



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
1201 NE Lloyd Blvd., Suite 1100
Portland, Oregon 97232-1274

June 1, 2017

Paula Wilson
Idaho Department of Environmental Quality
1410 North Hilton
Boise, Idaho 83706

Re: Comments for the Draft Implementation Guidance for the Idaho Copper Criteria for Aquatic Life (Docket 58-0102-1502)

Dear Ms. Wilson:

National Marine Fisheries Service (NMFS) appreciates efforts by the Idaho Department of Environmental Quality (IDEQ) to adopt new copper aquatic life criteria based on best available information and to concurrently develop a guidance document for criteria implementation. We have reviewed the June 2017 version of the “*Draft Implementation Guidance for the Idaho Copper Criteria for Aquatic Life*” and respectfully submit these comments for your consideration.

NMFS issued a final biological opinion for the U.S. Environmental Protection Agency (EPA) approval of Idaho’s water quality toxics standards (NMFS Tracking Number: 2000-1484) in May 2014 (hereinafter referred to as the Idaho toxics opinion). In that opinion, NMFS concluded the hardness-based copper criteria were likely to jeopardize the four listed anadromous fish species in Idaho¹ and adversely modify their designated critical habitats. Our reasonable and prudent alternative for copper criteria stated:

“The EPA shall ensure, either through EPA promulgation of criteria or EPA approval of a state-promulgated criteria, that new acute and chronic criteria for copper are in effect in Idaho.....The new criteria shall be no less stringent than the Clean Water Act section 304(a) 2007 national recommended aquatic life criteria (i.e., the [biotic ligand model]) for copper. NMFS does not anticipate that additional consultation will be required if the 2007 national recommended aquatic life criteria for copper are adopted.”

¹ Snake River fall Chinook salmon, Snake River spring/summer Chinook salmon, Snake River sockeye salmon, and Snake River Basin steelhead.

During recent negotiated rulemaking meetings, participants have inquired about whether the draft proposal would require reinitiation of Endangered Species Act (ESA) consultation for the Idaho toxics opinion. Reinitiation of formal consultation is required if: (1) The amount of extent of incidental take is exceeded; (2) new information reveals effects of the agency action may affect listed species or critical habitat in a manner or to an extent not previously considered; (3) the action is subsequently modified in a manner that cause an effect not previously considered; or (4) a new species is listed or critical habitat designated that may be affected by the action. In order to assess whether reinitiation may be warranted, it is necessary to have an understanding of the proposed action, underlying assumptions, and rationale for conclusions included the Idaho toxics opinion as well as any new information that has become available.

Appendix C of the Idaho toxics opinion contained an analysis of the protectiveness of copper criteria derived using the biotic ligand model (BLM). NMFS concluded that implementation of BLM-derived copper criteria may result in adverse effects (e.g., reduced prey availability); however, these adverse effects would not rise to a level that would jeopardize anadromous species in Idaho that are listed under the ESA nor would they rise to the level that would destroy or adversely modify designated critical habitats. In coming to this conclusion, NMFS assumed criteria would be implemented in a conservative manner that protects anadromous species during critical conditions², which are those times and conditions when copper is most bioavailable (i.e., most toxic). More specifically, implementing criteria in a conservative manner for such things as permit limit derivation, load allocation, or cleanup target identification, requires conservative characterization of instream water quality (e.g., 5th percentile hardness for hardness-dependent metal criteria) and flow (e.g., average 7-day, once in 10-year low flow). Characterizing water quality in a conservative manner is especially important when there is a paucity of data.

In the Idaho toxics opinion, NMFS acknowledged that water quality standards are implemented in part through wastewater discharge permits administered by EPA and specified that ESA consultation would be completed at the project-scale when permits are issued. Furthermore, the incidental take statement associated with the Idaho toxics opinion included terms and conditions specific to conservative implementation of water quality standards in discharge permits. Any conditions or requirements identified during the ESA consultation process are required to be followed (40 CFR 12.49), providing NMFS assurance that criteria would be implemented in a conservative manner. At that time, NMFS did not believe there was reasonable assurance Idaho would seek EPA authorization for a state-operated pollutant discharge elimination system permitting program. Thus, an Idaho Pollutant Discharge Elimination System (IPDES) permitting program was not considered as part of our analysis of cumulative effects. The IDEQ began developing its IPDES program in late 2014 and submitted a primacy application to EPA on August 31, 2016. The IDEQ expects to receive EPA approval and anticipates beginning a phased implementation of the IPDES program in July 2018.

