

Oregon Aquatic Life Use Updates – a Status Report

Environmental Quality Commission
May 18, 2023

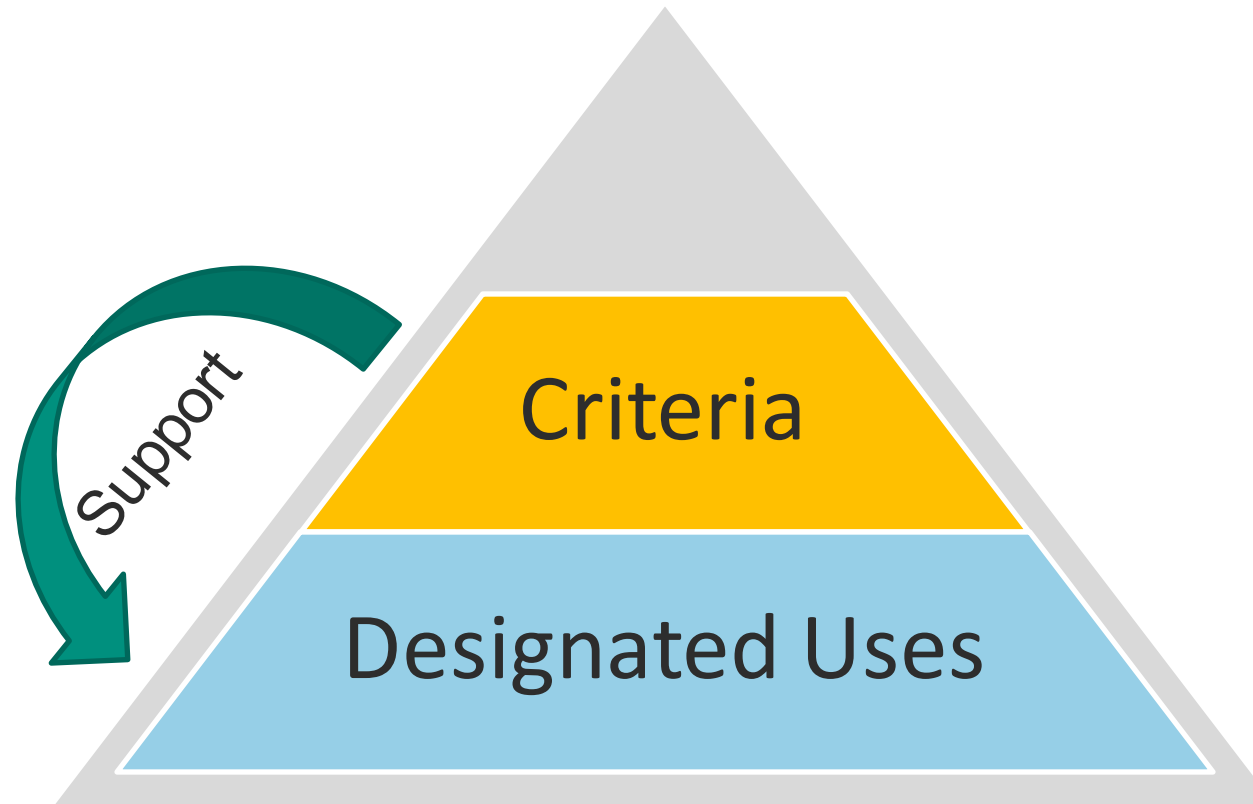
Rulemaking Objectives

- *To update the aquatic life use designations associated with Oregon's temperature and dissolved oxygen standards based on the best data available.*
- *To ensure DEQ correctly applies water quality criteria where and when necessary to protect Oregon waters.*



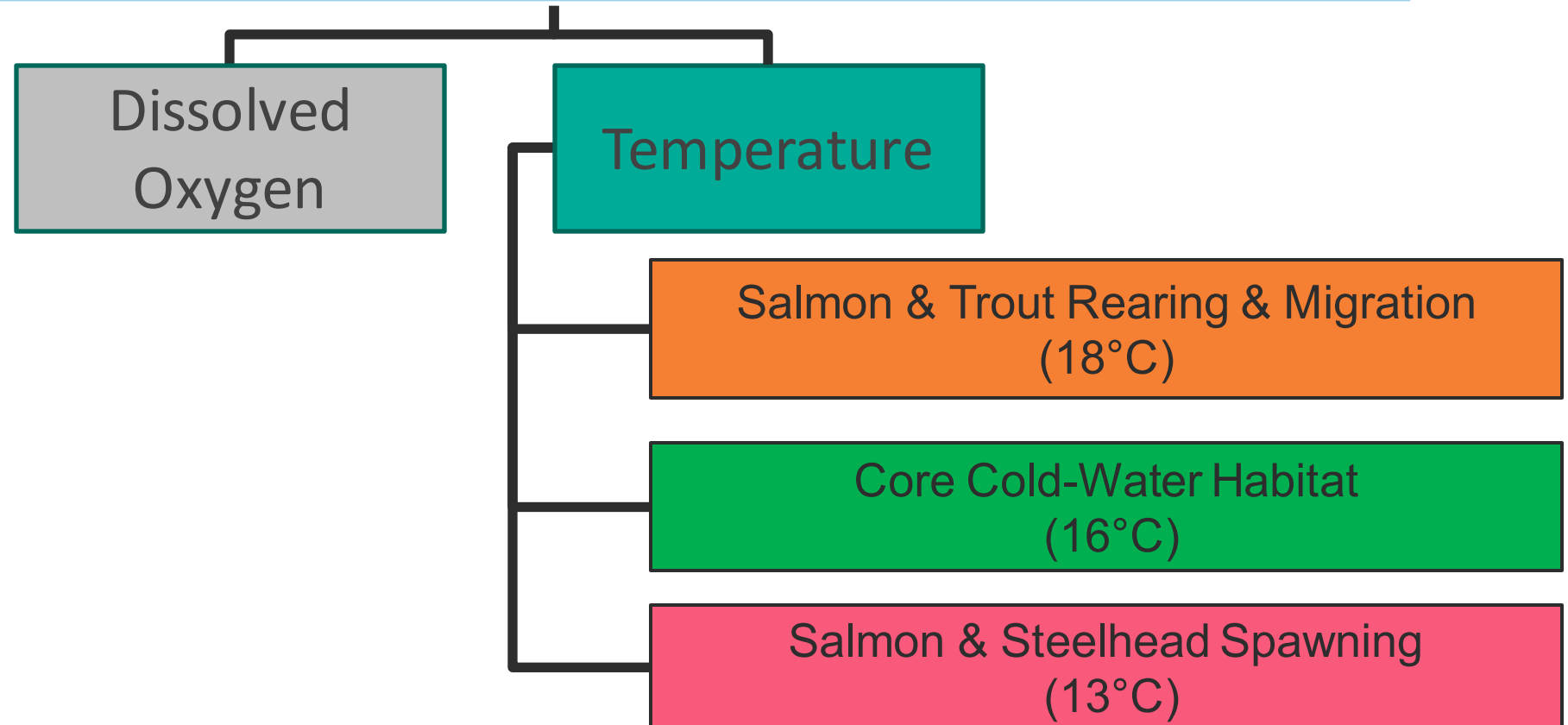
Water Quality Standards and Designated Uses

Water Quality Standards:



Use Subcategories & Criteria for Fresh Waters

Fish & Aquatic Life Use



Why is DEQ updating the use designations?

