

Item I: 2024 Total Dissolved Gas Modification Order for the Mainstem Columbia River (Informational)

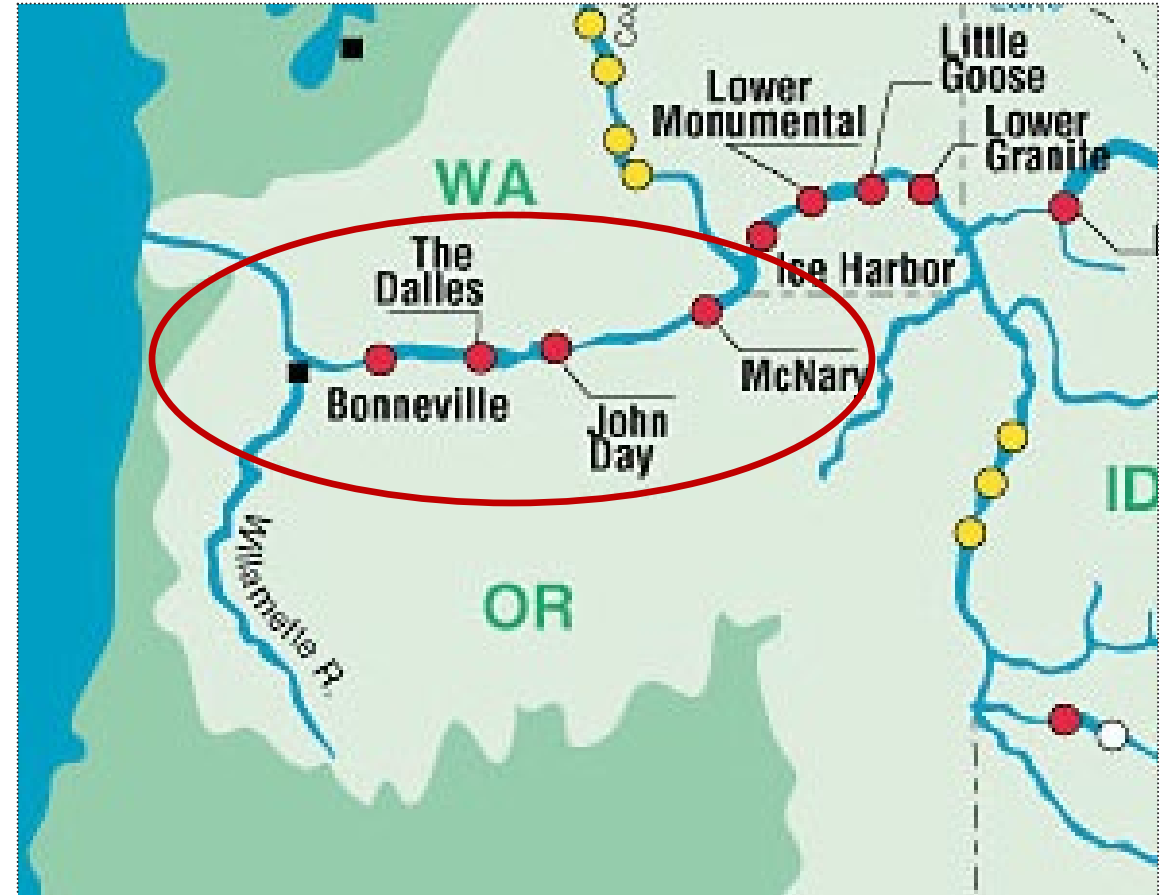
Sept. 27, 2024
Portland

Overview

- Intro and background
- Adaptive management of total dissolved gas and EQC role
- Benefits of voluntary spill for salmonids and relative risks
- December 2023 Resilient Columbia Basin Agreement
- Next steps: November Action Item
- Questions and discussion

Total Dissolved Gas Water Quality Standard Modification

- Previous five-year modification order expired on Aug. 31, 2024
- July 2024 request to renew modification to implement voluntary fish passage spill on lower Columbia River
- DEQ plans to bring a new modification order for action at the November EQC meeting