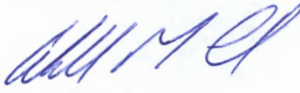
Once the IPDES program is approved and the state begins to issue permits, ESA-consultation for these permits will not occur. NMFS is not aware of any federal regulations or state rules that currently require conservative implementation of water quality criteria. On the contrary, there is considerable flexibility in implementing water quality standards in discharge permits. As described above and in the enclosure to this letter, conservative implementation of the water

² For purposes of this letter, we use “critical conditions” synonymously with “bioavailable conditions.”

quality criteria was an underlying assumption of the Idaho toxics opinion and NMFS identified terms and conditions specific to implementation of discharge permits. Our enclosed comments provide recommendations that provide adequate assurance the BLM-based copper criteria will be implemented in a manner consistent with assumptions included in the Idaho toxics opinion. If IDEQ implements our enclosed recommendations, we do not believe there would be a need for EPA to reinitiate consultation on implementation of the copper reasonable and prudent alternatives.

If you have any questions or would like to discuss the contents of this letter further, please contact Johnna Sandow, Fish Biologist, in the Southern Snake Branch Office, at (208) 378-5737.

Sincerely,


hr

Michael P. Tehan
Assistant Regional Administrator

Enclosure

cc: L. Macchio – EPA
R. Holder – U.S. FWS
S. Fisher – U.S. FWS

NMFS Comments on IDEQ's Draft Implementation Guidance for the Idaho Copper Criteria for Aquatic Life (posted April 20, 2017) and Draft Rule Language

1.0 Protection of the Most Bioavailable Conditions

Neither the draft rule language nor the draft implementation guidance provide adequate assurance that the biotic ligand model (BLM) will be implemented in a manner that is protective of conditions where copper is most bioavailable in a receiving waterbody. The Idaho Department of Environmental Quality (IDEQ) briefly discusses the concepts of critical conditions and critical time periods in various locations of the guidance document (Sections 5.3.2, 5.4.1, 6.1, and 6.2). Yet, the guidance document does not contain a discrete description of what critical conditions represent and does not provide adequate assurance that IDEQ will implement the BLM in a manner that is protective of the most bioavailable conditions. Even after revising the guidance document to contain clear and descriptive language on this topic, the IDEQ indicated that guidance documents are not binding during the April 25, 2017 negotiated rulemaking meeting.

In light of the assumptions and rationale forming the basis of our effects analysis in the Idaho toxics opinion (NMFS Tracking Number: 2000-1484), coupled with the pending U.S. Environmental Protection Agency (EPA) approval of the Idaho Pollutant Discharge Elimination System program (IPDES), National Marine Fisheries Service (NMFS) strongly recommends IDEQ adopt a binding requirement in the Idaho water quality standards, that BLM-based copper criteria will be implemented in a manner protective of the most bioavailable conditions. More specifically, we support adoption of rule language that addresses the general copper policy concepts identified by EPA in their comment letter dated May 18, 2017. Those concepts included: (1) Calculating criteria or reconciling multiple instream water quality criteria (IWQC) in a manner that is protective of designated uses at all times, including under the most bioavailable or toxic conditions; (2) requiring a determination of when and where the most bioavailable conditions occur; and (3) ensuring sufficiently representative data are collected. In addition, the IDEQ should clearly define bioavailable conditions in the implementation guidance, and ensure the guidance consistently reflects the need to implement the criteria in a manner protective of the most bioavailable conditions.

We expect that having a binding commitment to and defined methods for protecting the most bioavailable conditions would provide NMFS adequate assurance that EPA approval of this proposal will not result in effects different from those previously considered in the Idaho toxics opinion.