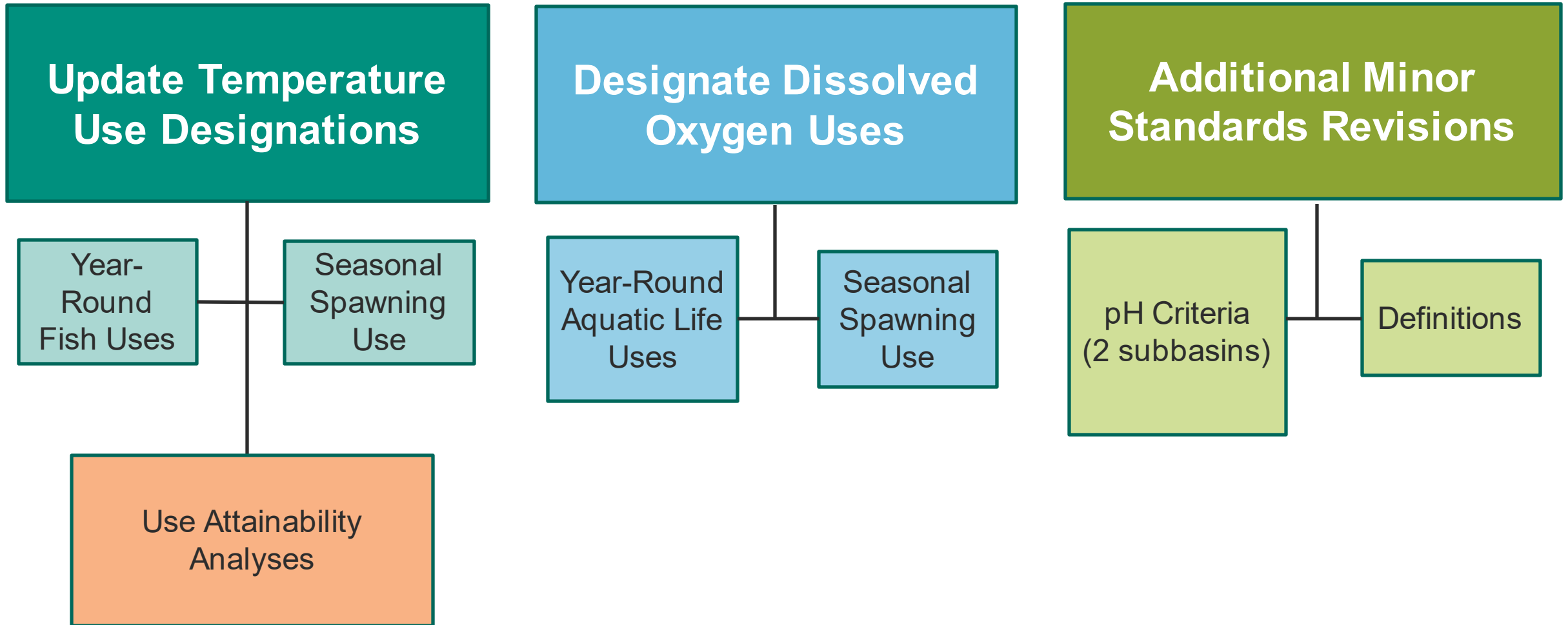
- Correct and update temperature uses
- Designate dissolved oxygen uses in rule for first time
- Incorporate *best currently available data*:
 - 20 more years of data
 - More data on resident trout, other species
 - More life-stage timing information

Why is DEQ updating the use designations?

- Improvements in mapping
 - National Hydrography Dataset (NHD)
 - Better delineation of estuaries, lakes and reservoirs
- Fish passage & restoration since 2003
- High stakeholder interest in Triennial Reviews



Project Scope



Rulemaking Process

Technical Development

Technical Workgroup
Data acquisition
Methods development
GIS analysis
Technical support documentation
Produce maps & tables

Policy Review & Public Involvement

Rulemaking Advisory Committee
Use Attainability Analysis
Fiscal & economic impact statement
Public hearings & comment

Rule Adoption & Approval

Oregon Environmental Quality Commission
EPA Approval:
ESA consultation
Tribal consultation
EPA Action

Technical evaluation process

Information Inputs

Decision Rules/ Methodology

Aquatic Life Use designations

Regulations



Data

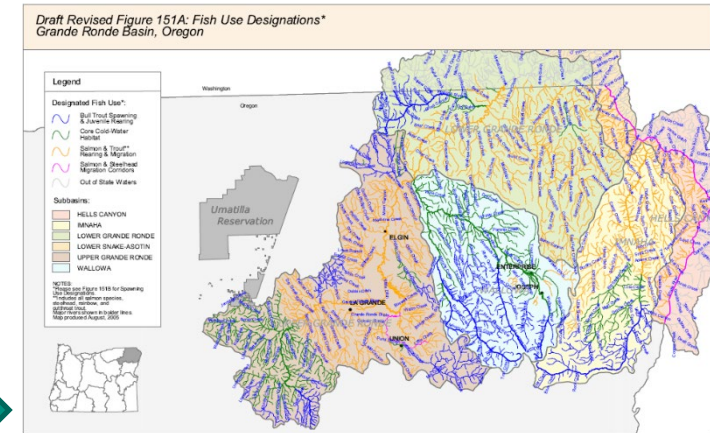
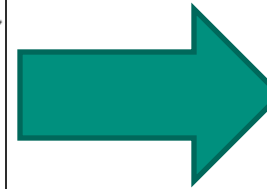
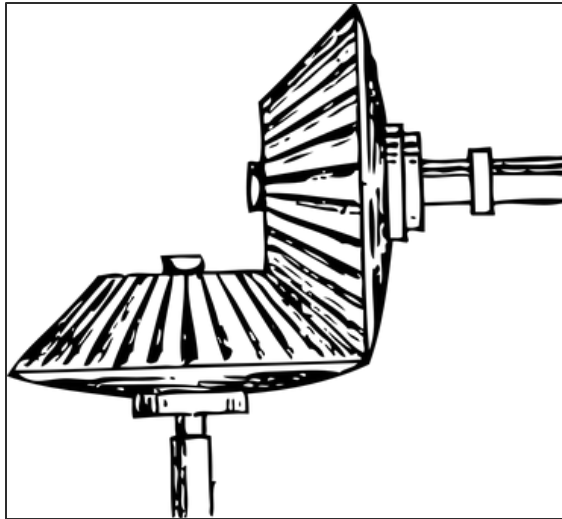
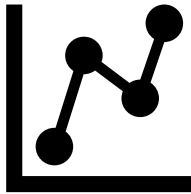


TABLE 121B
BENEFICIAL USE DESIGNATIONS - FISH USES
MAINSTEM SNAKE RIVER

| Geographic Extent of Use | Salmon and Steelhead Migration Corridors (20° C) | Redband or Lahontan Cutthroat Trout (20° C) | Salmon and Steelhead Spawning through Fry Emergence |
|---|--|---|---|
| Mainstem Snake River | | | |
| Oregon/Washington border to Hells Canyon Dam (RM 169 to RM 247.5) | X | | October 23-April 15 |
| Hells Canyon Dam to Idaho border (RM 247.5 to RM 409) | | X | |

