



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10

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OFFICE OF
WATER AND WATERSHEDS

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

RE: U.S. Environmental Protection Agency (EPA) Comments on Revisions to Ecology's Policy 1-11

Dear Mr. Lizon:

Thank you for the opportunity to provide comments during Washington Department of Ecology's scoping process for revisions to Policy 1-11.

Enclosed please find EPA's comments, which focus on TMDL prioritization, the placement of waters in Category 4b and Ecology's bioassessment methodology for the use of B-IBI scores in making listing decisions.

The EPA hopes the enclosed comments will be useful when revising Policy 1-11. If you have any questions about our comments, please feel free to contact me at (206) 553-2582.

Sincerely,

A handwritten signature in blue ink that reads "Jill Fullagar".

Jill Fullagar
Impaired Waters Coordinator
Watershed Unit

Enclosure

cc: Susan Braley, WDOE
Chad Brown, WDOE

Prioritizing TMDLs

Ecology's policy doesn't address the way in which the priority ranking will be made available for public comment in future Integrated Reports.

The EPA regulations codify and interpret the requirement in Section 303(d)(1)(A) of the Clean Water Act that States establish a priority ranking for listed waters. The regulations at 40 CFR 130.7(b)(4) require States to prioritize waters on their Section 303(d) lists for total maximum daily load (TMDL) development, and also to identify those WQLS targeted for TMDL development in the next two years.

In prioritizing and targeting waters, States must, at a minimum, take into account the severity of the pollution and the uses to be made of such waters. As long as these factors are taken into account, the Act provides that States establish priorities. States may consider other factors relevant to prioritizing waters for TMDL development, including immediate programmatic needs, vulnerability of particular waters as aquatic habitats, recreational, economic, and aesthetic importance of particular waters, degree of public interest and support, and State or national policies and priorities.

Contaminated Sediments

As stated in EPA's decision document dated December 18, 2015 regarding revisions to Washington's Sediment Management Standards (SMS), Ecology needs to revise Policy 1-11 to be consistent with the state's 2013 SMS revisions. According to the May 5, 2015 letter from Ecology Director Maia Bellon to EPA Region 10 Regional Administrator Dennis McLerran, Ecology plans to update Policy 1-11 to reflect the 2013 SMS rule by the next listing cycle. This includes recognizing that Part V of the SMS rule is no longer applicable to determine Category 1-5 sediment listings since EPA concluded that Part V is not a new or revised water quality standard under the Clean Water Act. Because the revised rule language prohibits using Part V for CWA purposes, it is now inappropriate to base listing decisions for impaired waters on Part V.

As a result, Ecology needs to address how future sediment listing decisions will be evaluated under Parts III and IV of the SMS rule. In the past, Ecology has used the Part V Cleanup Screening Levels to identify impaired waterbodies under Policy 1-11. In the future, Ecology will need to use only Parts III and IV, and not Part V, of the SMS rule to support Category 4 and 5 assessment/listing determinations. By the next listing cycle, Ecology has committed to revise portions of Policy 1-11 to ensure the policy no longer includes references to Part V as a WQS. This includes a review of listing decisions for waterbodies that were placed in Category 4b based on Part V sediment cleanup values.

The Figure on page 58 ("Category Determination for Contaminated Sediments") is an example of one section that should be revised in Policy 1-11 since it references Part V of the SMS as water quality standards. The figure is a useful outline of Ecology's process, but should also be supplemented with a description of the way in which Ecology makes some of the decisions. For example, in considering whether contaminated sediments will be placed in 4b, Ecology should consider whether or not the "approved cleanup action plan, ROD or Corrective Measure" addresses the relevant pollutant.