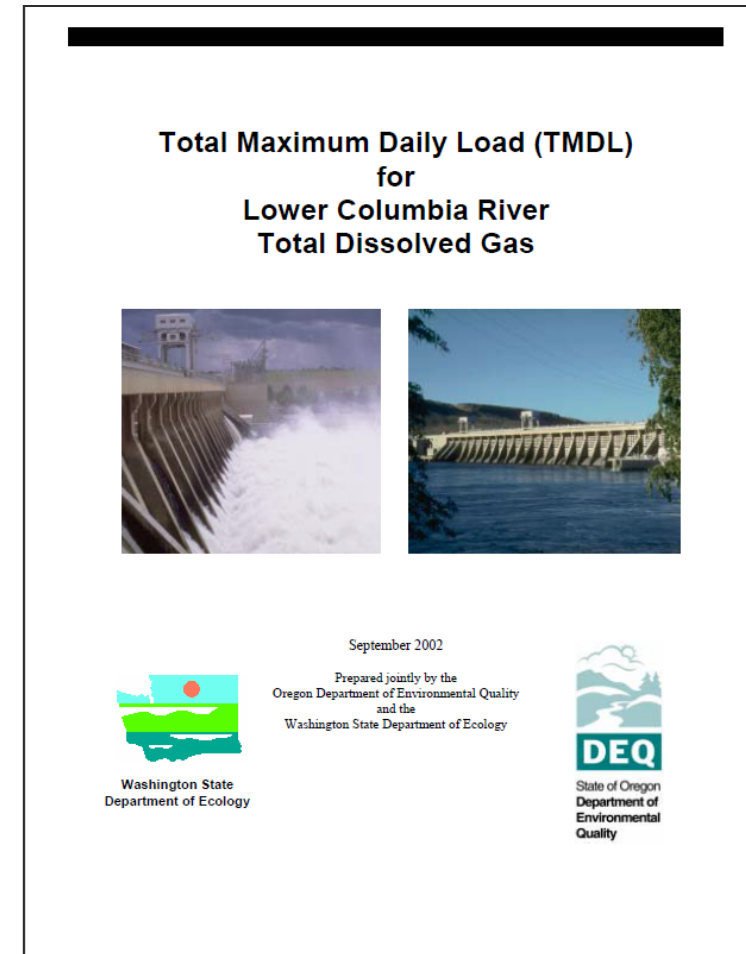
Definitions

- Total dissolved gas (TDG)
 - Air (nitrogen and oxygen) dissolved in water
 - Caused by plunging water that entrains air
 - High levels can be detrimental to fish health
- Spill
 - Water passing over the spillway
 - Increases total dissolved gas levels
 - Improves survivorship of juvenile salmonids



Total Dissolved Gas Water Quality Standard

- Statewide total dissolved gas criteria:
 - 110 percent of atmospheric pressure
- Total Maximum Daily Load
 - Issued jointly by Oregon and Washington with EPA approval in 2002
 - The U.S. Army Corps of Engineers operates the lower four Columbia River dams and implements the operational and structural modifications



