Attachment A

General Comments

1) The Washington State Department of Ecology's (Ecology) Water Quality Program (WQP) Policy 1-11 states that if a source of impairment is unidentified, the segment should be placed in Category 4c. For example, if bioassessment data indicate an impaired biological community, and monitoring of suspected pollutants does not show impairment by an actual pollutant such as copper or temperature, the waterbody segment will be placed in Category 4c, indicating that a habitat-related impact is suspected. There are a number of stream segments listed as Category 5 based on bioassessment data without any other pollutant identified or described for that segment.

   WQP Policy 1-11 states:

   "*Some designated uses of a waterbody segment may be impaired due to aquatic habitat degradation that does not cause an exceedance of a pollutant criterion. When data show that a waterbody segment is impaired for such reasons, it will be placed in the Impaired by a Non-Pollutant category. A Category 5 listing is not required because a TMDL would be ineffective in addressing this type of water quality problem. Under federal statute, pollution is defined as the man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water (CWA sec. 502(19)). Most pollution is caused by pollutants such as toxic chemicals, waste material, nutrients, sediments, and heat. However, pollution can also be caused by factors that are not pollutants. Some examples of non-pollutants that nonetheless cause impairment are:*

   - *Physical habitat alterations.*
   - *Physical barriers to fish migration, such as dams and culverts.*
   - *Loss of habitat due to invasive exotic species.*
   - *Flow alterations, including low flows and flashier systems.*
   - *Impaired biologic communities, when the impairment is not linked to a specific pollutant.*

   TMDLs are designed to allocate the input of pollutants among sources. In the case of non-pollutants, the cause of the impairment cannot be allocated, so the TMDL process is not appropriate. (and will be placed in Category 4c)."

   Although the WQP Policy 1-11 states that a listing based on bioassessment data should be placed in Category 4c, it may be more appropriate to place the impacted reach in Category 2 until a cause is identified. Additional details to describe each category would be beneficial to ensure listings are placed under the correct categories and to clearly identify next steps to achieve water quality improvements.

2) The use of the term "impairment" with respect to bioassessment data is confusing. King County agrees that BIBI and RIVPCAS scores can and should be used to describe waterbodies requiring restoration and/or improvement. However a single BIBI or RIVPACS score does not equate to a water quality standard and the optimum benthic index for a particular stream reach is highly site-specific. A single number or rating defining "degradation" or "impairment" based on bioassessment data for the entire state may not represent the optimal or achievable conditions for a local aquatic ecosystem. We recommend a transparent and public multi-stakeholder group

effort to develop a multimetric assessment process for bioassessment data similar to that applied in other States such as Colorado.
(https://www.colorado.gov/pacific/sites/default/files/T1_WQCC_Policy10-1.pdf)

3) Ecology's 2012 WQP Policy 1-11 response to comments document regarding bioassessment listings (http://www.ecy.wa.gov/programs/wq/303d/WQPolicy1-11ResptoComments.pdf) stated that:
    1) If a waterbody is listed based on bioassessment, the next step is for a pollutant stressor identification study to be conducted, and
    2) If a pollutant linked to bioassessment is identified, then a TMDL is developed for the pollutant(s), and
    3) If pollution/non-pollutant linkages are identified, then those non-pollutant/pollution listings are moved to Category 4c.

    Conclusively identifying the *absence* of a pollutant is scientifically impossible since a multitude of potential pollutants which singly or in aggregate with habitat degradation may be causing biological impairment. Listing biological impairments with unknown causes as Category 4c is more appropriate until a pollutant has been identified which can then dictate a Category 5 listing.

    King County has an active interest in restoring degraded, impaired or otherwise polluted waterbodies regardless of the cause, including identifying the source of degradation, and restoring waterbodies to their most productive potential. Because Category 5 impairment decisions obligate a TMDL, which can only be developed for specific pollutants, accurately describing the causes of degradation is critical to directing resources towards the most effective restoration tools. In some cases this might be a TMDL investigation; however, in others a more general evaluation of potential stressors or putting efforts directly towards habitat restoration may be more effective.