Table produced November, 2003

Technical Advisory Workgroup

- Nine experts
- Met seven times
- Provided data and interpretation
- Reviewed methodology and technical support documents



Primary Data Sources

Supplemental Data



ODFW

- Fish Habitat Distribution Database
- Life-Stage Timing Tables Database
- Other data sets



U.S. FWS

- Final Bull Trout Critical Habitat Designation (2010)
- Biological Opinion (2014)

DEQ

- AWQMS statewide temperature database



U.S. Forest Service

- NorWeST Stream Temperature Observations Regional Database



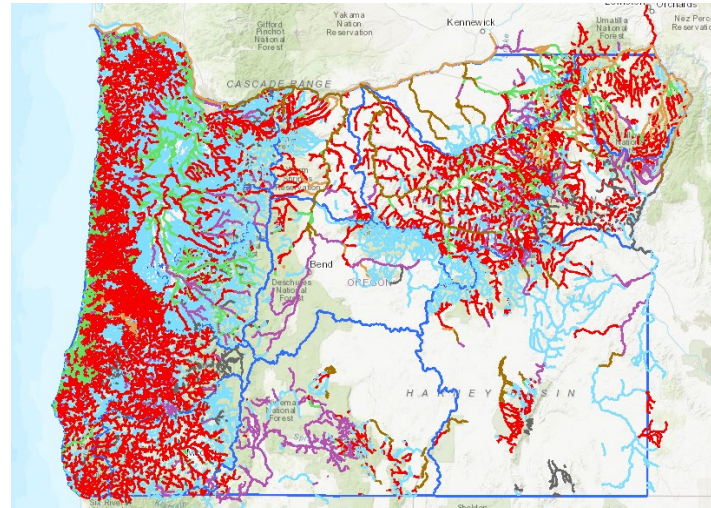
U.S. EPA

- Region 10, Columbia River Cold Water Refuges Plan



Fish Habitat Distribution Database (FHD)

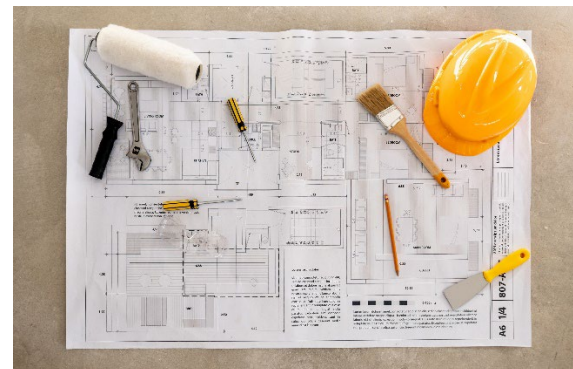
What is the FHD?



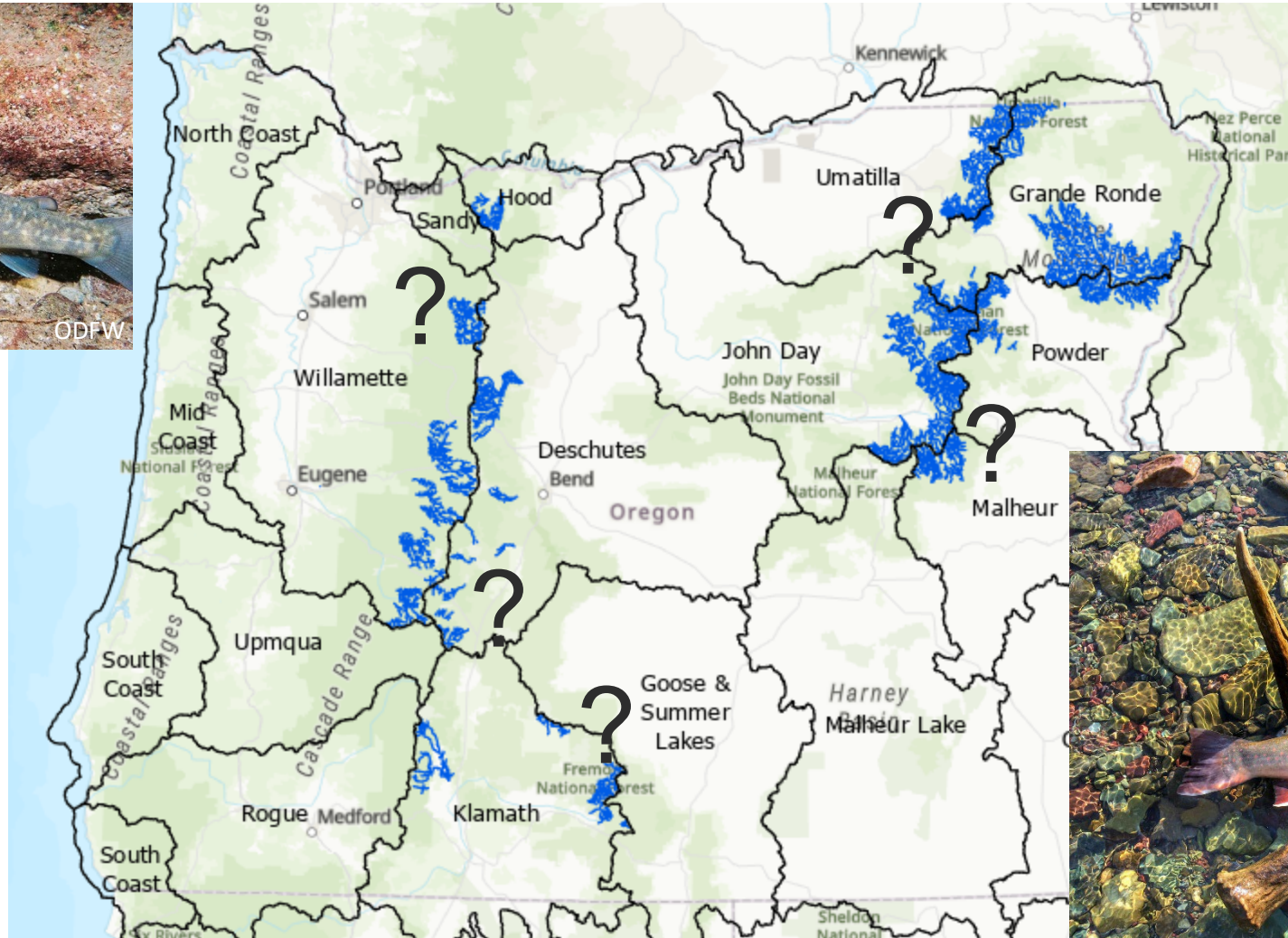
Where does the data come from?



How is it maintained?





