



Clallam County Department of Health and Human Services

ENVIRONMENTAL HEALTH DIVISION

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March 15, 2004

Ken Koch, Water Quality Assessment Coordinator
Water Quality Program
Washington Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600

Dear Mr. Koch:

We are writing to comment on DOE's preliminary Water Quality Assessment report, particularly the draft "Polluted Waters" list that is part of that report. Our comments relate to your use of data sent to you by Clallam County, specifically by the Streamkeepers volunteer monitoring program administered by the County.

First, we'd like to thank you for accepting Streamkeepers' data and, in doing so, acknowledging the thousands of hours of hard work performed by volunteers on our local streams, under a Quality Assurance Project Plan approved by DOE in 2000. We also appreciate your acceptance of our normed aquatic-life assessment data, as measured by the Benthic Index of Biological Integrity for the Puget Sound Lowlands (B-IBI), which measures the condition of the benthic macroinvertebrate community. Additionally, we were pleased that you accepted our suggestions as to the "break-points" in our B-IBI scores to distinguish waters as healthy, impaired, or "of concern."

We must, however, take issue with DOE's classification of waters found "impaired" by our B-IBI. In the draft report, DOE lists those waters in Category 4c, "Impaired by a non-pollutant." We believe that this is not an appropriate category for those waters, and that they should be reclassified in one of two ways:

- Category 5, "Polluted waters that require a TMDL (the 303(d) list)," or
- A new category labeled 4d: "Biological impairment, cause unknown, requiring further investigation."

DOE's justification for classifying our biologically-impaired sites as Category 4c is described in WQP Policy 1-11, page 13. There, "pollution" is distinguished from "pollutant," and a list is given of non-pollutants that cause pollution, such as alterations of flow or physical habitat. On that list is "impaired biological communities, when the impairment is not linked or suspected to be linked to a pollutant." However, biological communities do not belong on that list, because the items on that list are supposed to be stressors (factors that cause impairment), whereas impaired biological communities are not stressors. Rather, they are signs of impairment due to the presence of stressors.

Many of the “pollutants” for which the State has set standards do not meet the definition of pollutants as defined by DOE’s WQP Policy 1-11—“inputs that are discharged or otherwise introduced into the water, such as toxic chemicals, waste material, nutrients, sediments, and heat”. For instance, neither dissolved oxygen nor temperature are pollutants themselves—some other influence causes these indicators to show signs of impairment. In the case of temperature, the actual pollutant is heat, as the policy indicates, but the heat could come from a variety of sources which would need investigation. A TMDL for a water-body with temperature impairment would begin by assessing the causes of that impairment, then address those causes so as to meet the “target” set by the temperature standard. In the same way, low B-IBI scores are also a sign of impairment, the causes of which would require further investigation and action, in order to meet the “target” set by a “healthy” B-IBI score.

Washington State does not have a specific water-quality criterion related to biological impairment. However, WAC 173-201A-030 does list the following “characteristic uses” of Class AA and A waters (which comprise all the waters monitored by Streamkeepers): salmonid migration, rearing, spawning; and wildlife habitat (including all aquatic life). Since wildlife habitat is a beneficial use, and the B-IBI measures impairment to aquatic life, it directly measures impairment to a beneficial use. Also, since the B-IBI correlates with the ability of a water body to sustain healthy anadromous salmonid populations (Karr et al., 2003), it also indicates impairment of that beneficial use. And the Clean Water Act makes clear that water quality criteria must be sufficient to protect designated uses of the waters, in order to meet its goal to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters” (Karr et al., 2003).

Furthermore, in EPA’s “Guidance for 2004 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d) and 305(b) of the Clean Water Act,” EPA advises that biologically-impaired waters in which causes are unknown should be listed in Category 5:

States should include impaired and threatened waters in Category 5 when a water is shown to be impaired or threatened in relation to biological assessments used to evaluate aquatic life uses or narrative or numeric criteria adopted to protect those uses ***even if the specific pollutant is not known*** [italics added]. These waters should be listed unless the State can demonstrate that non-pollutant stressors cause the impairment, or that no pollutant(s) causes or contribute to the impairment. Prior to establishing a TMDL for such waters, the pollutant causing the impairment would need to be identified. EPA has developed guidance to assist States in identifying the causes of a biological impairment.

We do not believe that non-pollutants or natural conditions completely explain the biological impairments indicated in Clallam County streams by the B-IBI. Potential pollutants at our impaired sites include the following:

- Heat from lack of forest cover
- Sediment from upland and in-channel erosion
- Nutrients from fertilizers and increased solar exposure
- Toxics and pathogens from stormwater runoff and septic systems
- Low dissolved oxygen from a variety of causes, including inadequate shading

In some cases we have data indicating such pollutants. However, lack of data on the above pollutants does not rule out the involvement of these factors. In fact, our B-IBI data itself

suggests the possibility of the above pollutants, since "impaired" scores almost invariably show a decline in species intolerant to the types of pollutants listed above.

Many other states use biological criteria supported by macroinvertebrate data for 303(d) listings, among them New Jersey, West Virginia, and Ohio, which list all biologically-impaired sites on their 303(d) lists. If their scientists suspect particular pollutants causing the problem, those are listed; if not, the cause is listed as "unknown," following the EPA guidelines cited above.

Colorado follows a somewhat different procedure for biologically-impaired sites where the cause is not known. They put those sites on a separate list called the "Monitoring and Evaluation" (M&E) list, which calls for investigation within a ten-year period to determine the causes, at which time the site will either go on the 303(d) list or off the M&E. Colorado's precedent is our basis for suggesting the possibility of creating a new list for Washington State called "4d: Biological impairment, cause unknown, requiring further investigation."

In summary, we suggest that you reclassify waters found to be biologically impaired by our B-IBI scores in one of two ways:

- Put all of those waters into Category 5, "Polluted waters that require a TMDL (the 303(d) list)," or
- Create a new category labeled 4d: "Biological impairment, cause unknown, requiring further investigation." Then put any waters in which particular pollutants are suspected into Category 5, and all other biologically-impaired waters into Category 4d.

In either case, reclassification would ensure that biologically-impaired waters are not simply set aside and ignored. It is our belief that B-IBI data can serve as a warning system to identify degraded and impaired streams before the problems become intractable; but that will only happen if the data is attended to.

Sincerely,

Thomas Locke, M.D., M.P.H.
Health Officer

Robert Robertsen, Director
Dept. of Community Development

References

Karr, J.R., R.H. Horner, and C.R. Horner. 2003. EPA's review of Washington's water quality criteria: An evaluation of whether Washington's criteria proposal protects stream health and designated uses. National Wildlife Federation, Seattle. 25 p.

(NOTE: A copy of the above paper was sent to Dick Wallace at DOE on October 1, 2003 by Jan Hasselman, counsel for the National Wildlife Federation.)

c: Correspondence files, Clallam County Depts. of Community Development & Health
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Randy Smith, EPA Region 10