessment conclusions
- Two Assessment Units added to the 303(d) List



Hypoxia Methodology

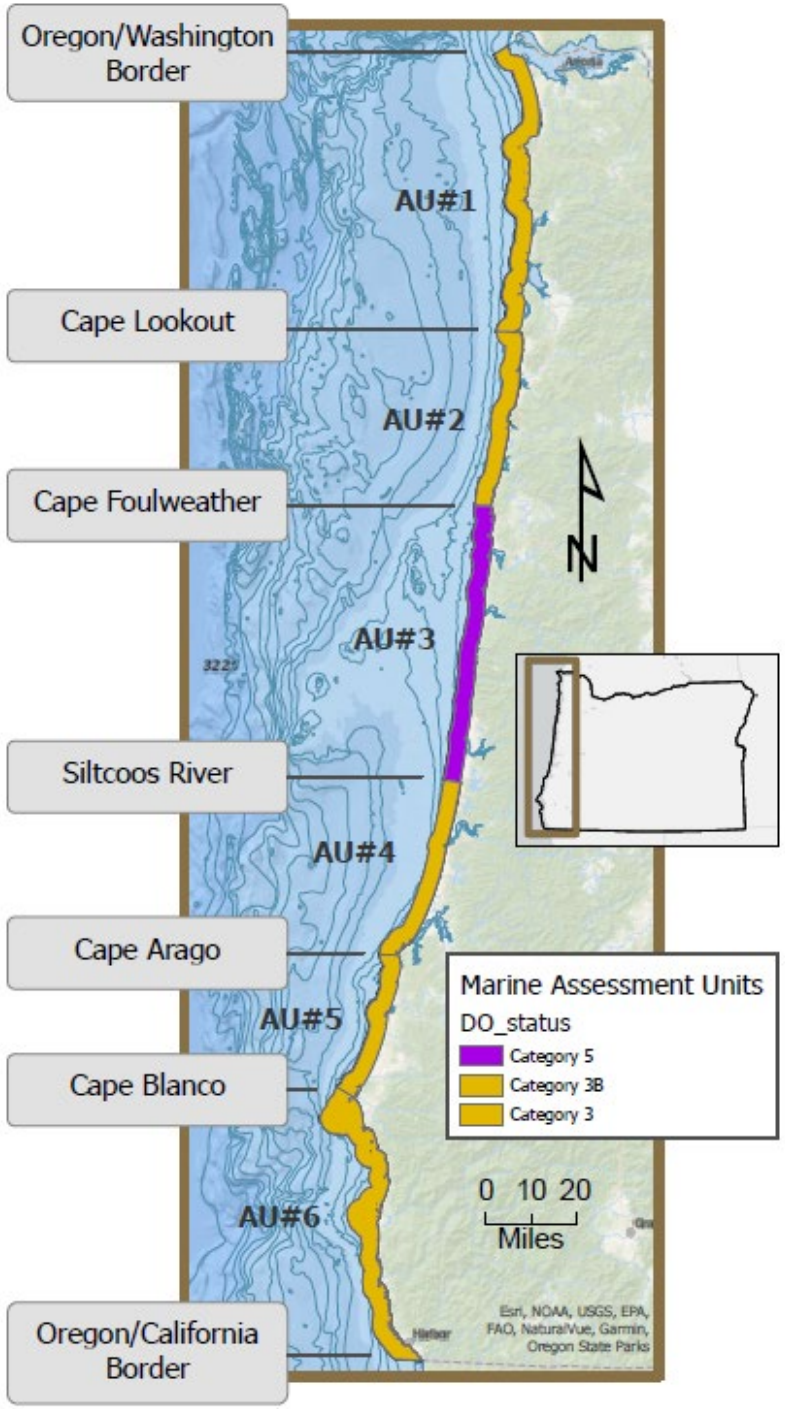
- Hypoxia = low oxygen conditions
  - Impacts to marine environment
    - Crab die offs
- Uses the narrative marine Dissolved Oxygen Water Quality Standard
  - Beneficial use = Fish and Aquatic Life
- Multiple lines of evidence for impairment
  - Measurable reduction (changes over decades)
  - Amount of time below the hypoxia benchmark



https://www.kgw.com/article/news/local/central-coast/dead-zone-off-central-oregon-coast-is-one-of-the-worst-in-a-decade/283-482392480

Marine Hypoxia Conclusions

- Conclusions based on data from
  - NOAA
  - Oregon Department of Fish and Wildlife
- One assessment unit impaired
  - Meet the two lines of evidence
  - Dissolved oxygen going back to 1970
- Remaining units had insufficient data
  - Lacking the decade scale data set
  - May incorporate models in the future



2024 Integrated Report Public Engagement

- Draft Assessment Methodology
  - Two-year technical workgroup
  - Two public webinars
  - Two 45-day public comment periods
  - Informal EQC presentation with opportunity public comment
- Two 60-day Calls for Data
- Two public webinars for draft report release
- Public comment period for draft report for 50 days
- Submittal to EPA March 2025

Summary of Comments Received on the Draft

- 49 unique comments from the 53 received
- 9 comments lead to modifications in reporting
- Majority of comments focused on:
  - Support of aquatic trash assessment and requests to elevate TMDL development
  - Clarification on assessment conclusions
  - Priority ranking for TMDL development for 303(d)
  - Implications of new listings

Questions?

Program Contacts

- Connie Dou - Water Quality Program Manager
- Lesley Merrick – Water Quality Assessment Program Lead
- Travis Pritchard - Water Quality Assessment Analyst

https://www.oregon.gov/deq/wq/Pages/WQ-Assessment.aspx

Title VI and Alternative Formats

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