Statewide Bull Trout Working Groups

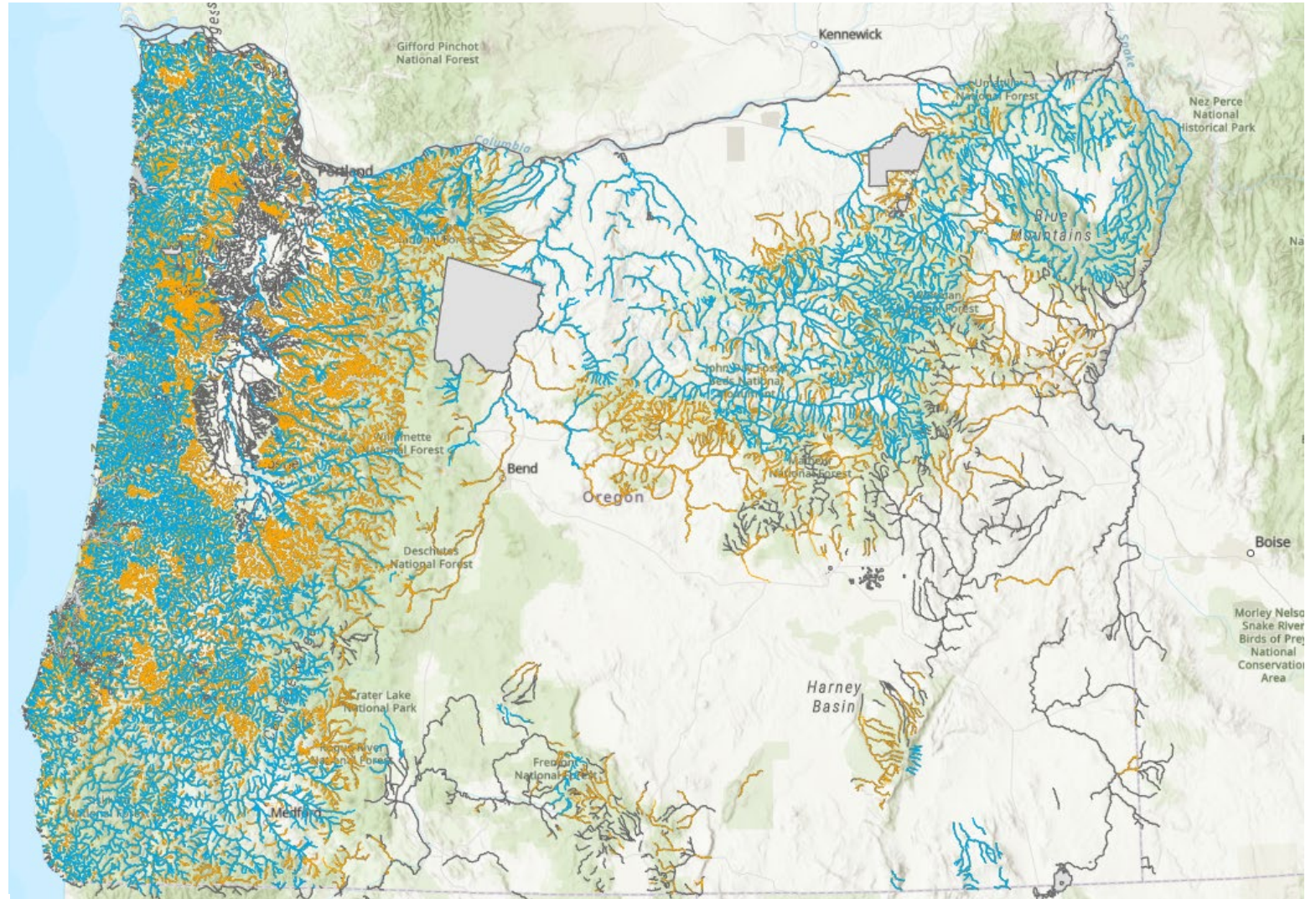


Identifying Resident Trout Spawning Habitats

Salmonid spawning for dissolved oxygen

-  Current Salmonid Spawning Designations
-  New designations for Trout Spawning
-  Remaining Uncertainty – Trout Spawning

Relies on ODFW-FHD and Timing Tables



Resident Trout Spawning Distribution

Consultation with ODFW

Pre-Rulemaking

- ID readily available information on spawning habitat.
- Review published reports, datasets
- Contact ODFW district biologists about existing or likely spawning habitat

Post-Rulemaking

- Continue follow-up with district biologists to fill gaps
- Evaluate any 3rd party data submitted during/after comment period
- ID high priority areas
- Document where additional spawning habits are identified

Stakeholder Involvement Process

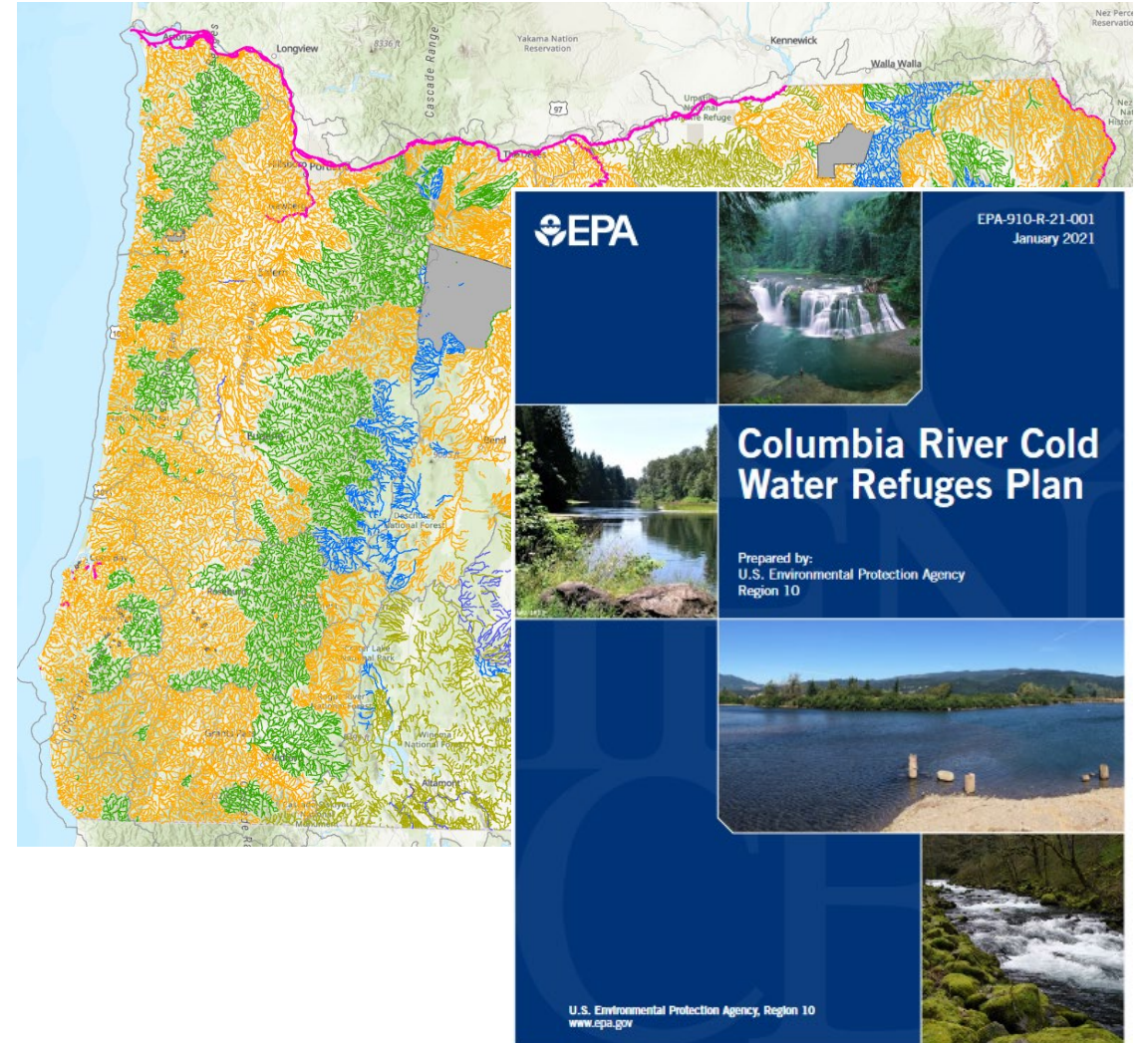
Rulemaking Advisory Committee (RAC)