In addition, when Ecology is evaluating whether Category 4b sediments should remain in Category 4b, Ecology should consider the most recent monitoring data for the waterbodies / pollutants present at the MTCA and CERLCA sites that have been placed in Category 4b. If these data indicate an increase in pollutant concentrations, the 4b analysis must include a discussion of ongoing sources; an explanation of the way in which the adaptive management process will address recontamination; and an assessment of whether or not water quality standards will be obtained within the timeframe given in the Clean-up Plan or ROD. Each listing cycle, Ecology must also review the progress of the 4b plan towards meeting water quality standards, determine if placement in Category 4b is still appropriate, and revise the 4b or return the waterbody to Category 5 if progress is not being made as anticipated. Ideally, those 4b analyses should be available for public review.

Biological Assessment

EPA supports Ecology's use of macroinvertebrate assemblage data in 303(d) listing. Ecology needs to be able to accept data from many sources as the use of bioassessment data is becoming more widespread. The bioassessment listings in Ecology's draft 2014 303(d) list are based on Ecology's Policy 1-11 (July 2012 version), which supports using either the multivariate River Invertebrate Prediction and Classification System (RIVPACS) score or the multi-metric Benthic Index of Biotic Integrity (B-IBI) score. Both IBI and RIVPACS have undergone extensive scientific review, and this type of data is used across the world to assess aquatic resources. A site's RIVPACS score and/or B-IBI score is calculated from the sample data collected for each site. However, as EPA stated in its May 14, 2015 comments on the draft 2014 303(d) list, Ecology's current listing method using these two indices, as described in Policy 1-11's section on bioassessment listings, is problematic and should be addressed before the next listing cycle is completed. Many of those comments are repeated here because of their relevance to any revisions to the Policy 1-11 document that Ecology is contemplating.

Ecology's Policy 1-11 (July 2012 version) provides a brief explanation of the assignment of thresholds for categories 1 through 5 in the Bioassessment portion of the chapter titled "Specific Submittal and Basis for Assessment Decisions." A waterbody segment will be placed in Category 1 (not impaired) when the RIVPACS score from the two most recent years of available macroinvertebrate assemblage data are equal to or greater than 0.86, or a B-IBI score indicates no biological impairments. A waterbody segment will be placed in Category 5 (impaired) when the RIVPACS score calculated from the two most recent years of available macroinvertebrate assemblage data results in a score less than 0.73, or a B-IBI score indicates a level of degradation such that the uses in the water body are impaired. This will leave some sites in an indeterminate state – neither impaired nor unimpaired.

EPA has concerns with this approach for several reasons. First, Ecology's current approach of using two numbers for designating what is in Category 5 versus Category 1 is unusual, confusing, and not substantiated in the supporting materials Ecology provided with the draft 303(d) list. Ecology has not provided a rationale for establishing such a broad range between the threshold for impairment and non-impairment, nor why a water body can be considered to be not meeting its uses, yet not be considered impaired. Therefore, EPA strongly recommends that Ecology develop a system that clearly identifies waters as either impaired or unimpaired by identifying a numeric threshold that designates impairment (e.g. if scores fall below the single numeric threshold for two of the past five years for which data has been collected, then the waterbody is placed in Category 5). Ecology can set a higher numeric goal for

waterbodies as part of the TMDL process based on more watershed specific information and analysis, if desired.

Second, the method for establishing the B-IBI impairment threshold needs to be explained and the public should be given an opportunity to comment on that method. The Bioassessment section in Policy 1-11 provides the numeric thresholds for RIVPACS scores, but only a narrative description of the B-IBI scores that are to serve as thresholds for determining whether or not a site is impaired (e.g., “poor conditions” or “very poor conditions”). However, in the Remarks section of an individual bioassessment listing on the draft 2014 303(d) list, the threshold for Category 5 is mentioned as being $B-IBI \leq 27$ /RIVPACS score ≤ 0.73 , while Category 1 is $B-IBI \geq 38$ /RIVPACS score ≥ 0.86 . While Policy 1-11’s Bioassessment section (pp. 31 -33) provides those RIVPACS scores as thresholds for Categories 1 and 5, no explanation is offered as to how the B-IBI scores were selected as thresholds for those categories. Ecology has indicated they are reluctant to use a single number because they believe it would require incorporating it into their water quality standard. In fact, only four states have incorporated B-IBI thresholds into their water quality standards, but 40 states use biological data to list waterbodies on their 303(d) lists (with about 3,200 listings overall for bioassessment). All 40 states rely on a single number for an index as a threshold for impairment, although some supplement it with either a score for another biological assemblage or an evaluation of habitat (e.g., Indiana).

