



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
1201 NE Lloyd Boulevard, Suite 1100
PORTLAND, OREGON 97232-1274

September 25, 2019

Susan Braley
Washington State Department of Ecology
Water Quality Program
P.O. Box 47600
Olympia, WA 98504-7600

Subject: Comments on Washington State Department of Ecology's proposed changes to total dissolved gas criteria (WAC 173-201A-200(1)(f)) and draft Environmental Impact Statement for the Snake and Columbia Rivers.

Dear Ms. Braley,

The National Marine Fisheries Service (NMFS) appreciates the opportunity to comment on Washington State Department of Ecology's (WDOE) proposed changes to total dissolved gas (TDG) criteria for the Snake and Columbia Rivers. Please see our comments below on Washington State Department of Ecology's proposed rule, implementation plan, and draft Environmental Impact Statement (DEIS).

Proposed Rule Change Comments WAC 173-201A-200(1)

Pg. 5, (f)(ii)

Draft language: The elevated TDG levels are intended to allow increased fish passage without causing more harm to fish populations than caused by turbine fish passage. The following special fish passage exemptions for the Snake and Columbia rivers apply when spilling water at dams is necessary to aid fish passage:

NMFS suggested language: The elevated TDG levels are intended to allow increased juvenile fish passage without causing more harm to anadromous fish populations than caused by turbine fish passage. The following special fish passage exemptions for the Snake and Columbia rivers apply when spilling water at dams is necessary to aid fish passage:

Pg. 6, (f)(ii)(B)

Draft Language: To further aid fish passage during the spring spill season (generally from April through June), spill may be increased up to a maximum TDG saturation level of one hundred twenty-five percent...

NMFS suggested language: *To further aid juvenile anadromous fish passage at the lower Snake projects and lower Columbia River projects during the spring spill season (generally from April through June), spill may be increased up to a maximum TDG saturation level of one hundred twenty-five percent...*

Pg. 6, (f)(ii)(B)(II)

Draft Language: Application of the tailrace maximum TDG criteria must be accompanied by a department approved biological monitoring plan designed to measure impacts of fish exposed to increased TDG conditions. Beginning in the year 2021, plans must include monitoring for non-salmonid fish species and must continue for a minimum of five years, and thereafter as determined by the department.

NMFS Comment: We agree that the body of scientific information on effects to native and anadromous fish at 125% TDG warrants an effective Gas Bubble Trauma (GBT) monitoring plan. We would like to discuss the specifics of the plan to determine if implementation will meet expectations without resulting in additional ESA-listed salmonid take. Based on observations of individual native resident fish incidentally counted in bypass systems, we do not expect to meet the stated criteria of 50 native resident fish per week/per reach in the bypass systems alone using current sample rates. We are currently not planning for additional ESA-listed salmonid take associated with a monitoring program and we understand funding additional monitoring could be a concern. We advise that WDOE expressly allow the use of native residents collected by other programs (in addition to those collected in the juvenile bypass systems) to contribute to achieving the stated criteria. Options to observe native fish without additional ESA-listed salmonid take may include slight modifications to the Northern Pikeminnow dam angling program, and/or the electrofishing program to accommodate native fish GBT monitoring needs. More refinement on the monitoring plan among state and federal partners is necessary, and we look forward to more discussion. An internet link to bypass incidental catch data is referenced below.

http://www.fpc.org/smolt/incidentalcatchqueries/incidental_catch_query.html)

Comments on Draft Implementation Plan**Text Pg. 7:**

“A minimum of 50 non-salmonid and 50 salmonid fish are required weekly to determine compliance with the biological thresholds established for gas bubble trauma. Fish must be comprised of the same life stage (juvenile or adult life stage) when comparing incidence of gas bubble trauma to the biological thresholds due to differences in sensitivity to TDG. If sample

sizes do not meet the minimum requirements, surrogate non-native species may be substituted upon demonstration that native fish sample sizes were insufficient.