EQC Authority

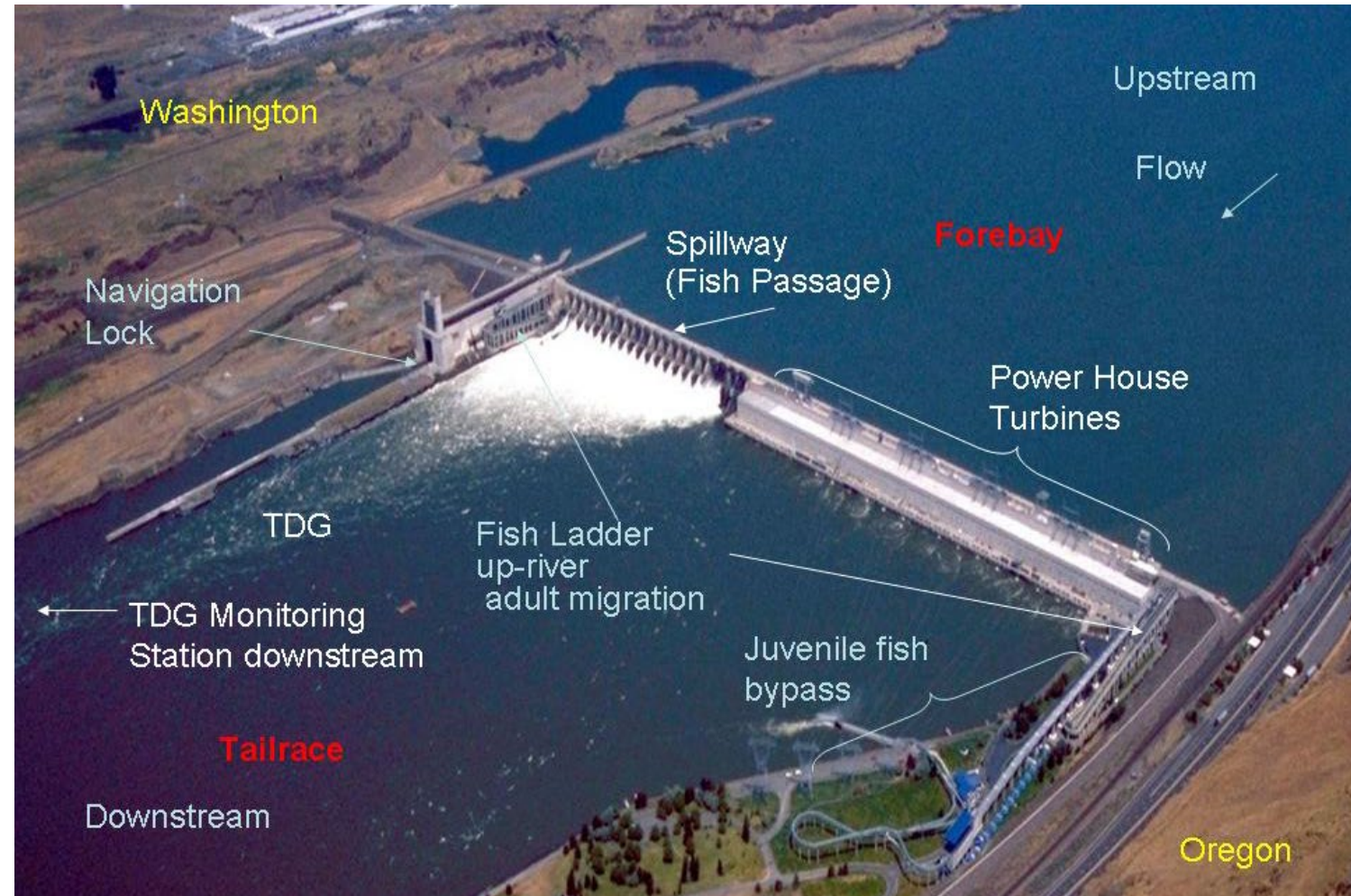
- Under Oregon Administrative Rules 340-041-0104(3), EQC may modify the total dissolved gas criteria for the purpose of allowing increased spill for salmonid migration
- The commission must find that:
 - (a) Failure to act would result in greater harm to salmonid stock survival through in-river migration than would occur by increased spill;
 - (b) The modified total dissolved gas criteria associated with the increased spill provides a reasonable balance of the risk of impairment due to elevated total dissolved gas...;
 - (c) Adequate data will exist...; and
 - (d) Biological monitoring is occurring...