In conversations with EPA, Ecology has stated another reason for creating a broad range between the threshold for impairment and non-impairment is the lack of certainty as to which it is, due to variability and imprecision in the macroinvertebrate index. EPA believes variability of B-IBI scores is not an issue when two years of data over the last five years consistently shows a Category 5 condition. Furthermore, impaired waterbodies must be listed regardless of whether the pollutant or source of pollution is known and whether the pollutant/pollution source(s) can be controlled. Then, as part of TMDL development, a stressor identification process is done to help determine the causes of impairment.

EPA recommends that Ecology revise the Bioassessment section in Policy 1-11 to set impairment thresholds based on comparison to reference conditions. A common approach is to take the distribution of B-IBI scores at reference sites and set an impairment threshold at a certain percentage of those reference sites (typically 10%).

Then a Biological Condition Gradient (BCG) model can be developed to confirm the empirically derived thresholds. The BCG is a conceptual, narrative model that describes how biological attributes of aquatic ecosystems change along a gradient of increasing anthropogenic stress. EPA has initiated the development of a BCG for the Puget Lowlands and Willamette Ecoregions of Oregon and Washington. It provides a framework for understanding current conditions relative to natural, undisturbed conditions.

Third, EPA encourages Ecology to develop impairment thresholds for each ecoregion in Washington, along the lines of the new Puget Lowlands B-IBI, which was developed under an EPA grant by King County, who worked with regional partners and experts to improve data analysis tools and standardize benthic macroinvertebrate monitoring in the Puget Sound region. The Puget Lowlands index is a significant improvement from the older index used in this proposed listing because the taxa attribute lists (long-lived, predator, clinger) have been enhanced with new scientific information, and intolerant and tolerant taxa attributes have been updated with empirically-derived data from over 700 sites in the Puget Sound region. Its scoring methodology is also more refined and provides continuous scoring

without gaps within each of the ten macroinvertebrate groups, so that a score is developed on a scale of 0 to 100, rather than current scale of 10 to 50.

Fourth, Ecology's approach to only include waterbodies with a B-IBI of 27 or less for Category 5 listings would mean that TMDLs would only be developed for poor or very poor waterbodies. EPA is concerned that, under this approach, TMDLs could not be prioritized for important waterbodies for salmon restoration with moderate levels of degradation (i.e., "Fair" B-IBI). EPA believes, consistent with the goals and strategies of the Puget Sound Partnership Action Agenda, a portion of TMDL resources should be prioritized to "fair" waterbodies and not exclusively directed toward the most degraded waterbodies. A single impairment threshold for the Puget Lowlands following the above recommended approach would likely result in inclusion of most of the B-IBI fair waterbodies that could then be included for TMDL prioritization.

EPA also recommends the existing data collected throughout the state be converted to the new 100 point index for its next list for an "apples to apples" comparison of the sampling results over a five-year period. The Puget Sound Stream Benthos (PSSB) website allows the old data to be calculated on the new scale and vice versa, so a transition to the new system should not be an issue for data already collected in the Puget Sound Lowlands and data collected in other ecoregions can follow their example, as explained in the calibration document, found on their website:

http://pugetsoundstreambenthos.org/Projects/EPA_Grant_2010/TechDocs/B-IBI_Recalibration.pdf.

(See section 3.3: "Thus, comparisons through time should use a consistent version of B-IBI and the recommended approach is to calculate B-IBI 0-100 for earlier samples, which can easily be done in the PSSB.")