Northwest Pulp & Paper
ASSOCIATION

Sent via: 303d@ecy.wa.gov

May 15, 2015

Patrick Lizon
Washington Department of Ecology
P.O. Box 47600,
Olympia, WA 98504-7600

Re: Proposed Water Quality Assessment and 303(d) List for Washington State

Dear Mr. Lizon:

The Northwest Pulp and Paper Association (NWPPA) submits the following comments on the Department of Ecology's Proposed Water Quality Assessment and 303(d) List for Washington State (Proposed 303(d) List). NWPPA is a 59 year-old regional trade association representing 13 member companies and 16 pulp and paper mills in Washington, Oregon and Idaho. NWPPA members produce over 8 million tons of paper products each year and provide approximately 12,000 predominantly union-backed jobs that pay an average of more than $75,000 a year, plus benefits. As one of the largest members of Washington's forest products sector (including private forest lands, sawmills, furniture, wholesaling and ports), pulp and paper mills contribute to a total of approximately 40,000 direct jobs and 107,500 direct, indirect and induced jobs. Because many NWPPA members are located in economically stressed rural communities, these family-wage manufacturing jobs help sustain the local economy, with each mill supporting three to five additional jobs in the community.

On behalf of its members, NWPPA routinely participates in the development of water quality standards and regulations in Washington and has commented extensively on Ecology's previous subsection 303(d) listing decisions.[1]

[1] NWPPA's members own and operate pulp and paper mills in Washington that discharge wastewater pursuant to National Pollutant Discharge Elimination System (NPDES) permits issued by Ecology. Exhibit A lists the NWPPA member mills that discharge to freshwaters in Washington, as well as the identification numbers for the proposed subsection 303(d) listings in the vicinity of those mills that are addressed by these comments. NWPPA members are also individually submitting comments on the Proposed 303(d) List.

A. Proposed Temperature Listings

A.1. *The proposed Columbia River temperature listings are based on an incorrect water quality criterion*.

The Proposed 303(d) List includes several listings for the Columbia River that rely on an incorrect temperature criterion.[2] The listings state that the applicable criterion is 17.5 °C as a 7-day mean of daily maximum temperatures. However, the applicable temperature criterion for the Columbia River from its mouth upstream to Priest Rapids Dam (river mile 397.1) is 20.0 °C as a 1-day maximum. *See* WAC 173-201A-602(1), Table 602, Columbia River notes 1-2. The criteria specified in Table 602 supersede criteria specified in WAC 173-201A-200 for the same parameter. Regardless whether applying the 20.0 °C criterion would change the proposed listing decisions, the decisions should be based on the correct criterion.

A.2. *The proposed temperature listings are unwarranted because Ecology has not determined that human-caused contributions to any temperature criteria exceedances are greater than 0.3 °C.*

The Proposed 303(d) List includes temperature listings based on temperature measurements in excess of numeric temperature criteria, such as 20.0 °C (daily maximum), 17.5 °C (7-day mean of daily maximum temperatures), and 16 °C (7-day mean of daily maximum temperatures).[3] The applicable water quality *standards* for temperature, however, include both a numeric temperature criterion and an allowance of 0.3 °C for human-caused temperature increases when the numeric criteria are exceeded. For example, the applicable temperature standard for the segments of the Columbia, Pend Oreille, and Spokane Rivers to which NWPPA member mills discharge is:

> Temperature shall not exceed a 1-day maximum (1-DMax) of 20.0 °C *due to human activities*. When natural conditions exceed a 1-DMax of 20.0 °C, *no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3 °C*.

WAC 173-201A-602(1), Table 602, Columbia River notes 1-2, Lower Spokane WRIA notes 1-3, Middle Spokane WRIA note 1, Pend Oreille WRIA note 1 (emphasis added). Similarly, the temperature standard applicable to the White River and other fresh waters in Washington provides:

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[2] The identification numbers for the proposed listings near NWPPA member mills include 3784, 3787, 7874, and 72805.

[3] The identification numbers of the proposed temperature listings addressed in this comment include 3784, 3787, 3788, 7523, 7874, 8616, 10848, 12574, 14390, 14793, 72805, and 73574.