- 19 members
- Met 6 times 2022 – 2023
- Inform and evaluate outcomes
- Fiscal impact statement



Proposed Temperature Use Updates

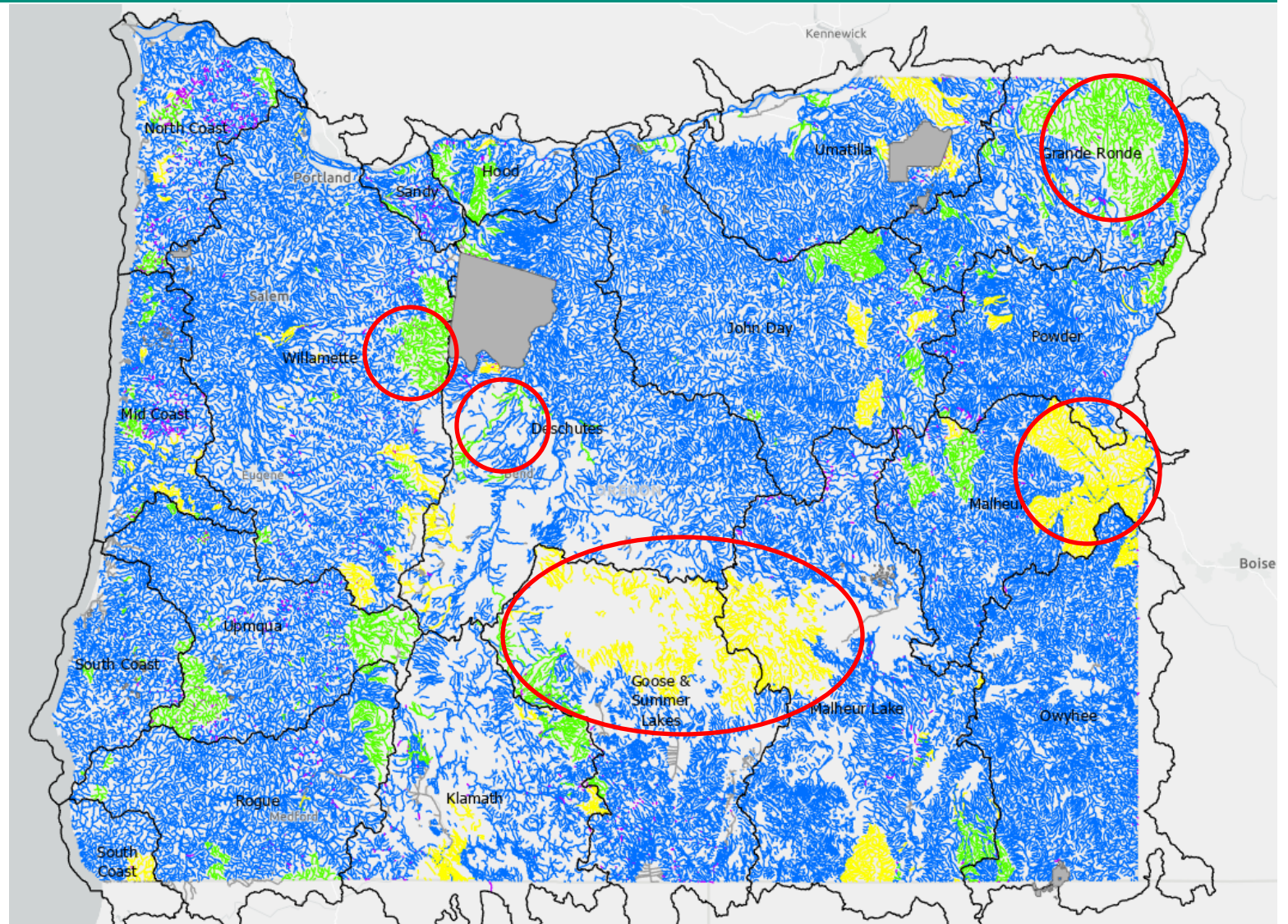
1. Update fish uses statewide based on most current data
2. Revise Bull Trout use designations to align with federal Critical Habitat designations and new data
3. Expand 'Core-cold Water Habitat' based on additional temperature data
4. Refined spawning locations / dates
5. Account for habitat restoration and fish passage upgrades



Proposed Temperature Use Changes and Use Attainability Analyses

Use Change Category

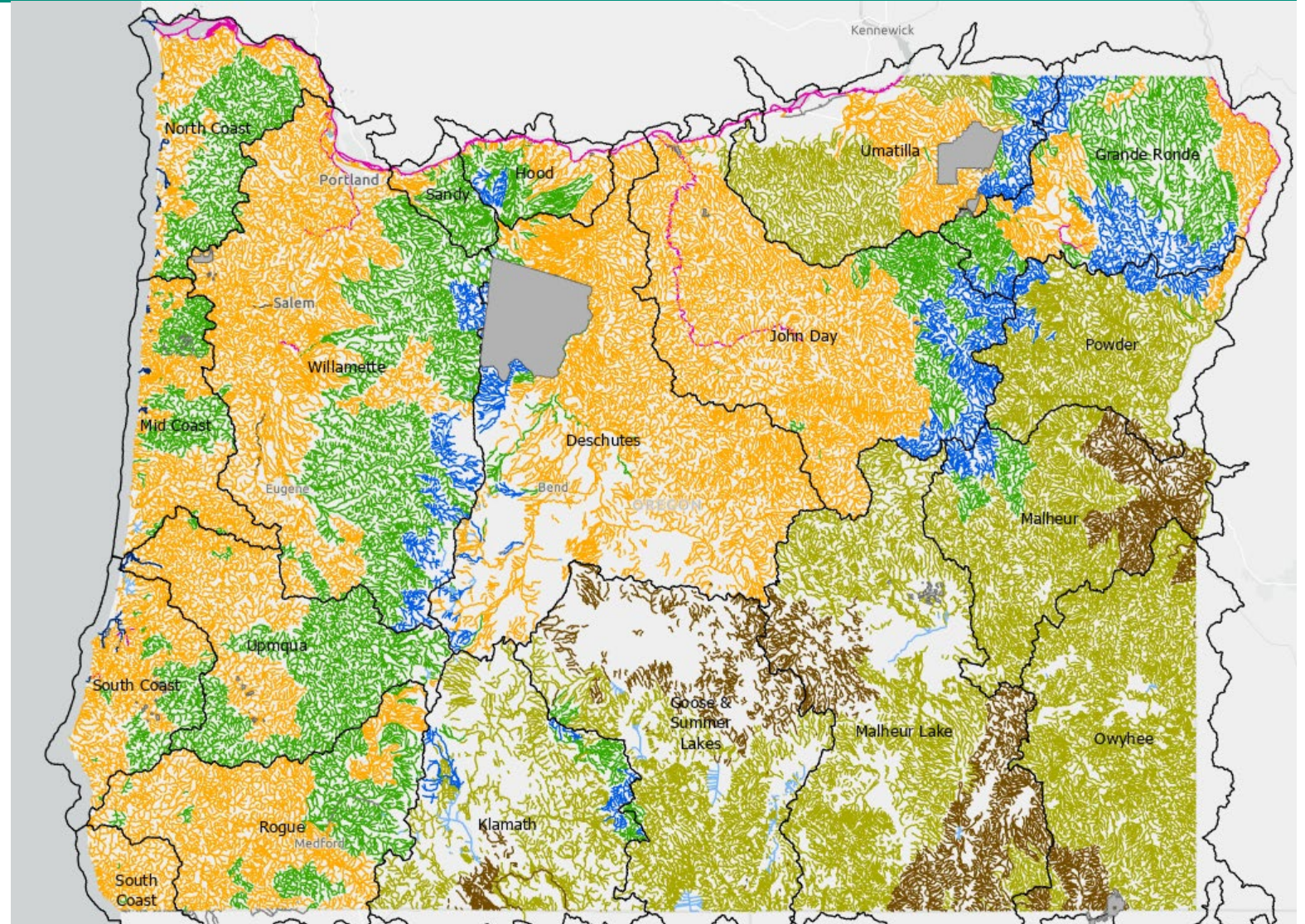
- Blue: No Change
- Purple: New designation
- Green: More stringent use
- Yellow: Less stringent use
- Grey: Out of Jurisdiction / Not designated



