

Item F: 2024 Total Dissolved Gas Modification Order for the Mainstem Columbia River (Action)

Nov. 21, 2024

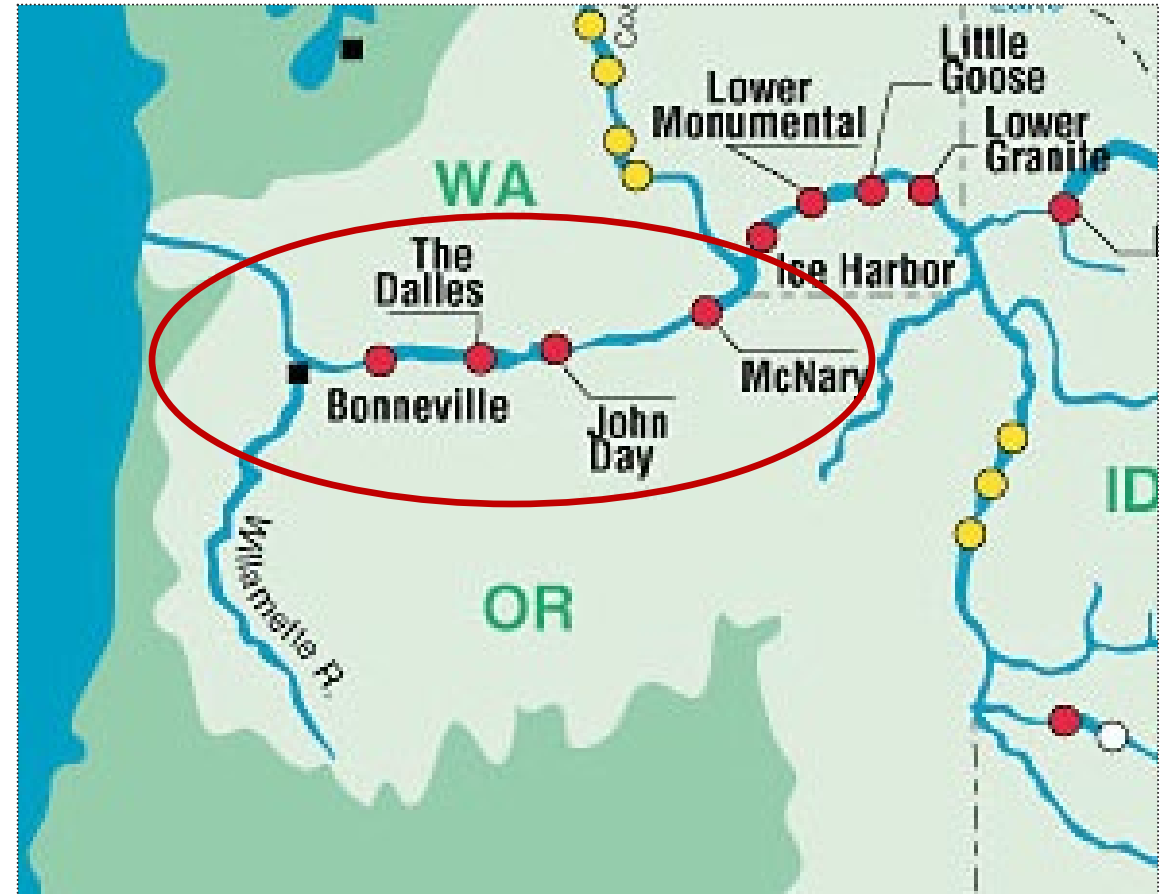
DEQ Laboratory, Hillsboro, OR

Overview

- Introduction
- Public input
- Recommended modification
- Questions and discussion

Total Dissolved Gas Water Quality Standard Modification

- Previous five-year modification order expired on Aug. 31, 2024
- The 2023 Resilient Columbia Basin Agreement specifies spill operations up to 125% total dissolved gas to benefit salmonids
- In July 2024, U.S. Army Corps of Engineers requested DEQ renew the modification



EQC Authority

- Statewide criteria for total dissolved gas is 110 percent of saturation
- Under Oregon Administrative Rules 340-041-0104(3), the 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 to determine compliance;
 - (d) Biological monitoring is occurring;
 - (e) The commission will give public notice; and
 - (f) The commission may consider alternative modes of in-river transportation

Public Input

- Public comment period: Sep. 6 – Oct. 13
 - Public hearing held on Sep. 20
 - EQC informational item on Sep. 27
- DEQ received 8 written comments and no oral testimony on the proposed modification

Commenters

1. Oregon Department of Fish and Wildlife
2. Fish Passage Center
3. Bonneville Power Administration
4. Columbia Inter-Tribal Fish Commission
5. U.S. Fish and Wildlife Service
6. Public Power Council
7. The Confederated Tribes and Bands of the Yakama Nation
8. Northwest RiverPartners

Summary of Comments

- More than half of the commenters supported the proposed modification
- One commenter expressed concern about potential impacts to native nonsalmonids
- Multiple commenters noted the need to expand the time period the order applies
- Multiple commenters requested the order:
 - Include additional details on gas bubble trauma incidence rates,
 - Reference best available science, and
 - Note the biological threshold exceedances on the Lower Snake River in Washington in 2023

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 to DEQ

Summary of Significant Updates

- Based on public input, DEQ incorporated these updates:
 - Streamline process by which DEQ Director may approve additional periods (within the year) the modification applies
 - Provide the DEQ Director discretion to curtail spill in spring based on gas bubble trauma data in non-salmonids
 - Updated dates of application
 - Moved up start date to Jan. 1, 2025
 - Extended end date through Dec. 31, 2029
 - Clarified calculation of daily total dissolved gas limits in fall-winter months
 - Average of the highest 12 measurements in a 24-hour period
 - Added references to the U.S. Geological Survey's *Nonsalmonid Gas Bubble Trauma Investigations* (2024) report

Evaluation of Modification Criteria

a) Failure to act would result in greater harm to salmonid stock survival

- No action leaves the 110 percent saturation limit in place, restricting spill operations at the four lower Columbia River dams
- Approving the recommended modification allows the implementation of the Resilient Columbia Basin Agreement

Evaluation of Modification Criteria

b) The modified criteria associated with increased spill provides a reasonable balance of risk to both resident biological communities and migrating salmonids

- Based on the results of the Comparative Survival Study and biological monitoring results, the increased risk to salmonids and resident aquatic species due to elevated total dissolved gas levels is reasonably balanced by expected benefits of reducing powerhouse passage rates

Evaluation of Modification Criteria

c) Adequate data will exist to determine compliance

- Total dissolved gas is monitored in the tailrace of each of the four lower Columbia River dams
 - Hourly data exists to determine compliance with the standards as they are proposed to be modified

Evaluation of Modification Criteria

d) Biological monitoring is occurring to document that the migratory salmonid and resident biological communities are being protected

- Biological monitoring of salmonids and nonsalmonids will continue
- DEQ plans to work with the U.S. Army Corps of Engineers to develop an approvable biological plan

Evaluation of Modification Criteria

e) The commission will give public notice

- Public notice and hearings have been provided for the proposed modification

f) The commission may, at its discretion, consider alternative modes of migration

- DEQ did not evaluate other modes of migration

Proposed Motion Language

“I move that the Environmental Quality Commission adopt the proposed order modifying the total dissolved gas water quality standard on the mainstem Columbia River as included in Attachment F.”

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Contact: 800-452-4011 | TTY: 711 | deqinfo@deq.state.or.us