> When a water body's temperature is warmer than the [applicable numeric] criteria . . . and that condition is due to natural conditions, *then human actions considered cumulatively may not cause the 7-DADMax temperature of that water body to increase more than 0.3 °C*.

See WAC 173-201A-200(1)(c)(i) (emphasis added). The applicable temperature standards in these waterbodies are not violated, then, unless the relevant numeric criterion is exceeded *and* the human contribution to the waterbody's temperature exceeds 0.3 °C.

The proposed temperature listings are based entirely on measured waterbody temperatures that exceed the relevant numeric temperature criterion. But a waterbody whose temperature exceeds the applicable criterion may or may not violate the applicable temperature water quality standard. For instance, the numeric temperature criterion for the Columbia River is 20.0 °C as a 1-day maximum. If the river temperature is measured as 21.5 °C, that temperature exceeds the numeric *criterion*, but the temperature may be consistent with the applicable temperature *standard*. In order to know whether the measured temperature violates the temperature standard, one would need to know whether the human contribution to the measured temperature exceeds 0.3 °C. If the human contribution is 0.2 °C (*i.e.*, the river temperature naturally would have been 21.3 °C), then the river meets the temperature standard, and it may not be included on the subsection 303(d) list. On the other hand, if the human contribution is 0.4 °C (*i.e.*, the river temperature naturally would have been 21.1 °C), then the river does not meet the temperature standard, and it should be included on the subsection 303(d) list. But unless the human contribution to the temperature is known, the mere fact that the river temperature exceeds the numeric temperature criterion provides no indication of whether the water quality standard for temperature is violated.

None of the proposed temperature listings include or refer to any information on the human contribution to the measured temperatures. Without such information, there is no basis for concluding that the applicable temperature standard is not met. Accordingly, there is no basis for including these waterbodies on the subsection 303(d) list (listing Category 5). At most, measured exceedances of the temperature criteria in the absence of data showing that the human contribution to the exceedance is more than 0.3 °C should warrant placing the waterbody in listing Category 3—insufficient data.[4]

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[4] Ecology has stated that the natural temperatures of waterbodies (and thus the human contributions to those temperatures) will be determined in conjunction with total maximum daily load (TMDL) determinations. But a waterbody may not legally be placed on the subsection 303(d) list in the absence of evidence that the waterbody does not meet applicable water quality standards and cannot meet those standards by implementing required controls on point and nonpoint sources. *See* 33 U.S.C. § 1313(d)(1); 40 C.F.R. § 130.7(b)(1). Without information on the human contribution to measured temperatures, Ecology has no such evidence. Moreover, nothing requires Ecology to evaluate human contributions to stream temperatures only in the context of a TMDL.

A.3. *The expansion of the waterbody segments proposed for listing is unwarranted in the absence of new evidence that the expanded areas do not meet applicable temperature standards.*

Several areas within the Columbia, Pend Oreille, Spokane, and White Rivers are included on Washington's current subsection 303(d) list for temperature. The Proposed 303(d) List greatly expands the geographic scope of these temperature listings without any analysis that demonstrates that the human contribution to water temperatures exceeds 0.3 °C throughout the expanded areas. NWPPA urges Ecology not to compound the deficiencies with the proposed temperatures listings described in A.1. and A.2., above, by extending the listings into areas where there is insufficient information to support them.

B. Proposed Dissolved Oxygen Listings

The proposed Columbia River dissolved oxygen listings are based on an incorrect water quality criterion.

The Proposed 303(d) List includes listings for the Columbia River that rely on an incorrect dissolved oxygen criterion.[5] The proposed listings are based on measured dissolved oxygen concentrations of less than 8 milligrams per liter (mg/L). However, the applicable dissolved oxygen criterion for the Columbia River from its mouth upstream to the Washington-Oregon border (river mile 309.3) is: "Dissolved oxygen shall exceed 90 percent of saturation." *See* WAC 173-201A-602(1), Table 602, Columbia River note 1. The criteria specified in Table 602 supersede criteria specified in WAC 173-201A-200 for the same parameter. The proposed listings should be deleted or designated as Category 3 (insufficient data) in the absence of dissolved oxygen saturation data showing that the 90-percent-saturation criterion is not met.[6]

C. Proposed Listings Based on Fish Tissue Data

The Proposed 303(d) List includes a large number of listings based on fish tissue concentrations of toxic substances, even though both the human health and aquatic life water quality criteria for these substances are expressed as water column concentrations, not tissue

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[5] The identification numbers for the proposed listings include 49044 and 78120.