Request for TDG Modification Renewal

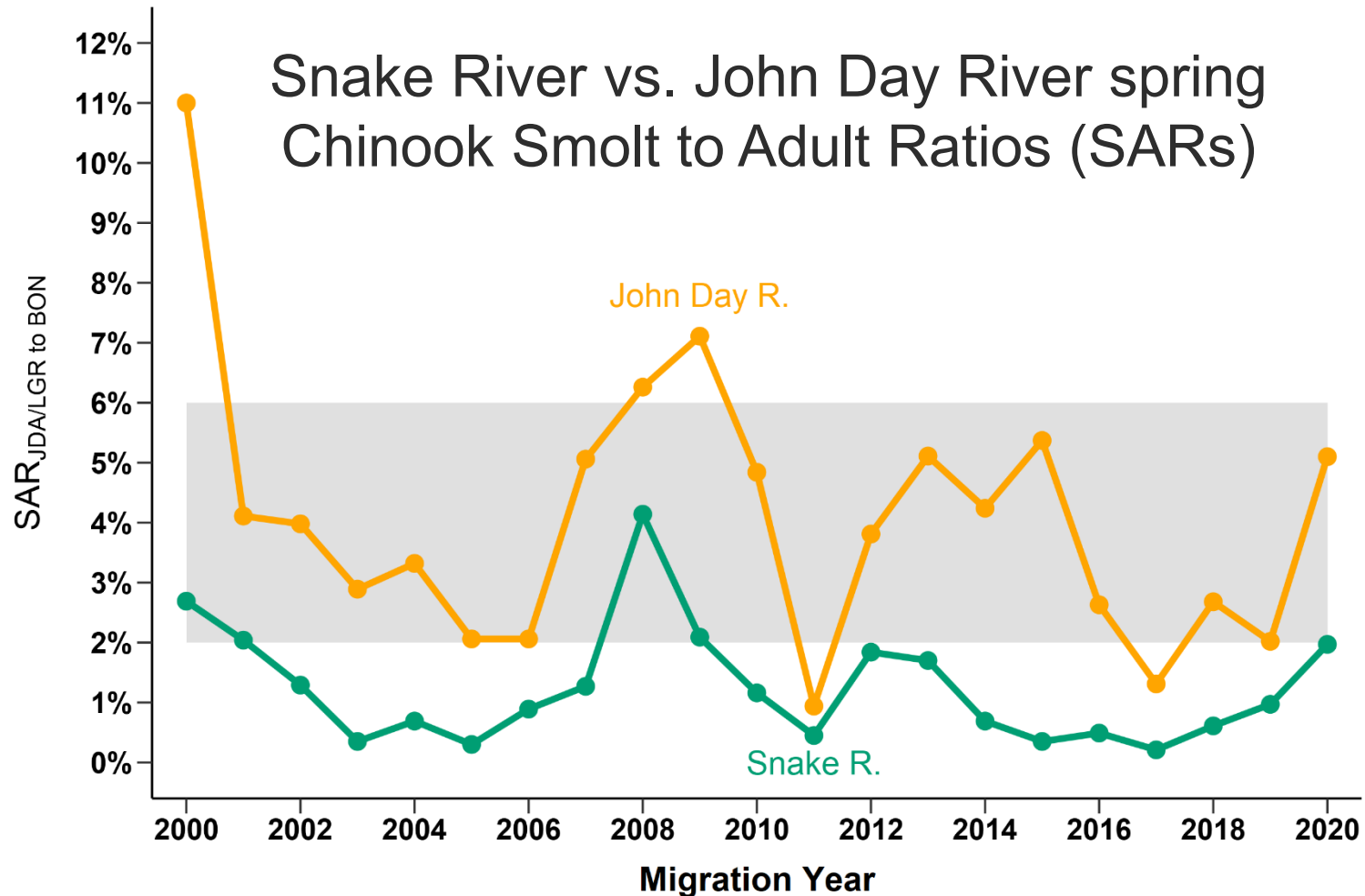
- Since 1994, the EQC has approved modifications
- Previous TDG Modification Order
 - Covered spill seasons 2020 – 2024
 - Expired Aug. 31, 2024
 - Allowed for TDG up to 125 percent in spring and 120 percent during summer
- July 2024 request from the U.S. Army Corps of Engineers to renew the modification order
 - Necessary to implement planned operations in the 2023 Resilient Columbia Basin Agreement

In-River Migration Routes

John Day Dam



Benefits of Voluntary Spill to Salmonids



Benefits of Voluntary Spill to Salmonids

- Increased spill proportion is expected to increase ESA listed salmonid survival through:
 - 1) Decreasing their rate of powerhouse passage, and
 - 2) Decreasing the amount of time it takes them to migrate downstream
- Increased spill to 125% TDG is not the only answer to salmon and steelhead recovery and to reaching healthy and abundant populations, but it does provide important survival benefits and time while we work on other critical pieces.
- Although increasing spill proportion is expected to increase TDG exposure risk to aquatic life, since implementing modified standards the impacts have remained within established criteria levels.