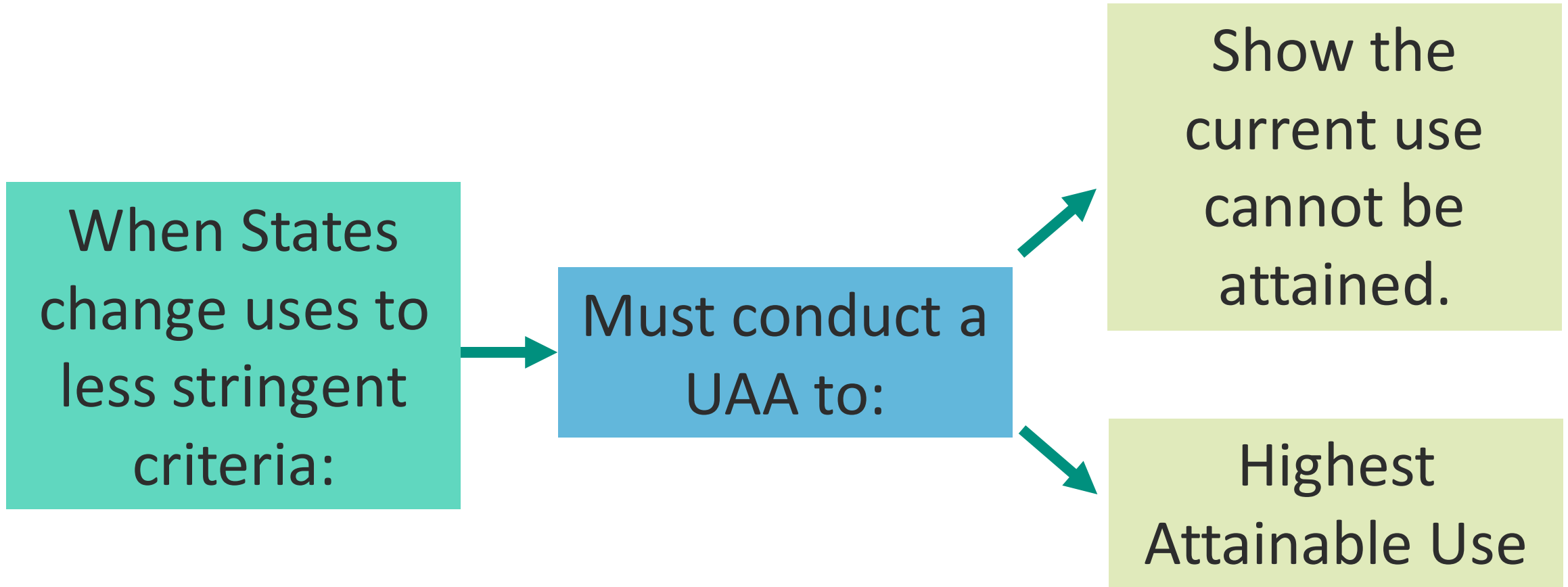
Proposed Temperature Year- Round Use Updates

Use Category

- Blue Bull Trout Spawning & Juvenile Rearing
- Green Core Cold Water Habitat
- Orange Salmon and Trout Rearing & Migration
- Light Green Redband or Lahontan Cutthroat Trout
- Pink Salmon and Steelhead Migration Corridors
- Brown Cool Water Species
- Red Borax Lake Chub (Warm Water Species)
- Grey Out of Jurisdiction / Not Designated



Use Attainability Analyses (UAA)



Proposed Dissolved Oxygen Use Designations

1. Designate aquatic life use subcategories.

- Consistent with DEQ's established implementation procedures.
- Amends basin-specific beneficial use rules.

2. Salmonid Spawning Use: Identify resident trout spawning areas.






TABLE 21
DISSOLVED OXYGEN & INTERGRAVEL DISSOLVED OXYGEN CRITERIA
(Applicable to All Basins)