[6] Moreover, these and other proposed dissolved oxygen listings include river or stream segments that are many miles long but that are based on data from only a small number of locations within the segments. Because of the geographic variability of dissolved oxygen saturation and concentration levels, even within the same river or stream, the proposed listings should be limited to the area within the immediate vicinity of the locations from which dissolved oxygen measurements were taken.

concentrations.[7] *See* 40 C.F.R. § 131.36(d)(14); WAC 173-201A-240(3). Ecology has derived "fish tissue equivalent concentrations" (FTECs) for the human health criteria by multiplying the criteria by the bioconcentration factors (BCFs) used to develop them. The proposed listings are based on measured fish tissue concentrations that exceed the human health FTECs. As discussed below, the proposed listings should be removed or designated under another category, such as Category 2 (water of concern) or Category 3 (insufficient data).

C.1. *General Comments*

As an initial matter, neither the FTECs nor the bioconcentration factors on which they are based are applicable water quality standards. A fish tissue sample in excess of an FTEC is not a water quality standards violation, nor can such an exceedance legally be equated with an exceedance of the water column criterion based only on a back-calculation using the BCF from which the water column criterion was derived.

Moreover, it is inappropriate to infer water column concentrations from the available fish tissue data. Depending on the site-specific food web, a significant fraction of the chemical body burden in fish can originate from sediments via the food chain, meaning that tissue concentrations in excess of the calculated FTEC could result even when water column concentrations are less than the applicable water quality criterion (WQC). For example, a recent survey of polychlorinated biphenyl (PCB) concentrations in the Spokane River[8] utilizing grab samples and large volume "continuous low-level aqueous monitoring" (CLAM) samplers, coupled with analyses using EPA Method 1668, did not find any water column concentrations that exceeded the applicable WQC (0.00017 µg/L), even though nominally paired analyses of various fish tissues[9] consistently exceeded the PCB FTEC (5.3 µg/kg).

In addition, many proposed listings are based on an analysis of a single sample representing a single fish species. This is inappropriate for at least two reasons:

1. Because tissue concentrations result from conditions throughout the home range of the specific fish species sampled, that range must be considered in making listing decisions. For wide-ranging species, water column concentrations for the area from

[7] The identification numbers for the proposed fish tissue listings that are addressed by these comments include 8201, 8207, 8202, 14397, 52622, 72218, 78625, 78816, 78928, 78929, 78930, 78931, 78932, 78933, and 78968.

[8] Era-Miller, B. 2014. Spokane River Toxics Sampling 2012-2013 – Surface Water, CLAM and Sediment Trap Results. Available at http://www.ciagent-stormwater.com/documents/watermonitoring/Field%20Studies/WA_DOE_Study/Technical-Memo-Spokane-River.pdf (last accessed 5/12/14).

[9] Ecology Publication No. 14-03-020 at 12, Figure 2 (May 2014).

which the fish was taken cannot be inferred from the tissue concentration because that concentration may reflect conditions from areas other than the area sampled.[10] On the other hand, large waterbody segments cannot be designated on the basis of samples taken from fish whose home ranges are smaller than that segment.

2. The tissue concentrations represent only conditions at and before the time the samples were taken, and many of the samples were taken more than a decade ago. They do not reflect any more recent reductions in water column concentrations, *e.g.*, as would be expected for legacy chemicals such as 4,4'-DDE and PCBs.

Furthermore, fish tissue concentrations in excess of the FTECs do not demonstrate that designated uses related to human health are impaired. The proposed listings do not relate the fish tissue concentrations found at specific locations in specific species (*e.g.*, northern pikeminnow) to exposure levels that constitute an unacceptable risk to human health from consumption of contaminated fish.

In sum, the disconnect between FTECs and water quality standards makes Category 5 listings based solely on exceedances of the FTECs, and particularly a single FTEC exceedance, inappropriate. The proposed Category 5 listings based on FTEC exceedances should be removed or redesignated as Category 2 (water of concern) or Category 3 (insufficient data).