2.0 Methods for Identifying Applicable Criteria

Neither the guidance document nor the rule present clear, repeatable procedures that will be employed when implementing the BLM. The guidance document offers insight in the various possible approaches that could be implemented when reconciling multiple IWQC (Section 5.4) or when deriving estimating input parameters or default criteria in the absence of site-specific

data (Section 6.0). There is considerable flexibility in selecting which approach to use, and there are no effective guiding principles for making implementation decisions. In order to evaluate whether criteria will be implemented in a conservative manner, NMFS recommends more clarity in which option will be used, what default values will be used, and when follow-up monitoring will be required. To address these key uncertainties, NMFS recommends the following:

1. The draft guidance document presents four scenarios for reconciling multiple IWQC. The IDEQ should more clearly specify its preference for methods to reconcile multiple IWQC under varying circumstances of data availability. In addition, more detail about when and how each methodology will be applied is necessary. Our specific concerns are provided below.
 - a. Minimum of IWQCs (Section 5.4.1): The IDEQ should provide more specificity of when the minimum IWQC would be used (i.e., define what constitutes “relatively few”). Perhaps IDEQ can establish an approach that takes into account not only the number of IWQC available, but also includes considerations for the seasonal period represented by the IWQC data and the data variability. Ultimately, conservative methods for addressing uncertainties inherent in small data sets should be employed to ensure protection in the most bioavailable conditions.
 - b. Distribution of IWQCs (Sections 5.4.2 and 5.4.4): The IDEQ should specify what conservative percentile will be used and demonstrate it will be protective of the most bioavailable conditions.
2. The draft guidance document contains two approaches for estimating criteria when data are absent. The IDEQ should provide more detail about when and how each methodology will be applied. Our specific concerns are provided below.
 - a. Estimating input parameters (Section 6.1): The guidance discourages the use of estimating default input parameters based on an analysis of monthly data collected by the City of Boise. Use of default input parameters is an appealing way to address the uncertainty associated with limited data and data representativeness. We recommend the IDEQ reconsider the use of default input values and identify ways in which the methodology can be modified to more realistically characterize the most bioavailable conditions. The IDEQ should consider whether it is reasonable to only consider data collected during critical time periods when estimating default input parameters. If sufficient data are available, this approach may address the concern of pairing conservative estimates of parameters that lack synchronicity. We also recommend the IDEQ examine whether methodologies adopted by Oregon (e.g., 15th percentile of the distribution of dissolved organic carbon (DOC) data for the eastern side of the state of Oregon) can be applied in Idaho.
 - b. Estimating Default Criteria (Section 6.2): The guidance document recommends estimating conservative default criteria based on data collected during critical

time periods. The guidance document then provides example default IWQC based on data collected by IDEQ in the fall of 2016 at 188 sample locations. As identified in our Idaho toxics opinion, NMFS believes estimated default criteria is worthy of exploration; however, we have the following concerns with the approach proposed in the draft guidance document:

- i. The approach is not binding. The guidance document presents this approach as an example way in which default IWQC may be calculated and used. We are concerned there will be inconsistent application of default IWQC during implementation of the copper criteria.
 - ii. The default IWQC presented in Table 2 are based upon limited data, with 50-percent of the sampling locations being located downstream of point source discharges. We are concerned that having a large proportion of sites below discharges leads to default IWQC that do not provide enough protection in light of the uncertainties associated with limited data sets. The IDEQ should examine availability of other data sources (e.g., U.S. Geological Survey National Water Information System, data collected by existing dischargers, Oregon data sources, etc.) to supplement their analysis.
 - iii. It is unclear whether estimated default IWQC based on biological site classes (i.e., foothills; mountains; and plains, plateaus, and broad valleys) appropriately represents biogeochemical characteristics that drive copper bioavailability. It is our understanding the biological site classes were formed based primarily on similar macroinvertebrate assemblages in reference streams, although ecoregions were used to help select reference streams. We suggest that IDEQ further evaluate whether classifying sites based on geology or ecoregional classes would have more bearing on the input parameter values and bioavailability of copper.
3. To balance the need for flexibility with the need to ensure protection of the most bioavailable conditions, the IDEQ should specify that any deviation from the agency's preferred approaches may be allowed if adequately justified. Justifications for deviating for the preferred approaches should focus on how the alternative approach is fully protective of the most bioavailable condition.
4. When default input values or default IWQC are used, the IDEQ should require additional data collection to inform future decision making. Site-specific data should supersede default values when sufficient data is available or if there is a clear line of evidence that the default values are not protective of the most bioavailable conditions.