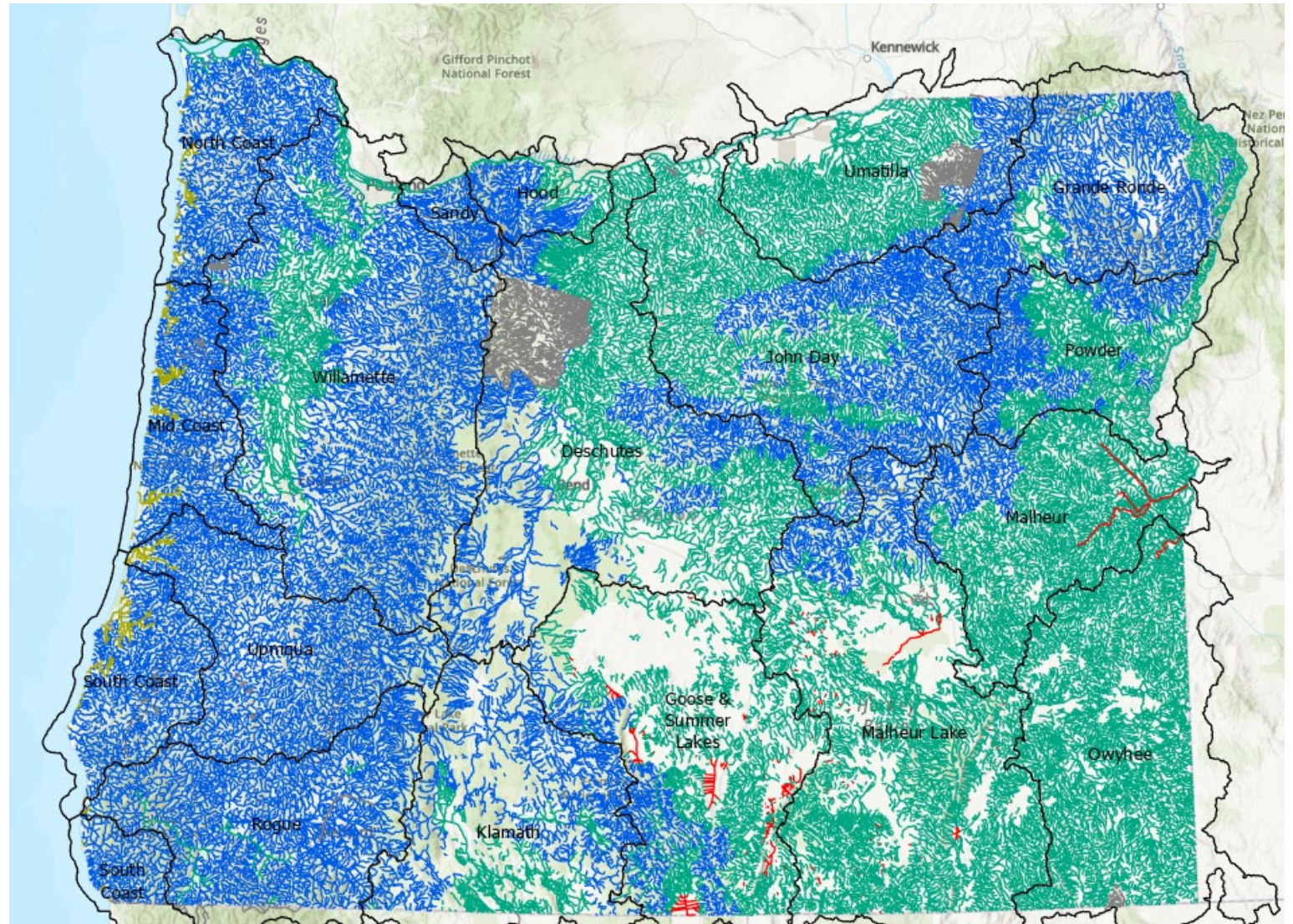
| Class | Concentration and Period ¹ (All Units are mg/L) | | | | Use/Level of Protection |
|-------------------|---|---------------------|------|------------------|--|
| | 30-D | 7-D | 7-Mi | Min | |
| Salmonid Spawning | | 11.0 ^{2,3} | | 9.0 ³ | Principal use of salmonid spawning and incubation of embryos until emergence from the gravels. Low risk of impairment to cold-water aquatic life, other native fish and invertebrates. |
| | | | | 8.0 ⁴ | |
| Cold Water | | | | | Principally cold-water aquatic life. Salmon, trout, cold-water |
| Cool Water | | | | | |
| Warm Water | | | | | |
| No Risk | | | | | |



Dissolved Oxygen – Year-Round Use Designations

Dissolved Oxygen Use Designations

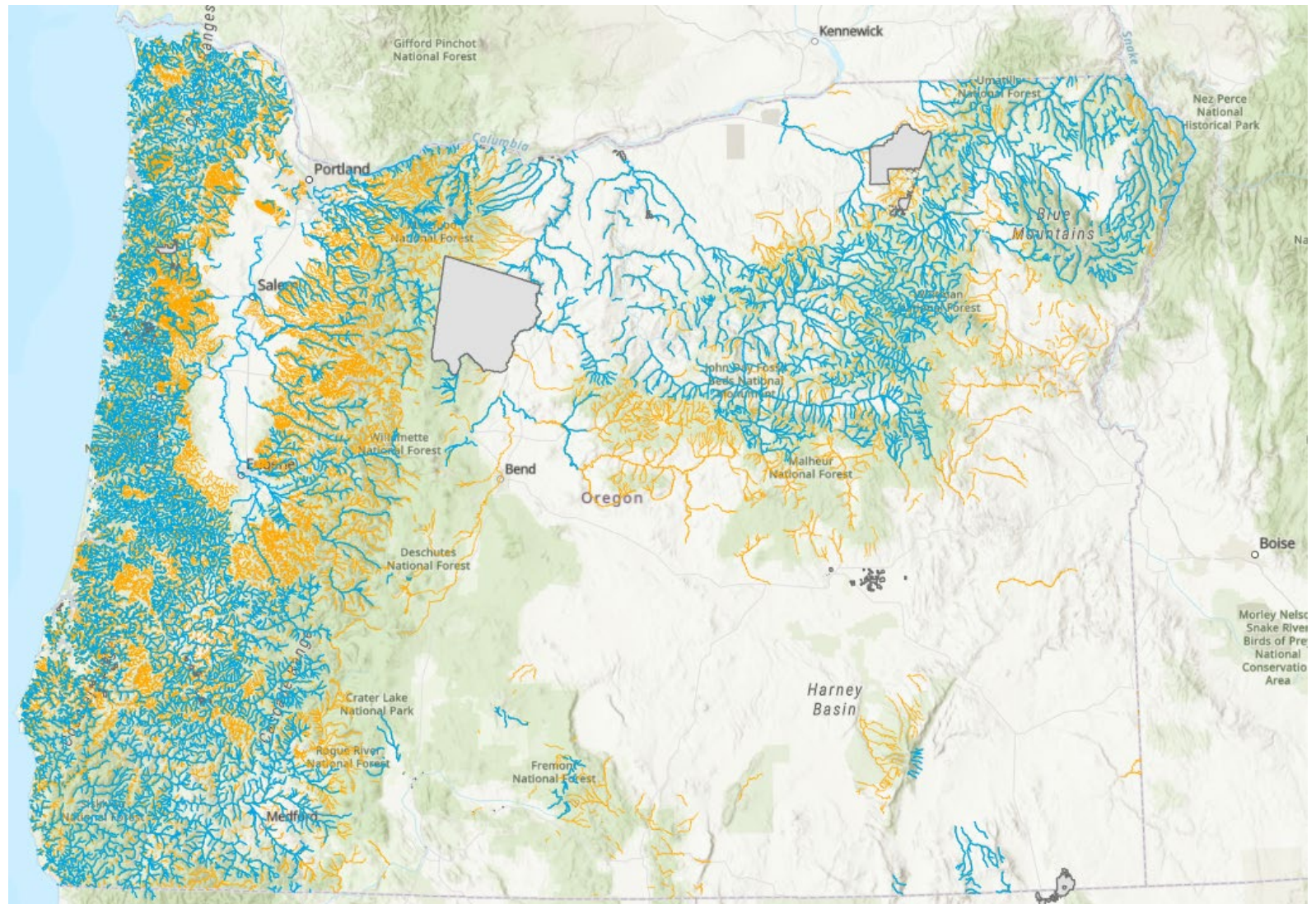
-  Cold-Water Aquatic Life
-  Cool-Water Aquatic Life
-  Warm-Water Aquatic Life
-  Estuarine
-  Out of Jurisdiction / Not Designated