C.2. *Comments on Proposed Listings for Lake Wallula (identification numbers 72218 and 78816)*

For several miles of the full width of the Columbia River (Lake Wallula), Ecology has proposed Category 5 listings for 4,4'-DDE (identification number 72218) and PCBs (identification number 78816). The proposed listings are unwarranted and should be removed or redesignated as Category 2 (water of concern) or Category 3 (insufficient data) for the following specific reasons in addition to the reasons discussed in the preceding section.

Both of the proposed listings are based on the analysis of a single smallmouth bass composite sample consisting of three individual fish collected in August 2003 at, apparently, one location (latitude 46.0226, longitude -118.9701). This location is downstream of the confluence of the Walla Walla and Columbia Rivers, although the proposed listings extend to an area of the Columbia River upstream of the confluence. In addition, the measured tissue concentrations exceeded the FTECs by only small amounts. The 4,4'-DDE concentration was 37.8 µg/kg, which is only 1.2 times the FTEC of 31.49 µg/kg. Although the total PCB concentration was 11.77 µg/kg, which is 2.2 times the FTEC concentration of 5.3 µg/kg, Ecology has found concentrations of more than the FTEC in fish from "background waterbodies." This

[10] This is the fundamental problem encountered when considering anadromous fish (*e.g.,* salmon).

has led Ecology to recommend that no action should be taken if tissue concentrations are less than 10 µg/kg.[11] Thus, the measured PCB tissue concentration was less than 1.2 times this "no action" level. Given the disconnect described in the preceding section between the FTECs and water quality standards, these slight exceedances of the FTECs in a single sample do not warrant Category 5 listings.

Moreover, the single composite sample used as the basis for the proposed listings was generated over 11 years ago. Because DDT and PCBs have been subject to total or partial manufacture and usage bans for several decades, concentrations of 4,4'-DDE (an impurity in and breakdown product of 4'4'-DDT) and PCBs in the environment would have decreased since the sample was taken and would continue decreasing in the future.[12] A single 11- year-old fish tissue sample cannot reasonably be relied on to reflect current 4,4-DDE and PCB conditions in the river.

The Walla Walla River immediately above the confluence with the Columbia River is subject to TMDLs for both 4,4'-DDE and PCBs (Category 4A listings).[13] Thus, the Walla Walla River Basin is a source of these chemicals in the specific segment of the Columbia River now proposed for Category 5 listings. The actions that have been taken and will be taken in response to the TMDLs to reduce the loadings of these chemicals to the Walla Walla River will also have reduced and will continue to reduce their concentrations in the Columbia River near and downstream of the confluence. These actions are further evidence that the measured fish tissue concentrations—which predated the TMDLs by several years and exceeded the FTECs by only relatively small margins—are unrepresentative of current and future conditions in the Columbia River.

D. Water Quality Program Policy 1-11

The Proposed 303(d) List would add more than 1,000 Category 5 listings, for a total of nearly 4,000 waterbody segment-pollutant combinations. Moreover, the segments proposed for listing are substantially larger than those in the current subsection 303(d) list. Ecology lacks the resources to develop TMDLs for even a small fraction of these listings within the foreseeable future. The listings, however, will have immediate adverse regulatory consequences for NWPPA's members and other regulated entities and will unnecessarily stigmatize Washington's waters.

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[11] Ecology Publication No. 10-03-007 at 52, Table 19 (Jan. 2010).

[12] This is consistent with trends found for PCBs in Spokane River fish. *See* Ecology Publication No. 11-03-013 at 32, Table 5 (April 2011).

[13] See listing identification numbers 8806 and 14178 (4,4'-DDE) and 8810 (PCBs).

The excessive number and breadth of the proposed listing decisions are a direct consequence of Ecology's listing methodology, which is embodied in Water Quality Program Policy 1-11, which Ecology last revised in July 2012. NWPPA urges Ecology to reevaluate and revise Policy 1-11 to make the subsection 303(d) list a more accurate reflection of current water quality standards violations and to better align it with Ecology's water quality improvement resources and priorities.

Thank you very much for considering these comments and the separate comments of NWPPA's member mills. I can be contacted at 360-529-8638 to answer any questions.

Sincerely,

Christian McCabe, J.D.
Executive Director
Northwest Pulp & Paper Association

Attachments