4) Ecology's Administrative Procedures Act (under RCW 34.05.272) states that; before taking significant agency action (which may include technical assessments used to directly support implementation of state rule or statue i.e., RCW 90.48), Ecology must identify the sources of information relied upon. This may include peer reviewed or scientific literature. Ecology must make these available on the agency's website. Sufficient information has not been provided to understand the scientific basis used to establish the RIVPACS (<0.73) and BIBI (<27) impairment thresholds or the methods used to determine listings based on biological assessment. A clear understanding of how impairment thresholds were defined is critical to the process of both identifying and addressing stressors to the macroinvertebrate community. King County recommends that Ecology convene a panel of experts and use the Biological Condition Gradient process to develop a transparent mechanism to define biological impairment in streams.

5) Previous Category 5 listings have been maintained in the current list based on data that is greater than 10 years old, yet Ecology will not consider data older than 10 years for new assessments. These methods and decisions are inconsistent with EPA guidance (2005) for water quality assessments, where statistical methods should support a determination of true segment conditions from all valid existing and readily available data (regardless of age).

    "Similarly, EPA believes that data should not automatically be treated as unrepresentative of relevant segment conditions solely on the basis of its age

without supporting information indicating that the data are not a good indicator of current conditions. However, older data should be evaluated with care. For example if the most recent data for a particular assessment unit is 10 years old, and that data indicated that average and/or peak conditions in a segment at that time were worse than those specified by an applicable WQC; and, since that time, all the sources of the pollutant in question had been required to dramatically lower the levels of the pollutant in their effluent, and few changes that would lead to increased loadings of the pollutant had taken place in the watershed, it could be reasonable to assume that the segment was now meeting the WQC for that pollutant. By contrast, if 15 year old data indicated that a segment was then just barely meeting WQS for several pollutants associated with urban runoff, and the watershed of *that segment had since that time undergone considerable urbanization, a conclusion that the segment was no longer meeting WQC for some or all of those pollutants could be warranted."* (http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/upload/2006irg-report.pdf)

King County WLR recommends reviewing all available data be used to evaluate waterbody conditions and place them in the most representative category. This may result in maintaining a Category 5 listing based on 10+ year old data, but in other cases older data may be deemed insufficient or unrepresentative of current conditions or inadequate to support a particular category. In these cases we would expect a Category 4 or 5 listing might move to Category 2 or 3.

6) We note that Category 5 listings appear to be proliferating, with few mechanisms identified to reverse pollution problems before a waterbody segment reaches Category 5. The Interagency Project Team's TMDL improvement recommendations include more thorough implementation of existing authorities to address unpermitted and non-point sources. In general, catching and addressing problems early, while they are still "Waters of Concern" (Category 2) could help improve water quality sooner while avoiding many of the challenging legal problems posed by Category 5 listings. One underutilized tool which Ecology should consider expanding are 4b plans and "direct to implementation" approaches to resolve known problems, such as temperature and fecal coliforms.

7) A number of segments in Lakes Washington and Sammamish and Lake Union/Ship Canal are proposed to change from Category 3 (Segment Lacks Sufficient Data) to Category 5 for pH. We have examined these data and they represent acute, transitory daily excursions. We believe this is a misapplication of the data which were used to categorize these waterbodies and that transitory pH fluctuations are due to natural conditions. Our long term trend analysis shows no change in trophic state index for any of these lakes which would corroborate a pH impairment decision. (http://green2.kingcounty.gov/lakes/TSI.aspx) Ecology WQP Policy 1-11 indicates natural conditions should be evaluated as part of the pH listing decision process; however, it does not appear these conditions were taken into account. Until these transient pH fluctuations can be identified as a cause of degradation to designated uses, or are demonstrated to be beyond range of natural conditions, we recommend these lakes be categorized at Category 2.