Dissolved Oxygen – Seasonal Salmonid Spawning Designations

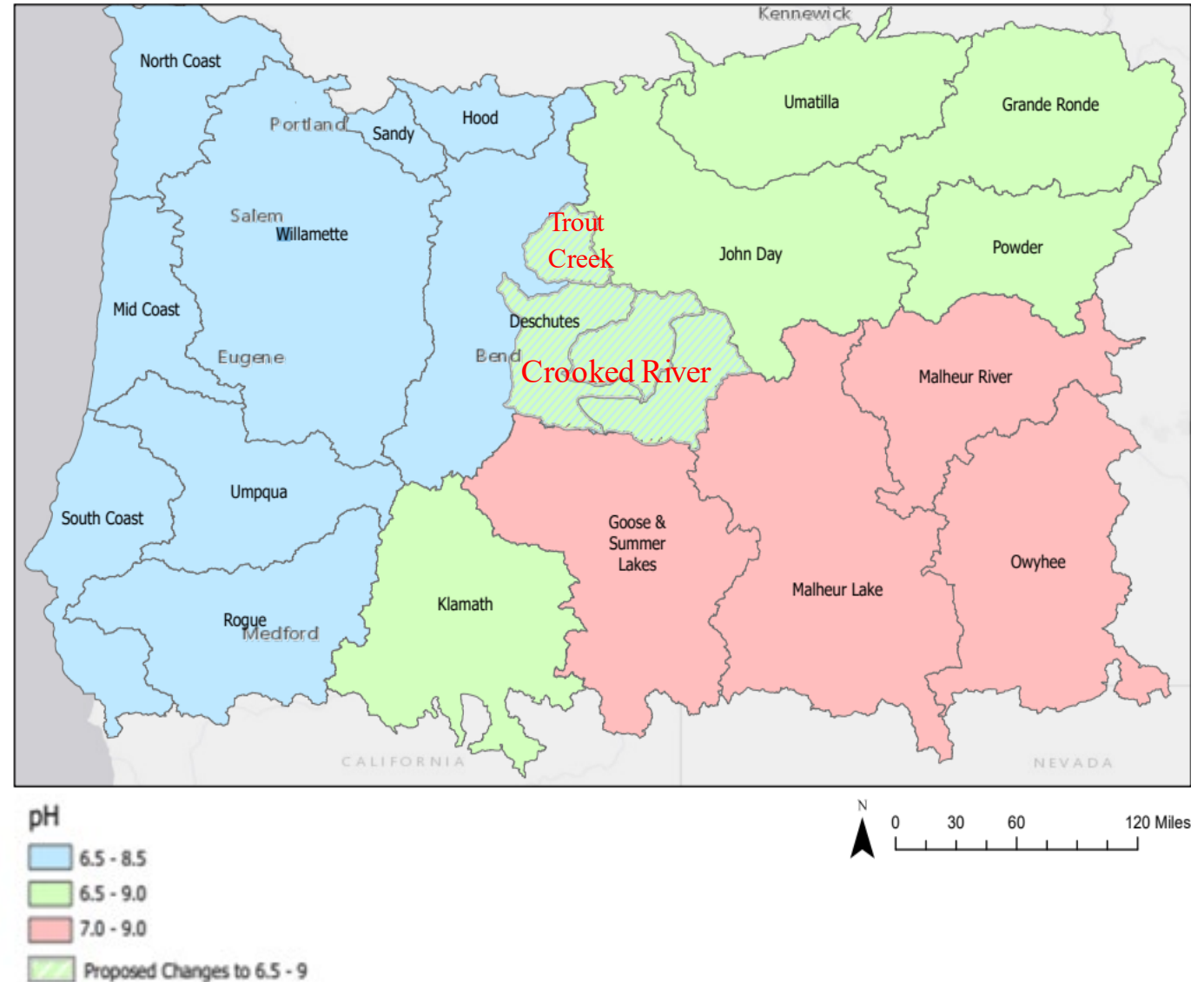
Salmonid spawning

- Salmon, Steelhead, Bull Trout
- Additional Resident Trout Spawning



Additional Minor Revisions

1. Revise conflicting use of terms in definitions:
 - Division 41 (2) vs. (16)
2. Revise Crooked River and Trout Creek subbasin pH criteria:
 - Change upper limit from 8.5 to 9.0

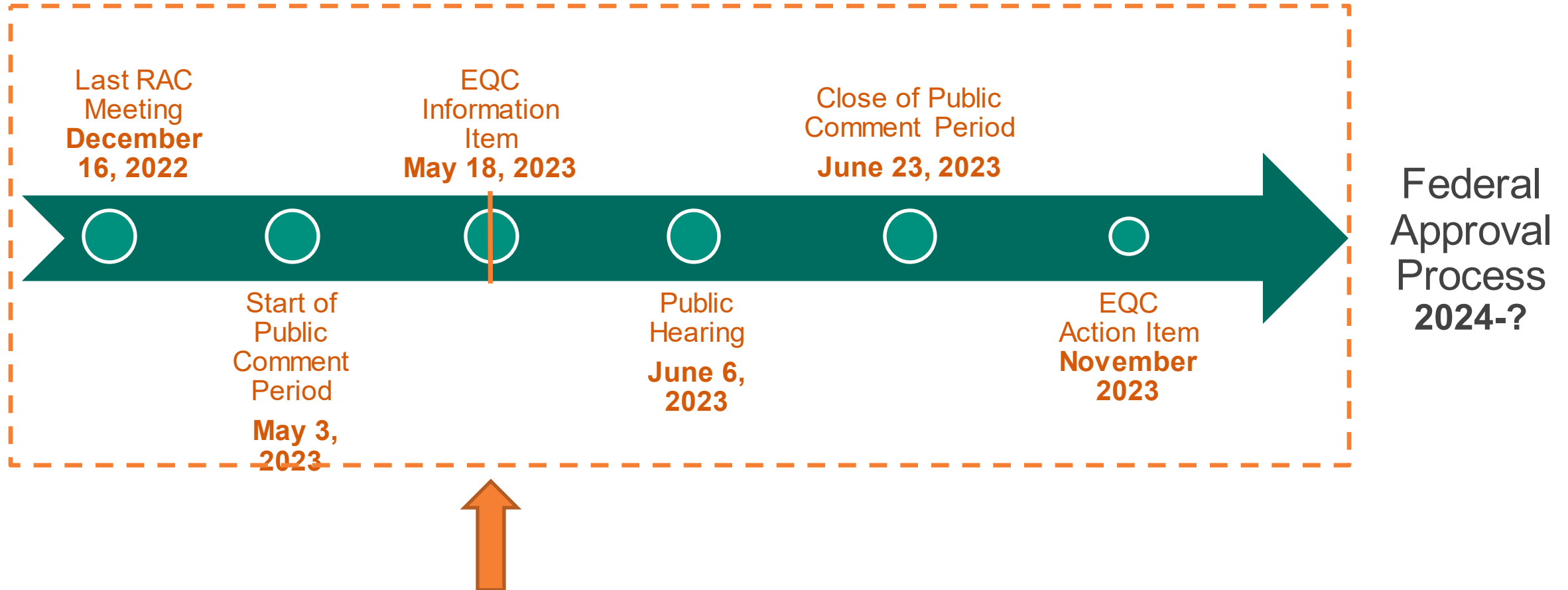


Key Issues and Challenges

- Ensure the use designations are accurate.
- Interpret fish distribution data for use designation.
- Analyze, document and communicate large amounts of information.
- Use Attainability Analysis for Temperature.
- Additional data and professional judgement are needed to identify resident trout spawning locations.

Project Schedule

Policy Review & Public Involvement



Questions?



Metolius River, Oregon

Rulemaking Resources:

Website: <https://www.oregon.gov/deq/rulemaking/Pages/aquaticlife2022.aspx>

Rulemaking Email: aquaticlife.2022@deq.oregon.gov

Project Manager: James McConaghie, PhD. james.mcconaghie@deq.oregon.gov (503) 229-5619