A minimum of three native non-salmonid species should be included in the weekly evaluation of biological thresholds for gas bubble trauma, with a minimum sample size of 10 for each fish species. Once the minimum requirements of three different species with samples of 10 each is met, no minimum sample size is required for additional fish species used in weekly compliance determinations. The incidence of gas bubble trauma in non-native species is not to be included in the evaluation of gas bubble trauma for purposes of using the adjusted TDG criteria unless there is an insufficient sample size of native fish species. When native fish species sample sizes do not meet the minimum requirements, surrogate non-native species may be counted toward the minimum of three species required for weekly sampling. All gas bubble trauma observations must be reported regardless of meeting the minimum sample requirements to calculate the incidence of gas bubble trauma. There are no minimum number of species required for salmonids.”

NMFS Comment: As stated previously, the current information indicates these criteria will not likely be met in the bypass system alone during most weeks, even if non-native resident fish are included in the sample. NMFS would like to understand if the expectation would be to accept a lower sample size, find fish from another sampling effort, or fund and implement additional studies. We are concerned that additional studies to observe TDG effects to native resident fish could result in additional take to juvenile and adult salmonids. It is uncertain what would occur to the spill program if GBT symptoms were observed in a high percentage of resident fish solely because of random sampling effects associated with low sample sizes (e.g. 3 of 6 native fish exhibited GBT symptoms). We encourage the WDOE to work with NOAA and other regional co-managers to settle on a monitoring plan that potentially utilizes current monitoring programs to meet the intent without resulting in additional take of ESA-listed salmonids.

Comments on Draft Environmental Impact Statement (DEIS)

Pg. 21

NMFS Comment: There is reference to the 2008 FCRPS Biological Opinion (BiOp) and the 2014 Supplemental BiOp, but there is no mention of the 2019 CRS BiOp, which has replaced previous versions. Some sections of the DEIS appear to have been written previous to the spring of 2019 and should be updated with recent information.

Pg. 22

NMFS Comment: We suggest updating the Final EIS language to represent the current data from 2019. The powerhouse encounter rates and BPA power revenue have been estimated for 2019. The Final EIS should be updated with this most recent info for the record.

Pg. 28

DEIS text: Of the routes available, studies have shown spillway passage is associated with the lowest mortality (Whitney et al. 1997; Muir et al. 2001).

NMFS Comment: This statement gives the impression that spillway passage is always associated with the lowest mortality. While it is often true that spillway passage has lower direct mortality than other routes, this is not always the case. We suggest correcting these statements in the Final EIS to accurately reflect this. The DEIS also fails to acknowledge that juvenile salmonids passing through surface passage routes generally have equal or higher survival rates than those passing through conventional spillways (NMFS – 2010 Supplemental FCRPS Biological Opinion; 2019 CRS Biological Opinion, Ploskey et al. 2012). Ploskey, G.R., M.A. Weiland and T.J. Carlson. 2012. Route-specific passage proportions and survival rates for fish passing through John Day Dam, The Dalles Dam, and Bonneville Dam in 2010 and 2011.

Pg. 55

DEIS text: Ecology's proposed decision is to allow for an adjusted tailrace criterion of 125% (Alternative 3) that may be applied at any time during the spring spill season in the Snake and Columbia rivers.

NMFS Comment: Given the uncertainty with effects to resident and anadromous fish residing at 125 percent TDG for long durations as described in this DEIS, we feel it would be appropriate from a biological perspective to select Alternative 4. Alternative 4 meets the objectives stated in the DEIS, reduces the potential duration of higher TDG exposure, and is an operation covered by a legally valid consultation document for spring 2020. Additionally, Alternative 4 more closely aligns with the Flexible spill operation agreement. NMFS supports the use of spillways as safe and effective routes of passage for downstream migrating juvenile salmon and steelhead. Since the 1990s, spillways have been used as a means of passing fish at the lower Snake and Columbia river dams. During this time there have been many instances, primarily associated with high flows or lack of load, where TDG levels in the tailrace of these dams were 125 percent or higher for limited periods of time. Given our past experience, NMFS has little concern for potential negative consequences over limited duration exposure. NMFS does have concerns regarding the potential for negative effects of 125 percent spill levels during low flow conditions or for longer durations (24/7 over the spring spill period), which would likely cause the formation of large eddies and substantially degraded tailrace egress conditions. These features can substantially increase the amount of time juveniles remain in the tailrace, increasing exposure to TDG and predation.

NMFS looks forward to working with Washington Department of Ecology and other parties involved in this process.

Sincerely,



for

Michael P. Tehan
Assistant Regional Administrator
Interior Columbia Basin Office
NOAA Fisheries, West Coast Region