TDG Impacts of Existing Modification

- We look for Gas Bubble Trauma (GBT) in fins of fish in the juvenile bypasses and tailraces of the dams.
- During the implementation of the last standard modification there has been expanded GBT monitoring - which has largely verified risk levels remain within established levels.
- In the last five years there have not been GBT levels observed in any fish during voluntary spill operations by our monitoring efforts that resulted a reduction of voluntary spill.

Modification Critical to Ongoing Salmon Recovery Efforts

- Supports goal of minimizing powerhouse encounters and maximizing spillway passage
- Essential element to supporting operations agreed to in regional agreements
- Increase chance of Smolt-to-Adult Returns (SARs) of 2% or more and reduce risk of SARs less than 1%

The Formation of the Six Sovereigns Coalition

- For years, the Six Sovereigns have each advocated for a comprehensive approach to addressing Columbia Basin salmon restoration and related energy, water, and development-related issues.
- Building on their shared perspectives, the Six Sovereigns developed and advanced recommendations to the USG on what a comprehensive strategy should include.



Columbia Basin Restoration Initiative

The Columbia Basin Restoration Initiative (CBRI) represents the collaborative effort of the Six Sovereigns to develop a comprehensive solution for shared and complex challenges. It is informed by the Six Sovereigns' significant technical expertise as fisheries co-managers, and by their sovereign obligations to their constituents.

The CBRI is intended as a roadmap to help the Six Sovereigns and the USG work in partnership together and with others in the region to restore Columbia Basin fisheries to healthy and abundant levels, honor commitments to Tribal Nations, and deliver affordable and reliable clean power while meeting the many resilience needs of stakeholders in the Columbia River basin and the Pacific Northwest.



Securing USG *Commitments* to Help Position the Columbia Basin for Success

A transparent *Whole of Government* approach to advance “... a durable long-term strategy to restore salmon and other native fish populations to healthy and abundant levels, honoring Federal commitments to Tribal Nations, delivering affordable and reliable clean power, and meeting the many resilience needs of stakeholders across the region.” ~*President Biden*



Resilient Columbia Basin Agreement

- In December 2023, the USG signed an historic Memorandum of Understanding (“MOU”) with the Six Sovereigns and the NGO plaintiffs in the *NWF v NMFS* litigation (together, the “MOU Parties”).
- The 10-year MOU provides for a package of:
 - Initial federal actions (the “USG Commitments”) ***in support of the CBRI*** and in partnership with the Six Sovereigns.
 - Stay of litigation and refrain from similar litigation (initial 5 years with a 5-year option)
 - 10-year spill agreement for federal Columbia River and Snake River dams
- **Together, these documents are referred to as the Resilient Columbia Basin Agreement.**

2024 Proposed Modification Renewal

- Proposed 2024 Modification Order maintains framework and total dissolved gas limits of previous order:
 - 125 percent daily TDG in spring (April 1 – June 15)
 - 120 percent daily TDG in summer (June 16 – Aug. 31)
 - Requirements
 - Physical monitoring of total dissolved gas
 - Biological monitoring for gas bubble trauma
 - Annual reporting
- Proposed Update:
 - Streamline process by which DEQ Director may approve additional periods (within the year) the modification applies
 - Needed to allow for increased spill during fall-winter months

Next Steps

- Public comment period: Sept. 6 – Oct. 6
 - Public hearing held on Sept. 20
- DEQ anticipates bringing a proposed 2024 TDG Modification Order to the Nov. 21-22 EQC Meeting
 - DEQ will provide a response to public comments in a staff report

Questions and Discussion

Title VI and alternative formats

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