3.0 pH Monitoring

Section 5.3.1 of the draft guidance discusses the sensitivity of the BLM to pH input values and acknowledges that pH values may vary through the day. The IDEQ then indicates that “users should consider” collecting continuous data or collecting samples earlier in the day. We recommend that the IDEQ establish a clear preference for continuous pH data from which a conservative, but realistic, estimate of a representative pH input value can be derived. Where continuous data are not available, the IDEQ should emphasize the need to characterize diurnal variations in pH. Until such data are available, the IDEQ should give clear preference to pH data collected during times when pH is expected to be at its lowest. At the very least, in the absence of a sufficient amount of data, the IDEQ should require use of the daily minimum pH values in BLM calculations in order to ensure protection of the most bioavailable conditions.

4.0 Dissolved Organic Carbon

The DOC input parameter has a significant influence on the BLM outputs. There have been extensive discussions at the negotiated rulemaking meetings about contamination issues during DOC sample collection and processing. The implementation guidance should outline DOC sampling and data handling procedures more clearly. We recommend these not be incorporated as a table footnote, but instead be given adequate attention in the document text. Simple procedures that could be identified include: (1) Specific sequencing of field filtering of samples, with the DOC sample being run through the filter last; or (2) concurrent analysis of a blank sample in the lab in order to evaluate the need for application of a correction factor. If the blank sample has detectable concentrations of DOC, those concentrations should be subtracted from the field data to correct for filter contamination.

5.0 General Comments Regarding the Guidance Document

1. General Comment: The guidance document uses the term “users” frequently. It is not clear who the term “users” is referencing. It is our understanding that IDEQ is the only state agency with regulatory authority to specify the applicable criteria to be implemented in things such as discharge permits or load allocations. We recommend that IDEQ either replace the term “user” with “IDEQ” or rephrase the sentence to omit the term.
2. Page 1. Section 1. Paragraph 3. We suggest IDEQ reword the last sentence as follows:

~~Their recommendation was to use~~ reasonable and prudent alternative from these opinions directed EPA to ensure new acute and chronic criteria that are no less stringent than EPA’s 2007 copper criteria are effective for Clean Water Act purposes. EPA’s 2007 copper criteria uses the biotic ligand model (BLM) to predict water-body specific criteria by taking into account other physicochemical properties of the water (e.g., pH, dissolved organic carbon, etc.).

3. Page 8. Section 3. 1st bullet: Our understanding of the mixing zone concept is that both acute and chronic criteria apply at the edge of their respective mixing zone boundary. It is not clear why this statement is specific to the chronic criterion.
4. Page 11. Section 4.2. While we understand the need to provide scientific justification for adopting new water quality standards as part of the rule submittal package to the IDEQ board, Idaho legislature, and ultimately EPA, the importance or necessity of providing a comparison of the hardness-based copper criteria to the BLM-based criteria in this implementation guidance document is not clear. We recommend that the IDEQ remove discussions about the hardness-based criteria and instead focus this section on the variability of the input parameters and resulting fluctuations in the BLM-based copper criteria. This section could be further reworked to include some of the pH and DOC recommendations provided earlier.
5. Page 19. Section 5.3.1. Paragraph 4: We recommend IDEQ revise the first sentence as follows: “Similarly in some water bodies ~~it may be advisable to calculate~~ calculation of more than 24 monthly IWQCs may be warranted in order to appropriately characterize seasonal variability at a site.
6. Page 19. Section 5.3.1. Paragraph 4: The last sentence seems to imply that discretion may be used in picking and choosing which data to use from a larger dataset. Under what circumstances would longer term datasets would not be used in their entirety? The IDEQ should provide some guidance regarding data screening criteria. Depending on IDEQ’s intent for this sentence, we recommend rewording to say, “Longer term datasets, if available, can be used to fully capture temporal variability at any given site.”
7. Page 19. Section 5.3.2. 2nd Sentence: Please revise as follows: “In Idaho, DOC is usually at its lowest concentration in late fall, based on available data that was considered representative of streams supporting anadromous fish (NMFS 2014).